MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE & TIME:	**Monday, December 8, 2025 at 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

Any member of the body and/or citizen also 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 sending an email to comments@germantownwi.gov by 4 p.m. on the day of the meeting so that it can be provided to the members of the body for their consideration.
Previously recorded Village Board Meeting Videos can be viewed at **https://www.youtube.com/channel/UCOYp0EgELzTCa9X_iCohyhQ.**

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 11/10/25

V. **NEW BUSINESS:**

A. Cirrus Property Group, LLC, Agent for Faith Lutheran Church, Property Owner. Rezoning application to create the "Carillon at Germantown" Planned Development District (PDD) and Rezone 5.4 acres from the Institutional (I) Zoning District into the Carillon at Germantown PDD; and a Certified Survey Map (CSM) for a 5.4-acre residential development comprised of 36 multi-family dwelling units located at W172N11187 Division Road in the Lannon-Mequon Road Corridor. (PUBLIC HEARING & ACTION)

B. Community Development Department - Amendments to the Floodplain Zoning Ordinance (Germantown Municipal Code Chapter 23) and Adoption of revised Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS). (PUBLIC HEARING & ACTION)

C. Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District. (ACTION)

D. Home Path Financial, LP, Agent for Mohrhusen Family Farm, LLC, Property Owner. Application for minor amendments to the Sutton Farm Planned Development District (PDD) and Preliminary Subdivision Plat located at the northeast corner of Lannon Road (CTH Y) @ County Line Road (CTH Q) in the Lannon Gateway Neighborhood. (ACTION)

E. Finishing Touch Signs, Agent for Furlong Industrial Systems and the Michael Furlong Revocable Trust, Property Owner - W194 N11221 McCormick Drive. Sign Permit Application. (ACTION)

F. Community Development Department - Village Center District Community Engagement Program: Consultant Proposal Review and Recommendation. (ACTION)

VI. ANNOUNCEMENTS:

VII. 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, November 10, 2025 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:

Chairman Soderberg and Committee Members Warren, Shadid, Tarantino, Williams, Henk and Ewert were all present (Ewert arrived late). Also present were Community Development Director Retzlaff, Associate Planner Yanke and Administrative Coordinator Remich (via Webex).

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:
Lynn Bednarz who lives on Pawnee Court.
Melanie Smythe who lives on Cedar Lane.
David Baum who lives on Highland Road.

IV. MEETING MINUTES:

A. PC Minutes 10/13/25

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

V. NEW BUSINESS:

A. Jason Zimmermann, Property Owner. Application for a Conditional Use Permit (CUP) to allow encroachment into portions of a 25' wetland setback pursuant to Section 24.04(3)(c)(5) of the Municipal Code, for construction of an above-

ground pool/deck and detached garage on property located at W202N11787 Merkel Drive. (PUBLIC HEARING & ACTION)

Associate Planner Yanke stated that Village Code requires a 25’ setback from all DNR-approved wetlands. The Village may allow development within the 25’ wetland setback with a CUP. The total wetland setback area impacted by this proposal is 1,000sqft, which includes an 840sqft detached garage/storage building and a portion of an above-ground pool/deck. Under the submitted wetland compensation/mitigation plan, the applicant proposes a silt fence on the downhill side of the construction areas to protect existing wetlands and seeding with a blue grass mix. The applicant will also compensate through seeding of an additional 3,000sqft area with native grasses and flowers.

Staff recommends approval of the Conditional Use Permit to allow encroachment into portions of a 25’ wetland setback pursuant to Section 24.04(3)(c)(5) of the Municipal Code, for construction of an above-ground pool/deck and detached garage on property located at W202 N11787 Merkel Drive, subject to the following conditions:

1. Development shall be subject to the implementation of the compensation/mitigation efforts detailed in the Wetland Compensation Plan submitted by the applicant, dated October 28, 2025. A detailed wetland exhibit shall be submitted to illustrate the specific disturbance area (1,000 sqft) and its location within the wetland setback to supplement the plan.
2. Applicant/owner shall denote wetland areas with stakes prior to construction taking place. Pre/post construction inspections shall be scheduled by the applicant/owner with Community Development Department staff to document/confirm no impacts to the wetland area occur.
3. Prior to issuance of a building permit for the proposed construction, applicant/owner shall provide documentation from FEMA of a favorable determination on the submitted Letter of Map Change (LOMC), which will remove the project area from the current/proposed floodplain that impacts the subject parcel.
4. The detached accessory building (garage) shall comply with all Residential Accessory Use, Building, and Structure standards per Section 17.41 of the Zoning Code.

Discussion Followed.
Chairman Soderberg opened the Public Hearing at 7:08pm.
Residents that came forward to speak included:
Dawn Kons who lives on Merkel Drive stated that she is not opposed to the proposal but is concerned about drainage along Merkel Drive overall due to the pipeline replacement this summer.
AJ Morgan who lives on Merkel Drive also stated that he is not opposed but would like to see something planted along the edge of the property so he doesn't have to look at a huge garage.
Yanke read 1 email from Leah Morgan stating the same thing as her husband AJ Morgan.
Chairman Soderberg closed the public hearing at 7:18pm.
Discussion followed.

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: William Shadid
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: Bridget Henk
Abstain: None
Motion Passed (Yes 6, No 1, Abstained 0)

B. Brad and Brenda Kunz, Property Owners W156N11599 Pilgrim Road. Application to Rezone a .35-acre Property from the B-3: General Business to the Rd-2: One & Two-Family Residential Zoning District. (PUBLIC HEARING & ACTION)

Director Retzlaff stated that the Kunz's intention is to continue to use the property as a residential duplex. They would like to replace a previously existing 20' x 24' (480 sqft) detached garage that deteriorated and became unsafe. They would like to replace that existing garage with a larger garage up to the maximum size allowed (864 sqft) for a property in the Rd-2 District without an attached garage.

Staff recommends approval of the request to rezone the .35-acre Brad & Brenda Kunz property from the B-3: General Business District to the Rd-2: One & Two-Family Zoning District.

Chairman Soderberg opened the Public Hearing at 7:31pm.
No residents came forward to speak
Chairman Soderberg closed the Public Hearing at 7:32pm.
Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: Russell Ewert
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

C. Community Development Department - Possible Reconsideration of the Plan Commission's Action on October 13, 2025 to Deny (and Further Action on) the Lime Kiln Solar Farm Site Plan application submitted by OneEnergy Development, LLC, Agent for Robert Overmier, Property Owner for the 54-acre property located at N144 W12531 Pioneer Road. (ACTION)

Associate Planner Yanke stated that the Village Board took action at their November 3, 2025 meeting, to approve the CUP for the Lime Kiln solar farm proposal with the conditions recommended by staff and the additional conditions added by the Plan Commission at its October 13, 2025 meeting. The Board action was based in part on legal advice from the Village Attorney and the attorney for OneEnergy that the Village lacked substantial evidence to deny the applications.

Village Attorney recommends that the Plan Commission reconsider their Oct. 13 action to deny the site plan application, reconsider that application, and take the appropriate action.

Motion: Reconsider October 13th action to deny the Site Plan Approval
Motioned By: Bob Soderberg
Seconded By: Robert Williams
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

Motion: Approve with 15 conditions
Motioned By: William Shadid
Seconded By: Josh Tarantino
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)
Commissioner Williams wanted to know if we could add a time frame where we could review this CUP in the future after the potential changes in legislation. Director Retzlaff did not think so but said he would bring that up to the attorney to see if that would be a possibility for future proposals. Soderberg stated that the Village Board approved a resolution that was sent to our state representative regarding local control over solar farms. Commissioner Ewert asked about the landscape plan and Warren replied that the Village Board determined that plan could be approved at the staff level.

D. Heyday and CR Devco LLC, Agent for Daniel, Douglas & Todd Roskopf, Property Owners; 40 acre Property Located on Lilac Lane east of Schoen Laufen Park (Parcel ID GTNV-282-999). Consultation for a Proposed 164 Dwelling Unit Single-Family Attached & 2-Story Townhome Residential Community. (DISCUSSION)

Director Retzlaff gave a brief overview and introduced Ryan Swingruber and Josh Wohlreich who gave a full presentation of their development proposal. They stated that they only develop rental townhomes and duplexes, not apartment complexes, and 50% of their renters are over 50 with 10% being over 70. The reason for that is, all their units are on one level, have extra large doorways and are ADA compliant, so this provides excellent opportunities for older residents to move out of their single family homes.

Discussion followed. Plan Commissioners' comments included:
Architecture concerns about everything looking exactly the same: Designs can be revised to use more color and different types of stone and shingles to break up the monotony.
Construction would start in 2026. This development will have no basements, which works well for this area due to the underlying bedrock.
Maintenance: The development will have full-time staff and all maintenance will be handled by them, not tenants, making it ideal for seniors.
All of their developments have 4-1 parking, which will help maximize the green space and walkability.

Utilities would be brought in from the east from Division Road, so extending them would be costly and maintenance of said would be included in the development agreement. The road coming off River Lane is currently 200 ft short, so they would extend it, and it would become a public road with a round-a-bout, so no through traffic within the development. There is already a ROW dedicated.
Public engagement will happen if this moves forward to hear the neighbors' concerns. Their goal is to be accepted and educate neighbors as to what their product is.
They are going with low density, peaceful/quiet living, so no swimming pools and fitness centers. They put that money back into the interior of the units with high-end finishes.
Commissioners liked the layout and the continuity of the trails into the park, which can also be used by the public.
Bedrock blasting can be a problem for area homeowners. They don't have to go as deep, so they are optimistic that they can chip away at the bedrock and avoid blasting.
Market analysis shows that this type of product is needed, and they feel they will have no problem filling them as there is a large demand.
A Comprehensive plan amendment would have to occur for the development, investigation needs to be done regarding providing sanitary sewer and water as well as a stormwater plan. A site development plan will be required, which is when we will discuss the architecture in more detail and possibly a certified survey map as well.
Staff will continue to work with the developer moving forward.
Overall, the Plan Commissioners were in favor of this proposal.

E. American Architectural Group Inc., Agent for Frank Stangl and Weimer Bearing & Transmission Inc., Property Owner; N112W13131 Mequon Road. Site Plan Application for a 45,000 sqft Addition to the Existing 62,640 sqft Office, Manufacturing, and Distribution facility in the Germantown Business Park (ACTION)

Director Retzlaff went over the background of the business and details of the proposed addition.

Staff recommends approval of the site development and building plans for a 45,000 sqft addition to the existing 62,640 sqft corporate office and distribution facility located on a 9.27-acre parcel at N112 W13131 Mequon Road in the Germantown Business Park subject to the following conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the following plans unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission: a. Architectural, Building & Elevation plans dated September 8, 2025, b. Civil Engineering plans dated September 8, 2025, c. Landscaping plans dated September 8, 2025, d. Lighting plans (photometric plan) dated September 8, 2025, e. Stormwater Management Plan September 8, 2025.

2. This approval is subject to the DNR approving an artificial wetland exemption for the wetland area located along the east property line as shown on Sheet C-1.04. Except for demolition and/or early start permits for footings and foundations, no permits authorizing site improvement construction or building

permits shall be issued until the wetland exemption has been granted. If the DNR does not approve the proposed wetland fill, in whole or only in part, a revised set of site development plans may need to be reviewed and approved by the Plan Commission (or Village staff if only minor site plan adjustments are required).

3. All landscaping, screening, grading, and paving improvements shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs is reviewed and approved by the Village as deemed necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit for the shell building.

4. All technical issues regarding site development set forth in the Village Engineer's November 5, 2025, memo (copy attached) shall be addressed in revised and/or supplemental plans or other documents that submitted to the Village Engineer for review/approval prior to issuance of any building permits.

5. All exterior doors (except primary entrance) shall be clearly marked with reflective 5" or larger letters/numbers to aid emergency personnel access as required by the Police Department.

6. Additional deciduous shade trees are required in or around the new parking areas and additional street trees are required along Washington Drive. The species of deciduous trees proposed does not comply with the Village's Comprehensive Tree Plan. Consequently, a revised landscape plan addressing the Village Forester's comments contained in the November 10, 2025, Staff Report & Recommendation shall be prepared and submitted to the Village Forester for review and approval prior to issuance of a building permit.

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 to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.

8. All temporary and permanent signs to be installed on the property shall obtain the necessary permits or approvals from the Village Plan Commission and/or Community development Department. A sign permit is required for the proposed monument sign at the new driveway entrance to Washington Drive. Any proposed monument sign shall include a base constructed of the same or similar masonry materials and color as the principal building. If a sign cabinet is proposed with an internally illuminated cabinet, the sign faces of the cabinet shall be opaque or have a dark background with only the lettering visible at night.

9. The set of architectural plans does not include a roof plan indicating whether roof-mounted mechanicals will be installed. If HVAC mechanical equipment is proposed to be mounted on the roof, screening for such equipment shall be

installed. A roof plan showing the relative location, height, size, and screening for any roof mounted mechanical equipment, units, etc., shall be submitted to the Village Planner for review and approval prior to the issuance of a building permit.

10. This property is located in the Germantown Business Park and subject to continuing compliance with all provisions in the Declaration of Restrictions and Covenants for Germantown Business Park TIF#4.

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

F. Neumann Developments, Agent for Wrenwood North LLC, Property Owner; Wrenwood North Subdivision Located south of Freistadt Road and Pleasant View Drive; Final Subdivision Plat for Phase 3 (23 Single-Family lots). (ACTION)

Associate Planner Yanke went over details of the final plat proposal for the final phase of the Wrenwood North Subdivision.

Staff recommends approval of the final subdivision plat for Wrenwood North Addition No. 2/Phase 3 containing 23 single-family residential lots located south of Freistadt Road and Pleasant View Drive, subject to the following conditions:

1. A letter of “no objection” from the WI Department of Administration (DOA) shall be submitted to the Village prior to recording the final plat.
2. All technical issues and revisions identified in the “Punch List Reports” provided on R.A. Smith, Inc. letterhead, dated October 16, 2025, and October 29, 2024, shall be fulfilled/completed prior to recording of the final plat, unless otherwise specified in the applicable Development Agreement, or prior to release of the Letter of Credit (LOC) on file with the Village.
3. All technical issues and plat corrections identified by the Village Surveyor (see October 25, 2025, memo from Bob Beilfuss, PLS) shall be addressed and reflected in a revised final plat reviewed and approved by Village staff prior to recording.

Motion 1: Approve as presented
Motioned By: William Shadid
Seconded By: Josh Tarantino

Motion 2: Amend Motion 1 to update condition 3 to include the updated Memo dated 11/6/25
Motioned By: William Shadid

Seconded By: Josh Tarantino
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

Results of Motion 1:
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

G. Northshore Garage, Agent for Christy and Jason Madore, Property Owners. Zoning Permit review for an architectural variance from Section 17.41(2a) of the Zoning Code to construct a detached residential accessory structure (garage) with a metal roof on property located at N124W12650 Lovers Lane. (ACTION)

Associate Planner Yanke went over the background of the proposal and stated that the owner is requesting approval to construct a detached accessory building for personal storage and hobby workshop activities that will have different exterior materials than the primary building, namely a metal roof instead of asphalt shingles. Section 17.41(2a) of the Zoning Code requires accessory buildings greater than 160 sqft to have a similar architectural appearance and exterior materials as the dwelling unless a variance is granted by the Plan Commission.

Staff recommends approval of the Zoning Permit application for an architectural variance from Section 17.41(2a) of the Zoning Code to construct a detached residential accessory structure (garage) with a metal roof on property located at N124 W12650 Lovers Lane.

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

H. Signarama, Agent for Piefer Industrial Properties, LLC, Property Owner. Sign Review Application for Marbach at N116W18333 Morse Drive. (ACTION)

Associate Planner Yanke stated that in June 2025, Marbach took over the tool manufacturing company Tru-Fit Steel Rule Die at the subject location. While the company will now operate under the name of Marbach, the business is seeking approval of a new wall sign.

Staff recommends approval of the proposed sign for Marbach for property located at N116 W18333 Morse Drive.

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

I. Community Development Department - Holy Hill Gateway District Master Plan Project: Review Consulting Services Request for Proposals (ACTION)

Director Retzlaff stated that at the September Plan Commission meeting, the Plan Commission discussed the need to resume work on preparing the priority neighborhood master plans with the list starting with the Holy Hill Gateway District, Village Center District, and then the Freistadt District. The Plan Commission agreed with Staff to proceed with issuing a request for proposals for the Holy Hill Gateway District along with an updated timeline. The committee went over Chairman Soderberg's recommended revisions.

Committee members asked that we update the last item on the RFP to clarify that the administrative review committee will provide a recommendation on an RFP to the Plan Commission, but all RFPs will be included within the meeting packet so the Plan Commission is aware of all proposals before making a vote on the committee's recommendation.

Motion: Approve RFP with President Soderberg's revisions as presented
Motioned By: William Shadid
Seconded By: Robert Williams
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 7, No 0, Abstained 0)

VI. ANNOUNCEMENTS:

None.

VII. ADJOURNMENT:

Chairman Soderberg adjourned the meeting at 9:08pm.

PLANNED DEVELOPMENT DISTRICT (PDD) REZONING & CERTIFIED SURVEY MAP (CSM)

12/08/25 Plan Commission Meeting

Cirrus Property Group, LLC / Faith Lutheran Church

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

SUMMARY

Cirrus Property Group, LLC, Agent for Faith Lutheran Church, Property Owner. Rezoning application to create the "Carillon at Germantown" Planned Development District (PDD) and Rezone 5.4 acres from the Institutional (I) Zoning District into the Carillon at Germantown PDD; and a Certified Survey Map (CSM) for a 5.4-acre residential development comprised of 36 multi-family dwelling units located at W172N11187 Division Road in the *Lannon-Mequon Road Corridor*.

Location: W172N11187 Division Road

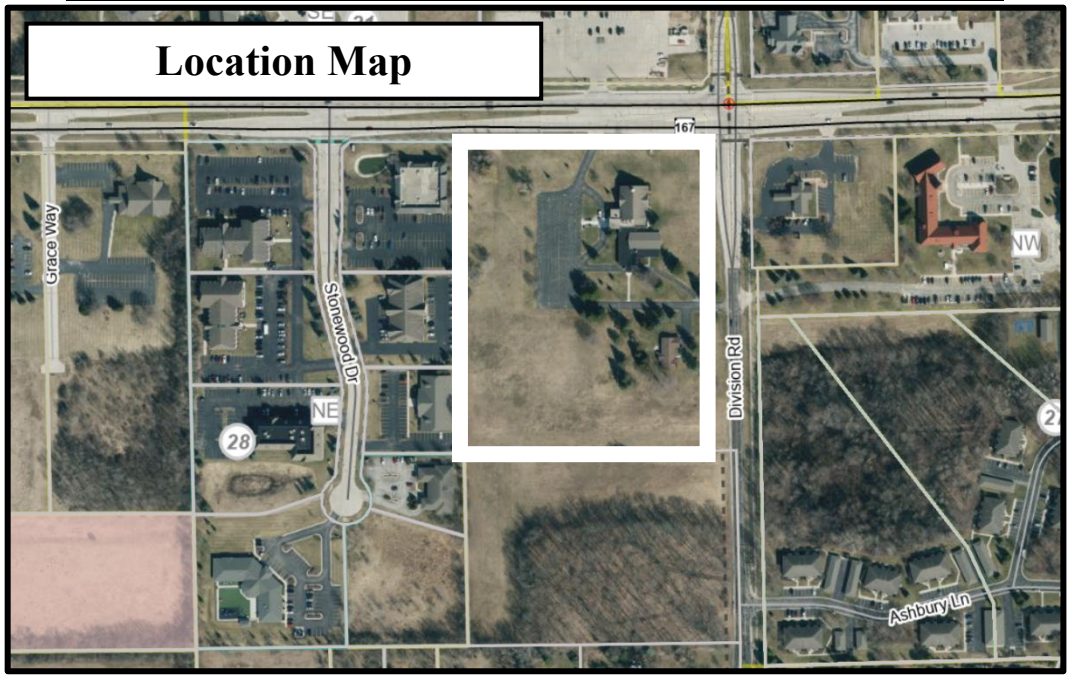
Applicant/ Owner:

Cirrus Property Group, LLC	Faith Lutheran Church
1661 N Water Street, Suite 500	W172N11183 Division Road
Milwaukee, WI 53202	Germantown, WI 53022

Current Zoning: Institutional (I)

Proposed Zoning: Rm-2: Multi-Family Residential District with Planned Development District (PDD) Overlay

Adjacent Land Uses		Zoning
North	Commercial	PDD
South	Residential	Rs-1
East	Commercial/Institutional/Residential	B-1/I/Rm-1
West	Commercial	B-4



Background/Proposal

Cirrus Property Group, LLC, Agent for Faith Lutheran Church, Property Owner. Rezoning application to create the "Carillon at Germantown" Planned Development District (PDD) and Rezone 5.4 acres from the Institutional (I) Zoning District into the Carillon at Germantown PDD; and a Certified Survey Map (CSM) for a 5.4-acre residential development comprised of 36 multi-family dwelling units located at W172N11187 Division Road in the *Lannon-Mequon Road Corridor*.

The project site contains a longstanding religious facility known as Faith Lutheran Church. The property is 10.4 acres in size and includes the existing church, parking lot/driveways, and a parsonage to the south of the church. Most of the southern half of the existing property is currently undeveloped. The applicant's proposal is to acquire 5.4 acres of the existing property, remove the parsonage, and develop a multi-family residential community with 36 rental units.

Land Use and Development Density

As presented in the Project Narrative and shown on the General Development Plan (GDP), the Carillon at Germantown is a proposed residential development containing 11 buildings with a total of 36 dwelling units that are for-rent. The development is proposed as an individual lot containing the buildings, which will be served by a private U-shaped drive with two (2) access points to Division Road. A total of sixty-five (65) percent of the lot will remain as impervious area. For a more detailed list of project specifications, please refer to the following summary:

- Total number of dwellings (36) on 5.40 acres
- Overall density proposed at 6.7 du/acre
- Housing types:
    - Quadplex – 1-Story (3 Buildings)
    - Triplex 2 Bedroom – 2-Story (5 Buildings)
    - Triplex 3 Bedroom – 2-Story (3 Buildings)
    - Floor plans and building type elevations attached to this report
- Parking counts:
    - 2-bedroom (Type A) units: 1-car attached garage + 1 apron spot
    - 2-bedroom (Type B) and 3-bedroom units: 2-car attached garage + 2 apron spots
- Each unit to have private front entrance and enclosed yard
- Private drive serving development with (1) full access point and one (1) right-turn only point of access for residents/visitors to Division Road
- Two (2) on-site detention areas for stormwater management
- *Note*: The existing parsonage on the property would be demolished as part of the development project

Access and Traffic Circulation

Two (2) access points are proposed to accommodate the new development. As mentioned above, the Carillon at Germantown contains a mix of quadplex and triplex residential buildings with individual driveway access to a U-shaped drive that connects to Division Road at two locations: the "North Site Driveway" connects to Division Road approximately 135 feet south of the Faith Lutheran Church driveway, and the "South Site Driveway" connects to Division Road approximately 200 feet south of the North Site

Driveway. Due to driveway spacing, the North Site Driveway is proposed as a restricted right-in/right-out only access point.

A Traffic Impact Analysis (TIA) supplementing the application was submitted and is attached with a supplemental Site Distance Analysis. Note that the TIA includes modifications to address traffic impacts associated with the development and surrounding area. The recommended modifications are listed below:

- Division Road and Mequon Road
  - Restripe the northbound left-turn lane to accommodate Year 2030 Build traffic queues. This modification was recommended in the recent Blackstone Creek TIA to mitigate existing and Year 2030 Build queues, which extend beyond the available turn lane storage area. The additional northbound left turn traffic from the Carillon at Germantown development is very low (5 AM and 5 PM) and does not significantly contribute to queue increases at the intersection.
- Division Road and Church/Village Driveways
  - No modifications.
- Division Road and North Site Driveway
  - Construct the new intersection as shown on the site plan with single-lane approaches and stop sign control on the eastbound driveway approach. Configure the eastbound approach to allow either full-access movements or with a pork-chop-style median to restrict access to right-in/right-out only movements. The proposed residential development is expected to generate very low trips resulting in very low peak hour volumes, delays, and queues with either alternative.
- Division Road and South Site Driveway
  - Construct the new intersection as shown on the site plan with unrestricted movements, single-lane approaches and stop sign control on the eastbound driveway approach.

Storm Water Management and Utilities

The applicant has proposed two (2) new stormwater ponds to manage storm water runoff on site. Additional details (i.e. Storm Water Management Plan) regarding stormwater discharge, erosion control measures, and overall functionality of the proposed ponds will be required through a full Storm Water Management Plan (SWMP) submittal at the Site Plan review stage, provided the PDD rezoning application is approved. Public sanitary and water utilities are proposed to serve the development.

Landscaping and Buffering

Landscape screening is shown on the General Development Plan (GDP), mostly along the front property/right-of-way line (Division Road) and along the southern boundary of the site. The plantings are shown within a strip of land that is 15 feet wide along each boundary. The landscaping along Division Road incorporates tree and smaller shrub plantings while the plantings along the southern boundary are shown as only trees. A landscape style fence (4 feet) made of vinyl is proposed around each of the dwelling unit's private enclosed yard. A preliminary specification sheet was provided to show fence details.

Signage

While no formal sign review application was submitted, a preliminary specification sheet for a proposed monument sign was included. Prior to installation of any signage, the applicant will be required to submit a formal sign permit application showing complete sign specifications, materials, location, quantities, and required landscaping. The sign permit will be subject to review and approval by the Plan Commission at a later date.

Planned Development District (PDD) Creation & Rezoning

As discussed above, the developer is proposing to create a new Planned Development District (the Carillon at Germantown PDD) and rezone the property into the PDD with appropriate residential zoning district regulations that are consistent with the *Lannon-Mequon Road Corridor*. The applicant is proposing the following zoning district change for the 5.4-acre lot to be created:

- Rezone 5.4 acres of land from the I: Institutional District to the Rm-2: Multi-Family Residential District.
- Create a Planned Development District (PDD) for the new 5.4-acre lot with a General Development Plan (GDP) and set of restrictions that specify a maximum of 36 multi-family residential units not to exceed 6.7 dwelling units/acre.

The proposed densities will be less than the maximum allowed in the underlying Rm-2 District (8.0 DU/acre) and less than the maximum densities prescribed for the *Lannon-Mequon Road Corridor* (up to 10 DU/acre for multi-family).

Further, the PDD District will be created for the applicant to take advantage of the "flexibility" available for the development of the site than is possible under conventional zoning regulations. As indicated in the applicant's Project Narrative, the proposed PDD District is being requested with specific modifications to the underlying Rm-2 District requirements spelled out below:

- Rm-2: Multi-Family Zoning District requirements:
    - Reduce the minimum Front Yard Setback from 35 feet to 15 feet.
    - Reduce the minimum Side Yard Setback from 25 feet to 20 feet.
    - Reduce the minimum Rear Yard Setback from 35 feet to 20 feet.

[NOTE: A separate PDD Conditions & Restrictions resolution containing these development-specific allowances, references to the detailed general development plan, and any other conditions of approval deemed appropriate by the Village, will be prepared by Village staff at the time the PDD is considered by the Village Board].

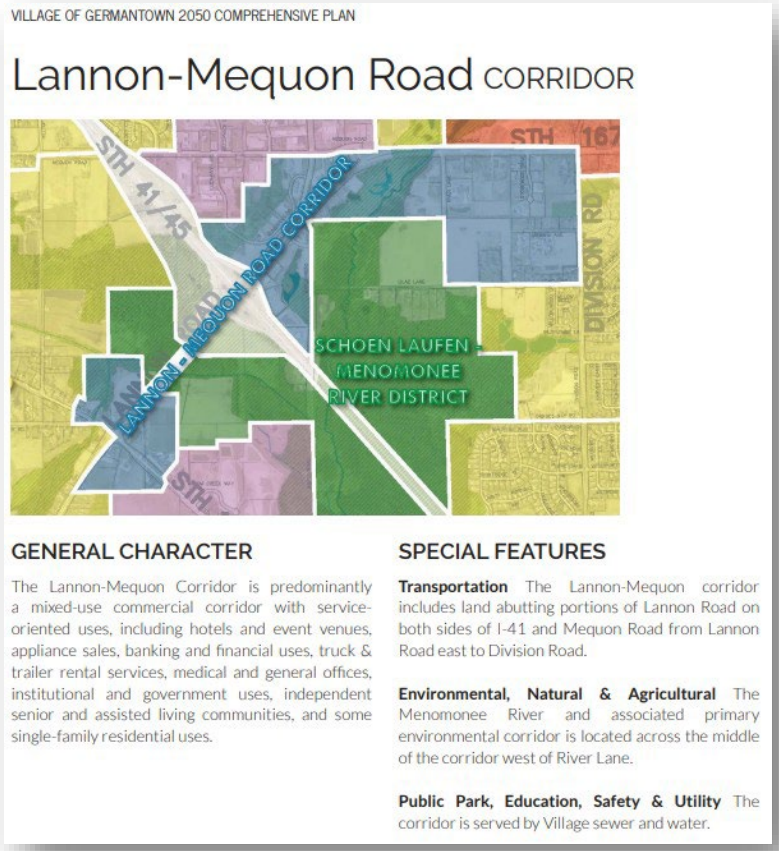
Certified Survey Map (CSM)

In addition to the PDD Rezoning application, the developer has submitted a Certified Survey Map (CSM) to create the 5.4-acre development site. Currently, the development site is part of a larger 10.4-acre property containing Faith Lutheran Church and the existing parsonage. The CSM proposes to divide the site into two (2) lots, one being the 5.4-acre development site and a 5.0-acre lot that will contain the existing church associated parking lot. As part of the development proposal, the existing parsonage will be demolished.

Staff Comments

Community Development: Planning and Zoning

The project site is in the *Lannon-Mequon Road Corridor* under the Village's 2050 Comprehensive Plan and would be zoned Rm-2: Multi-Family Residential District as part of the requested Carillon at Germantown Planned Development District (PDD). The Corridor is predominantly a mixed-use commercial corridor with service-oriented uses, including hotels and event venues, appliance sales, banking and financial uses, truck and trailer rental services, medical and general offices, institutional and government uses, independent senior and assisted living-communities, and some single-family residential uses. The *Lannon-Mequon Road Corridor* is intended to further develop as a mixed-use area with commercial, mixed-use commercial, institutional, and residential development. Residential development is intended to develop in a traditional neighborhood design pattern. Future commercial uses are desirable including retail, office, hospitality and other service-oriented uses. The Rm-2 District is intended to provide for multiple-family residential development at densities not exceeding 8.0 dwelling units per net acre and served by municipal sewer and water facilities.



The proposed Carillon at Germantown development meets the intent of the *Lannon-Mequon Road Corridor*. The Corridor specifies that multi-family residential uses are "allowable" in the district and that elements of Traditional Neighborhood site design is "desirable" over suburban or conservation style design. While the development in and of itself does not rise to the level of what is generally considered a "neighborhood", it does incorporate patterns/principles of Traditional Neighborhood Design (TND) as part of the preferred site design within the larger *Lannon-Mequon Road Corridor*. Namely, the development proposes a more compact type of land use and should generally be considered infill development. As the Corridor builds out over time with a mixture of other land uses, the subject development will be well-situated in terms of proximity to other new developments, whether they are residential, commercial, civic, or mixed-use.

Additionally, the proposed development 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).

While staff is in support of the proposal for reasons stated above, there are issues to be addressed. In regard to the development layout and design, there are concerns with the limited space around the perimeter to landscape/buffer the development from the public right-of-way and the adjoining properties including the office uses to the west and church/driveway to the north. While the enclosed/private yards may be a benefit to the residents, additional information to ensure the fencing around each yard and the buildings will not impede drainage is warranted. The Plan Commission should discuss the proposed landscape screening shown on the General Development Plan (GDP) and offer insight as to whether the narrow strips of land where the screening is proposed is adequate to buffer the development, or if more landscape buffering should be provided, particularly along the west and north property lines where landscaping is not proposed currently. Another point of consideration should focus on the fence detail and whether an open style "picket" or "garden" fence would offer better aesthetics around the property/buildings and avoid complications with drainage patterns in the future. This style of fence is clearly not as private as the proposed concept, but it's arguable whether a 4-foot fence of any style provides real privacy.

Pedestrian connectivity is also a topic to be discussed by the Plan Commission. Staff questions future pedestrian connectivity to/from the site and through the corridor itself, whether that be along Division Road or in the spirit of connections to businesses along Mequon Road. Staff recommends that the connectivity be addressed at this stage through a requirement by the Village to incorporate sidewalk along Division Road connecting the site and remaining church property to Mequon Road or through other means deemed acceptable.

The proposal does provide for the required amount of off-street parking. The applicant did add visitor parking spaces per prior consultation discussion and direction from the Plan Commission. Staff has added a condition to relocate the visitor parking currently shown along the southern boundary to be next to the other visitor parking spaces further west. This will allow for consistent setback to the drive from the southern property line and consistent landscape screening. Another condition has been added to address the future setback of the pre-existing driveway that will continue to serve Faith Lutheran Church just north of the development site. Given where the new property line is shown separating the parcels, it appears the church's driveway will be less than 5 feet from the

property line at certain points. The condition specifies that the church's driveway be modified during site plan implementation of the development site to ensure it complies with the required 5-foot setback per Zoning Code.

Single-Family vs. Multi-Family Housing Ratio

In order to track the Village's single-family vs. multi-family housing ratio, inserted below is a table showing the existing ratio of each housing unit type within the Village and a table showing the proposed ratio if this development were to be approved and implemented.

	Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
Housing Units (Existing 2023)	8,619	6,464	2,155	% SF Units	% MF Units
				75.0 %	**25.0 %**

	Total Units	Single-Family Units	Multi-Family Units	Single-Family to Multi-Family Ratio	
Housing Units (Proposed)	8,655	6,464	2,191	% SF Units	% MF Units
				74.7 %	**25.3 %**

Impact on School District Capacities

The proposed development is in Neighborhood 47 of the Germantown School District's (GSD) attendance areas, which is a County Line Elementary School attendance area. With a student generation ratio of 0.11 students/new multi-family unit, the development would generate close to four (4) school-aged children (4K-12 students).

According to the previously published *MDRoffers Community Growth & Projections Report* (dated June 2, 2025), 126 new dwelling units are anticipated within Neighborhood 47 of the GSD by 2040, with the report accounting for 26 new units within the subject development proposal. While the development proposal includes 36 total units, there have been no new units proposed or constructed within Neighborhood 47 since the report was published earlier this year. Thus, the 36 units proposed for this development are not expected to significantly impact the overall housing units/student enrollment projections noted in the *MDRoffers* report, or impact school capacity to a different degree than summarized in the report findings.

Property Tax Revenue

Shown below is a breakdown that illustrates estimated property tax revenue for the Village if the development were to be constructed. The estimated number presented here is based on current tax info.

Est Assessed Value	$	9,757,294		
Taxing Jurisdiction	**Mill Rate**		**Est Tax Collection**	
Village Of Germantown	$	4.54	$	44,335.94

Impact Fee Revenue

As the applicant/developer points out in the attached Project Narrative, the proposed development is expected to contribute approximately $300,000 in one-time impact fee revenue for the Village of Germantown. The following table includes a summary of the expected impact fee revenue.

Impact Fee	Units	Fee (2025)	Total
Water Connection	36	$1,003	$36,108
Fire Protection	36	$171	$6,156
Police Protection	36	$148	$5,328
Parks & Rec.	36	$1,311	$47,196
Library	36	$711	$25,596
Sewer Connection	36	$5,079	$182,844
Total			**$303,228**

Village Engineer/Public Works

The developer has submitted a preliminary grading plan, Traffic Impact Analysis (TIA), and a Certified Survey Map (CSM) indicating the development is feasible. In review memo dated November 13, 2025, the Village Engineer identifies a series of issues, corrections, and/or questions pertaining to the submittals that need to be addressed and/or corrected in a revised submittal prior to granting formal approval. The applicant has since submitted revised documents and responded to the comments, which is currently under further review.

Village Surveyor

In a review memo dated November 16, 2025 (copy attached), the Village Surveyor identifies an issue that needs to be addressed and/or corrected in a revised Certified Survey Map (CSM). The applicant has since submitted a revised CSM addressing the comment, which is currently under further review.

Fire and Police Departments

No comments/concerns at this time. The Fire Department and Police Department will be able to provide detailed comments at the final design and site planning stages of the project.

Village Forester

Final landscape design details and specifications will be required at the site plan review stage. Approval of a final landscape plan for the subject development will be subject to review/acceptance by the Village Forester.

VILLAGE STAFF RECOMMENDATIONS

APPROVE the proposed 2-lot Certified Survey Map (CSM) for the Faith Lutheran Church property located at W172 N11187 Division Road, subject to the following conditions:

1. All technical issues and corrections identified by the Village Surveyor (see November 16, 2025, memo from Bob Beilfuss, PLC) shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.
2. Approval of the CSM is subject to approval being granted by the Village for the "Carillon at Germantown" Planned Development District (PDD).

APPROVE creating a planned Development District (PDD) based on the underlying Rm-2: Multi-Family Zoning District to be known as the "Carillon at Germantown" PDD for the 5.4-acre property and rezoning said 5.4 acres from the I: Institutional District into the "Carillon at Germantown" PDD, subject to the following requirements and conditions:

1. The Rm-2: 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 Carillon at Germantown Planned Development District (PDD).
2. The Site Illustrative Plan revised dated November 24, 2025, and any subsequent revisions necessary as a result of satisfying Village approval shall constitute the General Development Plan (GDP) required under Section 17.27 of the Zoning Code.
3. The General Development Plan (GDP) and PDD conditions and restrictions shall include the following:
    a. All items, issues, and technical requirements identified in the November 13, 2025, memo from the Village Engineer and Public Works Department shall be addressed and reflected in additional information and/or revised plans submitted to Village staff for further review prior to final approval of construction plans for all public and private improvements.
    b. The visitor parking currently shown along the southern boundary shall be relocated to be positioned next to the visitor parking spaces shown along the drive on the western portion of the site.
    c. The 4-foot fence to enclose each yard behind the residential units shall be modified to an open-style "picket" or "garden" fence for aesthetic purposes and to allow better drainage flow through the site.
    d. The pre-existing driveway to/from Division Road serving the church (Lot 1 of CSM) shall be modified during site plan implementation of the residential development site (Lot 2 of CSM) to ensure it complies with the required 5-foot setback from the southern property line per Zoning Code.
    e. The developer shall be required to install sidewalk along the west side of

Division Road from Mequon Road to the southern end of the subject 5.4-acre parcel. Size of sidewalk and construction method to be in compliance with the Village of Germantown Development Handbook design standards.

f. The developer shall provide additional landscape buffering along the west and north property lines in the vicinity of Buildings 3, 4, 6, 7, 9, and 11. Said buffer shall include a minimum 10-foot setback (i.e. width) between the property line and proposed fencing with plantings sufficient in type, size, and quantity to provide visual screening to a height of 6 feet within 3 years after plant installation. A revised landscape plan including said landscape buffer shall be submitted to the Village Forester and Plan Commission for review and approval prior to or concurrent with Site Plan review and approval.

Village of Germantown
...Willkommen

FEES MUST BE PAID AT TIME OF APPLICATION

$200 Plan Commission Consultation
$1,085 Rezoning
$1,240 PDD < 5 acres
$2,095 PDD 5-20 acre site
$3,460 PDD > 20 acre site

Date Paid: 10/24/25 Received by:

ChK# 1035

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

Daniel Hasbani
Cirrus Property Group, LLC
1661 N Water St, Ste 500
Milwaukee, WI 53202
Phone (414) 617-3217
E-Mail daniel@cirrusre.com

PROPERTY OWNER

Tanner Hahn
Faith Lutheran Church
W172 N11187 Division Rd
Germantown, WI 53022
Phone ( )
E-Mail tannerhahn1919@gmail.com

2

PROPERTY ADDRESS OR GENERAL LOCATION	TAX KEY NUMBER
W172 N11187 Division Rd, Germantown, WI 53022	281967

3

REZONING REQUEST

FROM	TO
Institutional	PDD

4

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Attach pages as necessary

Certified Survey Map No. 5387, recorded August 28, 2001, in Volume 38 of Certified Survey Maps, pages 152, 153 and 154, as Document No. 898738, being a part of the Northeast 1/4 of the Northeast 1/4 of Section 28, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.
Tax Key No: GTNV 281967
Address: W172 N11183 Division Road

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 project, The Carillon at Germantown, will consist of 36 total units in a range of open-concept 2- and 3-bedroom floor plans over 11 separate three- and four-unit structures. The development will offer upscale, professionally managed market-rate rental housing options not currently available in Germantown. Each 2-bedroom unit will feature either a one-car attached garage with an additional driveway apron space or a two-car attached garage with two driveway apron spaces. All 3-bedroom units will include a two-car attached garage with two driveway apron spaces.

6 SUPPORTING DOCUMENTATION:

- ☐ Plat of Survey (1:100)
- ☐ Site Plan and elevations for new construction (can be conceptual)

7 READ AND INITIAL THE FOLLOWING:

DH 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.

DH 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.

DH 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

DH 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!

Applicant 10/10/25 Date

Owner Trustee 10/10/25 Date

Village of Germantown ...Willkommen

Fee must accompany application
$2,900 with public improvements
X $1,960 no public improvements
Paid X Date 10/24/25
ChK#1035

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.**

1 APPLICANT OR AGENT

Daniel Hasbani
Cirrus Property Group, LLC
1661 N Water St, Ste 500
Milwaukee, WI 53202
Phone (414) 617-3217
Fax ( )
E-Mail daniel@cirrusre.com

PROPERTY OWNER

Tanner Hahn
Faith Lutheran Church
W172 N11187 Division Rd
Germantown, WI 53022
Phone ( )
tannerhahn1919@gmail.com

2

PROPERTY ADDRESS OR GENERAL LOCATION	TAX KEY NUMBER
W172 N11187 Division Rd, Germantwon, WI 53022	281967

3 PURPOSE OF LAND SPLIT

Facilitate the sale and rezoning of land for a 36-unit multifamily development	Will the land split require rezoning? Yes	
	From Institutional	To PDD

4 READ AND INITIAL THE FOLLOWING:

DH 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.

DH 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.

DH 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.

DH I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

5 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant 10/10/25 Date

Owner Trustee 10/10/25 Date

Cirrus Property Group, LLC
1661 N Water St, Suite 500
Milwaukee, WI 53202

December 1, 2025

Village of Germantown – Planning & Zoning Services
N112W17001 Mequon Road
Germantown, WI 53022
Attn: Mr. Jordan Yanke

Re: The Carillon at Germantown – Project Narrative

Dear Mr. Yanke,

Cirrus Property Group, LLC ("**Cirrus**") is pursuing the acquisition of approximately 5.39 acres of real property located at W72N11183 Division Road (the "**Project Site**") in the Village of Germantown for its proposed residential development to be named "The Carillon at Germantown" (the "**Project**"), a 36-unit three-family and four-family for-lease community.

The Project Site is owned by Faith Lutheran Church and is part of a larger 10.40-acre parcel currently zoned Institutional. The Project Site makes up the southern portion of the parcel, which includes a vacant parsonage and vacant land. As part of the proposed development, Cirrus is requesting a rezone to a new Detailed Planned Development with RM-2 Multi-Family Residential base zoning and submitting a Certified Survey Map to subdivide the Project Site.

The Project will meet the regulations of the RM-2 Multi-Family Residential district with exceptions to the principal building setback requirements as outlined below. No other modifications to the RM-2 regulations are requested.

- Front Yard Setback – Reduced from minimum 35 feet to minimum 15 feet
- Rear Yard Setback – Reduced from minimum 35 feet to minimum 20 feet
- Side Yards Setback – Reduced from minimum 25 feet to minimum 20 feet

The Project Site falls within the Lannon-Mequon Corridor in the Village of Germantown's 2050 Comprehensive Plan, which permits multi-family development with densities up to 10 dwelling units per acre. At approximately 6.68 dwelling units per acre, The Carillon at Germantown is in conformance with the policies outlined in the 2050 Comprehensive Plan and does not require a comprehensive plan amendment.

The Project will consist of 36 total units in a range of open-concept 2- and 3-bedroom floor plans over 11 separate three- and four-unit structures. The development will offer upscale, professionally managed market-rate rental housing options not currently available in Germantown. All units will have the primary bedroom on the main floor. Each 2-bedroom unit will feature either a one-car

Cirrus Property Group, LLC
1661 N Water St, Suite 500
Milwaukee, WI 53202

attached garage with an additional driveway apron space or a two-car attached garage with two driveway apron spaces. All 3-bedroom units will include a two-car attached garage with two driveway apron spaces. Overall, the Project will contain 108 parking spots, equating to 3.00 parking spaces per unit, which greatly exceeds the minimum required parking count.

Access will be provided by a newly-constructed private drive with two connection points at Division Road – one offering full access and the other limited to right-turn ingress and egress only, designed to enhance circulation for both residents and service vehicles. A traffic impact analysis was completed by Traffic Analysis & Design, Inc. on October 8, 2025, which is attached as part of the applications. Stormwater will be managed onsite through the construction of two new retention basins.

In addition to premium interior finishes consistent with new construction standards, each unit will feature its own private front entrance and private enclosed yard, such that the Project will have the appearance and feel of a single-family community. The architectural style of the Project aims to integrate seamlessly into the existing neighborhoods while incorporating modern design elements. The Carillon at Germantown provides a transitional use bridging the commercial properties to the north and west and the residential communities further south along Division Road.

We expect that The Carillon at Germantown will attract two primary renter segments – current Germantown residents, most likely empty-nesters, that may be looking to downsize and/or who do not want to deal with the maintenance and other burdens of owning a home, and young families who want to live in Germantown and enjoy the benefits of single-family living but are not yet in a financial position to purchase a home in today's market. We have received very positive feedback from members of Faith Lutheran Church who would love to live in this community. Without this option, these residents would be forced to look outside of Germantown for their future housing needs.

Since the Project Site is currently owned by Faith Lutheran Church and exempt from property taxes, the Project will place property back on the tax rolls. We estimate the Project will generate approximately $140,000 in new annual property tax revenue. We also expect to contribute approximately $300,000 in one-time fees for utility connections and service expenses. Beyond its financial impact, the Project will provide a high-quality housing option that aligns with the Village's goal for thoughtful growth.

Cirrus Property Group, LLC
1661 N Water St, Suite 500
Milwaukee, WI 53202

We respectfully submit this rezone request for your consideration, and we look forward to continuing working through the details with the Village.

Sincerely,

Daniel Hasbani

Daniel Hasbani
Cirrus Property Group, LLC

SD100

N

SCALE: 1" = 60'-0"

0 30 60 120 180

QUADPLEX - ONE STORY
[7,209 SF] - 3 TOTAL

TRIPLEX 2BR - ONE STORY
[5,411 SF] - 5 TOTAL

TRIPLEX 3BR - TWO STORY
[5,391 SF] - 3 TOTAL

TOTAL LOT SIZE:
5.39 ACRES

TOTAL AREA:	5.39 AC
PERVIOUS AREA:	1.89 AC (35%)
IMPERVIOUS AREA:	3.51 AC
NUMBER OF BUILDINGS:	11
NUMBER OF UNITS:	36
TOTAL BUILDING AREA:	64,855 SF
LOT COVERAGE PERCENTAGE:	27%
TOTAL REQUIRED PARKING:	72 STALLS
TOTAL PROVIDED PARKING:	108 STALLS

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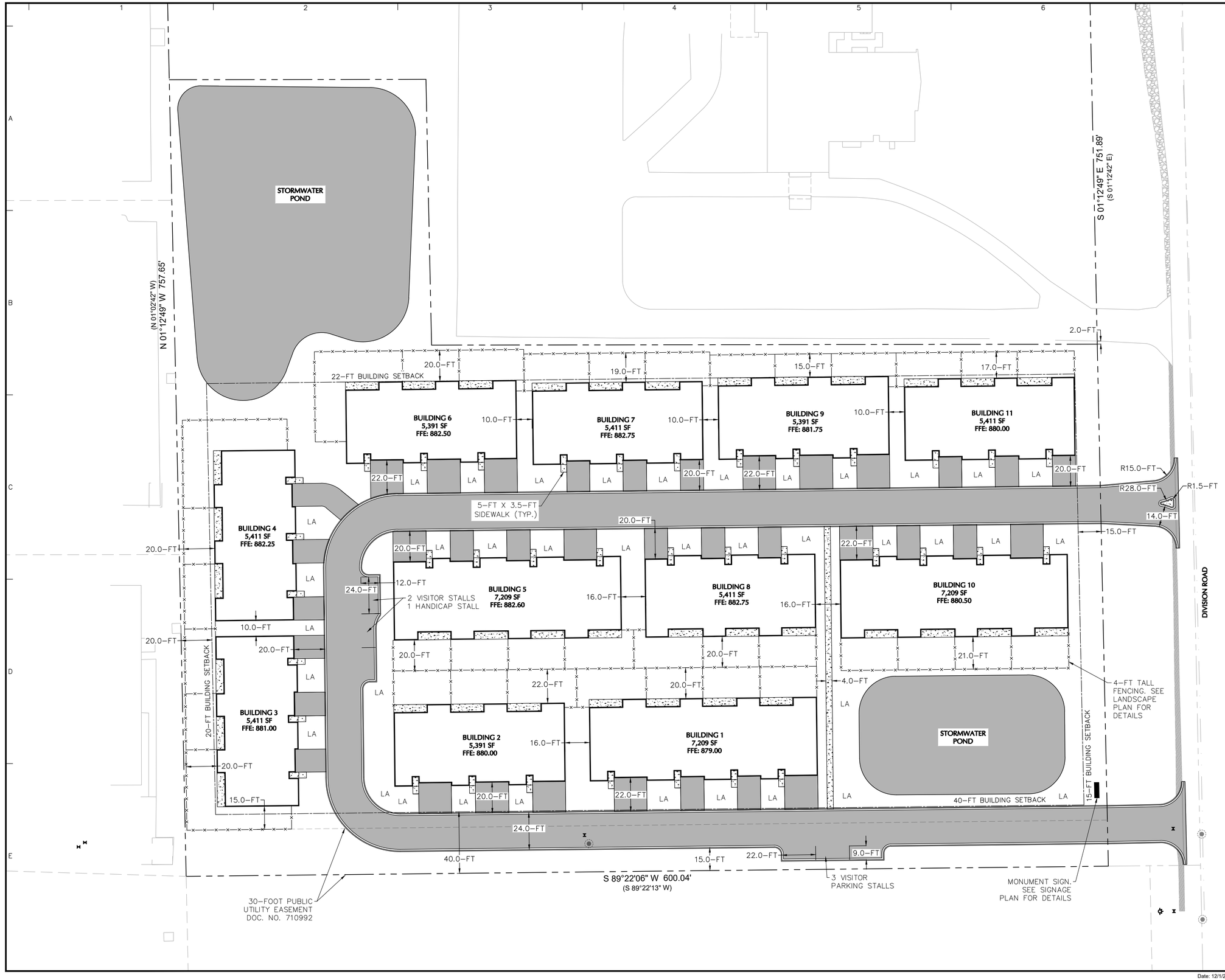

30 0 15 30
SCALE IN FEET

TOTAL AREA:	5.39 AC
PERVIOUS AREA:	1.89 AC (35%)
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NUMBER OF BUILDINGS:	11
NUMBER OF UNITS:	36
TOTAL BUILDING AREA:	64,855 SF
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TOTAL REQUIRED PARKING:	72 STALLS
TOTAL PROVIDED PARKING:	108 STALLS

Property Address:
W172N11183 Division Road
Germantown, WI 53022

Date	Description	No.
Revisions		

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
247 Freshwater Way, Suite 532
Milwaukee, WI 53204
T: 973.560.4580 www.langan.com

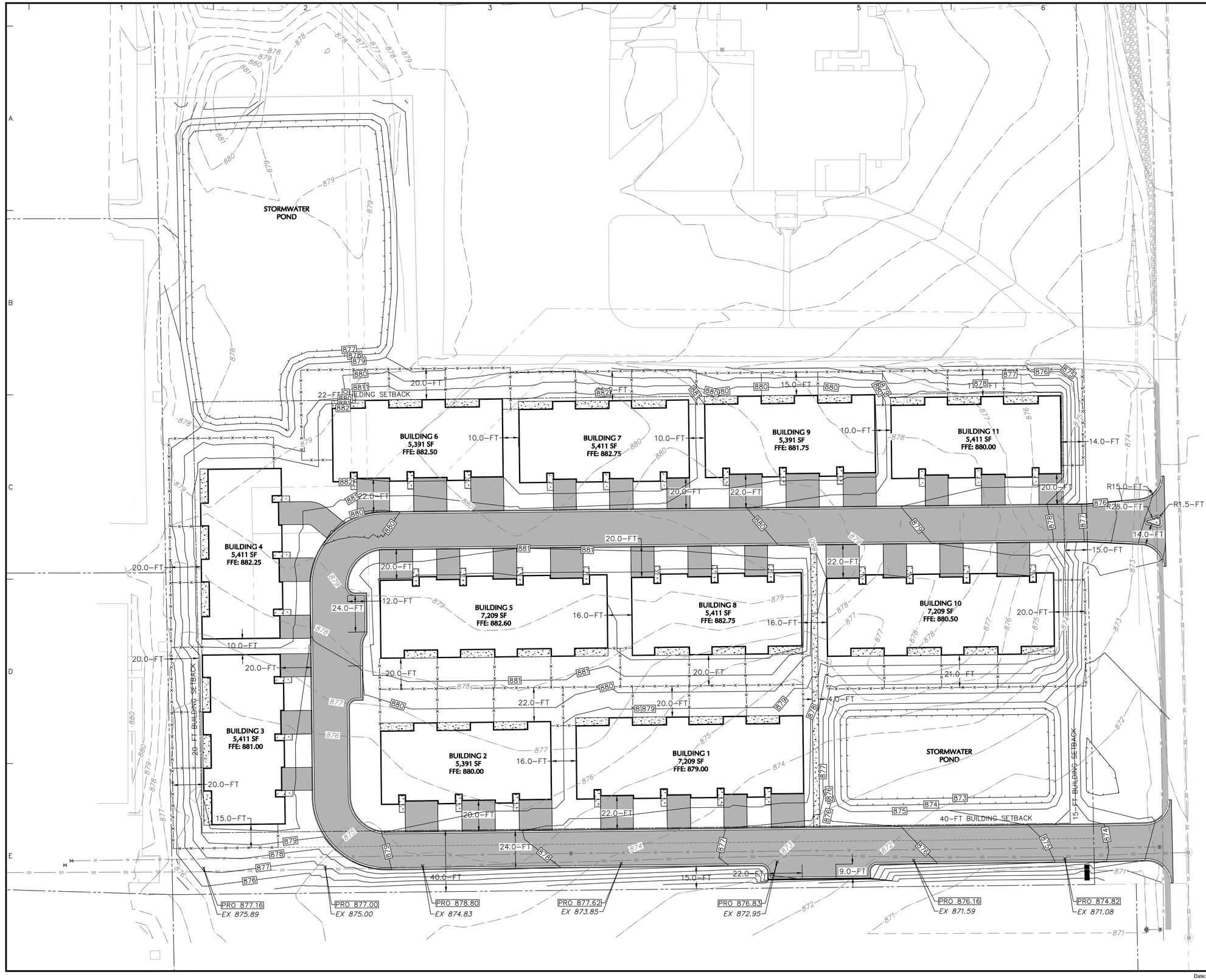
Project
THE CARILLON AT GERMANTOWN
GERMANTOWN
WASHINGTON COUNTY WISCONSIN

Drawing Title
SITE PLAN

Project No. 543001101	Drawing No. CS101
Date 10/13/2025	
Drawn By ZF	
Checked By JK	

LANGAN Project No. 543001101

© 2025 Langan



30 0 15 30
SCALE IN FEET

Date	Description	No.
Revisions		

Signature Date

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture, and Geology, D.P.C.
247 Freshwater Way, Suite 532
Milwaukee, WI 53204
T: 973.560.4580 www.langan.com

Project
THE CARILLON AT GERMANTOWN
GERMANTOWN
WASHINGTON COUNTY WISCONSIN

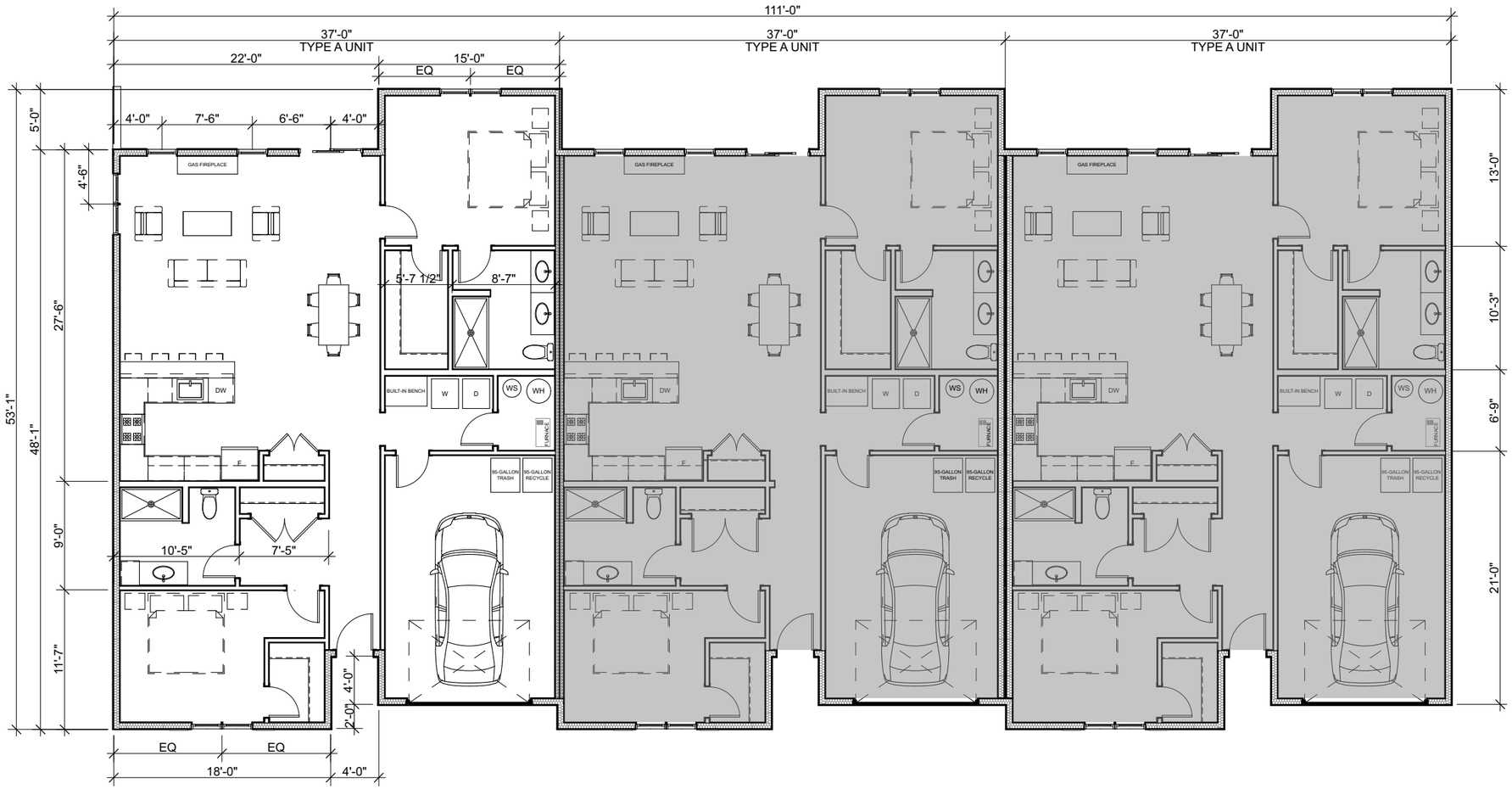
Drawing Title
PRELIMINARY GRADING PLAN

Project No.	Drawing No.
543001101	CG101
Date: 10/24/2025	
Drawn By: ZRF	
Checked By: JFK	

LANGAN
Project No. 543001101

© 2025 Langan

SD101



1 SD101 FIRST FLOOR PLAN

SCALE: 3/32" = 1'-0"

TYPE A UNIT

FIRST FLOOR: 1,387 SF
(GARAGE AND MECH. NOT INCLUDED)

TOTAL:
1,387 SF

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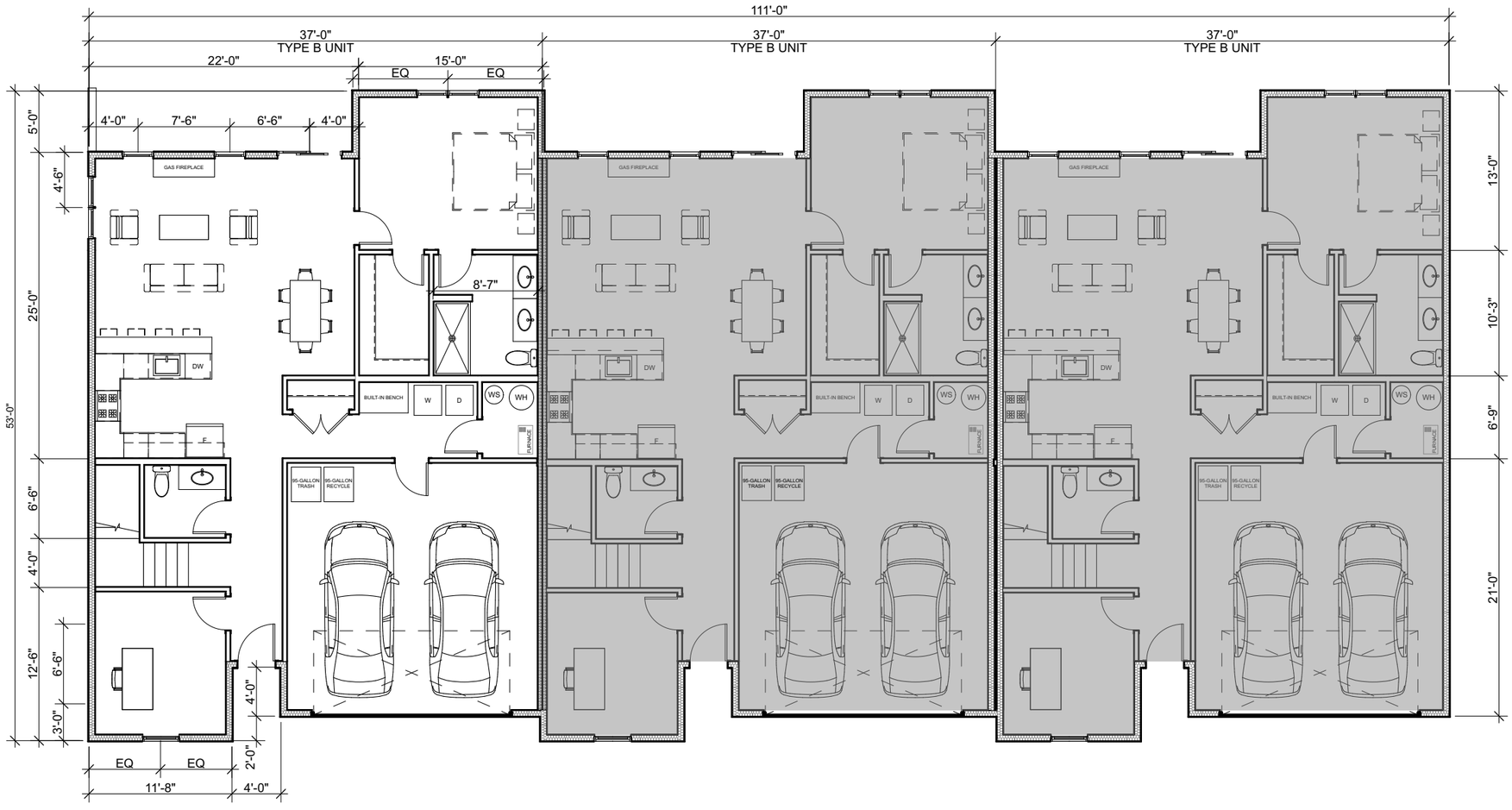
SD102



1 SD102 FIRST FLOOR PLAN

SCALE: 3/32" = 1'-0"

TYPE B UNIT

FIRST FLOOR: 1,247 SF
(GARAGE AND MECH. NOT INCLUDED)

TOTAL:
1,858 SF

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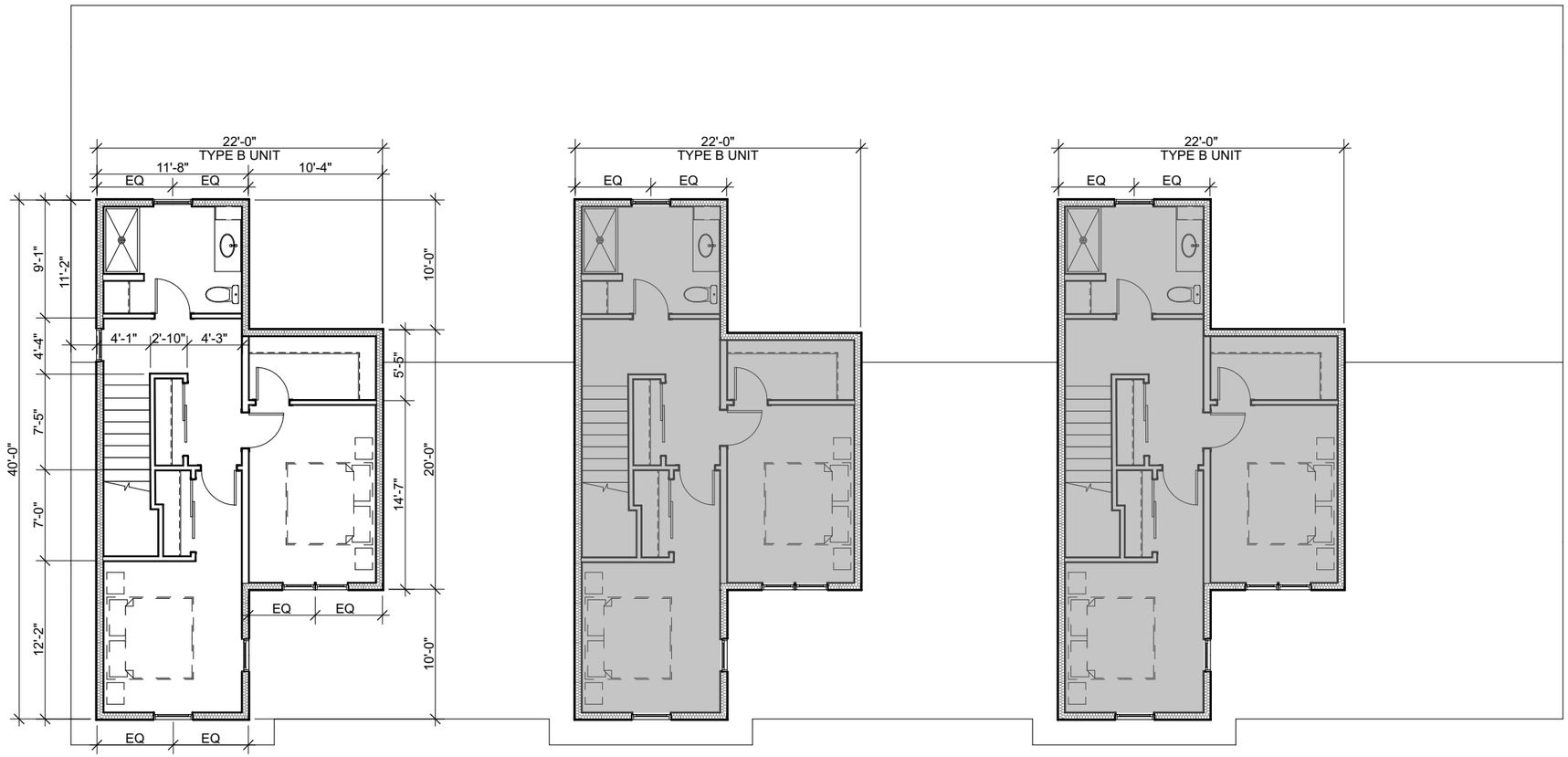
SD103



1 SD103 SECOND FLOOR PLAN

SCALE: 3/32" = 1'-0"

TYPE B UNIT

SECOND FLOOR: 611 SF

TOTAL:
1,858 SF

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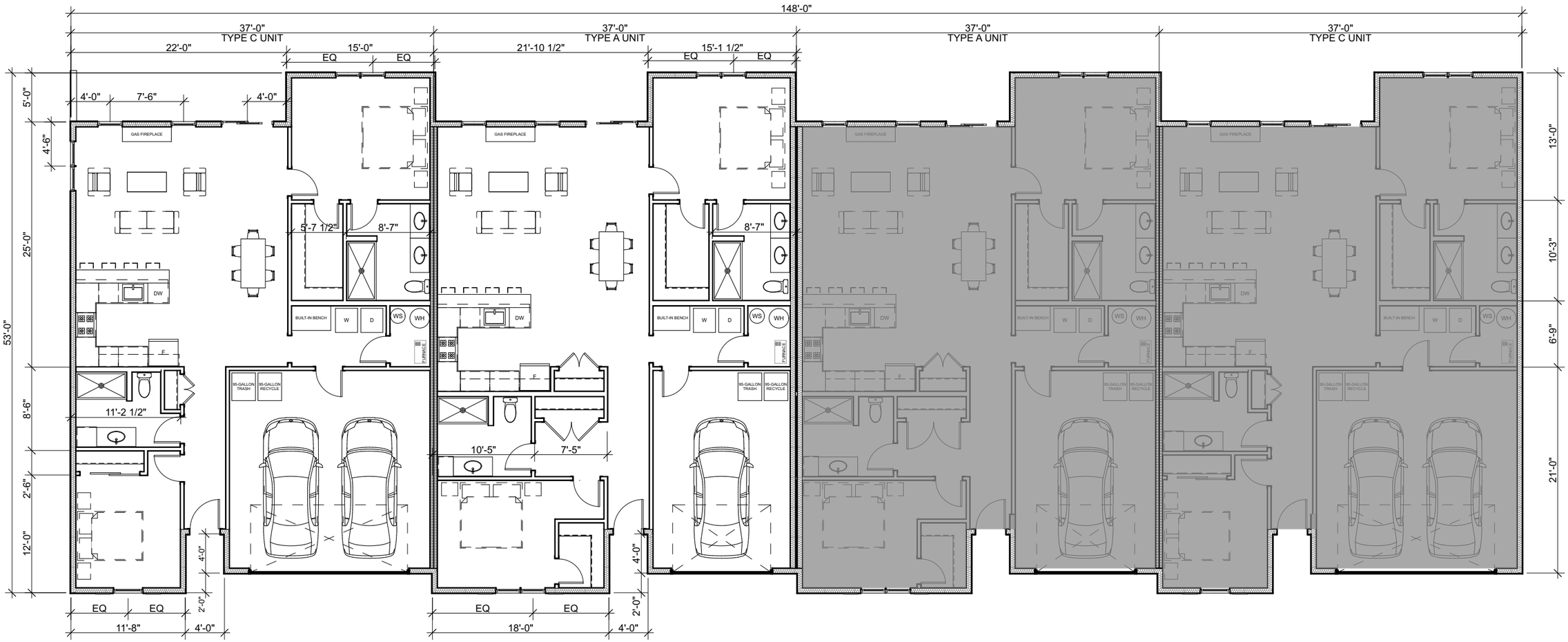
SD104



1 SD104 FIRST FLOOR PLAN

SCALE: 3/32" = 1'-0"

TYPE C UNIT

FIRST FLOOR: 1,248 SF
(GARAGE AND MECH. NOT INCLUDED)

TOTAL:
1,248 SF

TYPE A UNIT

FIRST FLOOR: 1,387 SF
(GARAGE AND MECH. NOT INCLUDED)

TOTAL:
1,387 SF

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LP - SMARTSIDE BOARD AND BATTEN SIDING
COLOR: CAVERN STEEL

LP - SMARTSIDE LAP SIDING
COLOR: MIDNIGHT SHADOW

LP - SMARTSIDE TRIM
COLOR: SNOWSCAPE WHITE

PRESTIGE STONE PRODUCTS - SOUTHERN LIMESTONE
COLOR: VENICE

CLOPAY - CLASSIC STEEL GARAGE DOORS
COLOR: CHARCOAL

OWENS CORNING - TRU DEFINITION DURATION SHINGLES
COLOR: ESTATE GRAY

ROCKRIDGE CAST STONE - WALL CAP
COLOR: IMITATION LIMESTONE

FRONT DOOR AND SHUTTERS
COLOR: SW 7069 - IRON ORE

ROCHESTER CONCRETE PRODUCTS
PREMIER 8 - RETAINING WALL
COLOR: CHARCOAL

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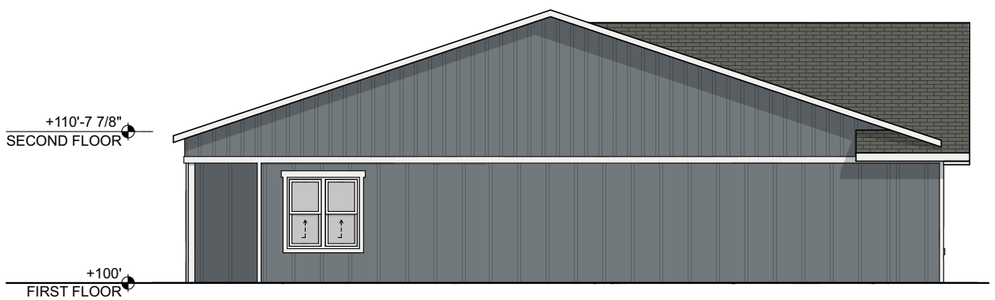
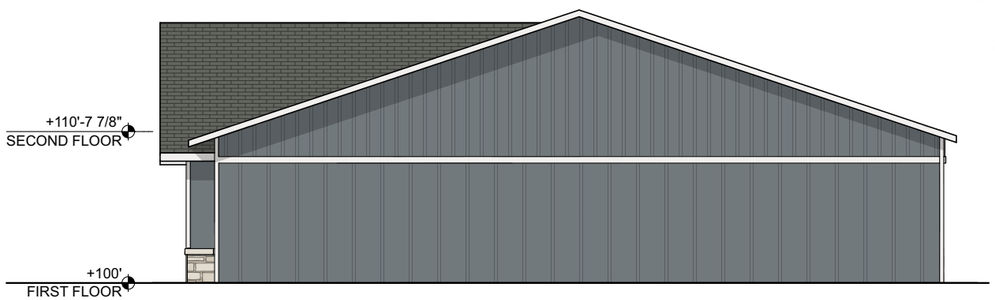
1 SD106 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

2 SD106 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



3 SD106 WEST ELEVATION
SCALE: 3/32" = 1'-0"



4 SD106 EAST ELEVATION
SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 1

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Cavern Steel**
- LP - Smartside Lap Siding
  Color: **Midnight Shadow**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Charcoal**
- Front Door and Shutters
  Color: **SW 7069 - Iron Ore**
- Prestige Stone Products - Southern Limestone
  Color: **Venice**
- Rockridge Cast Stone - Wall Cap
  Color: **Imitation Limestone**
- Vinyl Doors and Windows
  Color: **White**

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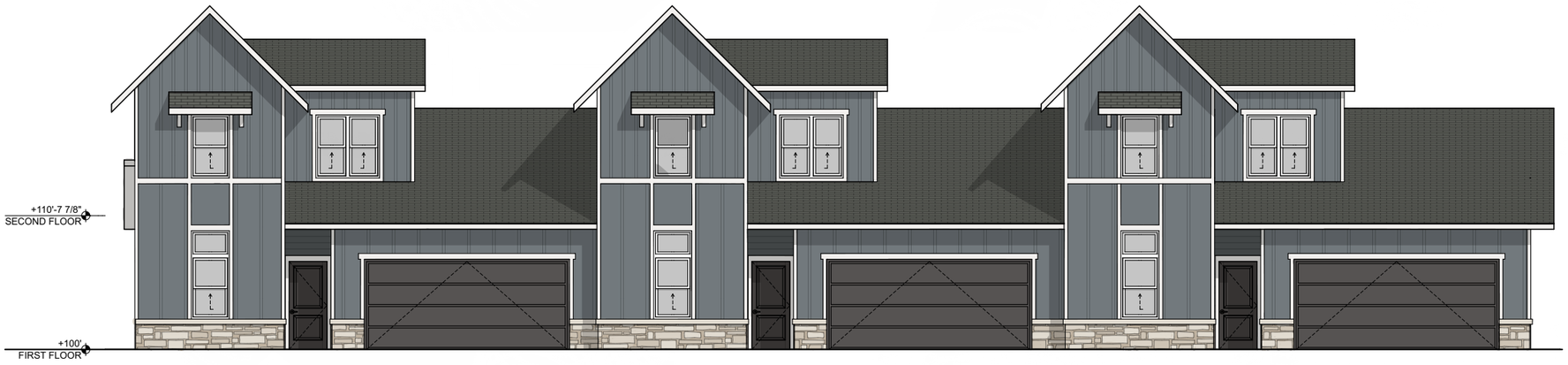
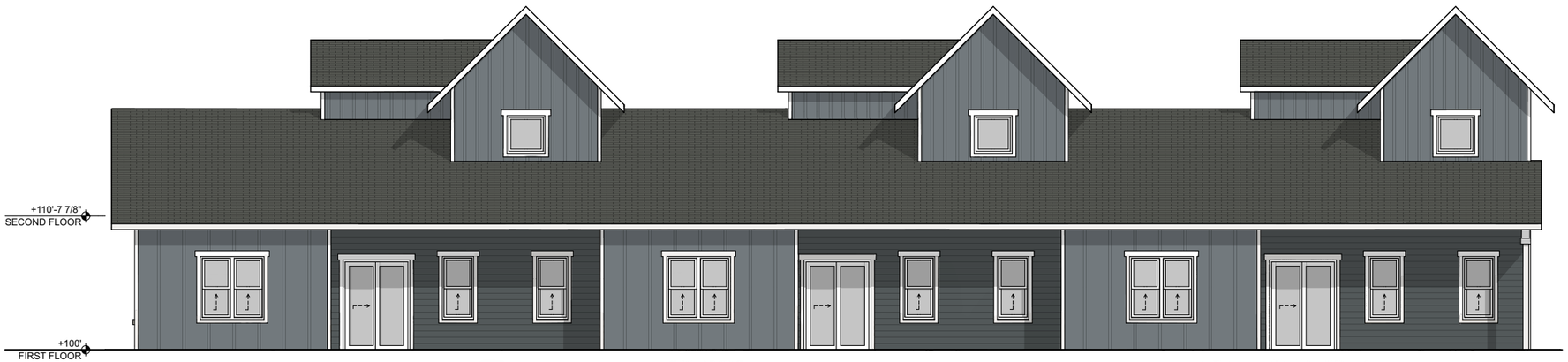


1
SD107

NORTH ELEVATION

SCALE: 3/32" = 1'-0"



2
SD107

SOUTH ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 1

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Cavern Steel**
- LP - Smartside Lap Siding
  Color: **Midnight Shadow**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Charcoal**
- Front Door and Shutters
  Color: **SW 7069 - Iron Ore**
- Prestige Stone Products - Southern Limestone
  Color: **Venice**
- Rockridge Cast Stone - Wall Cap
  Color: **Imitation Limestone**
- Vinyl Doors and Windows
  Color: **White**

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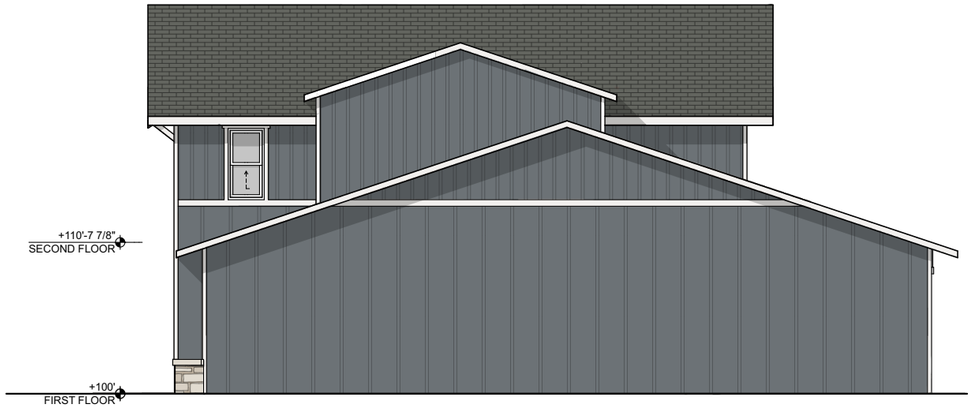
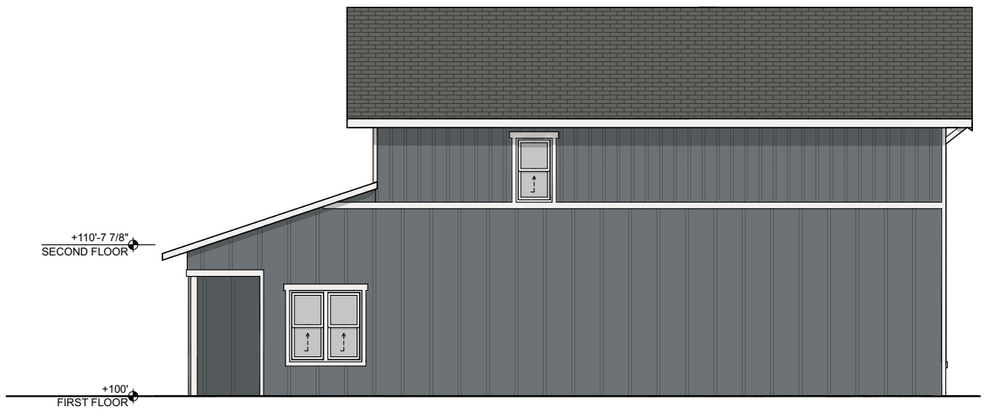


1
SD108

EAST ELEVATION

SCALE: 3/32" = 1'-0"



2
SD108

WEST ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 1

Owens Corning - TruDefinition Duration Shingles
Color: **Estate Gray**

LP - Smartside Board and Batten Siding
Color: **Cavern Steel**

LP - Smartside Lap Siding
Color: **Midnight Shadow**

LP - Smartside Trim
Color: **Snowscape White**

Clopay - Classic Steel Garage Doors
Color: **Charcoal**

Front Door and Shutters
Color: **SW 7069 - Iron Ore**

Prestige Stone Products - Southern Limestone
Color: **Venice**

Rockridge Cast Stone - Wall Cap
Color: **Imitation Limestone**

Vinyl Doors and Windows
Color: **White**

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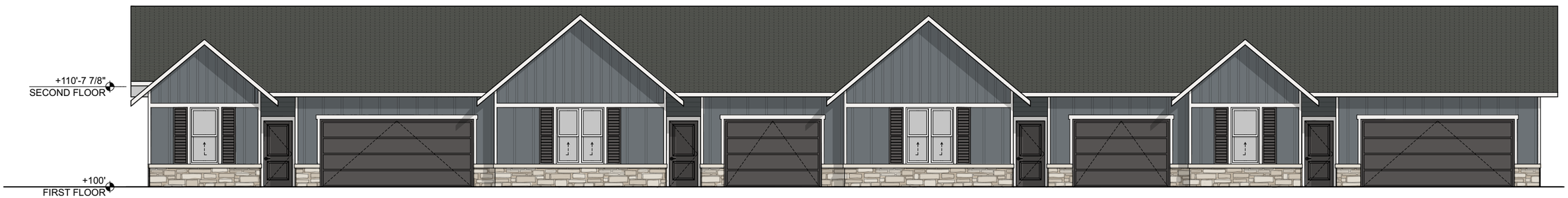
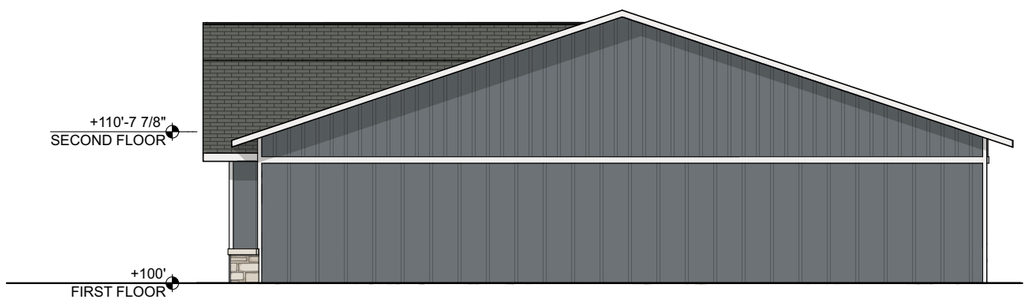
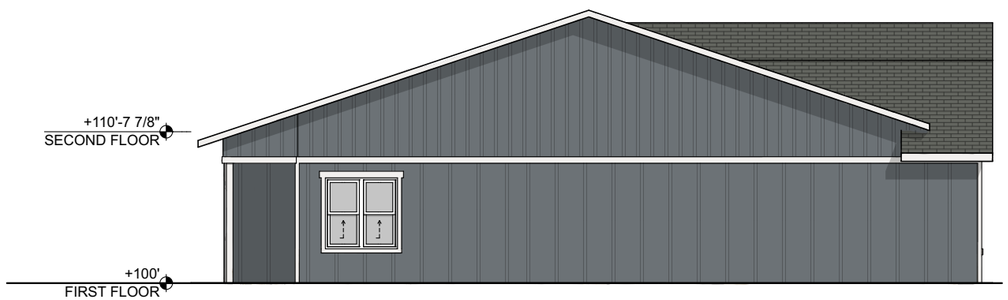


1 SD109 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

2 SD109 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



3 SD109 EAST ELEVATION
SCALE: 3/32" = 1'-0"



1 SD109 WEST ELEVATION
SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 1

- Owens Corning - TruDefinition Duration Shingles Color: **Estate Gray**
- LP - Smartside Board and Batten Siding Color: **Cavern Steel**
- LP - Smartside Lap Siding Color: **Midnight Shadow**
- LP - Smartside Trim Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors Color: **Charcoal**
- Front Door and Shutters Color: **SW 7069 - Iron Ore**
- Prestige Stone Products - Southern Limestone Color: **Venice**
- Rockridge Cast Stone - Wall Cap Color: **Imitation Limestone**
- Vinyl Doors and Windows Color: **White**

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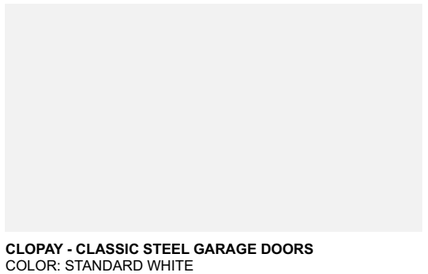
LP - SMARTSIDE BOARD AND BATTEN SIDING
COLOR: QUARRY GRAY

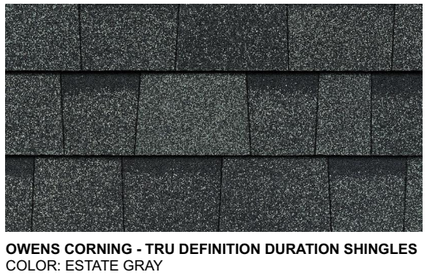
LP - SMARTSIDE LAP SIDING
COLOR: TUNDRAY GRAY

LP - SMARTSIDE TRIM
COLOR: SNOWSCAPE WHITE

PRESTIGE STONE PRODUCTS - THIN VENEER BRICK
COLOR: BLACK ONYX



CLOPAY - CLASSIC STEEL GARAGE DOORS
COLOR: STANDARD WHITE



OWENS CORNING - TRU DEFINITION DURATION SHINGLES
COLOR: ESTATE GRAY

ROCKRIDGE CAST STONE - WALL CAP
COLOR: LIGHT GRAY

FRONT DOOR AND SHUTTERS
COLOR: SW 9140 - BLUSTERY SKY

ROCHESTER CONCRETE PRODUCTS
PREMIER 8 - RETAINING WALL
COLOR: CHARCOAL

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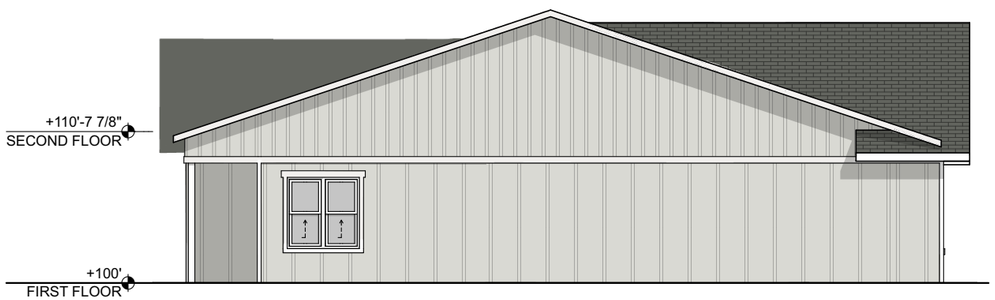
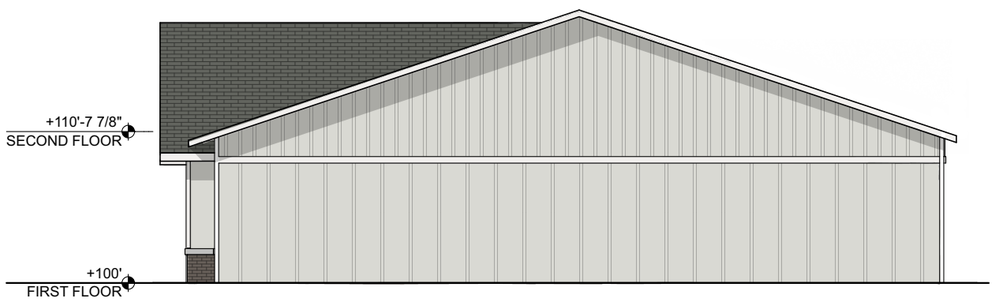
1 SD111 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

2 SD111 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



3 SD111 WEST ELEVATION
SCALE: 3/32" = 1'-0"



4 SD111 EAST ELEVATION
SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 2

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Quarry Gray**
- LP - Smartside Lap Siding
  Color: **Tundra Gray**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Standard White**
- Front Door and Shutters
  Color: **SW 9140 - Blustery Sky**
- Prestige Stone Products - Thin Veneer Brick
  Color: **Black Onyx**
- Rockridge Cast Stone - Wall Cap
  Color: **Light Gray**
- Vinyl Doors and Windows
  Color: **White**

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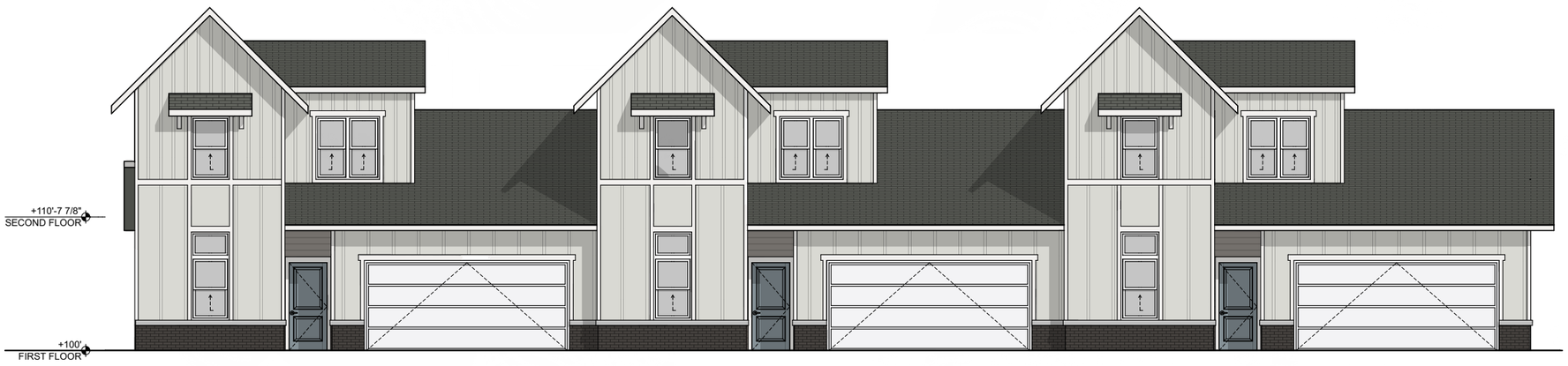
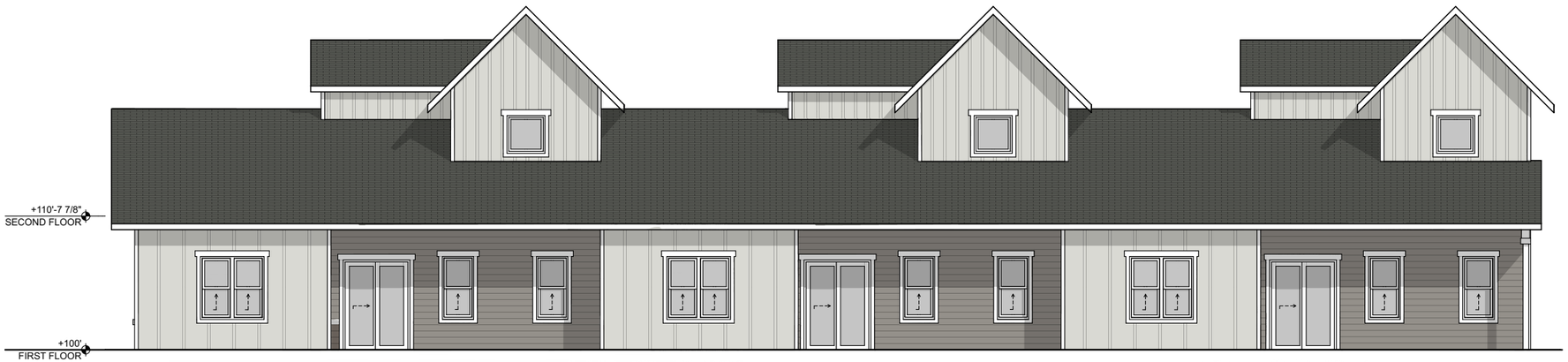


1
SD112

NORTH ELEVATION

SCALE: 3/32" = 1'-0"



2
SD112

SOUTH ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 2

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Quarry Gray**
- LP - Smartside Lap Siding
  Color: **Tundra Gray**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Standard White**
- Front Door and Shutters
  Color: **SW 9140 - Blustery Sky**
- Prestige Stone Products - Thin Veneer Brick
  Color: **Black Onyx**
- Rockridge Cast Stone - Wall Cap
  Color: **Light Gray**
- Vinyl Doors and Windows
  Color: **White**

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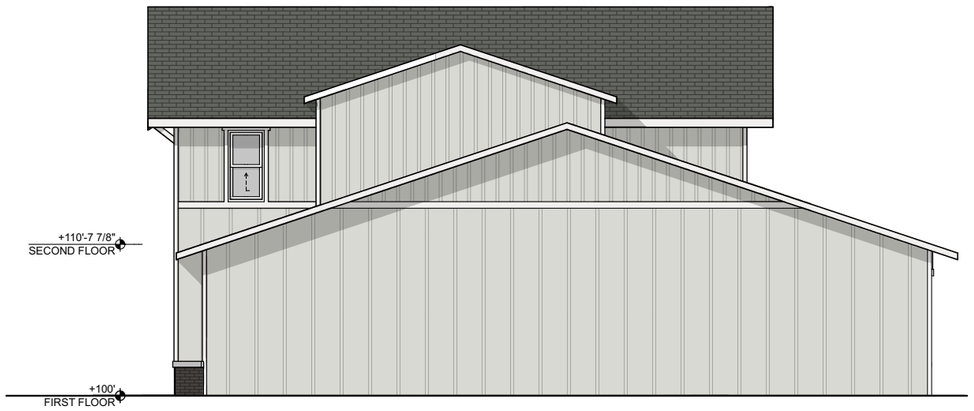
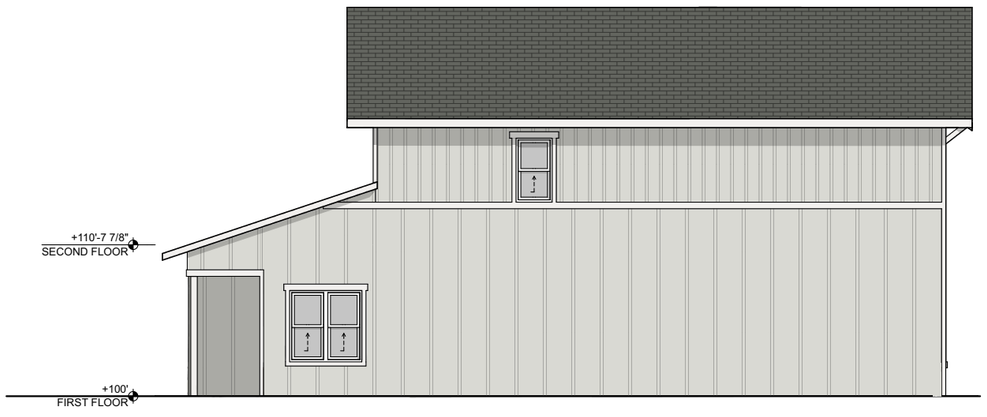


1
SD113

EAST ELEVATION

SCALE: 3/32" = 1'-0"



2
SD113

WEST ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 2

Owens Corning - TruDefinition Duration Shingles
Color: **Estate Gray**

LP - Smartside Board and Batten Siding
Color: **Quarry Gray**

LP - Smartside Lap Siding
Color: **Tundra Gray**

LP - Smartside Trim
Color: **Snowscape White**

Clopay - Classic Steel Garage Doors
Color: **Standard White**

Front Door and Shutters
Color: **SW 9140 - Blustery Sky**

Prestige Stone Products - Thin Veneer Brick
Color: **Black Onyx**

Rockridge Cast Stone - Wall Cap
Color: **Light Gray**

Vinyl Doors and Windows
Color: **White**

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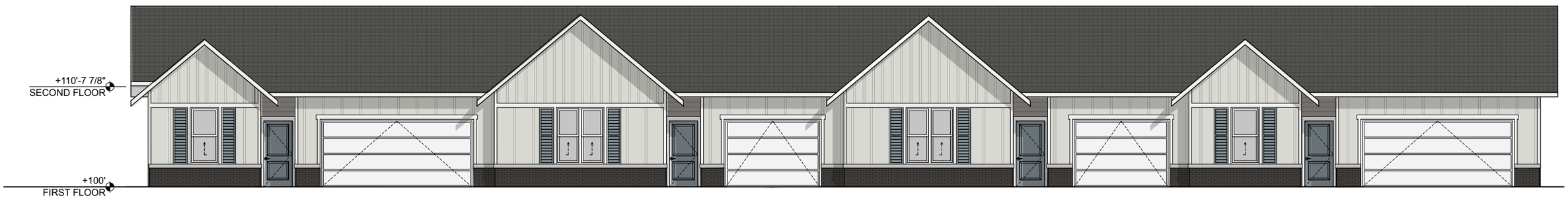
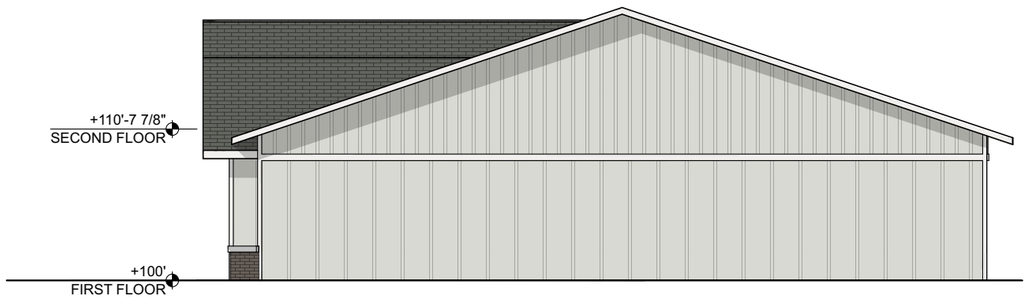


1 SD114 NORTH ELEVATION

SCALE: 3/32" = 1'-0"

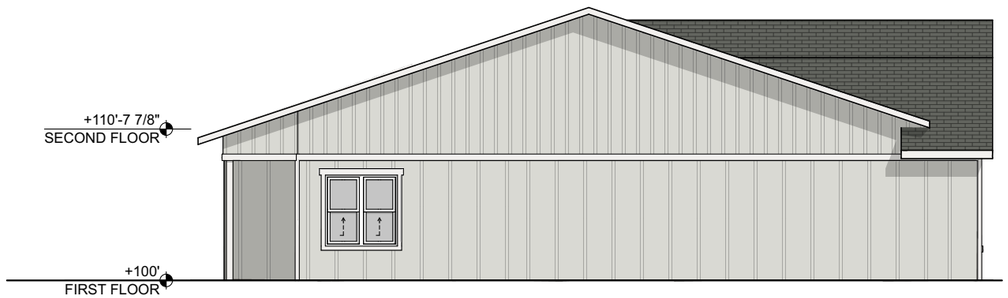
2 SD114 SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



3 SD114 EAST ELEVATION

SCALE: 3/32" = 1'-0"



1 SD114 WEST ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 2

- Owens Corning - TruDefinition Duration Shingles Color: **Estate Gray**
- LP - Smartside Board and Batten Siding Color: **Quarry Gray**
- LP - Smartside Lap Siding Color: **Tundra Gray**
- LP - Smartside Trim Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors Color: **Standard White**
- Front Door and Shutters Color: **SW 9140 - Blustery Sky**
- Prestige Stone Products - Thin Veneer Brick Color: **Black Onyx**
- Rockridge Cast Stone - Wall Cap Color: **Light Gray**
- Vinyl Doors and Windows Color: **White**

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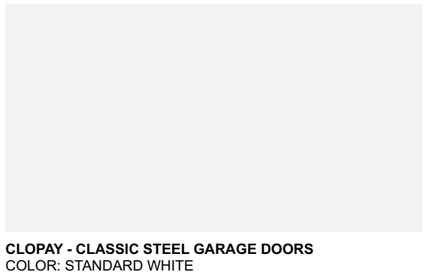
LP - SMARTSIDE BOARD AND BATTEN SIDING
COLOR: SUMMIT BLUE

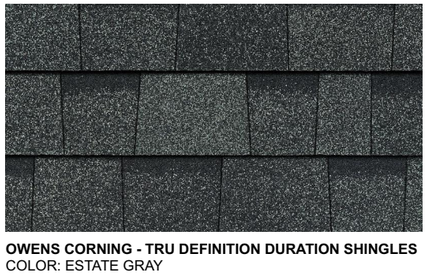
LP - SMARTSIDE BOARD AND BATTEN SIDING
COLOR: CAVERN STEEL

LP - SMARTSIDE TRIM
COLOR: SNOWSCAPE WHITE

PRESTIGE STONE PRODUCTS - THIN VENEER BRICK
COLOR: FARMHOUSE

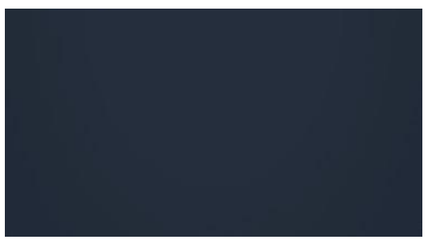


CLOPAY - CLASSIC STEEL GARAGE DOORS
COLOR: STANDARD WHITE



OWENS CORNING - TRU DEFINITION DURATION SHINGLES
COLOR: ESTATE GRAY

ROCKRIDGE CAST STONE - WALL CAP
COLOR: LIGHT GRAY



FRONT DOOR AND SHUTTERS
COLOR: SW 6244 - NAVAL

ROCHESTER CONCRETE PRODUCTS
PREMIER 8 - RETAINING WALL
COLOR: CHARCOAL

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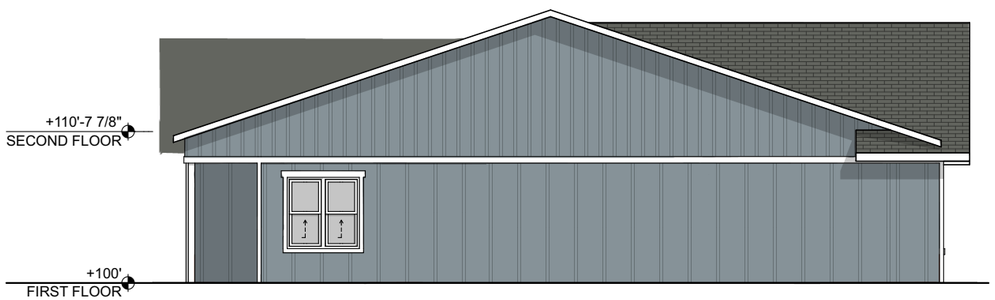
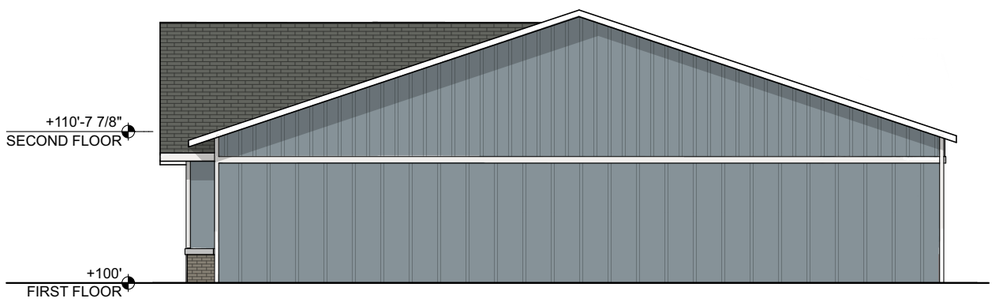
1 SD116 NORTH ELEVATION
SCALE: 3/32" = 1'-0"

2 SD116 SOUTH ELEVATION
SCALE: 3/32" = 1'-0"



3 SD116 WEST ELEVATION
SCALE: 3/32" = 1'-0"



4 SD116 EAST ELEVATION
SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 3

- Owens Corning - TruDefinition Duration Shingles Color: **Estate Gray**
- LP - Smartside Board and Batten Siding Color: **Summit Blue**
- LP - Smartside Lap Siding Color: **Cavern Steel**
- LP - Smartside Trim Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors Color: **Standard White**
- Front Door and Shutters Color: **SW 6244 - Naval**
- Prestige Stone Products - Thin Veneer Brick Color: **Farmhouse**
- Rockridge Cast Stone - Wall Cap Color: **Light Gray**
- Vinyl Doors and Windows Color: **White**

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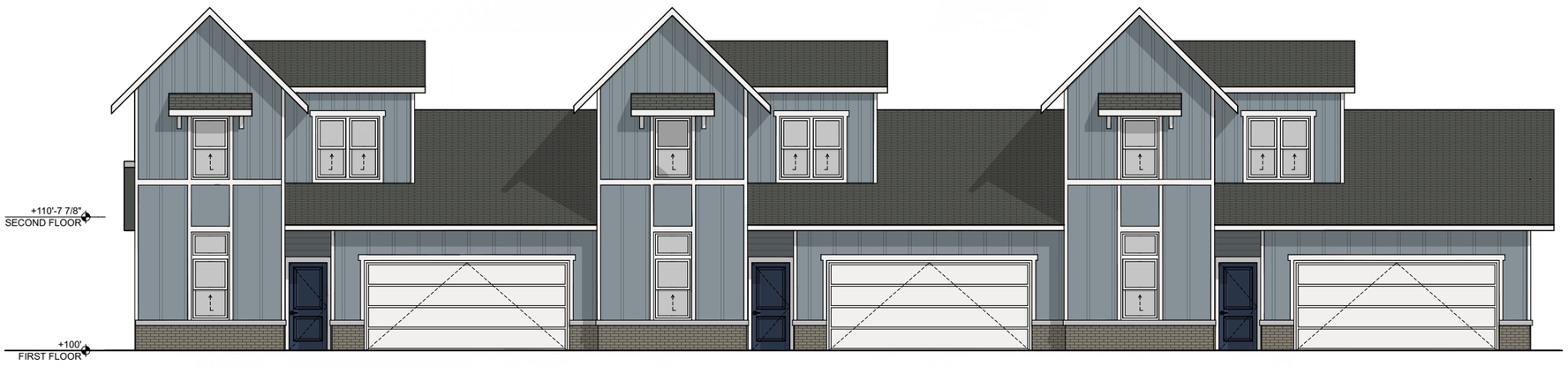
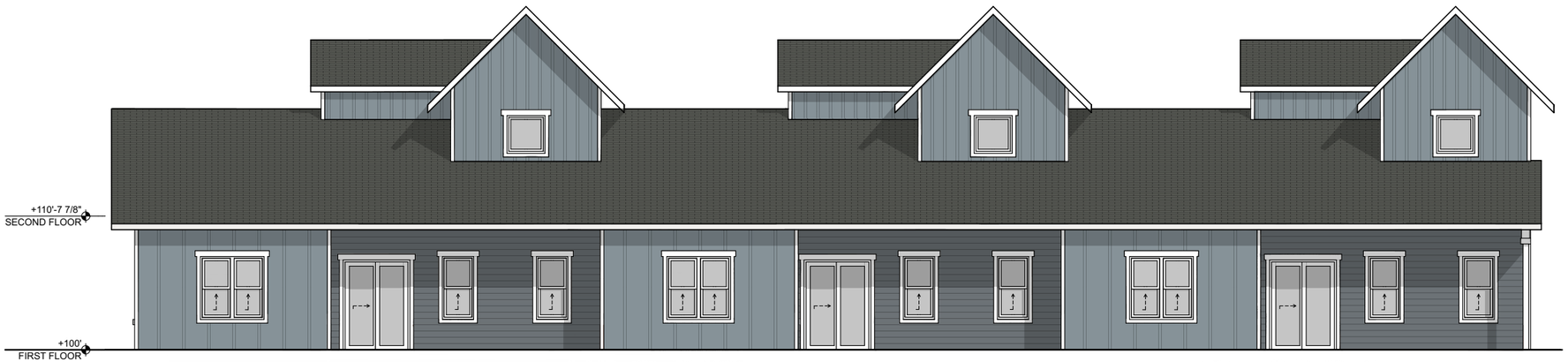


1
SD117

NORTH ELEVATION

SCALE: 3/32" = 1'-0"



2
SD117

SOUTH ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 3

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Summit Blue**
- LP - Smartside Lap Siding
  Color: **Cavern Steel**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Standard White**
- Front Door and Shutters
  Color: **SW 6244 - Naval**
- Prestige Stone Products - Thin Veneer Brick
  Color: **Farmhouse**
- Rockridge Cast Stone - Wall Cap
  Color: **Light Gray**
- Vinyl Doors and Windows
  Color: **White**

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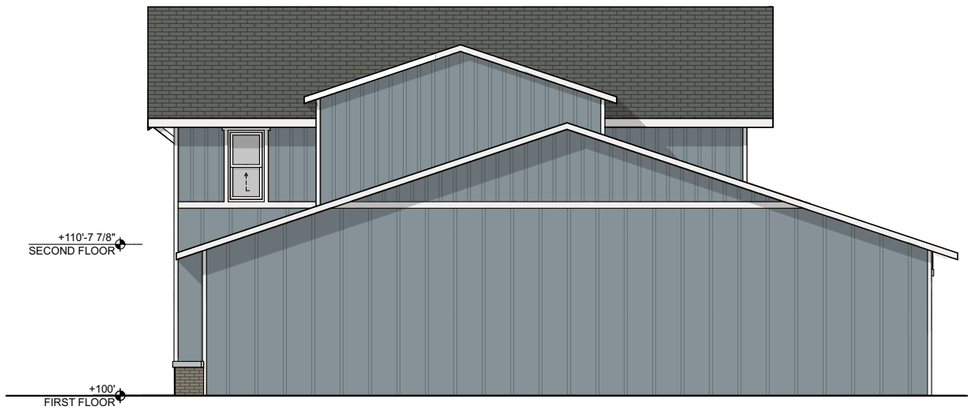
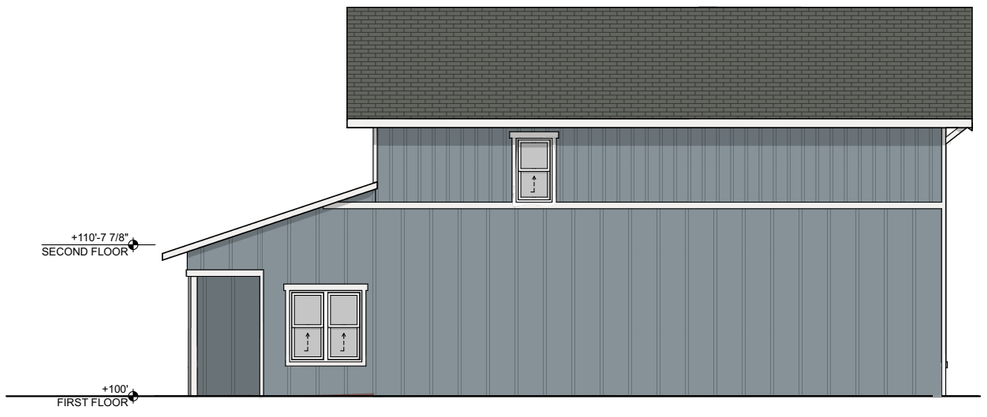


1
SD118

EAST ELEVATION

SCALE: 3/32" = 1'-0"



2
SD118

WEST ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 3

- Owens Corning - TruDefinition Duration Shingles
  Color: **Estate Gray**
- LP - Smartside Board and Batten Siding
  Color: **Summit Blue**
- LP - Smartside Lap Siding
  Color: **Cavern Steel**
- LP - Smartside Trim
  Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors
  Color: **Standard White**
- Front Door and Shutters
  Color: **SW 6244 - Naval**
- Prestige Stone Products - Thin Veneer Brick
  Color: **Farmhouse**
- Rockridge Cast Stone - Wall Cap
  Color: **Light Gray**
- Vinyl Doors and Windows
  Color: **White**

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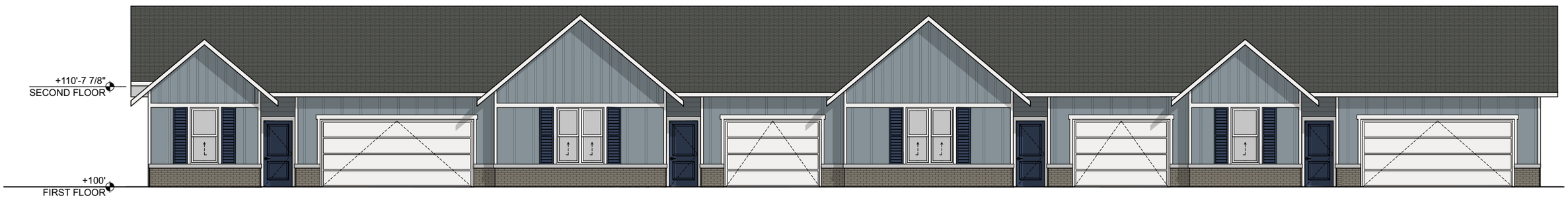
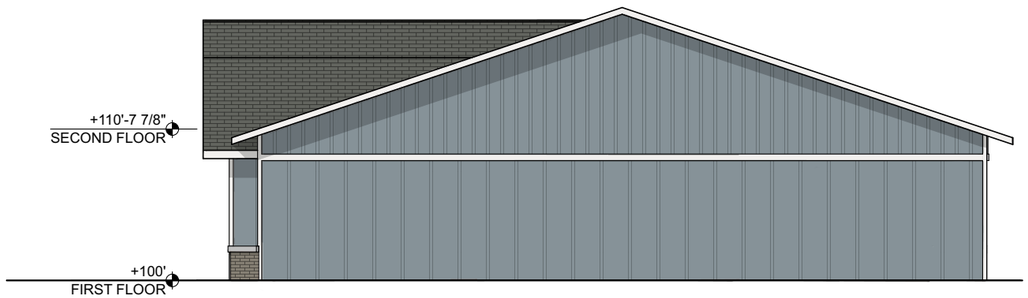


1 SD119 NORTH ELEVATION

SCALE: 3/32" = 1'-0"

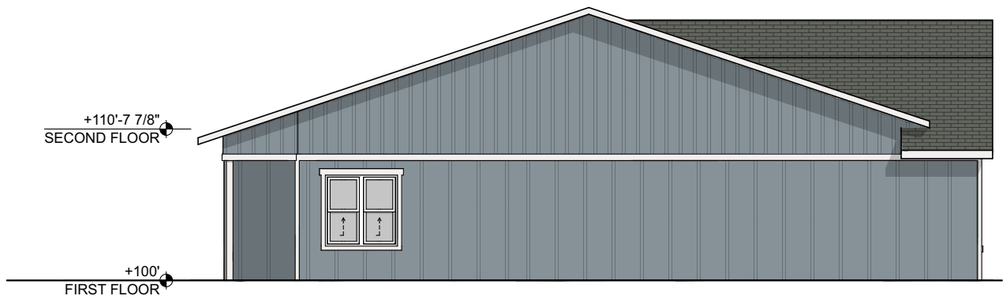
2 SD119 SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



3 SD119 EAST ELEVATION

SCALE: 3/32" = 1'-0"



1 SD119 WEST ELEVATION

SCALE: 3/32" = 1'-0"

MATERIAL PALETTE:
OPTION 3

- Owens Corning - TruDefinition Duration Shingles Color: **Estate Gray**
- LP - Smartside Board and Batten Siding Color: **Summit Blue**
- LP - Smartside Lap Siding Color: **Cavern Steel**
- LP - Smartside Trim Color: **Snowscape White**
- Clopay - Classic Steel Garage Doors Color: **Standard White**
- Front Door and Shutters Color: **SW 6244 - Naval**
- Prestige Stone Products - Thin Veneer Brick Color: **Farmhouse**
- Rockridge Cast Stone - Wall Cap Color: **Light Gray**
- Vinyl Doors and Windows Color: **White**

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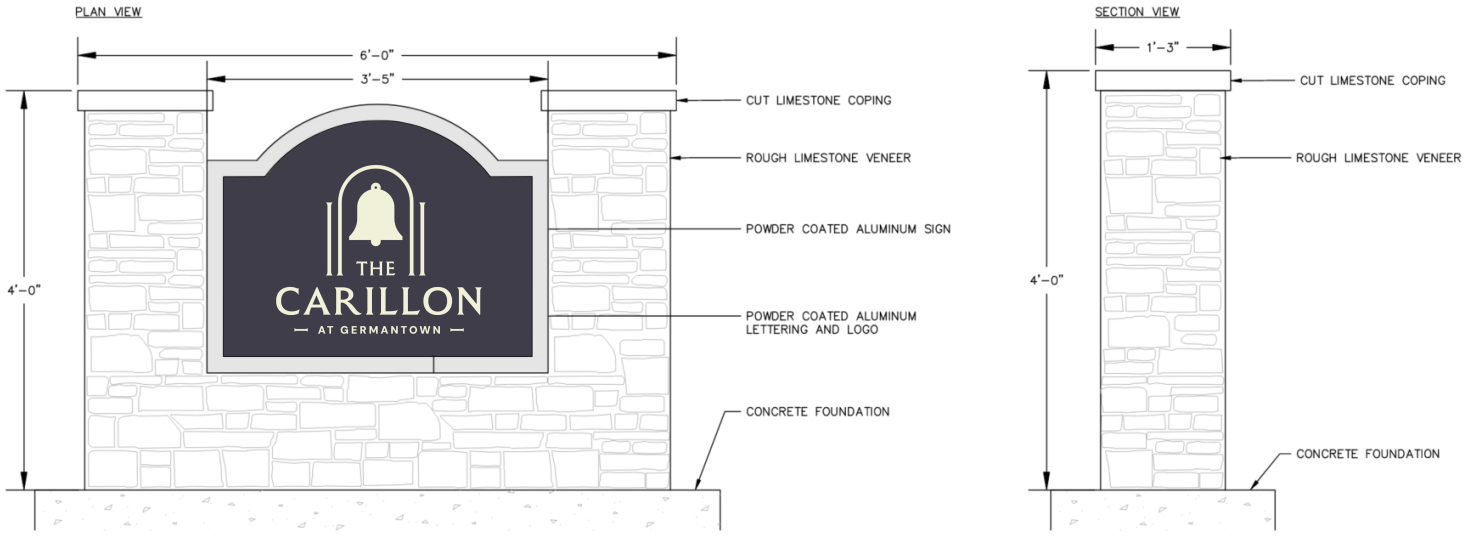
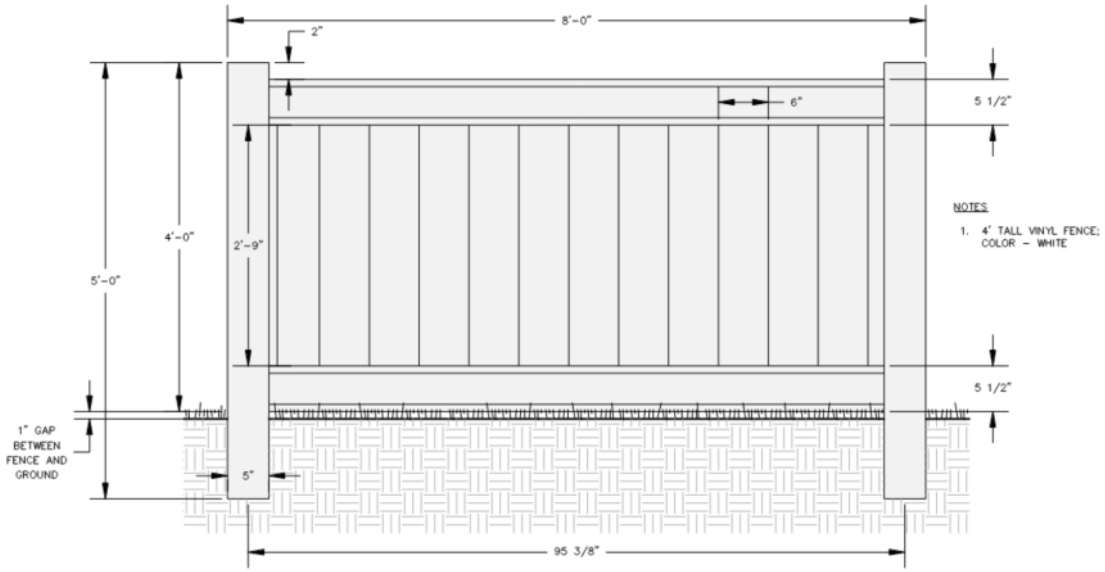
12/1/2025



1 SIGN AT ENTRANCE
1"=1'-0"



2 WHITE VINYL FENCING
1"=1'-0"

The Carillon at Germantown

Preliminary Monument Sign and Fencing Details

CIRRUS PROPERTY GROUP

Certified Survey Map_____

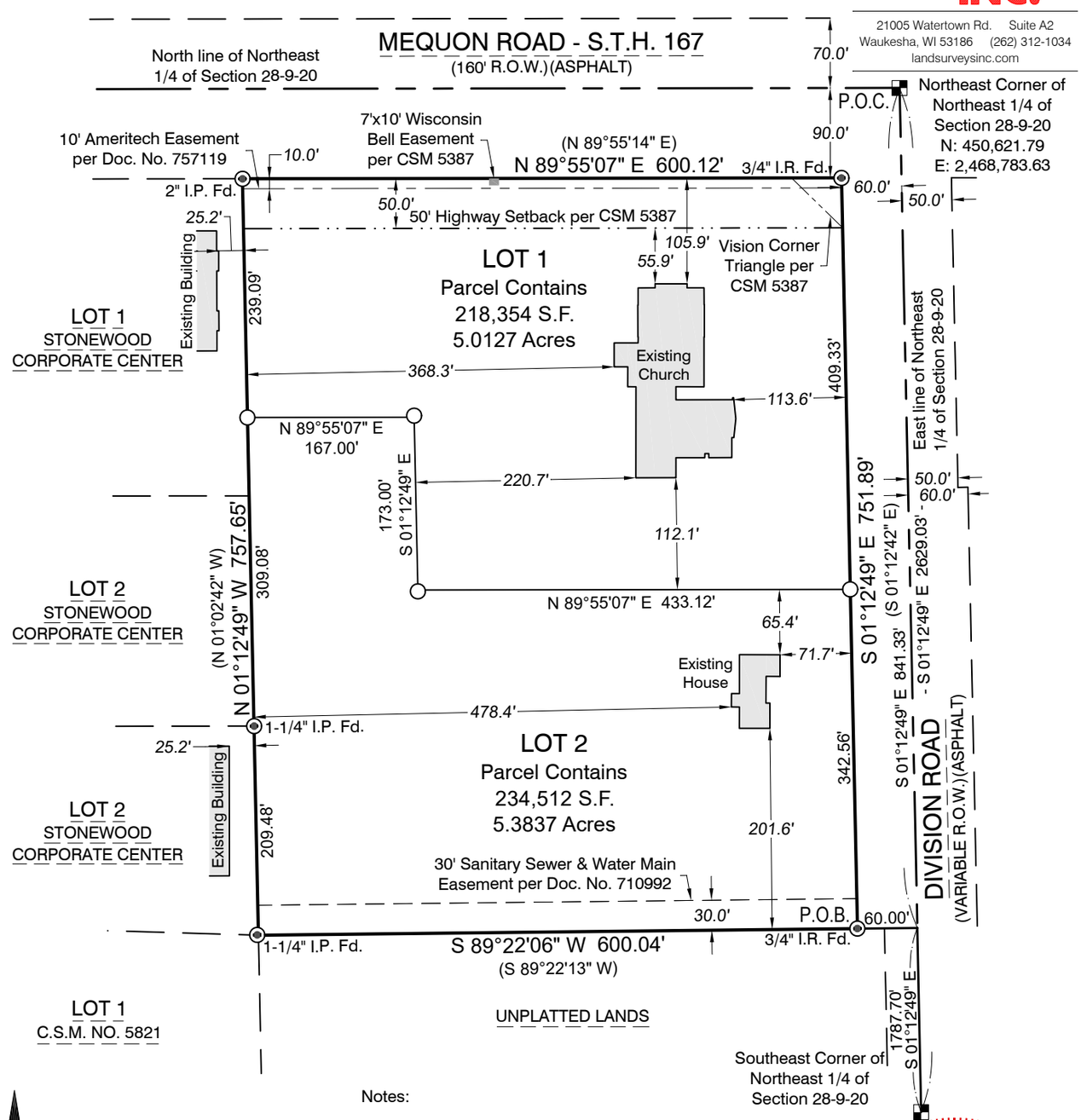
All of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, State of Wisconsin.

Owner:
Faith Lutheran Church
W172N11183 Division Road
Germantown, WI 53022
262-251-8250

Property Address:
W172N11183 Division Road
Germantown, WI 53022

Surveyor:
Phillip J. Landry
21005 Watertown Road
Suite A2
Waukesha, WI 53186

LAND SURVEYS INC.
21005 Watertown Rd. Suite A2
Waukesha, WI 53186 (262) 312-1034
landsurveysinc.com



Notes:

1. Outside diameter measured on all monuments. Set monuments are 1.50Lbs/Lineal Foot.
2. ( ) Indicates recorded as bearings and dimensions.
3. Field work completed on 09-05-25.
4. According to the flood insurance rate map of the Village of Germantown, Community Panel No. 5504720376D, effective date of November 20, 2013, this site falls in Zone X (Area of Minimal Flood Hazard).

LEGEND

- Monument Found as Noted
- 3/4"X18" Iron Rod Set
- Mag Nail Set
- Brass Disc in Conc.

Graphic Scale 1" = 150'

0' 150' 300'

BEARINGS ARE REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD 83/2011 IN WHICH THE EAST LINE OF THE NE 1/4 OF SECTION 28, T 9 N, R 20 E, BEARS S 01°14'49" E.

WISCONSIN
PHILLIP J. LANDRY
S-3176
BROOKFIELD
WI
LAND SURVEYOR

Revised 12-01-25
October 10, 2025

This Instrument was drafted by Phillip J. Landry, a Professional Land Surveyor, S-3176

Job# 25514 - BS Sheet 1 of 4

Certified Survey Map_____

All of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, State of Wisconsin.

SURVEYOR'S CERTIFICATE:

I, Phillip J. Landry, Professional Land Surveyor, do hereby certify:

That I have surveyed, divided and mapped all of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, State of Wisconsin, bounded and described as follows:

Commencing at the Northeast Corner of the Northeast 1/4 Section; thence South 01°12'49" East along the East line of said Section 841.33 feet; thence South 89°22'06" West 60.00 feet to a point on the South line of said CSM No. 5387 and the Point of Beginning of the lands described hereinafter; thence continuing South 89°22'06" West along said South line 600.04 feet to a point on the West line of said CSM; thence North 01°12'49" West along said West line 757.65 feet to a point on the North line of said CSM and the South line of Mequon Road; thence North 89°55'07" East along said North line 600.12 feet to a point on the East line of said CSM and West line of Division Road; thence South 01°12'49" East along said East line 751.89 feet to the Point of Beginning of this description.

The gross area of said parcel contains 452,863 square feet or 10.3963 acres of land more or less.

That I have made such survey, land division and map by the direction of Faith Lutheran Church, owner's of said land. That such map is a correct representation of all exterior boundaries of land surveyed and land division made thereof. That I have fully complied with the provisions of chapter 236.34 of the Wisconsin Statutes and Chapter 18 of the Village of Germantown Subdivision Control Ordinance in surveying, dividing and mapping same.

Dated this 10th day of October, 2025.

Phillip J. Landry, PLS
Professional Land Surveyor S-3176

LAND SURVEYS INC.
21005 Watertown Rd. Suite A2
Waukesha, WI 53186 (262) 312-1034
landsurveysinc.com

Revised 12-01-25
October 10, 2025

This Instrument was drafted by Phillip J. Landry, a Professional Land Surveyor, S-3176

Certified Survey Map_____

All of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, State of Wisconsin.

CORPORATE OWNER'S CERTIFICATE:

Faith Lutheran Church, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, certifies that said corporation caused the land described on this map to be surveyed, divided, mapped, and dedicated as represented on this Certified survey Map. As Owners, we hereby dedicate that part of Mequon Road - S.T.H. 167 and that part of Division Road to the Village of Germantown for public road purposes as represented on Sheet 1 of 4 of this Certified Survey Map.

Faith Lutheran Church, does further certify that this Certified Survey Map is mapped as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin State Statutes and requirements and ordinances of the Village of Germantown, this _____ day of _____, 2025.

_____

_____

In the presence of:
Faith Lutheran Church

_____

_____

STATE OF WISCONSIN)
) SS
County of Washington)

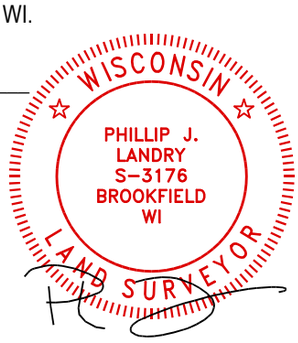
Personally came before me this _____ day of _____, 2025, _____ and _____ of the above named corporation, to me known as the person(s) who executed the foregoing instrument, and to me known to be the _____ and _____ of the corporation, and acknowledged that {they, he, or she} executed the foregoing instrument and acknowledged the same.

_____

Print Name_____

Notary Public, _____ County, WI.

My Commission Expires: _____



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21005 Watertown Rd. Suite A2
Waukesha, WI 53186 (262) 312-1034
landsurveysinc.com

Revised 12-01-25
October 10, 2025

This Instrument was drafted by Phillip J. Landry, a Professional Land Surveyor, S-3176

Job# 25514 - BS Sheet 3 of 4

Certified Survey Map_____

All of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washington County, State of Wisconsin.

VILLAGE OF GERMANTOWN BOARD APPROVAL:

This Certified Survey Map, being a division of Certified Survey Map No. 5387 being in the Northeast 1/4 of the Northeast 1/4 of Section 28, Township 9 North, Range 20 East, in the Village of Germantown, Washing County, Wisconsin, having been approved by the Planning Commission being the same, is hereby approved and the dedicated of that part of Mequon Road - S.T.H. 167 and that part of Division Road for public road purposes as shown on Sheet 1 of 4 is hereby accepted by the Village Board of Trustees of the Village of Germantown on _____ day of _____, 2025.

Signed: _____ _____
Robert A. Soderberg, Village President Date

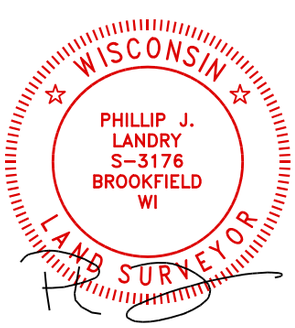
Signed: _____ _____
Donna Ott, Village Clerk Date

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 _____, 2025.

Signed: _____ _____
Robert A. Soderberg, Chairman Date

Signed: _____ _____
Deborah J. Remich, Secretary Date



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landsurveysinc.com

Revised 12-01-25
October 10, 2025
Job# 25514 - BS Sheet 4 of 4

This Instrument was drafted by Phillip J. Landry, a Professional Land Surveyor, S-3176

TIA TECHNICAL MEMORANDUM

DATE: October 8, 2025

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

SUBJECT: **The Carillon at Germantown Residential Development Traffic Impact Analysis Village of Germantown, WI**

INTRODUCTION & PURPOSE

The Carillon at Germantown is a 35-unit residential development on 5.4 acres along the west side of Division Road, just south of the Faith Lutheran Church property in Germantown, Wisconsin. This study was prepared to evaluate peak hour traffic impacts to intersections on Division Road with additional traffic from the proposed on-site development and area off-site developments approved from previous studies. The location of the proposed on-site and off-site developments with respect to the surrounding roadway system are on Exhibit 1.

PROPOSED DEVELOPMENT

On-Site Development: The Carillon at Germantown

The conceptual site plan for The Carillon at Germantown development is on Exhibit 2. The proposed residential units are a mix of quadplex and triplex buildings with individual driveway access to a U-shaped drive that connects to Division Road at two locations: the "North Site Driveway" connects to Division Road approximately 135 feet south of the Faith Lutheran Church driveway, and the "South Site Driveway" connects to Division Road approximately 200 feet south of the North Site Driveway.

Due to driveway spacing, the Village of Germantown has indicated that the North Site Driveway should be restricted to right-in/right-out only turning movements. This study evaluates the North Site Driveway with both full access turning movements and restricted access movements to compare operations for both alternatives.

Off-Site Developments

The off-site developments evaluated in this study include the site and off-site developments evaluated in the *September 3, 2025, Blackstone Creek Mixed-Use Development TIA* (herein referred to as the Blackstone Creek TIA).

The Blackstone Creek mixed-use development includes 205 apartment units on the north portion of the redeveloped golf course site, plus retail and restaurant uses on the southern portion of the site. Full buildout is anticipated to occur over the next few years with construction of the northern residential buildings beginning in 2026. Tenants for the southern commercial lots are not known at this time and will move forward as market conditions allow. For traffic study purposes, the full build out is expected to be complete by the Year 2030.

Additional area developments include the previously approved Kwik Trip development located to the west on Mequon Road (STH 167), near Maple Road and the previously approved STH 167/Pilgrim Road mixed-use development, located in the southeast quadrant of Mequon Road (STH 167) at Pilgrim Road. Traffic assignment data from these land uses were sourced from the *October 14, 2024, Kwik Trip TIA* and the *July 29, 2024, STH 167/Pilgrim Road Mixed-Use Development TIA*.

STUDY AREA

Exhibit 1 shows the study intersections evaluated in this TIA report. The study intersections are also listed below:

- Division Road & Mequon Road (STH 167)
- Division Road & Faith Lutheran Church/Village Hall Driveways
- Division Road & North Site Driveway (proposed)
- Division Road & South Site Driveway (proposed)

The existing geometrics, traffic control, posted speed limits, and annual average daily traffic (AADT) from the Wisconsin Department of Transportation (WisDOT) in the study area are shown on Exhibit 3. Following is a description of the roadways within the study area.

Mequon Road (also designated as STH 167) is a four-lane divided east/west Principal arterial highway with a posted speed limit of 35 miles per hour (mph) within the limits of the study area. It is part of the state trunk highway network as a connecting highway under the jurisdiction of the Village of Germantown. According to the Wisconsin Department of Transportation (WisDOT), the Year 2023 average annual daily traffic volumes (AADT's) on STH 167 were approximately 16,700 vehicles per day (vpd) west of the project limits and 16,600 vpd east of the project limits. Sidewalks are provided along both sides of STH 167.

Division Road is a two-lane undivided north/south minor arterial to the south of 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 STH 167 and 25 mph to the north. The WisDOT Year 2023 AADT's on Division Road were approximately 4,200 vpd south of STH 167 and 1,100 vpd to the north. A multi-use trail is provided along the east side of Division Road, from STH 167 to the south; however, no other sidewalks exist to the north.

PEAK HOUR TRAFFIC VOLUMES

Data Collection/Background Traffic Volumes

Turning movement traffic counts were collected at the Division Road/Mequon Road (STH 167) intersection for the Blackstone Creek TIA in July 2025. Traffic counts for that study were compiled for the weekday AM peak hour (7:30-8:30 a.m.) and weekday PM peak hour (4:15-5:15 p.m.). The peak hour volumes were balanced with adjacent intersections along Mequon Road (STH 167) and are shown as the Existing intersection traffic volumes in this study.

Additional traffic counts were collected for this study at the Division Road/Faith Lutheran Church Driveway/Village Hall Driveway intersection in September 2025. These counts were compiled for the same peak hours as and balanced with the Division Road/Mequon Road (STH 167) intersection. The balanced peak hour traffic volumes at the study intersections on Division Road are shown on Exhibit 4. Traffic count data sheets are in Appendix A.

Development Trip Generation

Trip rates and fitted curve equations (FCE) from the ITE *Trip Generation Manual, 11th Edition* were used to estimate trips for the proposed residential development. Trips were generated using the "single-family-attached" land use, which applies to residential types with shared walls but not shared floors. Based on ITE, the 35-units in The Carillon at Germantown development generates 220 trips per weekday, with 15 trips in the AM peak hour and 15 trips in the PM peak hour. The trip generation table is on Exhibit 5.

Development Trip Distribution

The Carillon at Germantown site trips were distributed to the adjacent study intersection using the same trip distributions developed for the Blackstone Creek TIA, which were based on existing traffic patterns in the study area. The trip distributions are listed below and also shown graphically on Exhibit 5:

- 43% to/from the west on Mequon Road (STH 167)
- 42% to/from the east on Mequon Road (STH 167)
- 3% to/from the north on Division Road
- 12% to/from the south on Division Road

Site & Off-Site Development Traffic Assignments, Build Traffic Volumes

The Kwik Trip, Pilgrim Mixed-Use Development, and Blackstone Creek Mixed-Use Development traffic assignments through the study intersections from the Blackstone Creek TIA are shown on the following exhibits:

- Exhibit 6: Off-Site Development Traffic Assignment – Kwik Trip
- Exhibit 7: Off-Site Development Traffic Assignment – Pilgrim Mixed-Use Development
- Exhibit 8: Off-Site Development Traffic Assignment – Blackstone Creek Mixed-Use Development

The Carillon at Germantown development peak hour trips were assigned to the study intersections and driveways based on the above trip distribution (Exhibit 9). The exhibit shows site traffic assignments for both a full-access option and right-in/right-out restricted access option at the North Driveway.

The site and off-site traffic assignments were added to the Year 2025 Existing traffic volumes to generate the Year 2030 Build traffic volumes, as shown on Exhibit 10.

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. The LOS definitions for signalized and unsignalized intersections are included before the existing analysis output in Appendix B. Build analysis output is in Appendix C.

The Existing traffic (no build) and Build traffic (additional traffic from on-site and off-site developments) peak hour traffic operations for the study intersections are shown on Exhibits 11 and 12, respectively. The Existing analysis was completed using the existing geometrics and traffic signal control at the Division Road intersections with Mequon Road (STH 167) and the Faith Lutheran Church/Village Hall driveways. Based on the analysis, all turning movements at these intersections operate at LOS D or better during both the AM and PM peak hours.

Synchro reports 110-115-foot peak hour 95th percentile queues in the northbound left-turn lane at the Division Road/Mequon Road (STH 167) intersection, which exceed the existing storage capacity by 35-40 feet. Similar peak hour queues were reported in the Blackstone Creek TIA, which recommended that the northbound left-turn lane be extended to at least 125 feet.

At the Village's request, a separate analysis was completed to evaluate traffic operations at the Division Road/Mequon Road (STH 167) if the northbound lanes were restriped as a shared left-turn/through plus right-turn lane instead of the existing left-turn plus shared through/right-turn lane. Based on the analysis (Appendix C), this results in LOS F delays for the northbound and southbound Division Road approaches and therefore is not a recommended change.

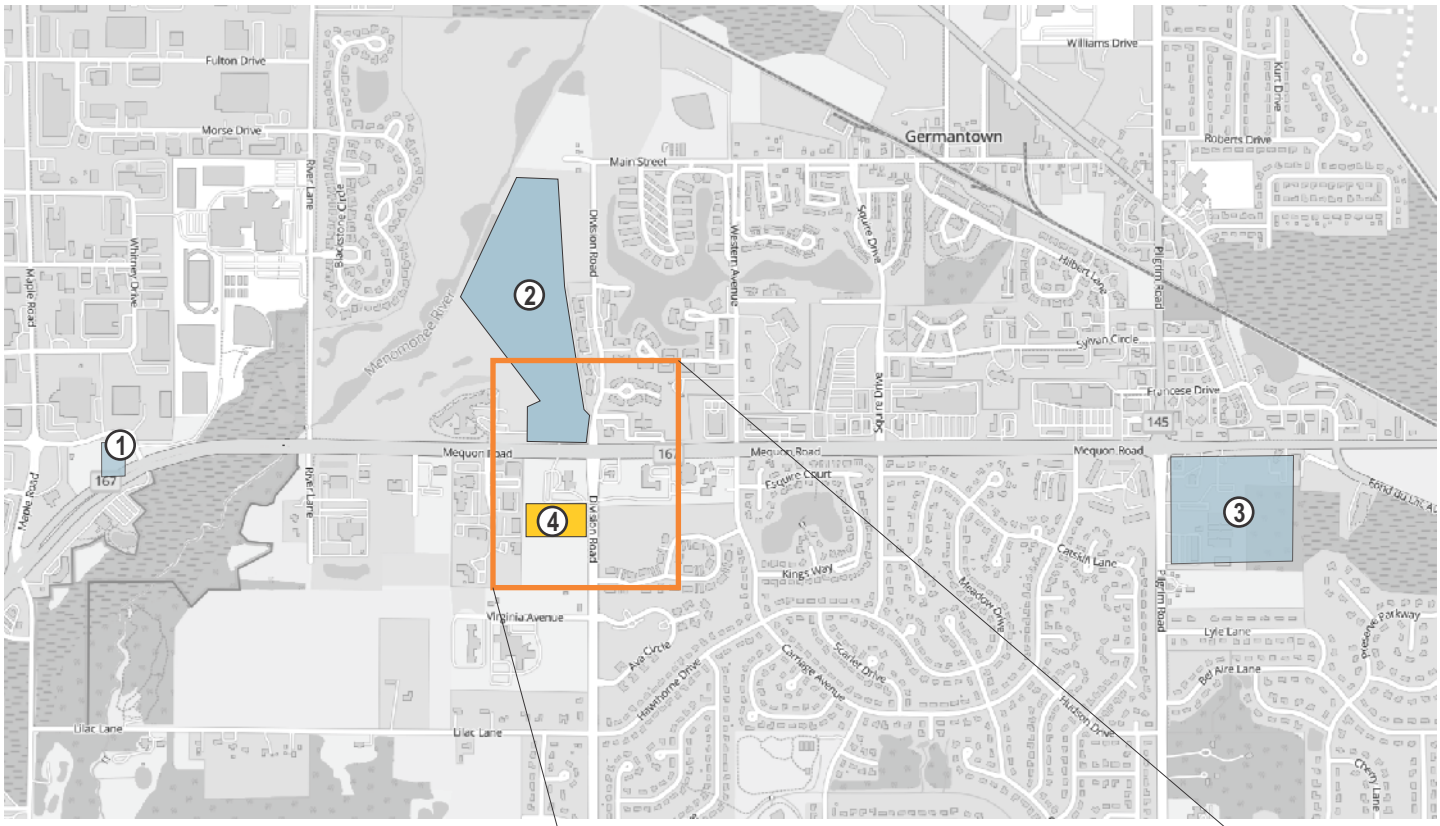
RECOMMENDATIONS/CONCLUSIONS

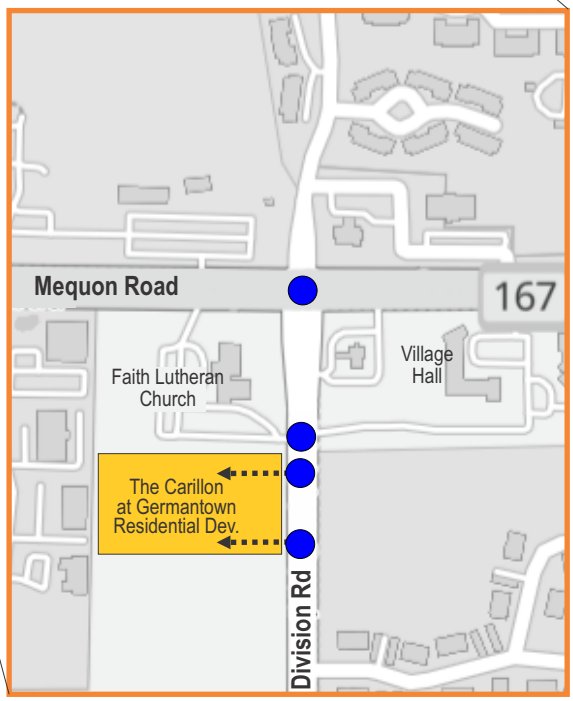
Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.

The recommended modifications are listed below and also shown graphically on Exhibit 13.

- Division Road & Mequon Road (STH 167): Restripe the northbound left-turn lane to accommodate Year 2030 Build traffic queues. This modification was recommended in the Blackstone Creek TIA to mitigate existing and Year 2030 Build queues, which extend beyond the available turn lane storage area. The additional northbound left-turn traffic from The Carillon at Germantown development is very low (5 AM and 5 PM vph) and does not significantly contribute to queue increases at the intersection.
- Division Road & Church/Village Driveways: No Modifications
- Division Road & North Site Driveway: Construct the new intersection as shown on the site plan with single-lane approaches and stop sign control on the eastbound driveway approach. Configure the eastbound approach to allow either full-access movements or with a pork-chop-style median to restrict access to right-in/right-out only movements. The proposed residential development is expected to generate very low trips resulting in very low peak hour volumes, delays, and queues with either alternative.
- Division Road & South Site Driveway: Construct the new intersection as shown on the site plan with unrestricted movements, single-lane approaches and stop sign control on the eastbound driveway approach.

With the modifications listed above, the Build traffic volumes result in acceptable traffic operations (LOS D or better for all movements) and queues at the study intersections.





LEGEND

- Study Area Intersection
- On-Site Development
- Off-Site Development

1. Kwik Trip Development
2. Blackstone Creek Development
3. Pilgrim Mixed-Use Development
4. The Carillon at Germantown Development

TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

N

NOT TO SCALE

EXHIBIT 1
PROJECT LOCATION MAP & STUDY INTERSECTIONS

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

GERMANTOWN SITE PLAN

SD100

SCALE: 1" = 60'-0"

0 30 60 120 180

QUADPLEX - ONE STORY
[7,209 SF] - 5 TOTAL

TRIPLEX 2BR - ONE STORY
[5,411 SF] - 3 TOTAL

TRIPLEX 3BR - TWO STORY
[5,391 SF] - 2 TOTAL

TOTAL LOT SIZE:
5.4 ACRES

Total Site: 5.40 acres
Proposal: 35 total units (~6.48 du/acre)

Setbacks:
Front Setback: 20'
Rear Setback: 20'
Side Setbacks: 25-40'

Parking:
2-BR Type A Units: 1-car attached garage + 1 apron spot per unit
2-BR Type B & 3-BR Units: 2-car attached garage + 2 apron spots per unit
Overall: 102 Parking Spaces / 2.91 per unit

Max building height: 2 stories

THE CARILLON AT GERMANTOWN

05.15.25

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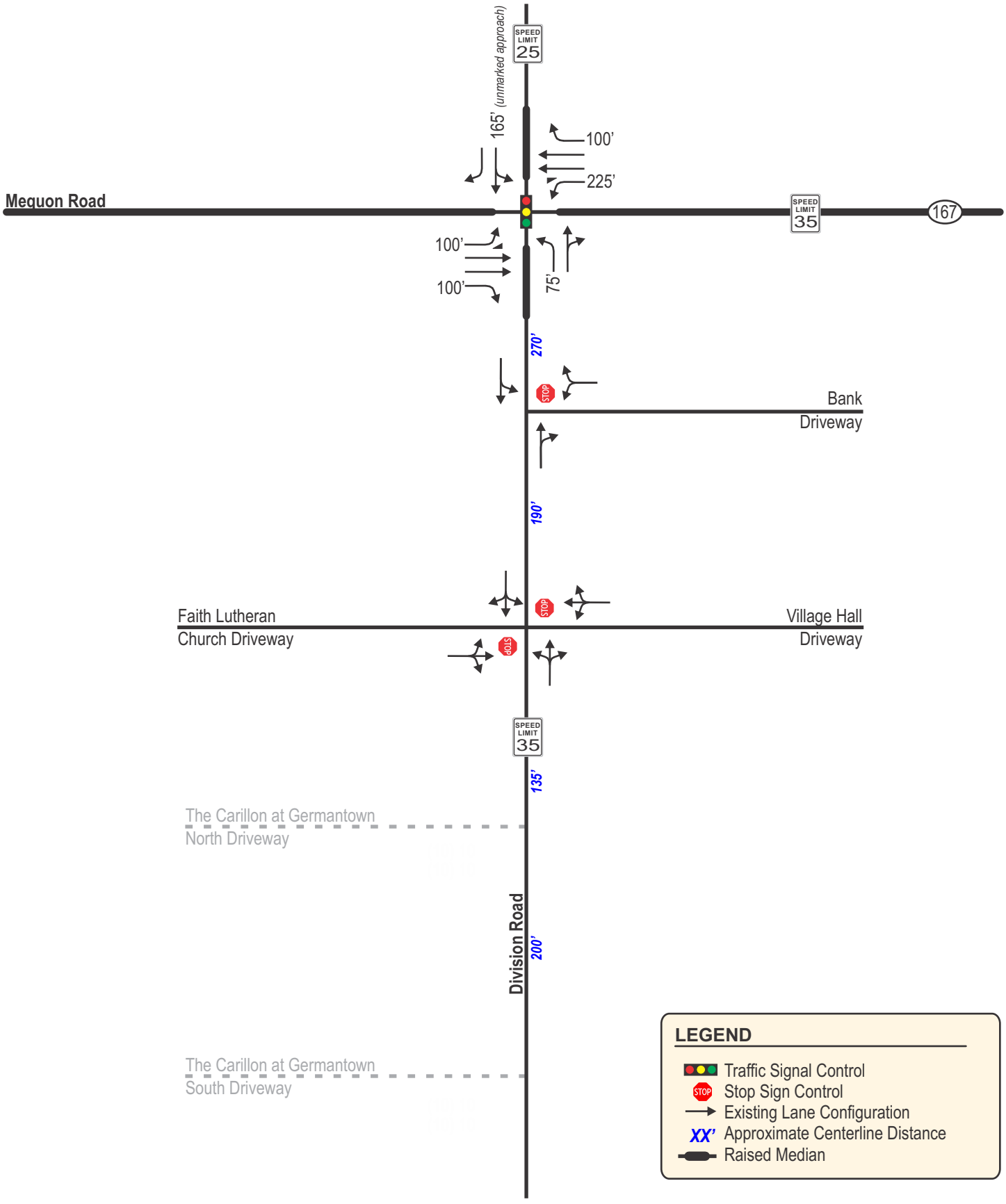
TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

N

NOT TO SCALE

EXHIBIT 2
CONCEPTUAL SITE PLAN

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

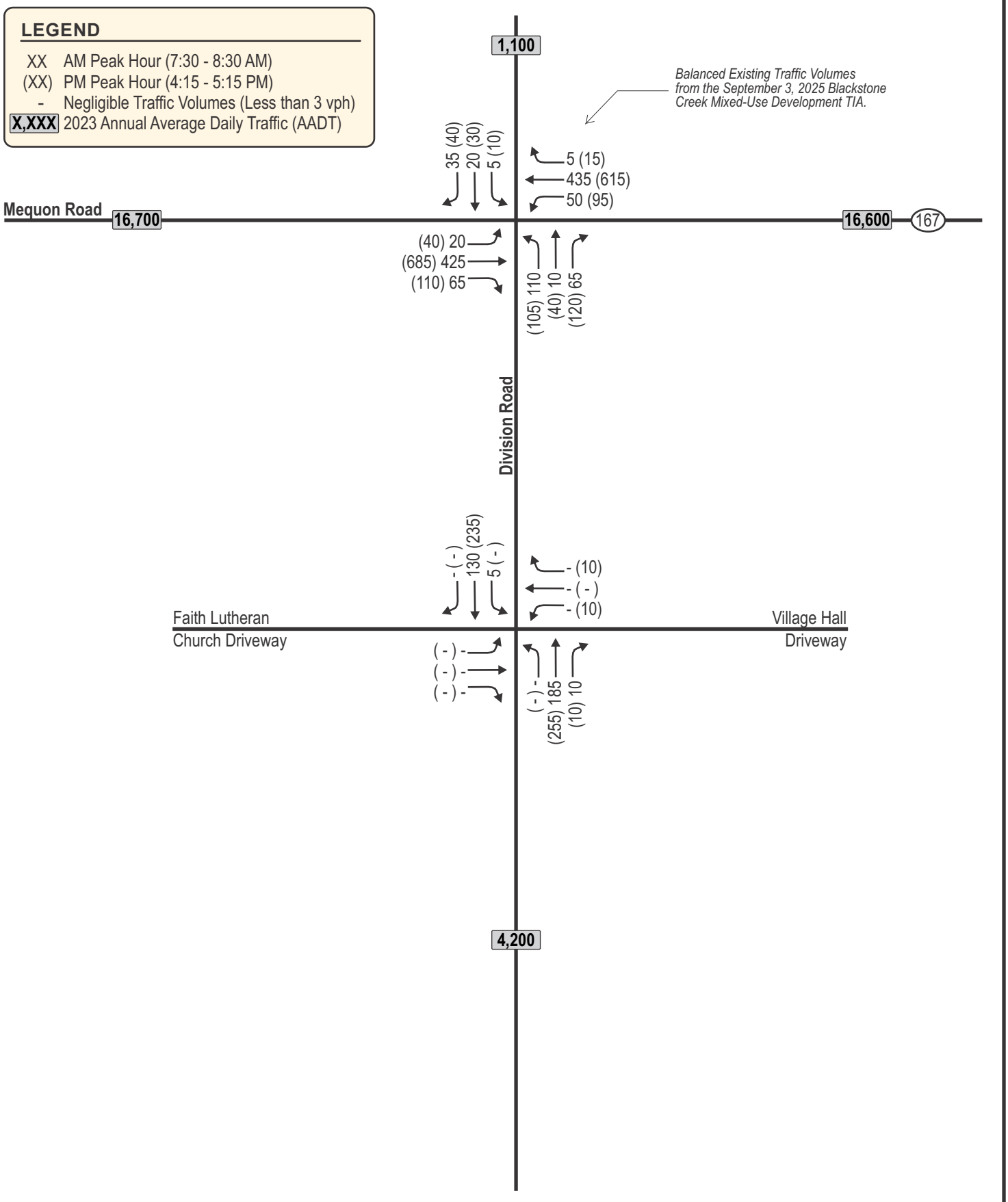


TADI
TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

N
NOT TO SCALE

EXHIBIT 3
EXISTING TRANSPORTATION SYSTEM

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN



TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

N

NOT TO SCALE

EXHIBIT 4
YEAR 2025 EXISTING TRAFFIC VOLUMES

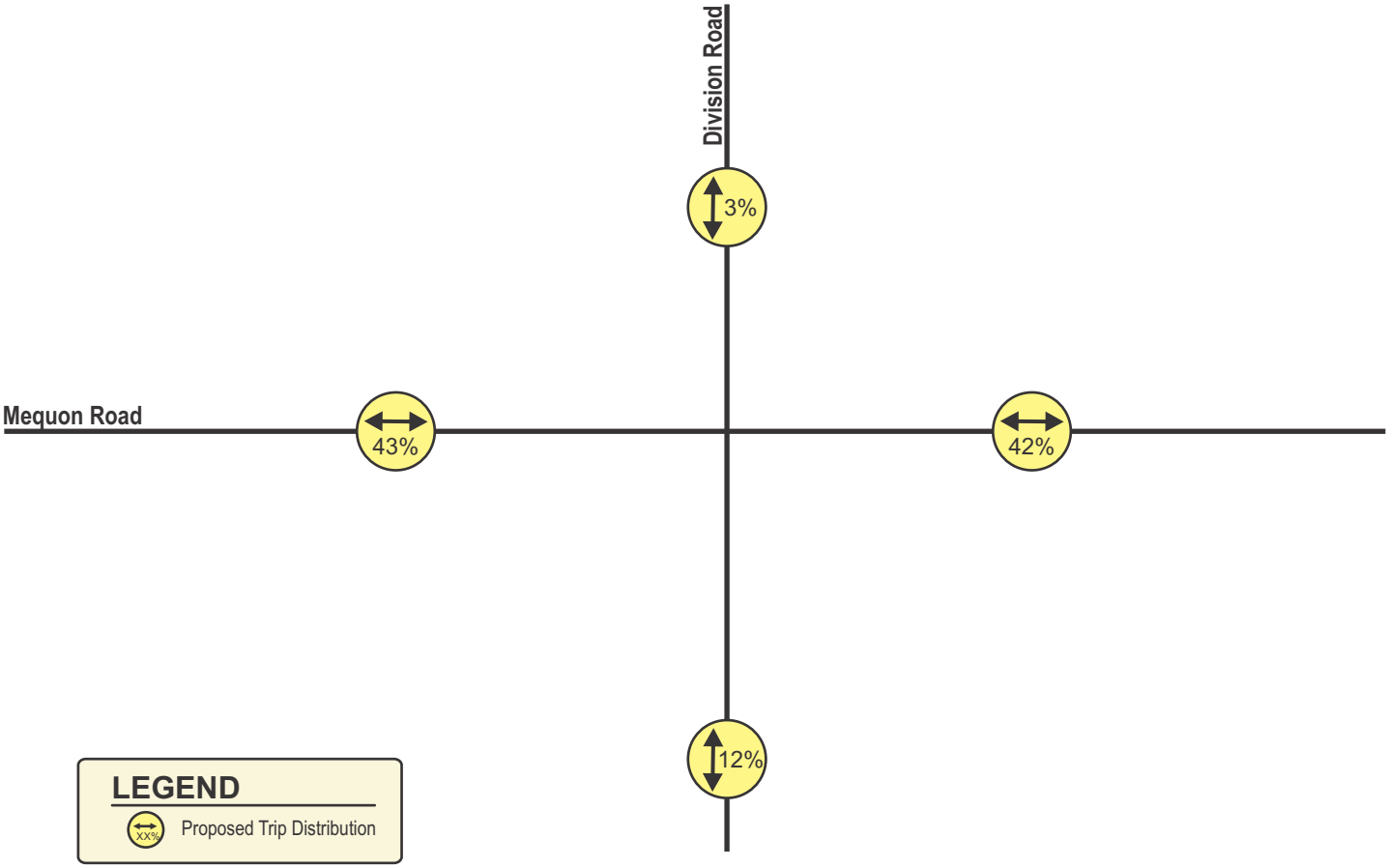
THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

The Carillon at Germantown - Trip Generation Table [1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Single-Family Attached Housing	215	35 Units	220 FCE	5 (25%)	10 (75%)	15 FCE	10 (59%)	5 (41%)	15 FCE
Total New Trips			**220**	**5**	**10**	**15**	**10**	**5**	**15**

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

TRIP DISTRIBUTION (New Trips)						
N. on Division Road	3%	0	0	0	0	
S. on Division Road	12%	0	0	0	0	
W. on Mequon Road	43%	5	5	5	5	
E. on Mequon Road	42%	0	5	5	0	
	100%	***5***	***10***	***10***	***5***	



TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

N
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EXHIBIT 6
ON-SITE DEVELOPMENT TRIP GENERATION & TRIP DISTRIBUTION

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

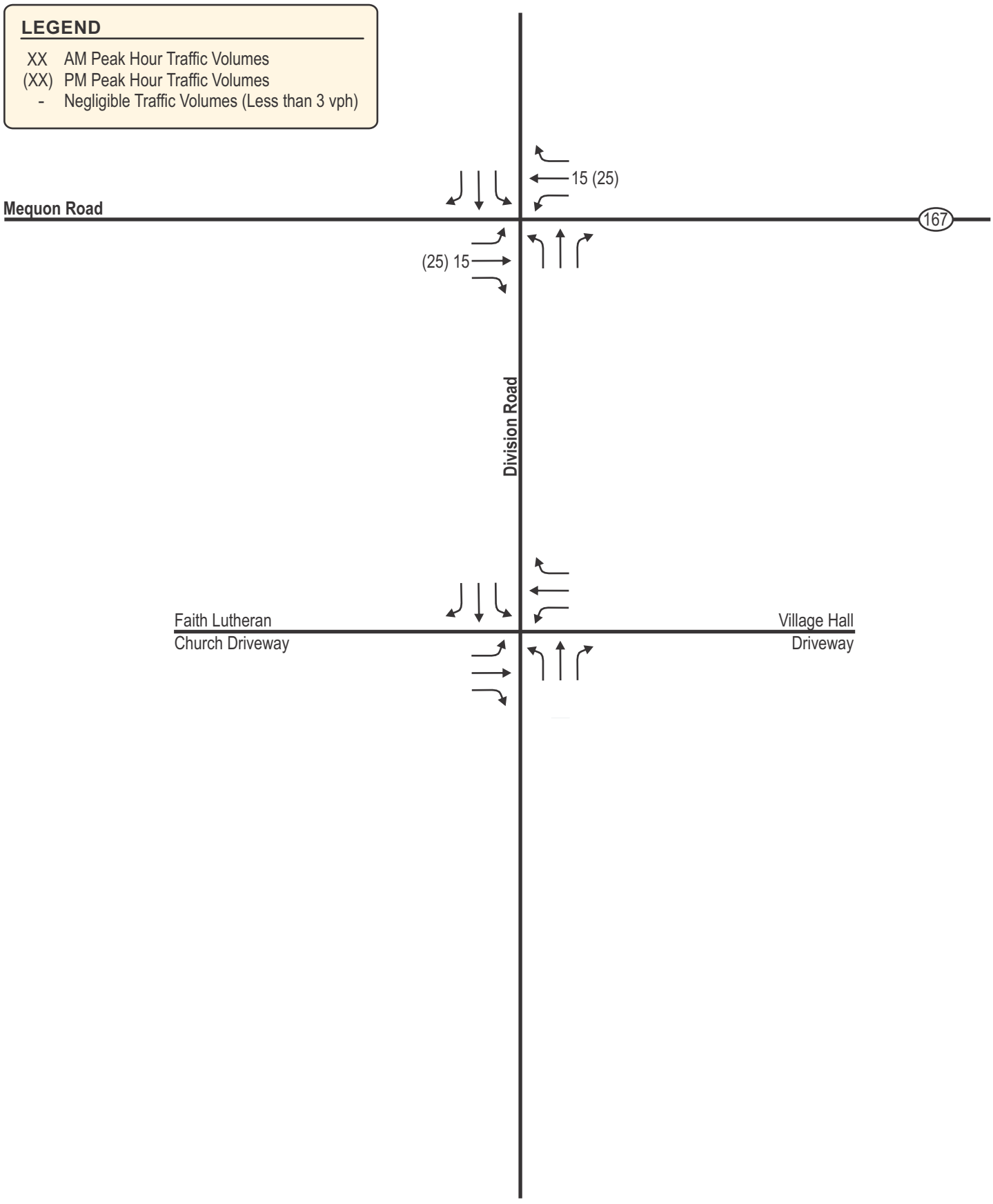

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EXHIBIT 8
OFF-SITE DEVELOPMENT TRAFFIC ASSIGNMENT
KWIK TRIP - WEST ON MEQUON ROAD

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

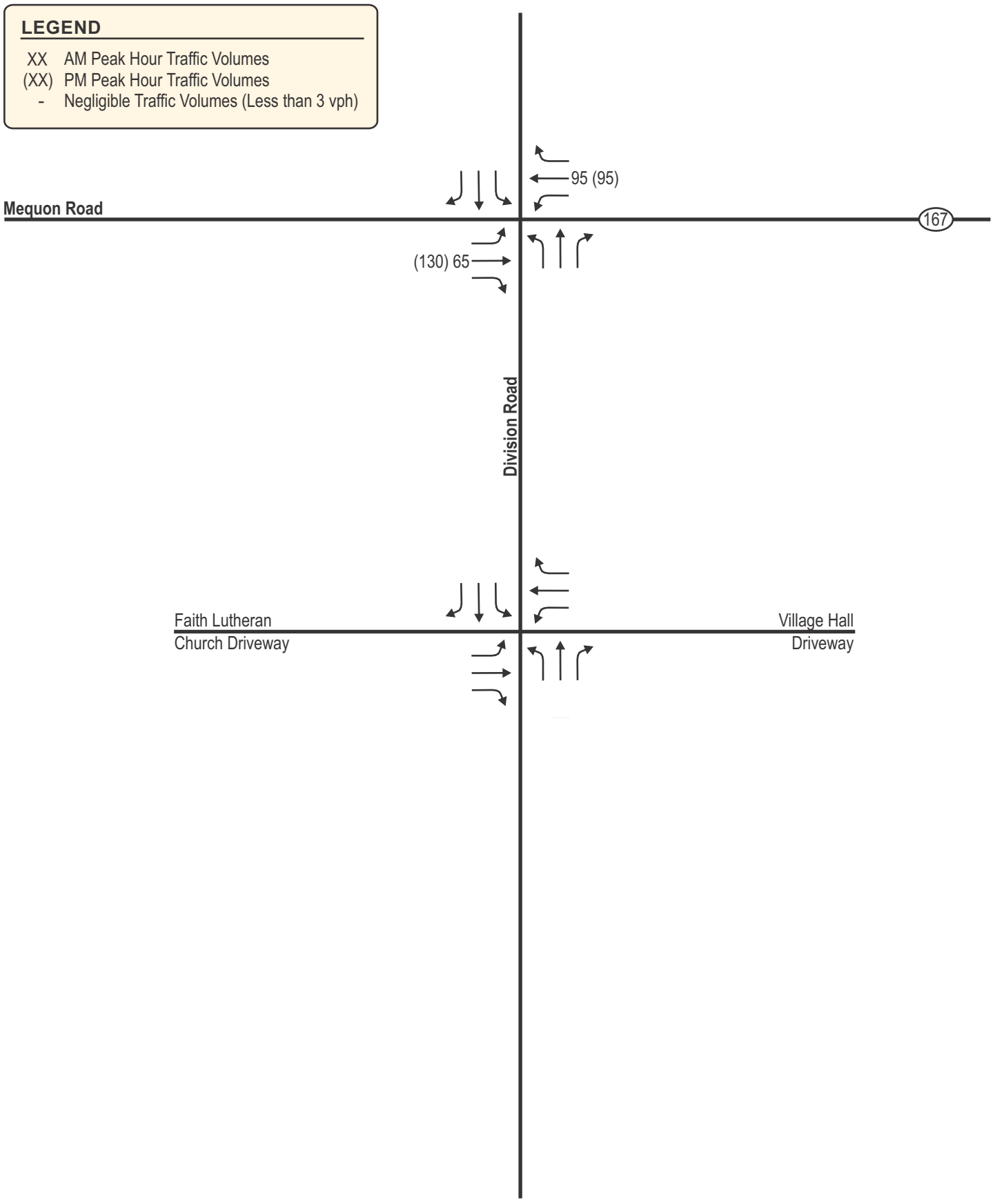

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EXHIBIT 8
OFF-SITE DEVELOPMENT TRAFFIC ASSIGNMENT
PILGRIM MIXED-USE DEVELOPMENT - EAST ON MEQUON ROAD

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

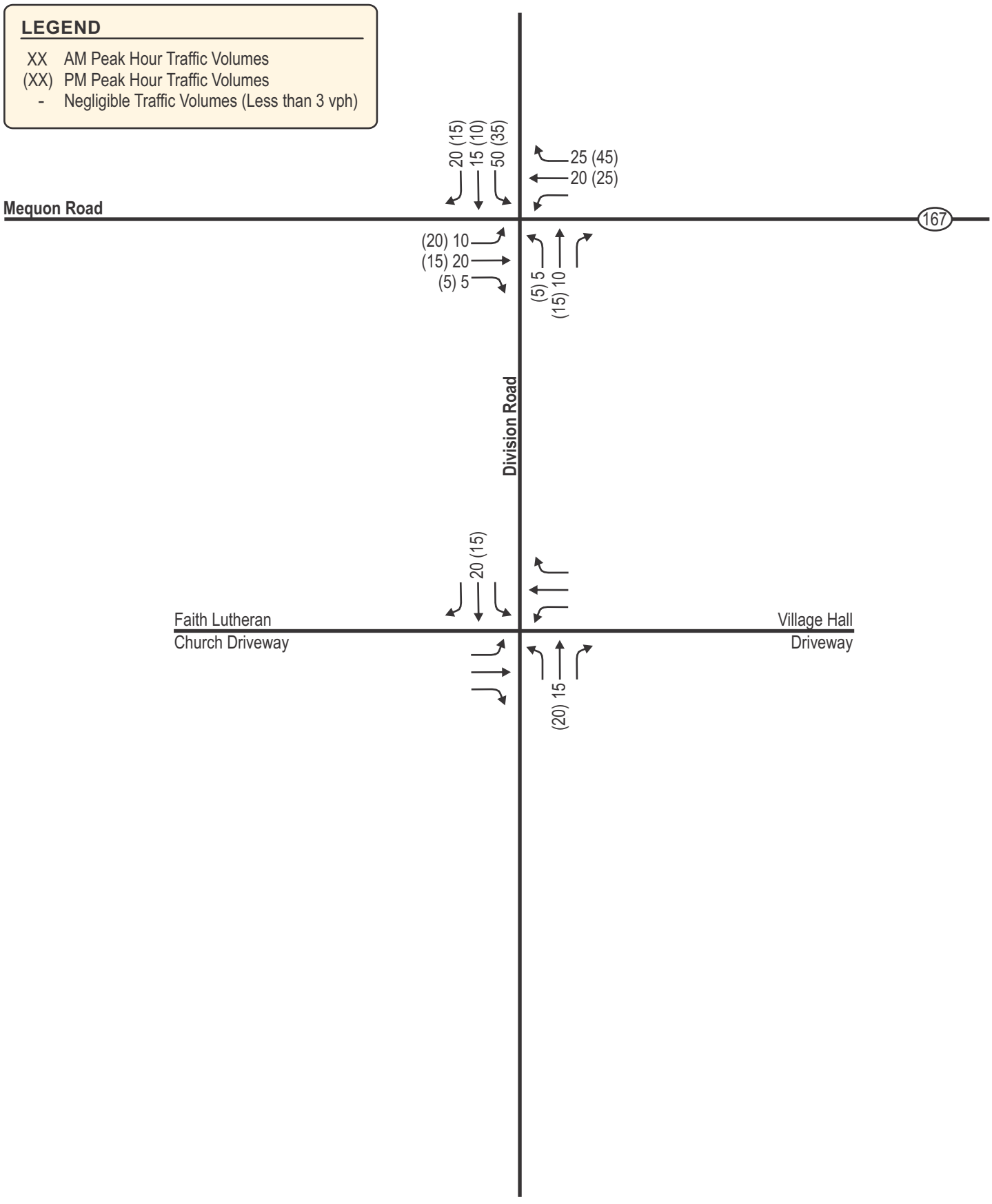

EXHIBIT 8
OFF-SITE DEVELOPMENT TRAFFIC ASSIGNMENT
BLACKSTONE CREEK MIXED-USE DEVELOPMENT -
NORTHWEST QUADRANT OF MEQUON ROAD/DIVISION ROAD
THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

TRAFFIC ANALYSIS & DESIGN, INC.
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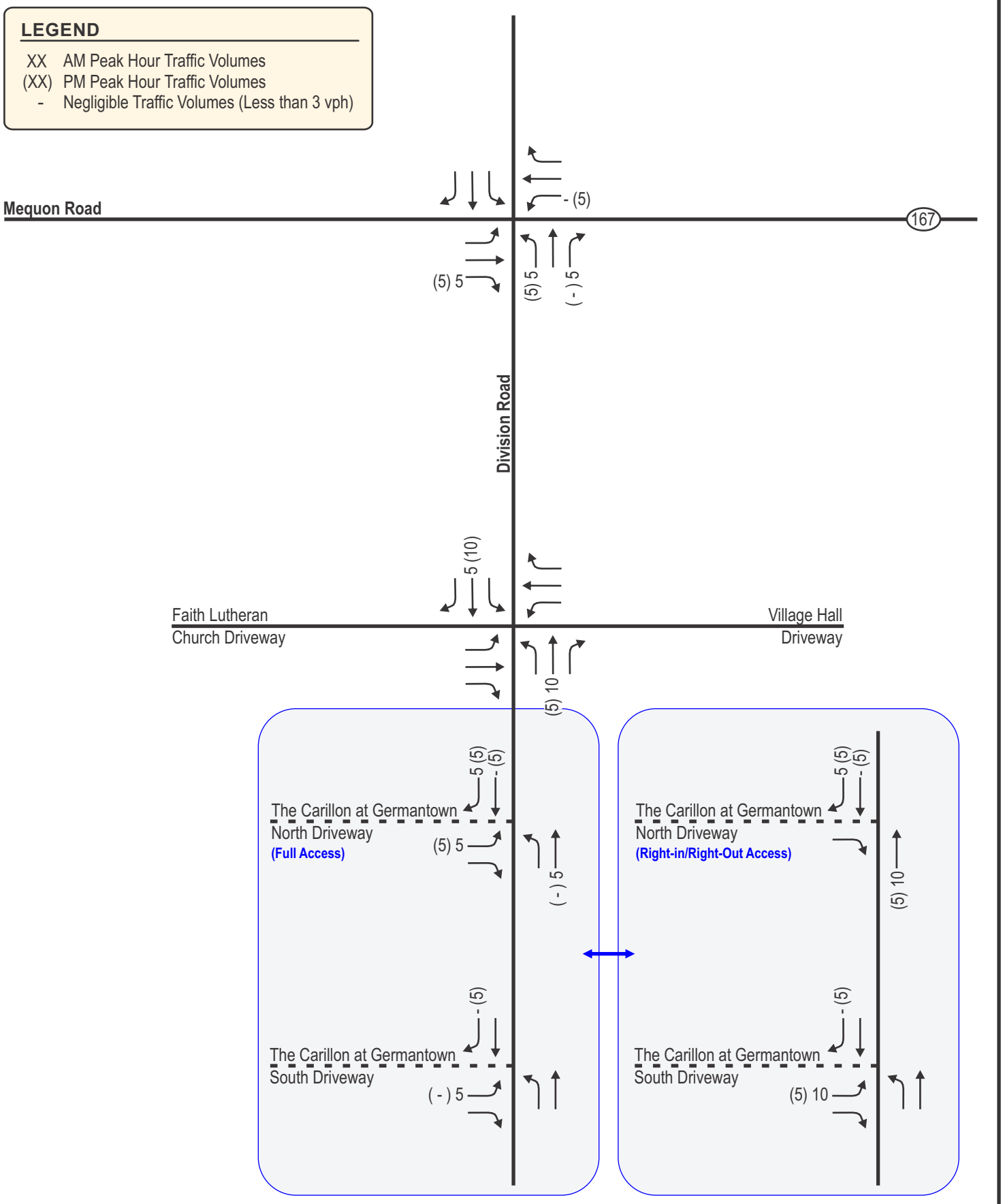
NOT TO SCALE



TADI
TRAFFIC ANALYSIS & DESIGN, INC.
3547: 10-08-25

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NOT TO SCALE

EXHIBIT 9
ON-SITE DEVELOPMENT TRAFFIC ASSIGNMENT

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

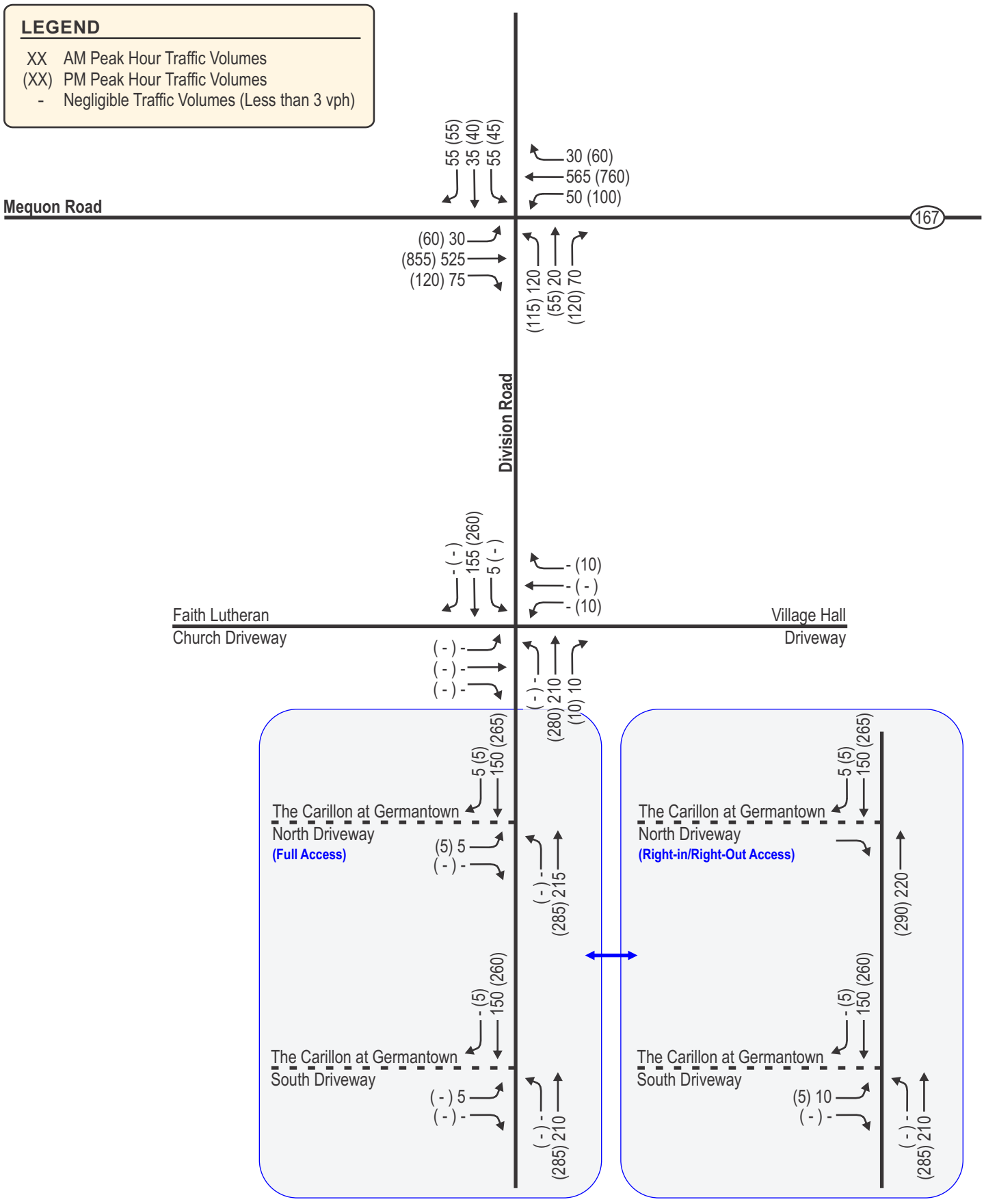

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EXHIBIT 10
YEAR 2030 BUILD TRAFFIC VOLUMES

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

Year 2025 Existing 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*	*1*	*2*	*1*	*1*	*1>*		*1*	*1>*		
Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
		Delay	6.5	5.4	4.6	7.0	5.4	4.4	38.9	33.7		35.7	32.9		11.6
		Queue	15'	75'	20'	25'	75'	5'	110'	75'		10'	60'		
	PM	LOS	A	A	A	A	A	A	D	D		D	C		B
		Delay	6.5	5.3	4.3	8.2	5.1	4.0	39.4	37.6		40.9	34.3		11.4
		Queue	20'	115'	30'	45'	105'	5'	105'	145'		20'	70'		
		Lanes->	*<1>*			*<1>*			*<1>*			*<1>*			
Faith Church/Village Hall Driveways & Division Road *Stop Sign Control (EB/WB)*	AM	LOS	B			B			A			A			
		Delay	10.6			10.7			7.5			7.7			0.3
		Queue	0'			0'			0'			0'			
	PM	LOS	B			B			A			A			
		Delay	12.4			12.2			7.8			7.9			0.6
		Queue	0'			5'			0'			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.

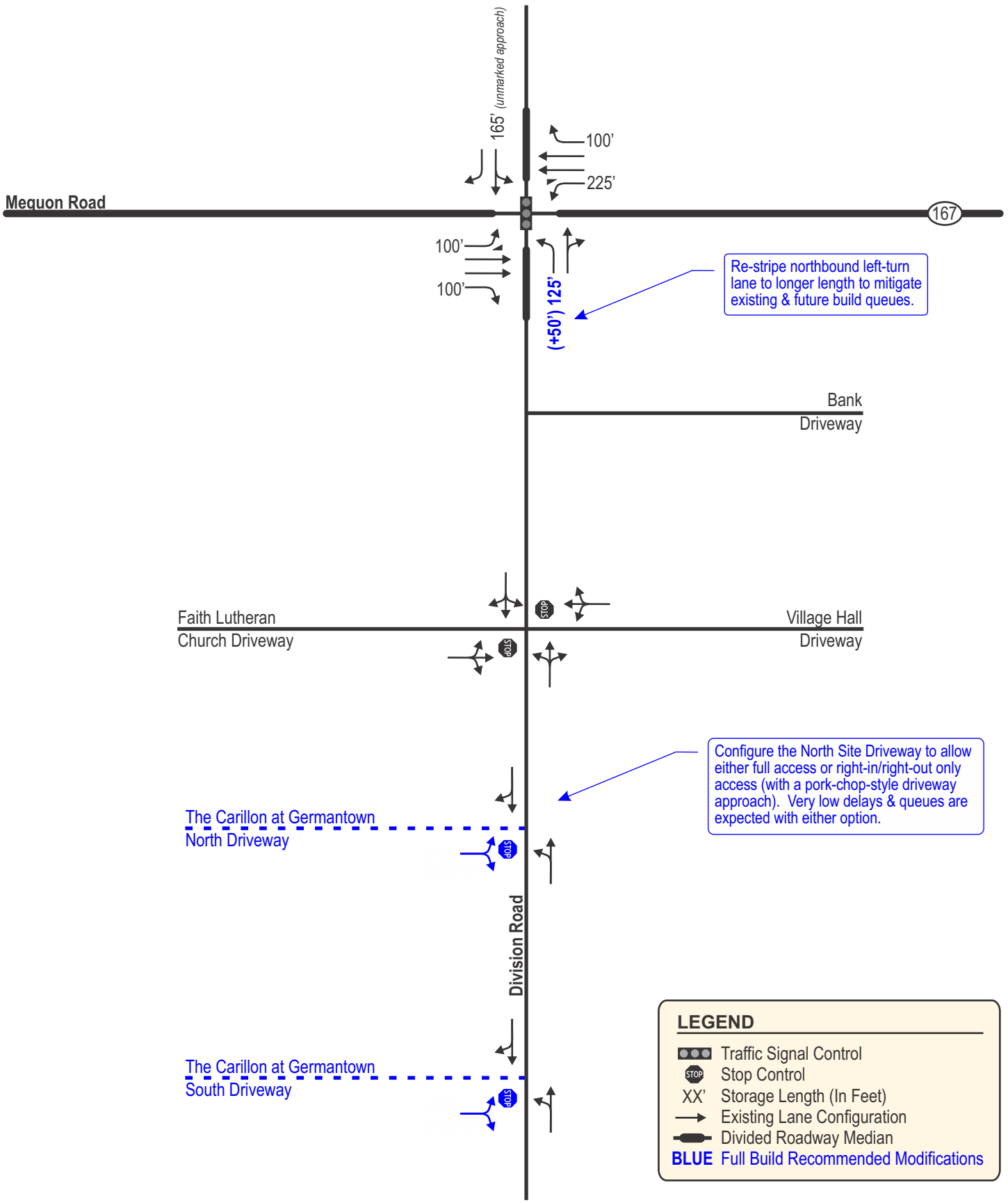
Year 2030 Build Traffic Peak Hour Operating Conditions

Existing Transportation System

	Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
				Eastbound			Westbound			Northbound			Southbound			
				↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
All Access Options			*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1>*		*1*	*1>*		
	Mequon Road & Division Road	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
	Traffic Signal Control		Delay	9.4	7.1	5.8	9.7	7.2	5.6	38.3	31.1		35.4	31.0		13.2
			Queue	20'	100'	25'	30'	110'	15'	115'	85'		60'	85'		
		PM	LOS	A	A	A	B	A	A	D	D		D	C		B
			Delay	9.1	6.6	5.0	11.7	6.3	4.8	39.0	35.6		41.0	33.0		12.3
			Queue	30'	160'	35'	55'	140'	20'	110'	155'		50'	90'		
			Lanes->	*<1>*			*<1>*			*<1>*			*<1>*			
	Faith Church/Village Hall Driveways & Division Road	AM	LOS	B			B			A			A			
	Stop Sign Control (EB/WB)		Delay	11.0			11.2			7.6			7.8			0.3
			Queue	0'			0'			0'			0'			
		PM	LOS	B			B			A			A			
			Delay	12.9			12.7			7.9			8.0			0.6
			Queue	0'			5'			0'			0'			
North Driveway - Full Access			*Lanes->*	*<1>*			-			*<1*		-	-		*1>*	
	The Carillon of Germantown North Driveway & Division Road (Full Access)	AM	LOS	B			-			A		-	-		*	
	Stop Sign Control (EB)		Delay	10.8			-			7.6		-	-		*	0.2
			Queue	0'			-			0'		-	-		*	
		PM	LOS	B			-			A		-	-		*	
			Delay	12.9			-			7.9		-	-		*	0.2
			Queue	0'			-			0'		-	-		*	
			Lanes->	*<1>*			-			*<1*		-	-		*1>*	
	The Carillon of Germantown South Driveway & Division Road	AM	LOS	B			-			A		-	-		*	
	Stop Sign Control (EB)		Delay	10.8			-			7.6		-	-		*	0.2
			Queue	0'			-			0'		-	-			
		PM	LOS	B			-			A		-	-		*	
			Delay	11.6			-			7.9		-	-		*	0.1
			Queue	0'			-			0'		-	-		*	
North Driveway - Restricted Access			*Lanes->*	-	*1*		-			-	*1*	-	-		*1>*	
	The Carillon of Germantown North Driveway & Division Road (Right-in/Right-Out Access)	AM	LOS	-	A		-			-	*	-	-		*	
	Stop Sign Control (EB)		Delay	-	9.1		-			-	*	-	-		*	0.0
			Queue	-	0'		-			-	*	-	-		*	
		PM	LOS	-	B		-			-	*	-	-		*	
			Delay	-	10.0		-			-	*	-	-		*	0.0
			Queue	-	0'		-			-	*	-	-		*	
			Lanes->	*<1>*			-			*<1*		-	-		*1>*	
	The Carillon of Germantown South Driveway & Division Road	AM	LOS	B			-			A		-	-		*	
	Stop Sign Control (EB)		Delay	11.0			-			7.6		-	-		*	0.3
			Queue	5'			-			0'		-	-		*	
		PM	LOS	B			-			A		-	-		*	
			Delay	12.8			-			7.9		-	-		*	0.2
			Queue	0'			-			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.



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3547: 10-08-25

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EXHIBIT 13
RECOMMENDATIONS

THE CARILLON AT GERMANTOWN TIA - GERMANTOWN, WISCONSIN

APPENDIX A

TRAFFIC COUNT DATA

Intersection Traffic Volume Report

Count Basics	Version 2025.03		Page 1 of 13
Start Date:	Thursday, September 25, 2025	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: **Germantown Municipal DW**
Intersection of: ***Division Road & Germantown Municipal DW***

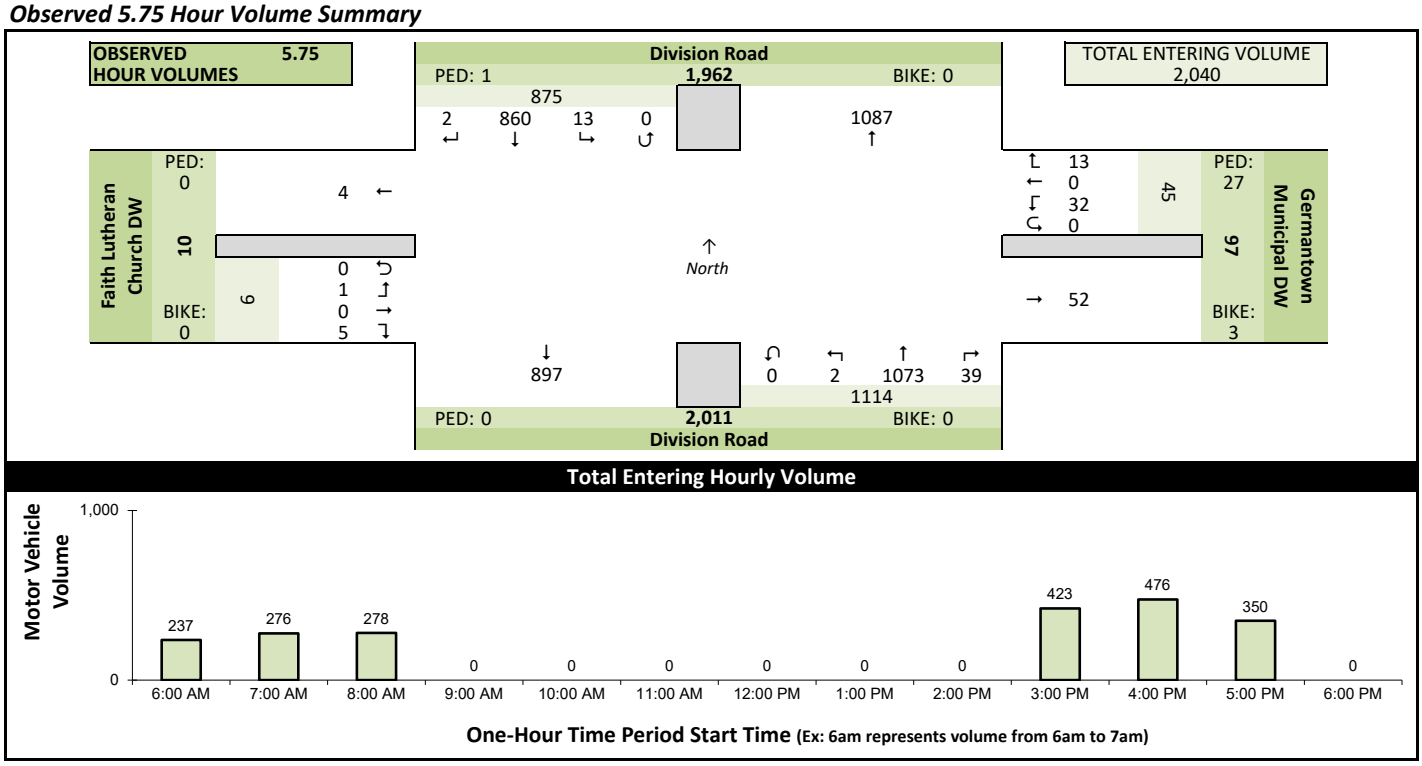
Site Information

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	Germantown Municipal DW		
South Leg	Division Road		
West Leg	Faith Lutheran Church DW		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
Pre-school children	None		
Elementry school age children	None		
Visually impaired (white cane/helper dog)	None		
Elderly/disabled (except wheelchairs)	None		
Wheelchairs/electric scooters	None		
Other (describe)	None	None	

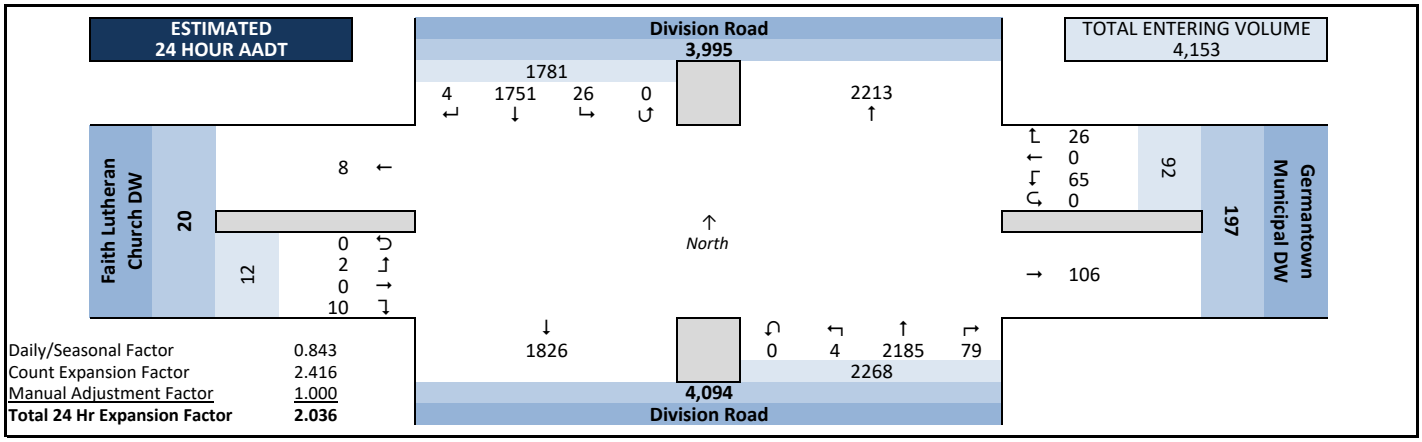
Count Information

Hrs Counted:	06:00 AM-09:00 AM and 03:00 PM-05:45 PM				
1st Day of Count	Thursday, September 25, 2025			Weather	
AM Peak Period	Friday, September 26, 2025			Clear and Dry	
Midday Peak Period	Thursday, September 25, 2025			Clear and Dry	
PM Peak Period	Thursday, September 25, 2025			Clear and Dry	
Calculated Peak Hours					
	AM	6:30-7:30am	MD	PM	4:30-5:30pm
Peak Hours Selected for Analysis					
	AM	7:30-8:30am	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	0.843		Count Expansion Factor		2.416
Company Name	TADI		Manual Adj.		1.000
Observers	AM Peak Period	Jane Fait			
	Midday Peak Period	None			
	PM Peak Period	Bill Moldenhauer			
Comments	Wis DOT Daily & Seasonal Factors are final for 2012 through 2024, and 2025 uses 2024 final factors.				

Observed 5.75 Hour Volume Summary



Estimated 24 Hour AADT



Intersection Traffic Volume Report

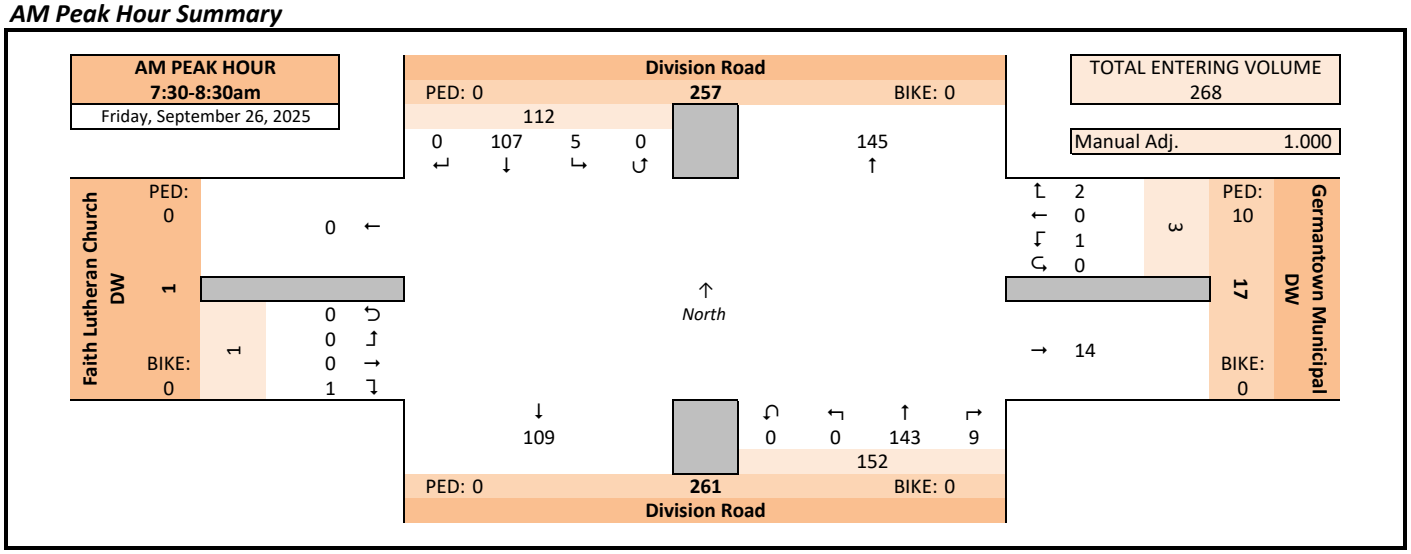
Peak Hour Volume Graphical Summary

Division Road & Germantown Municipal DW

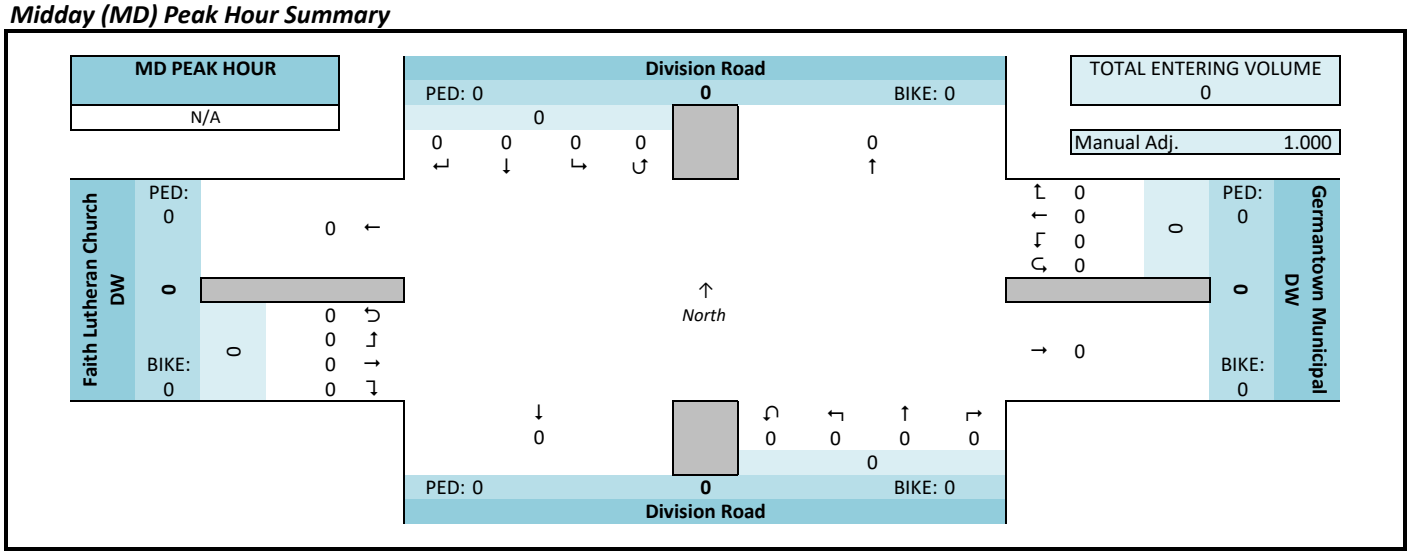
Count Basics			*Page 2 of 13*
Start Date:	Thursday, September 25, 2025	Weekday	Schools in Session
Total Number of Hours Counted: 5.75		Non-Holiday	No Special Events

All Motor Vehicles

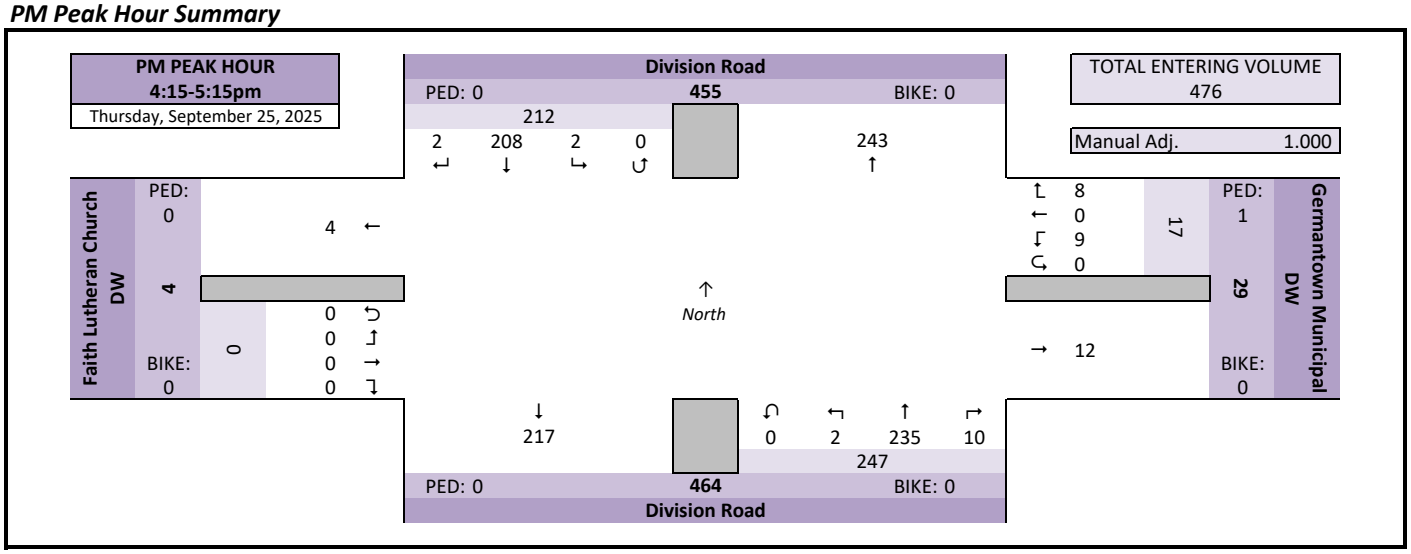
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

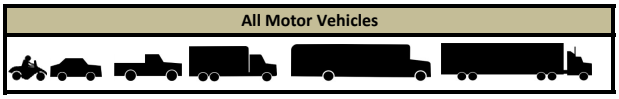


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Thursday, September 25, 2025	Weekday	Schools in Session
Total Number of Hours Counted: 5.75		Non-Holiday	No Special Events

Peak Hour Volume Summary

Division Road & Germantown Municipal DW



Peak Hour Volumes, Truck Percentages, and PHFs

Friday, September 26, 2025		From North					From East					From South					From West					
	AM Peak Hour	Division Road					Germantown Municipal DW					Division Road					Faith Lutheran Church DW					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
AM Peak Hour	7:30 AM	0	16	1	0	17	0	0	0	0	0	2	33	0	0	35	0	0	0	0	0	52
	7:45 AM	0	27	0	0	27	0	0	0	0	0	4	45	0	0	49	0	0	0	0	0	76
	8:00 AM	0	26	3	0	29	1	0	1	0	2	0	38	0	0	38	1	0	0	0	1	70
	8:15 AM	0	38	1	0	39	1	0	0	0	1	3	27	0	0	30	0	0	0	0	0	70
	Peak Hour Volume	0	107	5	0	112	2	0	1	0	3	9	143	0	0	152	1	0	0	0	1	268
	Rounded Hourly Volume	0	105	5	0	110	0	0	0	0	0	10	145	0	0	155	0	0	0	0	0	265
	% Single Unit Trucks	0.0	3.7	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	3.0
	% 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	3.7	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	3.0
	Peak Hour Factor (PHF)	0.00	0.70	0.42	0.00	0.72	0.50	0.00	0.25	0.00	0.37	0.56	0.79	0.00	0.00	0.78	0.25	0.00	0.00	0.00	0.25	0.88

N/A		From North					From East					From South					From West					
	MD Peak Hour	Division Road					Germantown Municipal DW					Division Road					Faith Lutheran Church DW					
	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

Thursday, September 25, 2025		From North					From East					From South					From West					
	PM Peak Hour	Division Road					Germantown Municipal DW					Division Road					Faith Lutheran Church DW					
	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	31	1	0	32	3	0	1	0	4	4	56	0	0	60	0	0	0	0	0	96
	4:30 PM	2	61	1	0	64	4	0	3	0	7	1	51	2	0	54	0	0	0	0	0	125
	4:45 PM	0	59	0	0	59	1	0	3	0	4	3	74	0	0	77	0	0	0	0	0	140
	5:00 PM	0	57	0	0	57	0	0	2	0	2	2	54	0	0	56	0	0	0	0	0	115
	Peak Hour Volume	2	208	2	0	212	8	0	9	0	17	10	235	2	0	247	0	0	0	0	0	476
	Rounded Hourly Volume	0	210	0	0	210	10	0	10	0	20	10	235	0	0	245	0	0	0	0	0	475
	% Single Unit Trucks	50.0	1.4	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.1	50.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	2.1
	% 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)	50.0	1.4	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	2.1	50.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	2.1
	Peak Hour Factor (PHF)	0.25	0.85	0.50	0.00	0.83	0.50	0.00	0.75	0.00	0.61	0.62	0.79	0.25	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.85

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			Germantown Municipal DW			Division Road			Faith Lutheran Church DW			
	15-Minute Start Time	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:30 AM	0	0	0	1	0	1	0	0	0	0	0	0	1
	7:45 AM	0	0	0	2	0	2	0	0	0	0	0	0	2
	8:00 AM	0	0	0	2	0	2	0	0	0	0	0	0	2
	8:15 AM	0	0	0	5	0	5	0	0	0	0	0	0	5
	Total	0	0	0	10	0	10	0	0	0	0	0	0	10
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	1	0	1	0	0	0	0	0	0	1
	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	1	0	1	0	0	0	0	0	0	1

Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

Division Road & Germantown Municipal DW

Count Basics		*Page 5 of 13*
Start Date: Thursday, September 25, 2025	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	From North (↓) Division Road					From East (←) Germantown Municipal DW					From South (↑) Division Road					From West (→) Faith Lutheran Church DW					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	5	0	0	5	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	13	237	0.47
	6:15 AM	0	5	0	0	5	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	22	331	0.66
	6:30 AM	0	18	0	0	18	0	0	1	0	1	1	55	0	0	56	1	0	0	0	1	76	350	0.69
	6:45 AM	0	28	0	0	28	0	0	0	0	0	0	98	0	0	98	0	0	0	0	0	126	326	0.65
	7:00 AM	0	57	1	0	58	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	107	276	0.64
	7:15 AM	0	18	0	0	18	0	0	1	0	1	2	20	0	0	22	0	0	0	0	0	41	239	0.79
	7:30 AM	0	16	1	0	17	0	0	0	0	0	2	33	0	0	35	0	0	0	0	0	52	268	0.88
	7:45 AM	0	27	0	0	27	0	0	0	0	0	4	45	0	0	49	0	0	0	0	0	76	279	0.92
	8:00 AM	0	26	3	0	29	1	0	1	0	2	0	38	0	0	38	1	0	0	0	1	70	278	0.93
	8:15 AM	0	38	1	0	39	1	0	0	0	1	3	27	0	0	30	0	0	0	0	0	70		
	8:30 AM	0	26	1	0	27	0	0	0	0	0	3	33	0	0	36	0	0	0	0	0	63		
	8:45 AM	0	32	2	0	34	0	0	1	0	1	1	38	0	0	39	1	0	0	0	1	75		
	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	56	0	0	56	0	0	4	0	4	2	43	0	0	45	0	0	0	0	0	105	423	0.96
	3:15 PM	0	40	0	0	40	1	0	4	0	5	0	63	0	0	63	0	0	0	0	0	108	433	0.94
	3:30 PM	0	43	1	0	44	1	0	2	0	3	0	63	0	0	63	0	0	0	0	0	110	421	0.92
	3:45 PM	0	48	0	0	48	1	0	0	0	1	1	50	0	0	51	0	0	0	0	0	100	436	0.87
	4:00 PM	0	49	0	0	49	0	0	3	0	3	4	59	0	0	63	0	0	0	0	0	115	476	0.85
	4:15 PM	0	31	1	0	32	3	0	1	0	4	4	56	0	0	60	0	0	0	0	0	96	476	0.85
	4:30 PM	2	61	1	0	64	4	0	3	0	7	1	51	2	0	54	0	0	0	0	0	125	518	0.93
	4:45 PM	0	59	0	0	59	1	0	3	0	4	3	74	0	0	77	0	0	0	0	0	140	490	0.88
	5:00 PM	0	57	0	0	57	0	0	2	0	2	2	54	0	0	56	0	0	0	0	0	115		
	5:15 PM	0	63	0	0	63	0	0	4	0	4	3	65	0	0	68	2	0	1	0	3	138		
	5:30 PM	0	57	1	0	58	0	0	2	0	2	3	34	0	0	37	0	0	0	0	0	97		
	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		2	860	13	0	875	13	0	32	0	45	39	1073	2	0	1114	5	0	1	0	6	2040		

Peak Hour All Vehicle Volume Summary

	Hourly Time Period	From North (↓) Division Road					From East (←) Germantown Municipal DW					From South (↑) Division Road					From West (→) Faith Lutheran Church DW					Total Hourly	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:30 AM	0	107	5	0	112	2	0	1	0	3	9	143	0	0	152	1	0	0	0	1	268	0.88
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	208	2	0	212	8	0	9	0	17	10	235	2	0	247	0	0	0	0	0	476	0.85

Intersection Traffic Volume Report

Count Basics		*Page 9 of 13*
Start Date: Thursday, September 25, 2025	Weekday	Schools in Session
Total Number of Hours Counted: 5.75	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Division Road & Germantown Municipal DW

15-Minute Heavy Vehicle Data

15-Minute		From North (↓)					From East (←)					From South (↑)					From West (→)						
Time Period		Division Road					Germantown Municipal DW					Division Road					Faith Lutheran Church DW					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	12
	6:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	15
	6:30 AM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	7	16
	6:45 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4	13
	7:00 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3	13
	7:15 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	10
	7:30 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	8
	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	11
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 AM	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	7	
	8:45 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	
	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	5	0	0	5	0	0	0	0	0	10	20
	3:15 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4	14
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
	3:45 PM	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6	16
	4:00 PM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4	12
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	10
	4:30 PM	1	0	0	0	1	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	4	9
	4:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	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	
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
	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	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		1	31	0	0	32	0	0	0	0	0	1	37	1	0	39	2	0	0	0	2	73	
otal Truck %age:		50.0%	3.6%	0.0%	0.0%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	2.6%	3.4%	50.0%	0.0%	3.5%	40.0%	0.0%	0.0%	0.0%	33.3%	3.6%	

Peak Hour Heavy Vehicle Volume Summary

Hourly		From North (↓)					From East (←)					From South (↑)					From West (→)					Total
Time Period		Division Road					Germantown Municipal DW					Division Road					Faith Lutheran Church DW					Hourly
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	0	4	0	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	8
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	1	3	0	0	4	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	10

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***

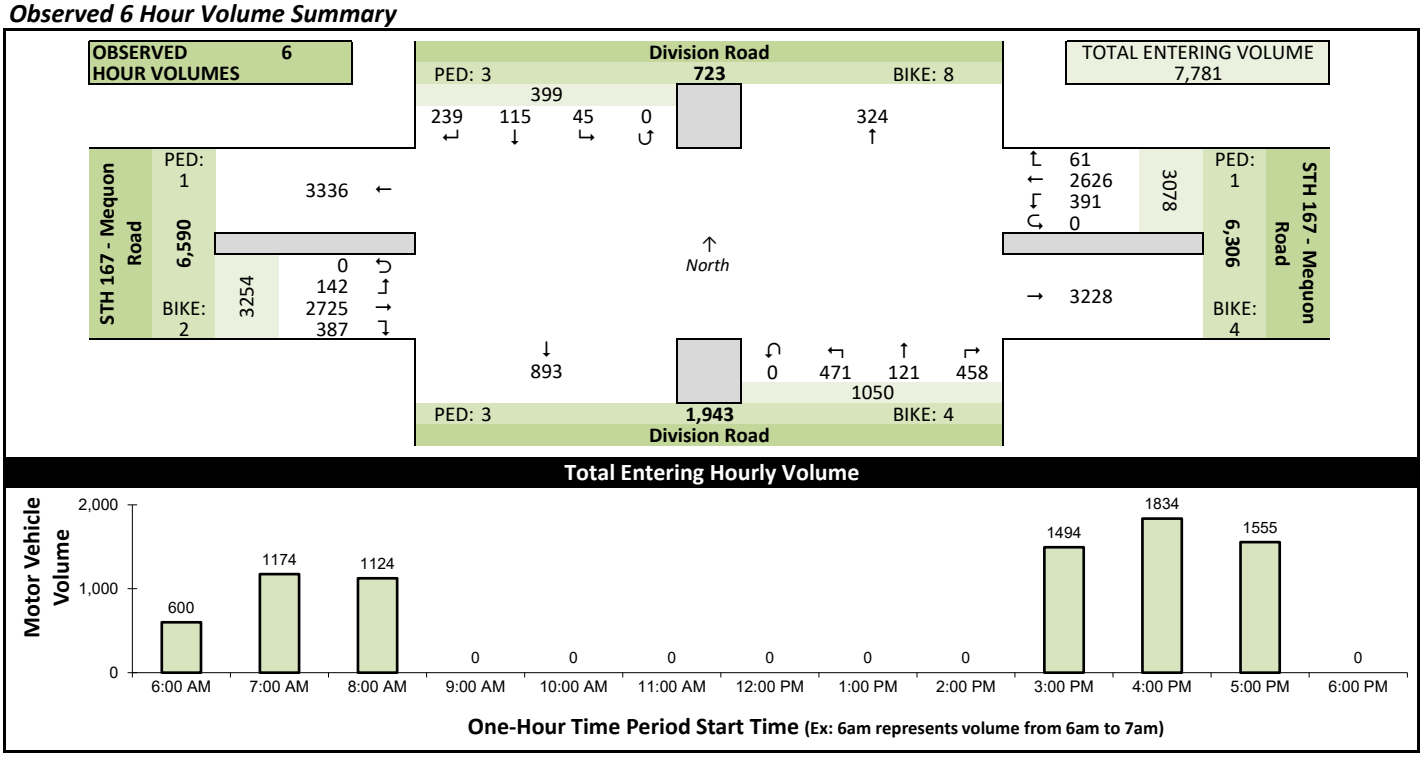
Site Information

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		

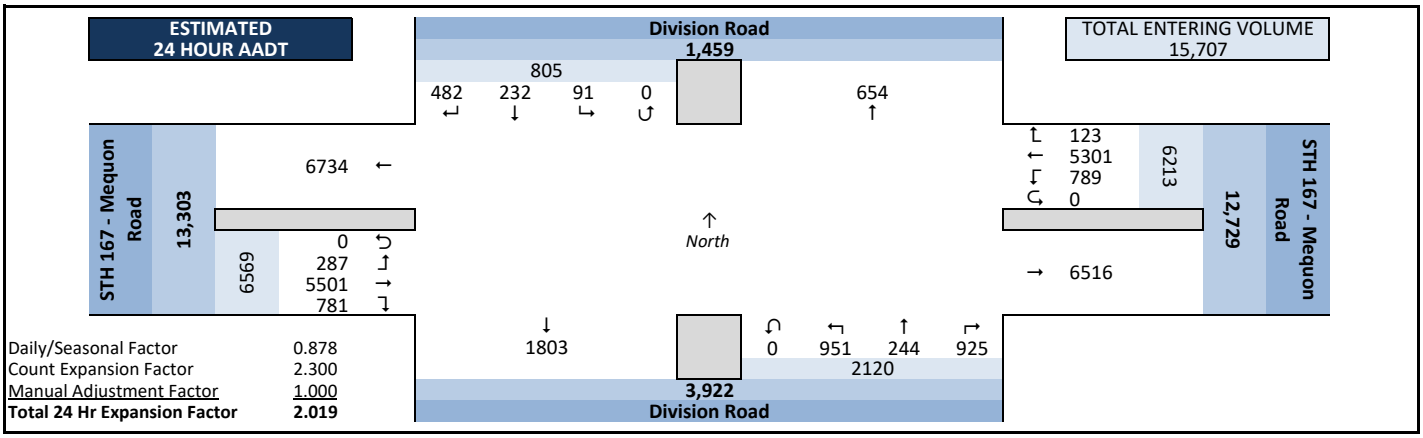
Count Information

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	7:30-8:30am	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	0.878	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

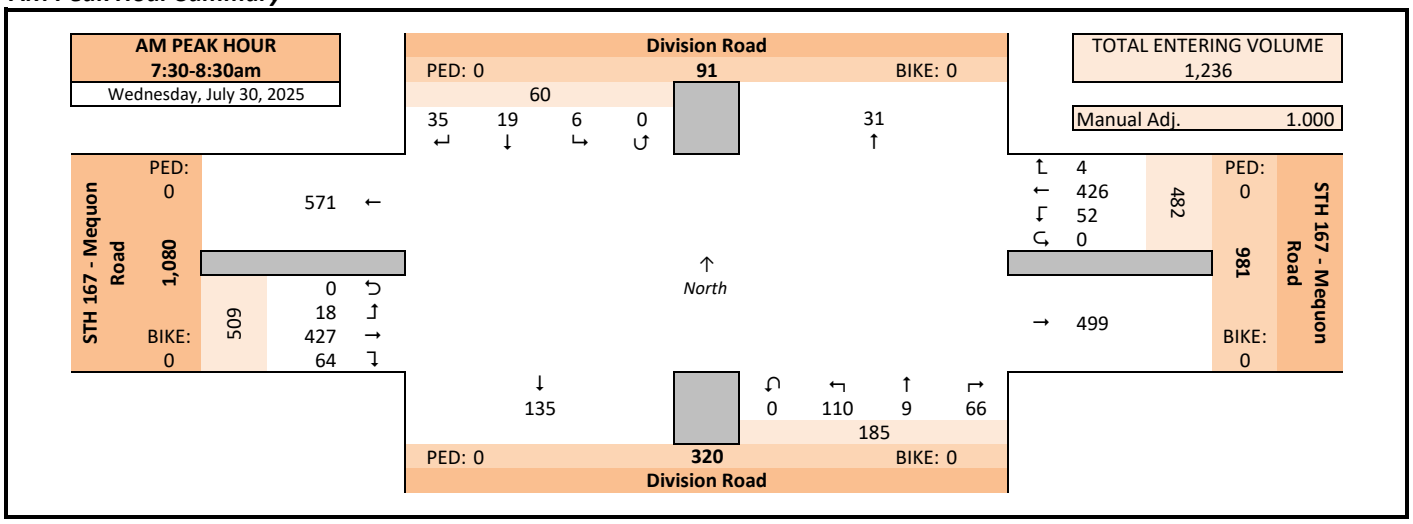
Peak Hour Volume Graphical Summary

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

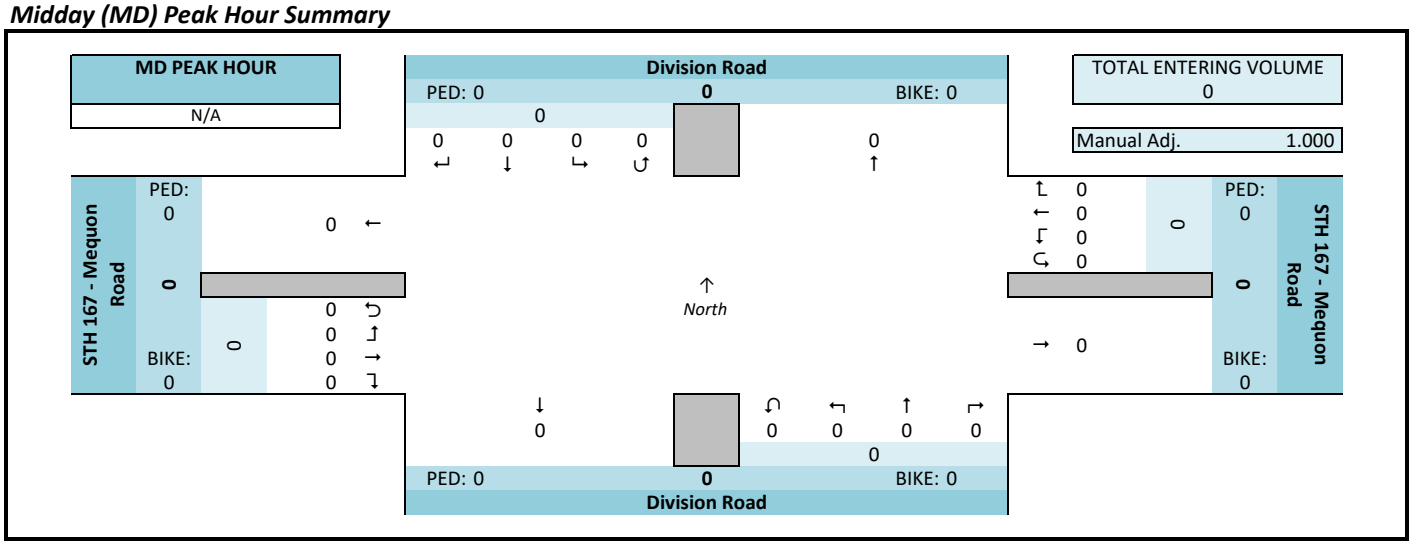
STH 167 - Mequon Road & Division Road

All Motor Vehicles

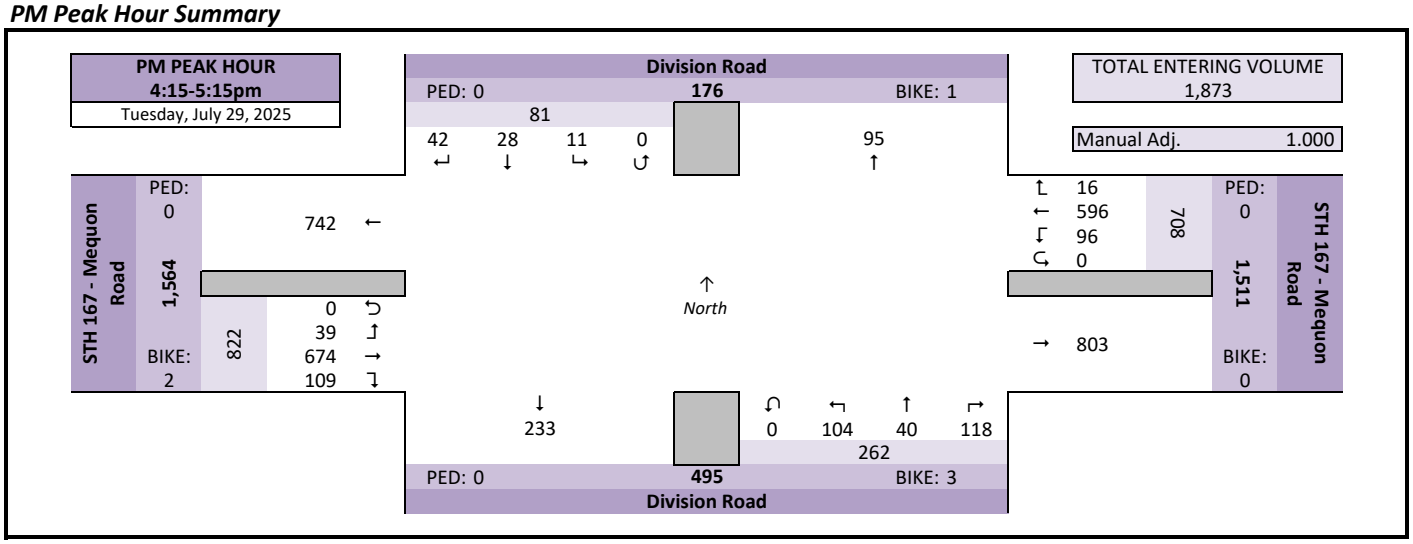
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

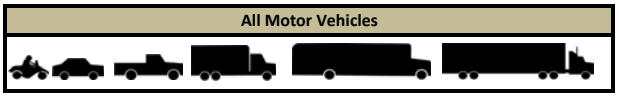


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Tuesday, 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 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	7:30 AM	14	6	2	0	22	2	99	15	0	116	17	1	30	0	48	10	100	4	0	114	300
	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
	Peak Hour Volume	35	19	6	0	60	4	426	52	0	482	66	9	110	0	185	64	427	18	0	509	1236
	Rounded Hourly Volume	35	20	5	0	60	5	425	50	0	480	65	10	110	0	185	65	425	20	0	510	1235
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0	4.8	1.5	11.1	0.9	0.0	1.6	0.0	5.2	5.6	0.0	4.5	4.0
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.0	11.1	0.0	0.0	0.5	0.0	0.9	0.0	0.0	0.8	0.6
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	5.4	1.5	22.2	0.9	0.0	2.2	0.0	6.1	5.6	0.0	5.3	4.6
	Peak Hour Factor (PHF)	0.62	0.79	0.75	0.00	0.68	0.50	0.81	0.81	0.00	0.83	0.72	0.45	0.62	0.00	0.67	0.84	0.79	0.45	0.00	0.79	0.79

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	4:15 PM	8	8	4	0	20	4	136	22	0	162	34	11	25	0	70	25	148	8	0	181	433
	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
	Peak Hour Volume	42	28	11	0	81	16	596	96	0	708	118	40	104	0	262	109	674	39	0	822	1873
	Rounded Hourly Volume	40	30	10	0	80	15	595	95	0	705	120	40	105	0	265	110	675	40	0	825	1875
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	2.1	2.5	0.0	1.9	0.0	1.9	2.8	1.6	0.0	0.0	1.7	1.8
	% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	1.0	0.6
	% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	2.7	2.5	0.0	1.9	0.0	1.9	2.8	2.8	0.0	0.0	2.7	2.5
	Peak Hour Factor (PHF)	0.87	0.78	0.69	0.00	0.84	0.80	0.89	0.77	0.00	0.90	0.87	0.71	0.93	0.00	0.94	0.85	0.87	0.70	0.00	0.89	0.95

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			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	
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	0	0	0	0	0	2	2	0	2	2	4
	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
	Total	0	1	1	0	0	0	0	3	3	0	2	2	6

Intersection Traffic Volume Report

Hourly Volume Summary - Motor Vehicle Data

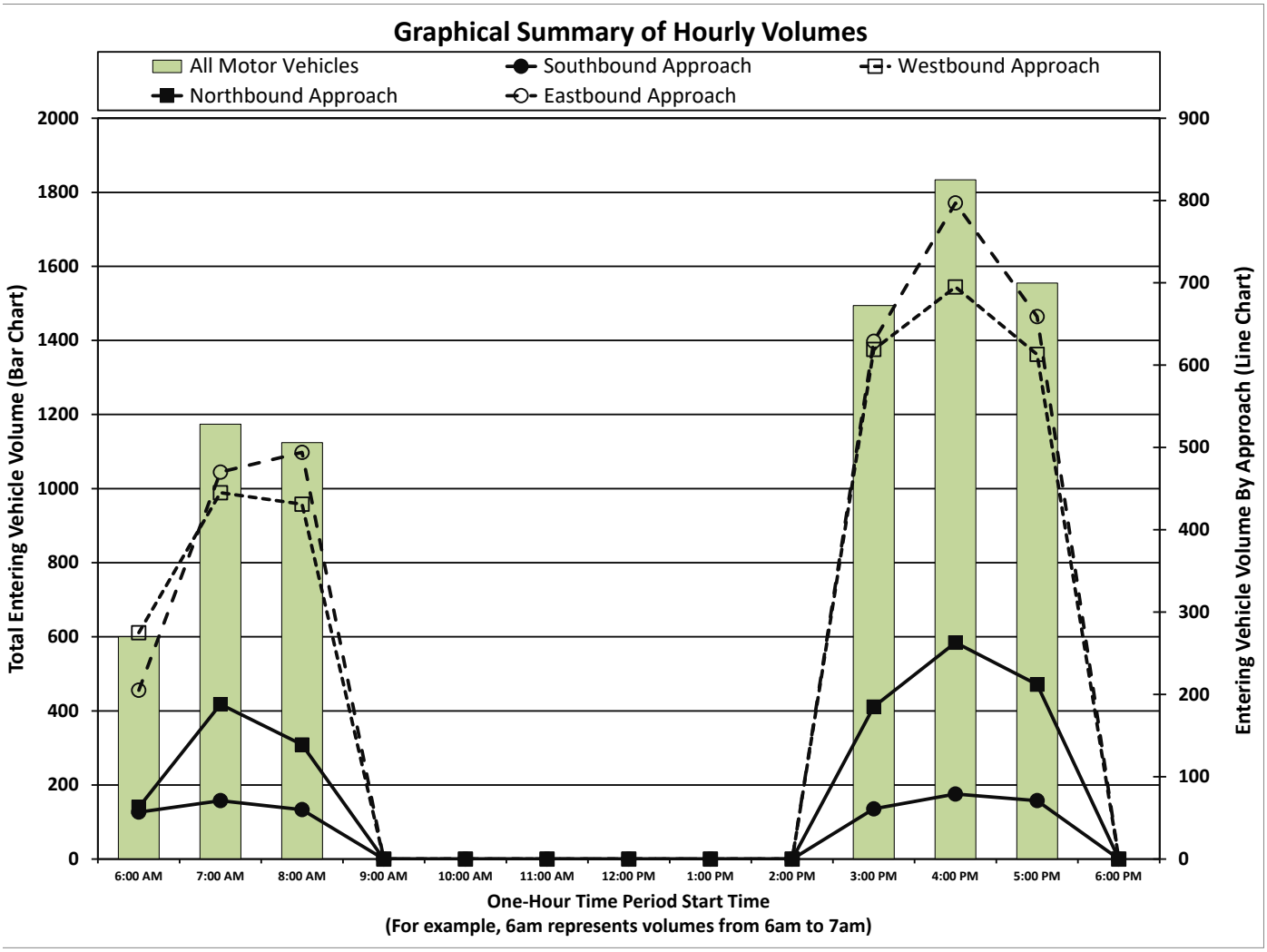
STH 167 - Mequon Road & Division Road

Count Basics			*Page 4 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

One-Hour Motor Vehicle Data

	One-Hour Time Period Start Time	From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					Total Vehicle Volume	Directional Volume Totals	
		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S
AM	6:00 AM	41	11	5	0	57	0	261	14	0	275	18	3	42	0	63	18	185	2	0	205	600	480	120
AM	7:00 AM	42	20	9	0	71	3	400	42	0	445	66	9	113	0	188	46	406	18	0	470	1174	915	259
AM	8:00 AM	33	22	5	0	60	6	373	52	0	431	63	8	68	0	139	74	407	13	0	494	1124	925	199
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	42	13	6	0	61	15	517	87	0	619	95	28	62	0	185	57	532	40	0	629	1494	1248	246
PM	4:00 PM	40	26	13	0	79	15	591	89	0	695	122	31	110	0	263	104	655	38	0	797	1834	1492	342
PM	5:00 PM	41	23	7	0	71	22	484	107	0	613	94	42	76	0	212	88	540	31	0	659	1555	1272	283
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		239	115	45	0	399	61	2626	391	0	3078	458	121	471	0	1050	387	2725	142	0	3254	7781	6332	1449



Intersection Traffic Volume Report

15-Minute Motor Vehicle Data

STH 167 - Mequon Road & Division Road

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

All Motor Vehicles

15-Minute Motor Vehicle Data

	15-Minute	From North (↓)					From East (←)					From South (↑)					From West (→)							
	Time Period	Division Road					STH 167 - Mequon Road					Division Road					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	PHF
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	From North (↓)					From East (←)					From South (↑)					From West (→)					Total		
	Time Period	Division Road					STH 167 - Mequon Road					Division Road					STH 167 - Mequon Road					Hourly		
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume		PHF
AM	7:30 AM	35	19	6	0	60	4	426	52	0	482	66	9	110	0	185	64	427	18	0	509	1236		0.79
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	42	28	11	0	81	16	596	96	0	708	118	40	104	0	262	109	674	39	0	822	1873		0.95

Intersection Traffic Volume Report

Count Basics		*Page 6 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 Automobile Data

STH 167 - Mequon Road & Division Road

Automobiles (Cars, Light Trucks, & Motorcycles)

15-Minute Automobile 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	11	3	2	0	16	0	38	3	0	41	1	1	4	0	6	1	40	1	0	42	105	569
	6:15 AM	7	1	0	0	8	0	59	1	0	60	6	1	12	0	19	2	34	0	0	36	123	682
	6:30 AM	8	2	2	0	12	0	62	2	0	64	5	0	7	0	12	2	42	0	0	44	132	798
	6:45 AM	14	5	1	0	20	0	87	8	0	95	6	1	19	0	26	10	57	1	0	68	209	956
	7:00 AM	4	4	3	0	11	0	75	6	0	81	9	4	18	0	31	14	79	2	0	95	218	1125
	7:15 AM	13	6	1	0	20	1	83	7	0	91	16	2	20	0	38	4	84	2	0	90	239	1165
	7:30 AM	14	6	2	0	22	2	94	15	0	111	17	1	29	0	47	10	96	4	0	110	290	1179
	7:45 AM	10	4	2	0	16	0	127	14	0	141	23	2	44	0	69	17	125	10	0	152	378	1171
	8:00 AM	7	4	0	0	11	1	91	16	0	108	11	3	18	0	32	18	87	2	0	107	258	1061
	8:15 AM	4	5	2	0	11	1	88	7	0	96	14	1	18	0	33	19	93	1	0	113	253	
	8:30 AM	15	7	2	0	24	2	85	16	0	103	21	1	14	0	36	15	101	3	0	119	282	
	8:45 AM	7	5	0	0	12	1	76	13	0	90	16	1	16	0	33	22	106	5	0	133	268	
	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	125	22	0	151	19	3	9	0	31	18	133	11	0	162	362	1433
	3:15 PM	10	2	1	0	13	3	117	20	0	140	23	7	14	0	44	9	121	10	0	140	337	1511
	3:30 PM	7	2	2	0	11	2	130	24	0	156	29	7	11	0	47	11	122	13	0	146	360	1595
	3:45 PM	13	5	0	0	18	6	122	21	0	149	23	11	23	0	57	15	129	6	0	150	374	1694
	4:00 PM	10	4	5	0	19	4	149	23	0	176	29	5	29	0	63	27	144	11	0	182	440	1784
	4:15 PM	8	8	4	0	20	4	131	22	0	157	33	11	25	0	69	23	144	8	0	175	421	1827
	4:30 PM	11	9	4	0	24	3	129	19	0	151	27	6	27	0	60	24	186	14	0	224	459	1798
	4:45 PM	11	5	0	0	16	4	162	24	0	190	29	9	26	0	64	27	162	5	0	194	464	1689
	5:00 PM	12	6	3	0	21	5	155	31	0	191	26	14	24	0	64	32	163	12	0	207	483	1513
	5:15 PM	9	5	1	0	15	8	127	26	0	161	23	8	22	0	53	24	132	7	0	163	392	
	5:30 PM	9	9	1	0	19	6	103	31	0	140	20	10	16	0	46	21	119	5	0	145	350	
	5:45 PM	10	3	2	0	15	3	83	18	0	104	25	10	11	0	46	9	107	7	0	123	288	
	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		235	114	43	0	392	60	2498	389	0	2947	451	119	456	0	1026	374	2606	140	0	3120	7485	

Peak Hour Automobile 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	7:30 AM	35	19	6	0	60	4	400	52	0	456	65	7	109	0	181	64	401	17	0	482	1179
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	42	28	11	0	81	16	577	96	0	689	115	40	102	0	257	106	655	39	0	800	1827

Intersection Traffic Volume Report

15-Minute Single Unit (SU) Truck & Bus Data

STH 167 - Mequon Road & Division Road

Count Basics		*Page 7 of 13*
Start Date: Tuesday, July 29, 2025	Weekday	Schools Not 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		From North (↓)					From East (←)					From South (↑)					From West (→)						
Time Period		Division Road					STH 167 - Mequon Road					Division Road					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	22
	6:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5	28
	6:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	2	0	0	3	7	33
	6:45 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2	3	0	0	5	7	34
	7:00 AM	1	0	1	0	2	0	6	0	0	6	0	0	0	0	0	0	1	0	0	1	9	39
	7:15 AM	0	0	0	0	0	0	5	0	0	5	1	0	1	0	2	1	2	0	0	3	10	50
	7:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	3	0	0	3	8	49
	7:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	9	0	0	9	12	47
	8:00 AM	0	0	0	0	0	0	12	0	0	12	1	1	0	0	2	0	6	0	0	6	20	53
	8:15 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	1	0	5	9	
	8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	2	0	0	2	6	
	8:45 AM	0	1	1	0	2	1	10	0	0	11	0	0	1	0	1	0	3	1	0	4	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	0	0	0	0	0	7	0	0	7	0	0	2	0	2	1	6	0	0	7	16	48
	3:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2	1	2	0	0	3	8	43
	3:30 PM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	2	5	0	0	7	11	42
	3:45 PM	1	0	0	0	1	0	7	0	0	7	0	0	1	0	1	0	4	0	0	4	13	42
	4:00 PM	0	0	0	0	0	0	5	1	0	6	1	0	2	0	3	0	2	0	0	2	11	38
	4:15 PM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	2	1	0	0	3	7	34
	4:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	0	7	0	0	7	11	39
	4:45 PM	0	0	0	0	0	0	5	0	0	5	2	0	0	0	2	1	1	0	0	2	9	36
	5:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	0	2	0	0	2	7	35
	5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	11	0	0	11	12	
	5:30 PM	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	2	1	0	0	3	8	
	5:45 PM	1	0	0	0	1	0	4	0	0	4	0	0	2	0	2	0	1	0	0	1	8	
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals		3	1	2	0	6	1	107	2	0	110	7	1	15	0	23	13	81	2	0	96	235	
SU Truck %age:		1.3%	0.9%	4.4%	0.0%	1.5%	1.6%	4.1%	0.5%	0.0%	3.6%	1.5%	0.8%	3.2%	0.0%	2.2%	3.4%	3.0%	1.4%	0.0%	3.0%	3.0%	

Peak Hour Single Unit (SU) Truck & Buses Volume Summary

Hourly		From North (↓)					From East (←)					From South (↑)					From West (→)					Total
Time Period		Division Road					STH 167 - Mequon Road					Division Road					STH 167 - Mequon Road					Hourly
Start Time		Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	23	0	0	23	1	1	1	0	3	0	22	1	0	23	49
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	0	0	0	0	0	15	0	0	15	3	0	2	0	5	3	11	0	0	14	34

Intersection Traffic Volume Report

Count Basics		*Page 8 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 Semi-Truck Data

STH 167 - Mequon Road & Division Road

Semi-Trucks

15-Minute Semi-Truck 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
	6:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4	12
	6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	11
	6:45 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	4	12
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3	10
	7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	9
	7:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	8
	7:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	9
	8:00 AM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	2	10
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	
	8:30 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3	
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Midday Peak Period	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM Peak Period	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5	13
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	11
	3:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4	14
	3:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	10
	4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	12
	4:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5	12
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
	4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4	9
	5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3	7
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
	5:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	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		1	0	0	0	1	0	21	0	0	21	0	1	0	0	1	0	38	0	0	38	61	
Semi Truck %age:		0.4%	0.0%	0.0%	0.0%	0.3%	0.0%	0.8%	0.0%	0.0%	0.7%	0.0%	0.8%	0.0%	0.0%	0.1%	0.0%	1.4%	0.0%	0.0%	1.2%	0.8%	

Peak Hour Semi-Truck 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	7:30 AM	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	0	4	0	0	4	8
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	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	12

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

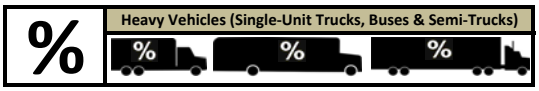
Hourly Time Period		From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon Road					Total Hourly
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume
AM	7:30 AM	0	0	0	0	0	0	26	0	0	26	1	2	1	0	4	0	26	1	0	27	57
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	0	0	0	0	0	19	0	0	19	3	0	2	0	5	3	19	0	0	22	46

Intersection Traffic Volume Report

Count Basics		*Page 10 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 Percentages

STH 167 - Mequon Road & Division Road



15-Minute Heavy Vehicle Percentages

15-Minute Time Period		From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon 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	7.3	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	5.2
	6:15 AM	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	0.0	12.8	0.0	0.0	12.2	6.8	5.5
	6:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	33.3	6.7	0.0	0.0	8.3	5.7	5.2
	6:45 AM	6.7	0.0	0.0	0.0	4.8	0.0	4.4	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	16.7	6.6	0.0	0.0	8.1	5.0	4.6
	7:00 AM	20.0	0.0	25.0	0.0	15.4	0.0	7.4	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.0	5.2	4.2
	7:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	0.0	6.2	5.9	0.0	4.8	0.0	5.0	20.0	4.5	0.0	0.0	5.3	5.2	4.8
	7:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	4.3	0.0	0.0	3.3	0.0	2.1	0.0	4.0	0.0	0.0	3.5	3.3	4.6
	7:45 AM	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.0	6.2	3.6	4.6
	8:00 AM	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	10.7	8.3	40.0	0.0	0.0	8.6	0.0	6.5	0.0	0.0	5.3	7.9	5.6
	8:15 AM	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	50.0	0.0	5.8	4.2	
	8:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	6.6	0.0	0.0	5.5	0.0	0.0	6.7	0.0	2.7	0.0	1.9	0.0	0.0	1.7	3.1	
	8:45 AM	0.0	16.7	100.0	0.0	14.3	50.0	11.6	0.0	0.0	10.9	0.0	0.0	5.9	0.0	2.9	0.0	5.4	16.7	0.0	5.0	7.3	
	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	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	4.4	0.0	0.0	18.2	0.0	6.1	5.3	7.6	0.0	0.0	6.9	5.5	4.1
	3:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	2.1	0.0	0.0	12.5	0.0	4.3	10.0	3.2	0.0	0.0	3.4	2.9	3.5
	3:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.1	3.3	0.0	0.0	0.0	2.1	15.4	5.4	0.0	0.0	5.8	4.0	3.4
	3:45 PM	7.1	0.0	0.0	0.0	5.3	0.0	6.2	0.0	0.0	5.1	0.0	0.0	4.2	0.0	1.7	0.0	3.7	0.0	0.0	3.2	3.9	3.0
	4:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.2	0.0	3.8	3.3	0.0	6.5	0.0	4.5	0.0	2.7	0.0	0.0	2.2	3.1	2.7
	4:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.1	2.9	0.0	0.0	0.0	1.4	8.0	2.7	0.0	0.0	3.3	2.8	2.5
	4:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	1.9	0.0	0.0	3.6	0.0	1.6	0.0	3.6	0.0	0.0	3.0	2.3	2.5
	4:45 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	3.1	6.5	0.0	0.0	0.0	3.0	3.6	2.4	0.0	0.0	2.5	2.7	2.6
	5:00 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	2.6	0.0	0.0	4.0	0.0	1.5	0.0	2.4	0.0	0.0	1.9	2.0	2.7
	5:15 PM	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	6.9	3.2	
	5:30 PM	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.1	0.0	3.4	0.0	0.0	0.0	0.0	0.0	8.7	1.7	0.0	0.0	2.7	2.5	
	5:45 PM	9.1	0.0	0.0	0.0	6.3	0.0	6.7	0.0	0.0	5.5	0.0	0.0	15.4	0.0	4.2	0.0	0.9	0.0	0.0	0.8	3.4	
	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		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	

Semi Truck Percentage: 0.784

Peak Hour Heavy Vehicle Percentages Summary

Hourly Time Period		From North (↓) Division Road					From East (←) STH 167 - Mequon Road					From South (↑) Division Road					From West (→) STH 167 - Mequon 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	7:30 AM	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	5.4	1.5	22.2	0.9	0.0	2.2	0.0	6.1	5.6	0.0	5.3	4.6
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	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	2.7	2.5	0.0	1.9	0.0	1.9	2.8	2.8	0.0	0.0	2.7	2.5

Intersection Traffic Volume Report

Count Basics			*Page 11 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 Pedestrian and Bicyclist Data

STH 167 - Mequon Road & Division Road

Pedestrians and Bicyclists

15-Minute Pedestrian and Bicyclist Data

	15-Minute Time Period	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			15-Min	Hourly
		Division Road			STH 167 - Mequon Road			Division Road			STH 167 - Mequon Road				
	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	1	0	1	0	0	0	1	7
	6:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	6
	6:30 AM	0	2	2	1	2	3	0	0	0	0	0	0	5	6
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	1	1
	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	3
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	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	
	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	1	0	1	0	0	0	1	6
	3:15 PM	0	1	1	0	1	1	0	0	0	1	0	1	3	5
	3:30 PM	0	2	2	0	0	0	0	0	0	0	0	0	2	6
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
	4:15 PM	0	0	0	0	0	0	0	2	2	0	2	2	4	6
	4:30 PM	0	1	1	0	0	0	0	0	0	0	0	0	1	5
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	5:00 PM	0	0	0	0	0	0	0	1	1	0	0	0	1	4
	5:15 PM	0	1	1	0	1	1	0	1	1	0	0	0	3	
	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		3	8	11	1	4	5	3	4	7	1	2	3	26	

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 wheelchai	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics			Page 12 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 Adult & Children Count (Manual Entry)

STH 167 - Mequon Road & Division Road

Adults & Children

15-Minute Adult & Children Pedestrian Data

	15-Minute Time Period	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach				
		Division Road			STH 167 - Mequon Road			Division Road			STH 167 - Mequon Road			15-Min	Hourly
	Start Time	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	Totals	Sum
Pre-AM Peak Period	12:00 AM	0		0	0		0	0		0	0		0	0	0
	12:15 AM	0		0	0		0	0		0	0		0	0	0
	12:30 AM	0		0	0		0	0		0	0		0	0	0
	12:45 AM	0		0	0		0	0		0	0		0	0	0
	1:00 AM	0		0	0		0	0		0	0		0	0	0
	1:15 AM	0		0	0		0	0		0	0		0	0	0
	1:30 AM	0		0	0		0	0		0	0		0	0	0
	1:45 AM	0		0	0		0	0		0	0		0	0	0
	2:00 AM	0		0	0		0	0		0	0		0	0	0
	2:15 AM	0		0	0		0	0		0	0		0	0	0
	2:30 AM	0		0	0		0	0		0	0		0	0	0
	2:45 AM	0		0	0		0	0		0	0		0	0	0
	3:00 AM	0		0	0		0	0		0	0		0	0	0
	3:15 AM	0		0	0		0	0		0	0		0	0	0
	3:30 AM	0		0	0		0	0		0	0		0	0	0
	3:45 AM	0		0	0		0	0		0	0		0	0	0
	4:00 AM	0		0	0		0	0		0	0		0	0	0
	4:15 AM	0		0	0		0	0		0	0		0	0	0
	4:30 AM	0		0	0		0	0		0	0		0	0	0
	4:45 AM	0		0	0		0	0		0	0		0	0	0
	5:00 AM	0		0	0		0	0		0	0		0	0	0
	5:15 AM	0		0	0		0	0		0	0		0	0	1
	5:30 AM	0		0	0		0	0		0	0		0	0	2
	5:45 AM	0		0	0		0	0		0	0		0	0	3
AM Peak Period	6:00 AM	0		0	0		0	1		1	0		0	1	3
	6:15 AM	0		0	0		0	1		1	0		0	1	2
	6:30 AM	0		0	1		1	0		0	0		0	1	1
	6:45 AM	0		0	0		0	0		0	0		0	0	0
	7:00 AM	0		0	0		0	0		0	0		0	0	0
	7:15 AM	0		0	0		0	0		0	0		0	0	0
	7:30 AM	0		0	0		0	0		0	0		0	0	0
	7:45 AM	0		0	0		0	0		0	0		0	0	3
	8:00 AM	0		0	0		0	0		0	0		0	0	3
	8:15 AM	0		0	0		0	0		0	0		0	0	3
	8:30 AM	3		3	0		0	0		0	0		0	3	3
	8:45 AM	0		0	0		0	0		0	0		0	0	0
	9:00 AM	0		0	0		0	0		0	0		0	0	0
	9:15 AM	0		0	0		0	0		0	0		0	0	0
	9:30 AM	0		0	0		0	0		0	0		0	0	0
	9:45 AM	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
	10:15 AM	0		0	0		0	0		0	0		0	0	0
	10:30 AM	0		0	0		0	0		0	0		0	0	0
	10:45 AM	0		0	0		0	0		0	0		0	0	0
	11:00 AM	0		0	0		0	0		0	0		0	0	0
	11:15 AM	0		0	0		0	0		0	0		0	0	0
	11:30 AM	0		0	0		0	0		0	0		0	0	0
	11:45 AM	0		0	0		0	0		0	0		0	0	0
	12:00 PM	0		0	0		0	0		0	0		0	0	0
	12:15 PM	0		0	0		0	0		0	0		0	0	0
	12:30 PM	0		0	0		0	0		0	0		0	0	0
	12:45 PM	0		0	0		0	0		0	0		0	0	0
	1:00 PM	0		0	0		0	0		0	0		0	0	0
	1:15 PM	0		0	0		0	0		0	0		0	0	0
	1:30 PM	0		0	0		0	0		0	0		0	0	0
	1:45 PM	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
	2:15 PM	0		0	0		0	0		0	0		0	0	1
	2:30 PM	0		0	0		0	0		0	0		0	0	2
	2:45 PM	0		0	0		0	0		0	0		0	0	2
	3:00 PM	0		0	0		0	1		1	0		0	1	2
	3:15 PM	0		0	0		0	0		0	1		1	1	1
	3:30 PM	0		0	0		0	0		0	0		0	0	0
	3:45 PM	0		0	0		0	0		0	0		0	0	0
	4:00 PM	0		0	0		0	0		0	0		0	0	0
	4:15 PM	0		0	0		0	0		0	0		0	0	0
	4:30 PM	0		0	0		0	0		0	0		0	0	0
	4:45 PM	0		0	0		0	0		0	0		0	0	0
	5:00 PM	0		0	0		0	0		0	0		0	0	0
	5:15 PM	0		0	0		0	0		0	0		0	0	0
	5:30 PM	0		0	0		0	0		0	0		0	0	0
	5:45 PM	0		0	0		0	0		0	0		0	0	0
	6:00 PM	0		0	0		0	0		0	0		0	0	0
	6:15 PM	0		0	0		0	0		0	0		0	0	0
	6:30 PM	0		0	0		0	0		0	0		0	0	0
	6:45 PM	0		0	0		0	0		0	0		0	0	0
	7:00 PM	0		0	0		0	0		0	0		0	0	0
	7:15 PM	0		0	0		0	0		0	0		0	0	0
	7:30 PM	0		0	0		0	0		0	0		0	0	0
	7:45 PM	0		0	0		0	0		0	0		0	0	0
	8:00 PM	0		0	0		0	0		0	0		0	0	0
	8:15 PM	0		0	0		0	0		0	0		0	0	0
	8:30 PM	0		0	0		0	0		0	0		0	0	0
	8:45 PM	0		0	0		0	0		0	0		0	0	0
	9:00 PM	0		0	0		0	0		0	0		0	0	0
	9:15 PM	0		0	0		0	0		0	0		0	0	0
	9:30 PM	0		0	0		0	0		0	0		0	0	0
	9:45 PM	0		0	0		0	0		0	0		0	0	0
Post PM Peak Period	10:00 PM	0		0	0		0	0		0	0		0	0	0
	10:15 PM	0		0	0		0	0		0	0		0	0	0
	10:30 PM	0		0	0		0	0		0	0		0	0	0
	10:45 PM	0		0	0		0	0		0	0		0	0	0
	11:00 PM	0		0	0		0	0		0	0		0	0	0
	11:15 PM	0		0	0		0	0		0	0		0	0	
	11:30 PM	0		0	0		0	0		0	0		0	0	
	11:45 PM	0		0	0		0	0		0	0		0	0	
Totals		**3**	**0**	**3**	**1**	**0**	**1**	**3**	**0**	**3**	**1**	**0**	**1**	**8**	

Intersection Traffic Volume Report

Count Basics			Page 13 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 Bicycle Turning Movement Count (Manual Entry)

STH 167 - Mequon Road & Division Road

Bicyclists

15-Minute Bicycle 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
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		
Pre-AM Peak Period	12:00 AM					0					0					0					0	0	0
	12:15 AM					0					0					0					0	0	0
	12:30 AM					0					0					0					0	0	0
	12:45 AM					0					0					0					0	0	0
	1:00 AM					0					0					0					0	0	0
	1:15 AM					0					0					0					0	0	0
	1:30 AM					0					0					0					0	0	0
	1:45 AM					0					0					0					0	0	0
	2:00 AM					0					0					0					0	0	0
	2:15 AM					0					0					0					0	0	0
	2:30 AM					0					0					0					0	0	0
	2:45 AM					0					0					0					0	0	0
	3:00 AM					0					0					0					0	0	0
	3:15 AM					0					0					0					0	0	0
	3:30 AM					0					0					0					0	0	0
	3:45 AM					0					0					0					0	0	0
	4:00 AM					0					0					0					0	0	0
	4:15 AM					0					0					0					0	0	0
	4:30 AM					0					0					0					0	0	0
	4:45 AM					0					0					0					0	0	0
	5:00 AM					0					0					0					0	0	0
	5:15 AM					0					0					0					0	0	0
	5:30 AM					0					0					0					0	0	0
	5:45 AM					0					0					0					0	0	0
AM Peak Period	6:00 AM					0					0					0					0	0	0
	6:15 AM					0					0					0					0	0	0
	6:30 AM					0					0					0					0	0	0
	6:45 AM					0					0					0					0	0	0
	7:00 AM					0					0					0					0	0	0
	7:15 AM					0					0					0					0	0	0
	7:30 AM					0					0					0					0	0	0
	7:45 AM					0					0					0					0	0	0
	8:00 AM					0					0					0					0	0	0
	8:15 AM					0					0					0					0	0	0
	8:30 AM					0					0					0					0	0	0
	8:45 AM					0					0					0					0	0	0
	9:00 AM					0					0					0					0	0	0
	9:15 AM					0					0					0					0	0	0
	9:30 AM					0					0					0					0	0	0
	9:45 AM					0					0					0					0	0	0
Midday Peak Period	10:00 AM					0					0					0					0	0	0
	10:15 AM					0					0					0					0	0	0
	10:30 AM					0					0					0					0	0	0
	10:45 AM					0					0					0					0	0	0
	11:00 AM					0					0					0					0	0	0
	11:15 AM					0					0					0					0	0	0
	11:30 AM					0					0					0					0	0	0
	11:45 AM					0					0					0					0	0	0
	12:00 PM					0					0					0					0	0	0
	12:15 PM					0					0					0					0	0	0
	12:30 PM					0					0					0					0	0	0
	12:45 PM					0					0					0					0	0	0
	1:00 PM					0					0					0					0	0	0
	1:15 PM					0					0					0					0	0	0
	1:30 PM					0					0					0					0	0	0
	1:45 PM					0					0					0					0	0	0
PM Peak Period	2:00 PM					0					0					0					0	0	0
	2:15 PM					0					0					0					0	0	0
	2:30 PM					0					0					0					0	0	0
	2:45 PM					0					0					0					0	0	0
	3:00 PM					0					0					0					0	0	0
	3:15 PM					0					0					0					0	0	0
	3:30 PM					0					0					0					0	0	0
	3:45 PM					0					0					0					0	0	0
	4:00 PM					0					0					0					0	0	0
	4:15 PM					0					0					0					0	0	0
	4:30 PM					0					0					0					0	0	0
	4:45 PM					0					0					0					0	0	0
	5:00 PM					0					0					0					0	0	0
	5:15 PM					0					0					0					0	0	0
	5:30 PM					0					0					0					0	0	0
	5:45 PM					0					0					0					0	0	0
	6:00 PM					0					0					0					0	0	0
	6:15 PM					0					0					0					0	0	0
	6:30 PM					0					0					0					0	0	0
	6:45 PM					0					0					0					0	0	0
	7:00 PM					0					0					0					0	0	0
	7:15 PM					0					0					0					0	0	0
	7:30 PM					0					0					0					0	0	0
	7:45 PM					0					0					0					0	0	0
	8:00 PM					0					0					0					0	0	0
	8:15 PM					0					0					0					0	0	0
	8:30 PM					0					0					0					0	0	0
	8:45 PM					0					0					0					0	0	0
	9:00 PM					0					0					0					0	0	0
	9:15 PM					0					0					0					0	0	0
	9:30 PM					0					0					0					0	0	0
	9:45 PM					0					0					0					0	0	0
Post PM Peak Period	10:00 PM					0					0					0					0	0	0
	10:15 PM					0					0					0					0	0	0
	10:30 PM					0					0					0					0	0	0
	10:45 PM					0					0					0					0	0	0
	11:00 PM					0					0					0					0	0	0
	11:15 PM					0					0					0					0	0	0
	11:30 PM					0					0					0					0	0	0
	11:45 PM					0					0					0					0	0	0
Totals		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Peak Hour Bicycle Turning Movement 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
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	7:30 AM	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
PM	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics			Special Report
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 (Daily & Seasonally Adjusted)

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	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
Pre-AM Peak Period	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
AM Peak Period	6:00 AM	10	3	2	0	15	0	36	3	0	39	1	1	4	0	6	1	35	1	0	37	97	530	0.68
	6:15 AM	6	1	0	0	7	0	55	1	0	56	5	1	11	0	17	2	34	0	0	36	116	636	0.78
	6:30 AM	7	2	2	0	11	0	58	2	0	60	4	0	6	0	10	3	39	0	0	42	123	740	0.84
	6:45 AM	13	4	1	0	18	0	80	7	0	87	5	1	17	0	23	11	54	1	0	66	194	881	0.83
	7:00 AM	4	4	4	0	12	0	71	5	0	76	8	4	16	0	28	12	73	2	0	87	203	1032	0.75
	7:15 AM	11	5	1	0	17	1	78	6	0	85	15	2	18	0	35	4	77	2	0	83	220	1076	0.78
	7:30 AM	12	5	2	0	19	2	87	13	0	102	15	1	26	0	42	9	88	4	0	101	264	1089	0.79
	7:45 AM	9	4	2	0	15	0	115	12	0	127	20	2	39	0	61	15	118	9	0	142	345	1080	0.78
	8:00 AM	6	4	0	0	10	1	91	14	0	106	11	4	16	0	31	16	82	2	0	100	247	987	0.97
	8:15 AM	4	4	2	0	10	1	81	6	0	88	12	1	16	0	29	17	87	2	0	106	233		
	8:30 AM	13	6	2	0	21	2	80	14	0	96	18	1	13	0	32	13	90	3	0	106	255		
	8:45 AM	6	5	1	0	12	2	75	11	0	88	14	1	15	0	30	19	98	5	0	122	252		
	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	10	4	3	0	17	4	116	19	0	139	17	3	10	0	30	17	126	10	0	153	339	1313	0.97
	3:15 PM	9	2	1	0	12	3	105	18	0	126	20	6	14	0	40	9	110	9	0	128	306	1373	0.86
	3:30 PM	6	2	2	0	10	2	118	21	0	141	26	6	10	0	42	11	113	11	0	135	328	1448	0.91
	3:45 PM	12	4	0	0	16	5	114	18	0	137	20	10	21	0	51	13	118	5	0	136	340	1534	0.93
	4:00 PM	9	4	4	0	17	4	136	21	0	161	26	4	27	0	57	24	130	10	0	164	399	1613	0.96
	4:15 PM	7	7	4	0	18	4	119	19	0	142	30	10	22	0	62	22	130	7	0	159	381	1647	0.95
	4:30 PM	10	8	4	0	22	3	116	17	0	136	24	5	25	0	54	21	169	12	0	202	414	1620	0.94
	4:45 PM	10	4	0	0	14	4	147	21	0	172	27	8	23	0	58	25	146	4	0	175	419	1521	0.88
	5:00 PM	11	5	3	0	19	4	140	27	0	171	23	12	22	0	57	28	147	11	0	186	433	1365	0.79
	5:15 PM	8	4	1	0	13	7	112	23	0	142	20	7	19	0	46	21	126	6	0	153	354		
	5:30 PM	8	8	1	0	17	5	94	28	0	127	18	9	14	0	41	20	106	4	0	130	315		
	5:45 PM	10	3	2	0	15	3	78	16	0	97	22	9	11	0	42	8	95	6	0	109	263		
	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		
Post PM Peak Period	10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Totals		211	102	44	0	357	57	2302	342	0	2701	401	108	415	0	924	341	2391	126	0	2858	6840		

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	
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Volume	PHF
AM	7:30 AM	31	17	6	0	54	4	374	45	0	423	58	8	97	0	163	57	375	17	0	449	1089	0.79
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	38	24	11	0	73	15	522	84	0	621	104	35	92	0	231	96	592	34	0	722	1647	0.95

APPENDIX B

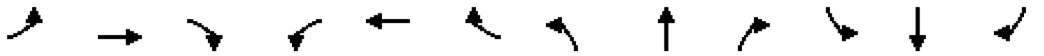
LOS DEFINITIONS
SYNCHRO INTERSECTION CAPACITY ANALYSIS

Existing Traffic Volumes

Level of Service Definitions

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

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

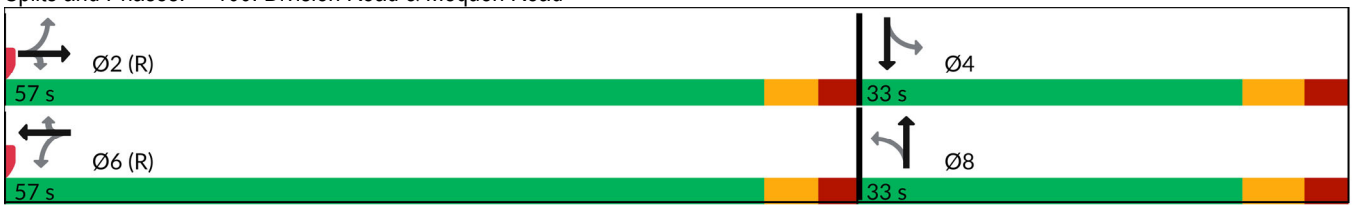


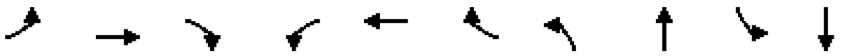
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	425	65	50	435	5	110	10	65	5	20	35
Future Volume (vph)	20	425	65	50	435	5	110	10	65	5	20	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	100		100	225		100	75		0	0		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	1%	1%	1%
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)	25	538	51	63	551	4	139	95	0	6	69	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.04	0.23	0.05	0.11	0.23	0.00	0.66	0.37		0.03	0.26	
Control Delay (s/veh)	5.8	5.8	5.5	6.2	5.8	5.7	49.9	36.7		29.2	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)	5.8	5.8	5.5	6.2	5.8	5.7	49.9	36.7		29.2	33.9	
Queue Length 50th (ft)	4	48	8	10	50	1	76	49		3	35	
Queue Length 95th (ft)	13	75	20	26	77	4	109	76		11	58	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	559	2385	1044	567	2385	1044	381	461		375	485	
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	0.04	0.23	0.05	0.11	0.23	0.00	0.36	0.21		0.02	0.14	

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	

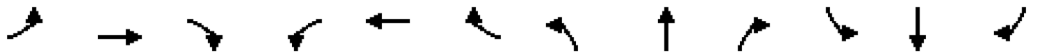
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	538	51	63	551	4	139	95	6	69
v/c Ratio	0.04	0.23	0.05	0.11	0.23	0.00	0.66	0.37	0.03	0.26
Control Delay (s/veh)	5.8	5.8	5.5	6.2	5.8	5.7	49.9	36.7	29.2	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)	5.8	5.8	5.5	6.2	5.8	5.7	49.9	36.7	29.2	33.9
Queue Length 50th (ft)	4	48	8	10	50	1	76	49	3	35
Queue Length 95th (ft)	13	75	20	26	77	4	109	76	11	58
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	559	2385	1044	567	2385	1044	381	461	375	485
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	0.04	0.23	0.05	0.11	0.23	0.00	0.36	0.21	0.02	0.14

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	425	65	50	435	5	110	10	65	5	20	35
Future Volume (veh/h)	20	425	65	50	435	5	110	10	65	5	20	35
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		0.98	1.00		0.98
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	1826	1826	1826	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	25	538	51	63	551	4	139	13	82	6	25	44
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	5	5	5	5	5	5	2	2	2	1	1	1
Cap, veh/h	605	2390	1043	590	2390	1043	251	36	227	226	100	175
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	833	3469	1514	807	3469	1514	1330	219	1379	1309	606	1067
Grp Volume(v), veh/h	25	538	51	63	551	4	139	0	95	6	0	69
Grp Sat Flow(s),veh/h/ln	833	1735	1514	807	1735	1514	1330	0	1597	1309	0	1674
Q Serve(g_s), s	1.0	5.1	1.0	2.8	5.3	0.1	9.2	0.0	4.8	0.4	0.0	3.2
Cycle Q Clear(g_c), s	6.3	5.1	1.0	7.9	5.3	0.1	12.4	0.0	4.8	5.1	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.86	1.00		0.64
Lane Grp Cap(c), veh/h	605	2390	1043	590	2390	1043	251	0	263	226	0	275
V/C Ratio(X)	0.04	0.23	0.05	0.11	0.23	0.00	0.55	0.00	0.36	0.03	0.00	0.25
Avail Cap(c_a), veh/h	605	2390	1043	590	2390	1043	415	0	460	388	0	482
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	6.3	5.2	4.5	6.6	5.2	4.4	38.2	0.0	33.4	35.7	0.0	32.8
Incr Delay (d2), s/veh	0.1	0.2	0.1	0.4	0.2	0.0	0.7	0.0	0.3	0.0	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	2.8	0.5	0.9	2.9	0.0	5.3	0.0	3.3	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	5.4	4.6	7.0	5.4	4.4	38.9	0.0	33.7	35.7	0.0	32.9
LnGrp LOS	A	A	A	A	A	A	D		C	D		C
Approach Vol, veh/h		614			618			234			75	
Approach Delay, s/veh		5.4			5.6			36.8			33.2	
Approach LOS		A			A			D			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.1		21.9		68.1		21.9				
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		8.3		7.1		9.9		14.4				
Green Ext Time (p_c), s		8.7		0.2		9.0		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			11.6									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	1	1	1	1	185	10	5	130	1
Future Volume (vph)	1	1	1	1	1	1	1	185	10	5	130	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			1167			456	
Travel Time (s)		8.2			9.8			22.7			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	3	0	0	222	0	0	155	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

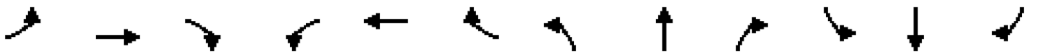
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	1	1	1	1	1	1	185	10	5	130	1
Future Vol, veh/h	1	1	1	1	1	1	1	185	10	5	130	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1	3	3	3	4	4	4
Mvmt Flow	1	1	1	1	1	1	1	210	11	6	148	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	373	384	148	378	378	216	149	0	0	222	0	0
Stage 1	160	160	-	218	218	-	-	-	-	-	-	-
Stage 2	213	224	-	160	160	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	586	551	901	582	555	826	1426	-	-	1336	-	-
Stage 1	845	768	-	786	724	-	-	-	-	-	-	-
Stage 2	791	720	-	845	767	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	581	548	901	576	552	826	1426	-	-	1336	-	-
Mov Cap-2 Maneuver	581	548	-	576	552	-	-	-	-	-	-	-
Stage 1	841	764	-	786	724	-	-	-	-	-	-	-
Stage 2	788	720	-	839	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.62	10.74	0.04	0.28
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	9	-	-	644	631	66	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.005	0.004	-	-
HCM Ctrl Dly (s/v)	7.5	0	-	10.6	10.7	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

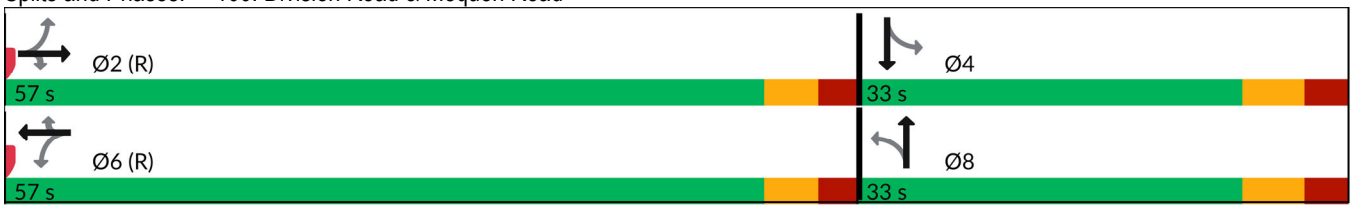


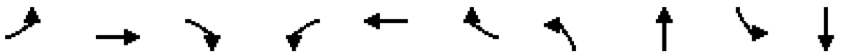
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	685	110	95	615	15	105	40	120	10	30	40
Future Volume (vph)	40	685	110	95	615	15	105	40	120	10	30	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			3			1			1			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	1%	1%	1%
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)	42	721	72	100	647	10	111	168	0	11	74	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.30	0.07	0.21	0.26	0.01	0.54	0.66		0.06	0.28	
Control Delay (s/veh)	5.8	6.0	5.4	7.0	5.8	5.4	44.0	47.7		30.6	34.8	

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)	5.8	6.0	5.4	7.0	5.8	5.4	44.0	47.7		30.6	34.8	
Queue Length 50th (ft)	6	69	11	17	60	2	59	91		5	38	
Queue Length 95th (ft)	21	117	29	47	104	7	105	147		19	72	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	519	2442	1067	475	2442	1069	379	470		334	491	
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	0.08	0.30	0.07	0.21	0.26	0.01	0.29	0.36		0.03	0.15	

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	

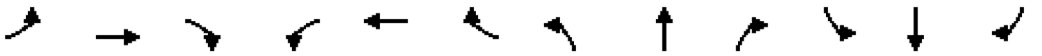
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	721	72	100	647	10	111	168	11	74
v/c Ratio	0.08	0.30	0.07	0.21	0.26	0.01	0.54	0.66	0.06	0.28
Control Delay (s/veh)	5.8	6.0	5.4	7.0	5.8	5.4	44.0	47.7	30.6	34.8
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)	5.8	6.0	5.4	7.0	5.8	5.4	44.0	47.7	30.6	34.8
Queue Length 50th (ft)	6	69	11	17	60	2	59	91	5	38
Queue Length 95th (ft)	21	117	29	47	104	7	105	147	19	72
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	519	2442	1067	475	2442	1069	379	470	334	491
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	0.08	0.30	0.07	0.21	0.26	0.01	0.29	0.36	0.03	0.15

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	685	110	95	615	15	105	40	120	10	30	40
Future Volume (veh/h)	40	685	110	95	615	15	105	40	120	10	30	40
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		0.98	1.00		0.98
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	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	42	721	72	100	647	10	111	42	126	11	32	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	1	1	1
Cap, veh/h	571	2481	1082	506	2481	1083	227	61	183	144	110	144
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	770	3526	1537	679	3526	1539	1324	407	1221	1226	732	961
Grp Volume(v), veh/h	42	721	72	100	647	10	111	0	168	11	0	74
Grp Sat Flow(s),veh/h/ln	770	1763	1537	679	1763	1539	1324	0	1628	1226	0	1693
Q Serve(g_s), s	1.9	6.9	1.3	5.8	6.0	0.2	7.3	0.0	8.8	0.8	0.0	3.5
Cycle Q Clear(g_c), s	7.9	6.9	1.3	12.7	6.0	0.2	10.8	0.0	8.8	9.6	0.0	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.75	1.00		0.57
Lane Grp Cap(c), veh/h	571	2481	1082	506	2481	1083	227	0	244	144	0	253
V/C Ratio(X)	0.07	0.29	0.07	0.20	0.26	0.01	0.49	0.00	0.69	0.08	0.00	0.29
Avail Cap(c_a), veh/h	571	2481	1082	506	2481	1083	409	0	468	313	0	487
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	6.3	5.0	4.1	7.3	4.8	4.0	38.8	0.0	36.3	40.8	0.0	34.0
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.9	0.3	0.0	0.6	0.0	1.3	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	3.7	0.6	1.5	3.2	0.1	4.2	0.0	6.3	0.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.5	5.3	4.3	8.2	5.1	4.0	39.4	0.0	37.6	40.9	0.0	34.3
LnGrp LOS	A	A	A	A	A	A	D		D	D		C
Approach Vol, veh/h		835			757			279			85	
Approach Delay, s/veh		5.2			5.5			38.3			35.1	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.4		20.6		69.4		20.6				
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		9.9		11.6		14.7		12.8				
Green Ext Time (p_c), s		12.7		0.2		11.4		0.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			11.4									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	10	1	10	1	255	10	1	235	1
Future Volume (vph)	1	1	1	10	1	10	1	255	10	1	235	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			1172			456	
Travel Time (s)		8.2			9.8			22.8			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	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	3	0	0	25	0	0	313	0	0	278	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	10	1	10	1	255	10	1	235	1
Future Vol, veh/h	1	1	1	10	1	10	1	255	10	1	235	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	2	2
Mvmt Flow	1	1	1	12	1	12	1	300	12	1	276	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	582	594	277	588	588	306	278	0	0	312	0	0
Stage 1	279	279	-	308	308	-	-	-	-	-	-	-
Stage 2	303	314	-	279	280	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	426	420	764	422	422	736	1285	-	-	1249	-	-
Stage 1	729	681	-	704	662	-	-	-	-	-	-	-
Stage 2	709	658	-	729	681	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	417	419	764	419	422	736	1285	-	-	1249	-	-
Mov Cap-2 Maneuver	417	419	-	419	422	-	-	-	-	-	-	-
Stage 1	729	681	-	703	661	-	-	-	-	-	-	-
Stage 2	695	657	-	726	680	-	-	-	-	-	-	-

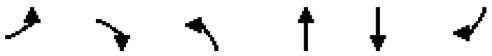
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.37	12.16	0.03	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	7	-	-	492	528	8	-	-
HCM Lane V/C Ratio	0.001	-	-	0.007	0.047	0.001	-	-
HCM Ctrl Dly (s/v)	7.8	0	-	12.4	12.2	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

APPENDIX C

SYNCHRO INTERSECTION CAPACITY ANALYSIS

Build Traffic Volumes



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	1	215	150	5
Future Volume (vph)	5	1	1	215	150	5
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			35	35	
Link Distance (ft)	358			200	135	
Travel Time (s)	9.8			3.9	2.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	245	176	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

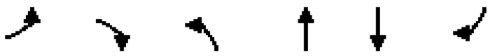
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	1	215	150	5
Future Vol, veh/h	5	1	1	215	150	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	6	1	1	244	170	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	420	173	176	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	590	870	1394	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	589	870	1394	-	-	-
Mov Cap-2 Maneuver	589	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.84	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	8	-	623	-	-
HCM Lane V/C Ratio	0.001	-	0.011	-	-
HCM Ctrl Dly (s/v)	7.6	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	1	210	150	1
Future Volume (vph)	5	1	1	210	150	1
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			35	35	
Link Distance (ft)	358			728	200	
Travel Time (s)	9.8			14.2	3.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	240	171	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

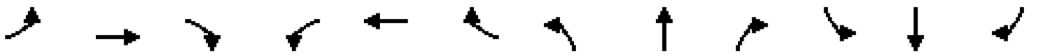
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	1	210	150	1
Future Vol, veh/h	5	1	1	210	150	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	6	1	1	239	170	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	171	172	0	-	0
Stage 1	171	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	596	873	1399	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	596	873	1399	-	-	-
Mov Cap-2 Maneuver	596	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.79	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	629	-	-
HCM Lane V/C Ratio	0.001	-	0.011	-	-
HCM Ctrl Dly (s/v)	7.6	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



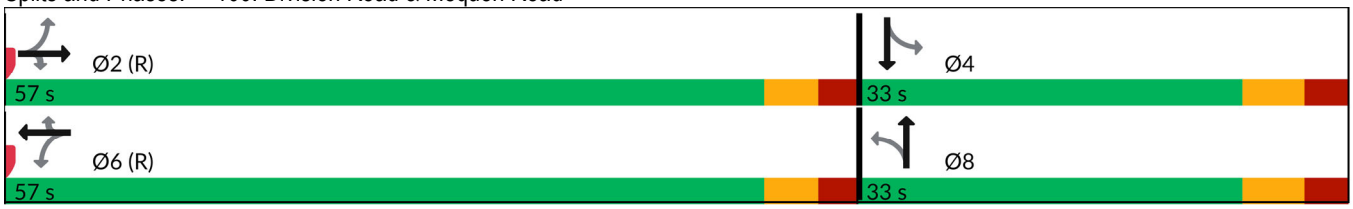
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	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		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	1%	1%	1%
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)	38	665	59	63	715	24	152	114	0	70	114	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.28	0.06	0.13	0.31	0.02	0.69	0.41		0.32	0.39	
Control Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2		34.7	35.6	

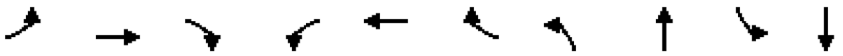
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2		34.7	35.6	
Queue Length 50th (ft)	6	67	10	11	74	4	83	59		35	58	
Queue Length 95th (ft)	19	100	24	28	108	13	115	86		59	86	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	456	2340	1024	485	2340	1024	366	468		370	487	
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	0.08	0.28	0.06	0.13	0.31	0.02	0.42	0.24		0.19	0.23	

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

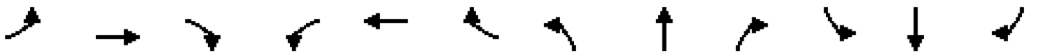
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	665	59	63	715	24	152	114	70	114
v/c Ratio	0.08	0.28	0.06	0.13	0.31	0.02	0.69	0.41	0.32	0.39
Control Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2	34.7	35.6
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)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2	34.7	35.6
Queue Length 50th (ft)	6	67	10	11	74	4	83	59	35	58
Queue Length 95th (ft)	19	100	24	28	108	13	115	86	59	86
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	456	2340	1024	485	2340	1024	366	468	370	487
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	0.08	0.28	0.06	0.13	0.31	0.02	0.42	0.24	0.19	0.23

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	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	1826	1826	1826	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	665	59	63	715	24	152	25	89	70	44	70
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	5	5	5	5	5	5	2	2	2	1	1	1
Cap, veh/h	475	2263	988	486	2263	988	262	71	254	261	130	207
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	702	3469	1514	712	3469	1514	1277	355	1265	1287	649	1032
Grp Volume(v), veh/h	38	665	59	63	715	24	152	0	114	70	0	114
Grp Sat Flow(s),veh/h/ln	702	1735	1514	712	1735	1514	1277	0	1621	1287	0	1681
Q Serve(g_s), s	2.3	7.4	1.3	3.8	8.1	0.5	10.4	0.0	5.4	4.4	0.0	5.2
Cycle Q Clear(g_c), s	10.4	7.4	1.3	11.2	8.1	0.5	15.7	0.0	5.4	9.9	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.61
Lane Grp Cap(c), veh/h	475	2263	988	486	2263	988	262	0	326	261	0	338
V/C Ratio(X)	0.08	0.29	0.06	0.13	0.32	0.02	0.58	0.00	0.35	0.27	0.00	0.34
Avail Cap(c_a), veh/h	475	2263	988	486	2263	988	373	0	466	373	0	484
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	9.1	6.7	5.7	9.1	6.8	5.5	37.5	0.0	30.9	35.2	0.0	30.8
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.6	0.4	0.0	0.8	0.0	0.2	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	4.3	0.7	1.1	4.7	0.3	5.8	0.0	3.8	2.5	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.4	7.1	5.8	9.7	7.2	5.6	38.3	0.0	31.1	35.4	0.0	31.0
LnGrp LOS	A	A	A	A	A	A	D		C	D		C
Approach Vol, veh/h		762			802			266			184	
Approach Delay, s/veh		7.1			7.4			35.2			32.7	
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		12.4		11.9		13.2		17.7				
Green Ext Time (p_c), s		11.2		0.4		12.2		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			13.2									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	1	1	1	1	210	10	5	155	1
Future Volume (vph)	1	1	1	1	1	1	1	210	10	5	155	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			135			456	
Travel Time (s)		8.2			9.8			2.6			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	3	0	0	251	0	0	183	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

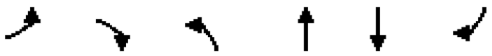
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	1	1	1	1	1	1	210	10	5	155	1
Future Vol, veh/h	1	1	1	1	1	1	1	210	10	5	155	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1	3	3	3	4	4	4
Mvmt Flow	1	1	1	1	1	1	1	239	11	6	176	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	430	440	177	435	435	244	177	0	0	250	0	0
Stage 1	188	188	-	247	247	-	-	-	-	-	-	-
Stage 2	241	252	-	188	189	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	538	512	869	533	516	797	1393	-	-	1304	-	-
Stage 1	816	746	-	759	704	-	-	-	-	-	-	-
Stage 2	764	700	-	816	746	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	533	509	869	528	513	797	1393	-	-	1304	-	-
Mov Cap-2 Maneuver	533	509	-	528	513	-	-	-	-	-	-	-
Stage 1	812	743	-	759	703	-	-	-	-	-	-	-
Stage 2	761	699	-	810	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.02	11.15	0.03	0.24
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	601	589	56	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.006	0.004	-	-
HCM Ctrl Dly (s/v)	7.6	0	-	11	11.2	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	1	285	265	5
Future Volume (vph)	5	1	1	285	265	5
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			35	35	
Link Distance (ft)	358			200	135	
Travel Time (s)	8.1			3.9	2.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
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)	7	0	0	336	318	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

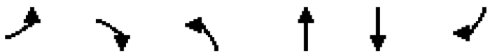
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	1	285	265	5
Future Vol, veh/h	5	1	1	285	265	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	1	335	312	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	652	315	318	0	-	0
Stage 1	315	-	-	-	-	-
Stage 2	338	-	-	-	-	-
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	432	726	1242	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	432	726	1242	-	-	-
Mov Cap-2 Maneuver	432	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.89	0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	463	-	-
HCM Lane V/C Ratio	0.001	-	0.015	-	-
HCM Ctrl Dly (s/v)	7.9	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	1	1	285	260	5
Future Volume (vph)	1	1	1	285	260	5
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			35	35	
Link Distance (ft)	358			833	200	
Travel Time (s)	8.1			16.2	3.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
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)	2	0	0	336	312	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

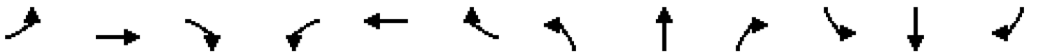
Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	285	260	5
Future Vol, veh/h	1	1	1	285	260	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	1	335	306	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	646	309	312	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	338	-	-	-	-	-
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	436	731	1249	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	435	731	1249	-	-	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.63	0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	546	-	-
HCM Lane V/C Ratio	0.001	-	0.004	-	-
HCM Ctrl Dly (s/v)	7.9	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



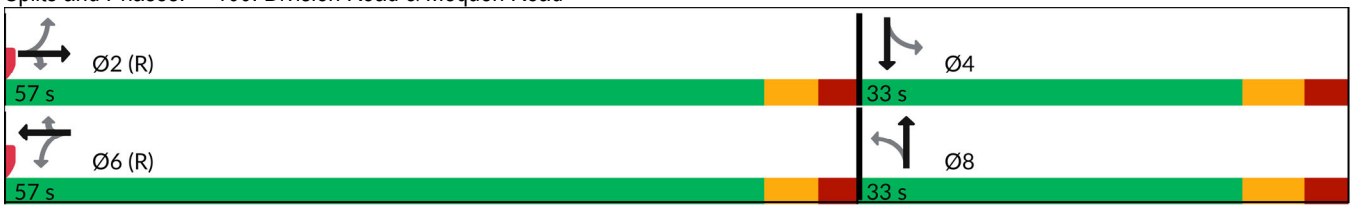
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			3			1			1			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	900	78	105	800	39	121	184	0	47	100	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.15	0.37	0.07	0.28	0.33	0.04	0.58	0.68		0.27	0.36	
Control Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7		35.1	35.8	

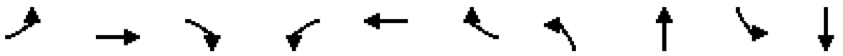
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7		35.1	35.8	
Queue Length 50th (ft)	11	95	12	20	81	6	65	100		24	51	
Queue Length 95th (ft)	32	159	33	56	138	19	112	157		52	91	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	427	2416	1056	377	2416	1057	370	476		312	490	
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	0.15	0.37	0.07	0.28	0.33	0.04	0.33	0.39		0.15	0.20	

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: 45
Control Type: Actuated-Coordinated

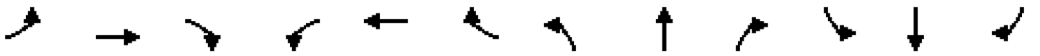
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	900	78	105	800	39	121	184	47	100
v/c Ratio	0.15	0.37	0.07	0.28	0.33	0.04	0.58	0.68	0.27	0.36
Control Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7	35.1	35.8
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)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7	35.1	35.8
Queue Length 50th (ft)	11	95	12	20	81	6	65	100	24	51
Queue Length 95th (ft)	32	159	33	56	138	19	112	157	52	91
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	427	2416	1056	377	2416	1057	370	476	312	490
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	0.15	0.37	0.07	0.28	0.33	0.04	0.33	0.39	0.15	0.20

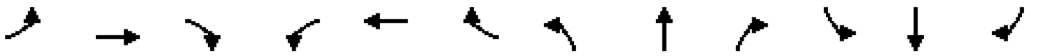
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	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		0.98
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	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	63	900	78	105	800	39	121	58	126	47	42	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	1	1	1
Cap, veh/h	462	2400	1047	406	2400	1048	236	90	195	163	122	169
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	650	3526	1537	570	3526	1539	1293	519	1128	1208	710	980
Grp Volume(v), veh/h	63	900	78	105	800	39	121	0	184	47	0	100
Grp Sat Flow(s),veh/h/ln	650	1763	1537	570	1763	1539	1293	0	1647	1208	0	1690
Q Serve(g_s), s	4.0	9.8	1.5	8.7	8.4	0.7	8.2	0.0	9.4	3.4	0.0	4.7
Cycle Q Clear(g_c), s	12.4	9.8	1.5	18.6	8.4	0.7	12.9	0.0	9.4	12.8	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.58
Lane Grp Cap(c), veh/h	462	2400	1047	406	2400	1048	236	0	284	163	0	292
V/C Ratio(X)	0.14	0.37	0.07	0.26	0.33	0.04	0.51	0.00	0.65	0.29	0.00	0.34
Avail Cap(c_a), veh/h	462	2400	1047	406	2400	1048	385	0	474	302	0	486
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	8.5	6.2	4.8	10.1	5.9	4.7	38.4	0.0	34.7	40.6	0.0	32.7
Incr Delay (d2), s/veh	0.6	0.4	0.1	1.5	0.4	0.1	0.6	0.0	0.9	0.4	0.0	0.3
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	1.0	5.6	0.8	2.1	4.8	0.4	4.6	0.0	6.7	1.8	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.1	6.6	5.0	11.7	6.3	4.8	39.0	0.0	35.6	41.0	0.0	33.0
LnGrp LOS	A	A	A	B	A	A	D		D	D		C
Approach Vol, veh/h		1041			944			305			147	
Approach Delay, s/veh		6.6			6.8			37.0			35.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.4		22.6		67.4		22.6				
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		14.4		14.8		20.6		14.9				
Green Ext Time (p_c), s		16.3		0.3		13.8		0.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.3									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	10	1	10	1	280	10	1	260	1
Future Volume (vph)	1	1	1	10	1	10	1	280	10	1	260	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			135			456	
Travel Time (s)		8.2			9.8			2.6			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	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	3	0	0	25	0	0	342	0	0	308	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

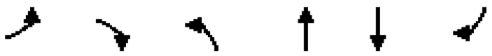
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	1	1	10	1	10	1	280	10	1	260	1
Future Vol, veh/h	1	1	1	10	1	10	1	280	10	1	260	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	2	2
Mvmt Flow	1	1	1	12	1	12	1	329	12	1	306	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	641	652	306	646	647	335	307	0	0	341	0	0
Stage 1	309	309	-	338	338	-	-	-	-	-	-	-
Stage 2	332	344	-	309	309	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	389	388	736	386	391	709	1254	-	-	1218	-	-
Stage 1	703	661	-	679	643	-	-	-	-	-	-	-
Stage 2	683	639	-	703	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	380	387	736	383	390	709	1254	-	-	1218	-	-
Mov Cap-2 Maneuver	380	387	-	383	390	-	-	-	-	-	-	-
Stage 1	703	661	-	678	642	-	-	-	-	-	-	-
Stage 2	670	638	-	700	660	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.94	12.72	0.03	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	6	-	-	457	491	7	-	-
HCM Lane V/C Ratio	0.001	-	-	0.008	0.05	0.001	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	12.9	12.7	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	1	0	220	150	5
Future Volume (vph)	0	1	0	220	150	5
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	1	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			35	35	
Link Distance (ft)	358			200	135	
Travel Time (s)	9.8			3.9	2.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
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	1	0	250	176	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

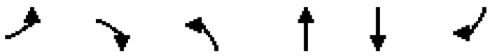
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	220	150	5
Future Vol, veh/h	0	1	0	220	150	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	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	0	1	0	250	170	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	173	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	870	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	870	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.14	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	870	-	-
HCM Lane V/C Ratio	-	0.001	-	-
HCM Ctrl Dly (s/v)	-	9.1	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	10	1	1	210	150	1
Future Volume (vph)	10	1	1	210	150	1
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	25			35	35	
Link Distance (ft)	358			728	200	
Travel Time (s)	9.8			14.2	3.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	240	171	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

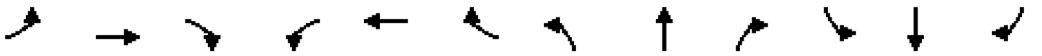
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	1	1	210	150	1
Future Vol, veh/h	10	1	1	210	150	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	3	3	4	4
Mvmt Flow	11	1	1	239	170	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	171	172	0	-	0
Stage 1	171	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	596	873	1399	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	596	873	1399	-	-	-
Mov Cap-2 Maneuver	596	-	-	-	-	-
Stage 1	858	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	10.99	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	613	-	-
HCM Lane V/C Ratio	0.001	-	0.02	-	-
HCM Ctrl Dly (s/v)	7.6	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



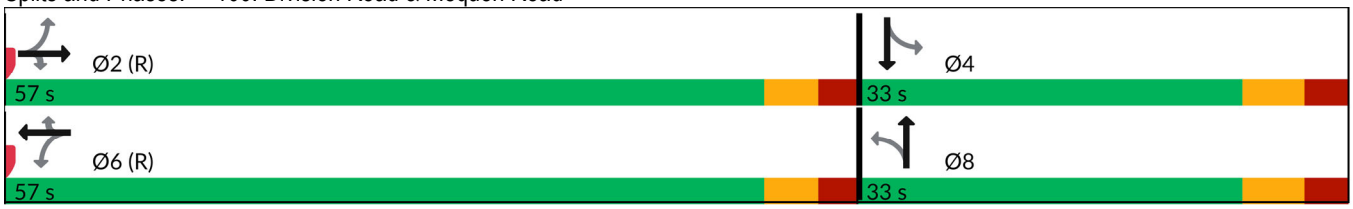
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	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		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	1%	1%	1%
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)	38	665	59	63	715	24	152	114	0	70	114	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.08	0.28	0.06	0.13	0.31	0.02	0.69	0.41		0.32	0.39	
Control Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2		34.7	35.6	

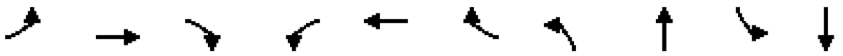
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2		34.7	35.6	
Queue Length 50th (ft)	6	67	10	11	74	4	83	59		35	58	
Queue Length 95th (ft)	19	100	24	28	108	13	115	86		59	86	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	456	2340	1024	485	2340	1024	366	468		370	487	
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	0.08	0.28	0.06	0.13	0.31	0.02	0.42	0.24		0.19	0.23	

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

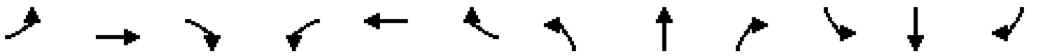
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	665	59	63	715	24	152	114	70	114
v/c Ratio	0.08	0.28	0.06	0.13	0.31	0.02	0.69	0.41	0.32	0.39
Control Delay (s/veh)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2	34.7	35.6
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)	6.7	6.6	6.1	7.1	6.8	6.1	50.8	36.2	34.7	35.6
Queue Length 50th (ft)	6	67	10	11	74	4	83	59	35	58
Queue Length 95th (ft)	19	100	24	28	108	13	115	86	59	86
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	456	2340	1024	485	2340	1024	366	468	370	487
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	0.08	0.28	0.06	0.13	0.31	0.02	0.42	0.24	0.19	0.23

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	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	1826	1826	1826	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	665	59	63	715	24	152	25	89	70	44	70
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	5	5	5	5	5	5	2	2	2	1	1	1
Cap, veh/h	475	2263	988	486	2263	988	262	71	254	261	130	207
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	702	3469	1514	712	3469	1514	1277	355	1265	1287	649	1032
Grp Volume(v), veh/h	38	665	59	63	715	24	152	0	114	70	0	114
Grp Sat Flow(s),veh/h/ln	702	1735	1514	712	1735	1514	1277	0	1621	1287	0	1681
Q Serve(g_s), s	2.3	7.4	1.3	3.8	8.1	0.5	10.4	0.0	5.4	4.4	0.0	5.2
Cycle Q Clear(g_c), s	10.4	7.4	1.3	11.2	8.1	0.5	15.7	0.0	5.4	9.9	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.61
Lane Grp Cap(c), veh/h	475	2263	988	486	2263	988	262	0	326	261	0	338
V/C Ratio(X)	0.08	0.29	0.06	0.13	0.32	0.02	0.58	0.00	0.35	0.27	0.00	0.34
Avail Cap(c_a), veh/h	475	2263	988	486	2263	988	373	0	466	373	0	484
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	9.1	6.7	5.7	9.1	6.8	5.5	37.5	0.0	30.9	35.2	0.0	30.8
Incr Delay (d2), s/veh	0.3	0.3	0.1	0.6	0.4	0.0	0.8	0.0	0.2	0.2	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	4.3	0.7	1.1	4.7	0.3	5.8	0.0	3.8	2.5	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.4	7.1	5.8	9.7	7.2	5.6	38.3	0.0	31.1	35.4	0.0	31.0
LnGrp LOS	A	A	A	A	A	A	D		C	D		C
Approach Vol, veh/h		762			802			266			184	
Approach Delay, s/veh		7.1			7.4			35.2			32.7	
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		12.4		11.9		13.2		17.7				
Green Ext Time (p_c), s		11.2		0.4		12.2		0.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			13.2									
HCM 7th LOS			B									

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	1	1	1	1	210	10	5	155	1
Future Volume (vph)	1	1	1	1	1	1	1	210	10	5	155	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			135			456	
Travel Time (s)		8.2			9.8			2.6			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	3%	3%	3%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	3	0	0	251	0	0	183	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

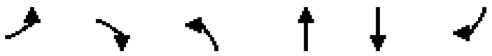
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	1	1	1	1	210	10	5	155	1
Future Vol, veh/h	1	1	1	1	1	1	1	210	10	5	155	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	1	1	1	1	1	3	3	3	4	4	4
Mvmt Flow	1	1	1	1	1	1	1	239	11	6	176	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	430	440	177	435	435	244	177	0	0	250	0	0
Stage 1	188	188	-	247	247	-	-	-	-	-	-	-
Stage 2	241	252	-	188	189	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.13	-	-	4.14	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.227	-	-	2.236	-	-
Pot Cap-1 Maneuver	538	512	869	533	516	797	1393	-	-	1304	-	-
Stage 1	816	746	-	759	704	-	-	-	-	-	-	-
Stage 2	764	700	-	816	746	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	533	509	869	528	513	797	1393	-	-	1304	-	-
Mov Cap-2 Maneuver	533	509	-	528	513	-	-	-	-	-	-	-
Stage 1	812	743	-	759	703	-	-	-	-	-	-	-
Stage 2	761	699	-	810	742	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	11.02	11.15	0.03	0.24
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	601	589	56	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.006	0.004	-	-
HCM Ctrl Dly (s/v)	7.6	0	-	11	11.2	7.8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	1	0	290	265	5
Future Volume (vph)	0	1	0	290	265	5
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	1	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			35	35	
Link Distance (ft)	358			200	135	
Travel Time (s)	8.1			3.9	2.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
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	1	0	341	318	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

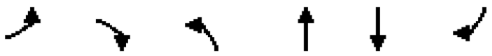
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	290	265	5
Future Vol, veh/h	0	1	0	290	265	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	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	341	312	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	315	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	726	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	726	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.97	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	726	-	-
HCM Lane V/C Ratio	-	0.002	-	-
HCM Ctrl Dly (s/v)	-	10	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	1	1	285	260	5
Future Volume (vph)	5	1	1	285	260	5
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	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			35	35	
Link Distance (ft)	358			833	200	
Travel Time (s)	8.1			16.2	3.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
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)	7	0	0	336	312	0
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

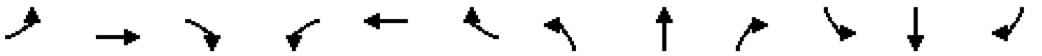
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1	1	285	260	5
Future Vol, veh/h	5	1	1	285	260	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	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	1	1	335	306	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	646	309	312	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	338	-	-	-	-	-
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	436	731	1249	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	435	731	1249	-	-	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	723	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.83	0.03	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	467	-	-
HCM Lane V/C Ratio	0.001	-	0.015	-	-
HCM Ctrl Dly (s/v)	7.9	0	12.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

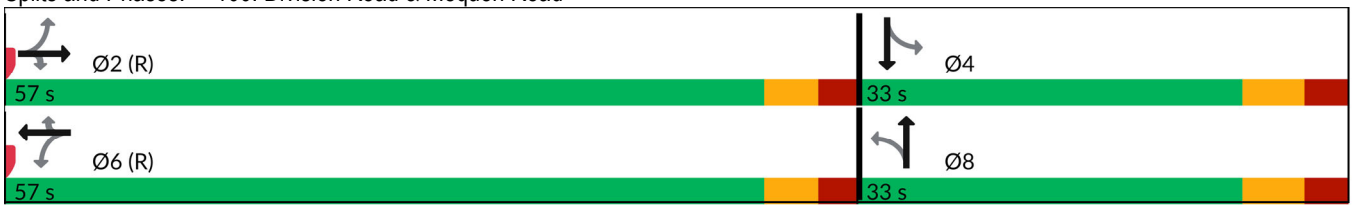


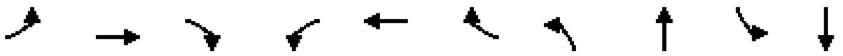
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			456			774	
Travel Time (s)		21.0			25.4			8.9			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			3			1			1			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	900	78	105	800	39	121	184	0	47	100	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	6	6	6	8	8		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	
Minimum Split (s)	21.1	21.1	21.1	21.1	21.1	21.1	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	
Total Split (%)	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	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	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	3.6	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	
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	
Minimum Gap (s)	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	
Time To Reduce (s)	15.0	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	C-Max	None	None		None	None	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.15	0.37	0.07	0.28	0.33	0.04	0.58	0.68		0.27	0.36	
Control Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7		35.1	35.8	

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)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7		35.1	35.8	
Queue Length 50th (ft)	11	95	12	20	81	6	65	100		24	51	
Queue Length 95th (ft)	32	159	33	56	138	19	112	157		52	91	
Internal Link Dist (ft)		997			1222			376			694	
Turn Bay Length (ft)	100		100	225		100	75					
Base Capacity (vph)	427	2416	1056	377	2416	1057	370	476		312	490	
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	0.15	0.37	0.07	0.28	0.33	0.04	0.33	0.39		0.15	0.20	

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: 45	
Control Type: Actuated-Coordinated	

Splits and Phases: 100: Division Road & Mequon Road





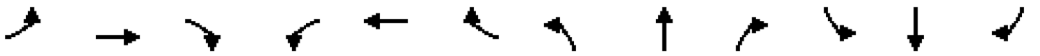
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	900	78	105	800	39	121	184	47	100
v/c Ratio	0.15	0.37	0.07	0.28	0.33	0.04	0.58	0.68	0.27	0.36
Control Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7	35.1	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.9	6.9	5.7	8.8	6.5	5.6	44.9	47.7	35.1	35.8
Queue Length 50th (ft)	11	95	12	20	81	6	65	100	24	51
Queue Length 95th (ft)	32	159	33	56	138	19	112	157	52	91
Internal Link Dist (ft)		997			1222			376		694
Turn Bay Length (ft)	100		100	225		100	75			
Base Capacity (vph)	427	2416	1056	377	2416	1057	370	476	312	490
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	0.15	0.37	0.07	0.28	0.33	0.04	0.33	0.39	0.15	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	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		0.98
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	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	63	900	78	105	800	39	121	58	126	47	42	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	1	1	1
Cap, veh/h	462	2400	1047	406	2400	1048	236	90	195	163	122	169
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	650	3526	1537	570	3526	1539	1293	519	1128	1208	710	980
Grp Volume(v), veh/h	63	900	78	105	800	39	121	0	184	47	0	100
Grp Sat Flow(s),veh/h/ln	650	1763	1537	570	1763	1539	1293	0	1647	1208	0	1690
Q Serve(g_s), s	4.0	9.8	1.5	8.7	8.4	0.7	8.2	0.0	9.4	3.4	0.0	4.7
Cycle Q Clear(g_c), s	12.4	9.8	1.5	18.6	8.4	0.7	12.9	0.0	9.4	12.8	0.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.58
Lane Grp Cap(c), veh/h	462	2400	1047	406	2400	1048	236	0	284	163	0	292
V/C Ratio(X)	0.14	0.37	0.07	0.26	0.33	0.04	0.51	0.00	0.65	0.29	0.00	0.34
Avail Cap(c_a), veh/h	462	2400	1047	406	2400	1048	385	0	474	302	0	486
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	8.5	6.2	4.8	10.1	5.9	4.7	38.4	0.0	34.7	40.6	0.0	32.7
Incr Delay (d2), s/veh	0.6	0.4	0.1	1.5	0.4	0.1	0.6	0.0	0.9	0.4	0.0	0.3
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	1.0	5.6	0.8	2.1	4.8	0.4	4.6	0.0	6.7	1.8	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.1	6.6	5.0	11.7	6.3	4.8	39.0	0.0	35.6	41.0	0.0	33.0
LnGrp LOS	A	A	A	B	A	A	D		D	D		C
Approach Vol, veh/h		1041			944			305			147	
Approach Delay, s/veh		6.6			6.8			37.0			35.6	
Approach LOS		A			A			D			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.4		22.6		67.4		22.6				
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		14.4		14.8		20.6		14.9				
Green Ext Time (p_c), s		16.3		0.3		13.8		0.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			12.3									
HCM 7th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	1	10	1	10	1	280	10	1	260	1
Future Volume (vph)	1	1	1	10	1	10	1	280	10	1	260	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		359			429			135			456	
Travel Time (s)		8.2			9.8			2.6			8.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	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	3	0	0	25	0	0	342	0	0	308	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

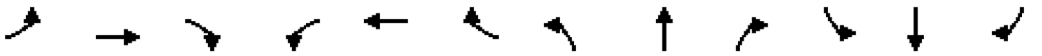
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	1	10	1	10	1	280	10	1	260	1
Future Vol, veh/h	1	1	1	10	1	10	1	280	10	1	260	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	2	2
Mvmt Flow	1	1	1	12	1	12	1	329	12	1	306	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	641	652	306	646	647	335	307	0	0	341	0	0
Stage 1	309	309	-	338	338	-	-	-	-	-	-	-
Stage 2	332	344	-	309	309	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.11	6.51	6.21	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.509	4.009	3.309	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	389	388	736	386	391	709	1254	-	-	1218	-	-
Stage 1	703	661	-	679	643	-	-	-	-	-	-	-
Stage 2	683	639	-	703	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	380	387	736	383	390	709	1254	-	-	1218	-	-
Mov Cap-2 Maneuver	380	387	-	383	390	-	-	-	-	-	-	-
Stage 1	703	661	-	678	642	-	-	-	-	-	-	-
Stage 2	670	638	-	700	660	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	12.94	12.72	0.03	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	6	-	-	457	491	7	-	-
HCM Lane V/C Ratio	0.001	-	-	0.008	0.05	0.001	-	-
HCM Ctrl Dly (s/v)	7.9	0	-	12.9	12.7	8	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-



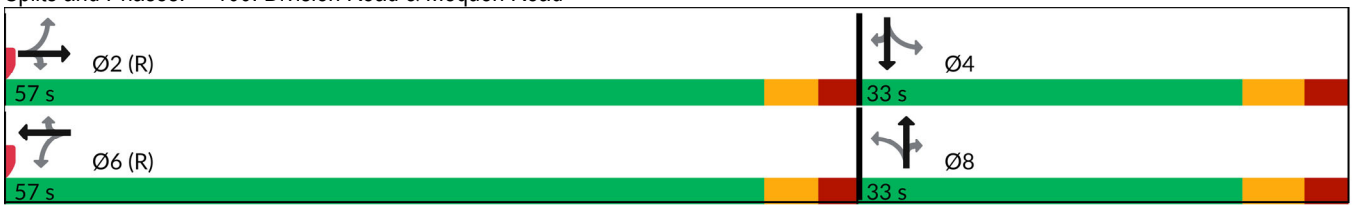
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (vph)	30	525	75	50	565	30	120	20	70	55	35	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	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		0
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			433			774	
Travel Time (s)		21.0			25.4			8.4			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			1			1			1			1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	1%	1%	1%
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)	38	665	59	63	715	24	0	177	55	0	114	43
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	2	2	2	6	6	6	8	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	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	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	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%	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	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	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	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	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	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	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	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.09	0.29	0.06	0.13	0.31	0.02		0.74	0.19		0.47	0.14
Control Delay (s/veh)	7.7	7.5	7.0	8.1	7.6	6.9		51.8	29.7		37.5	28.9

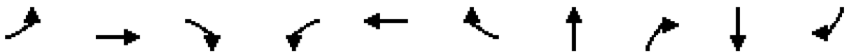
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	7.7	7.5	7.0	8.1	7.6	6.9		51.8	29.7		37.5	28.9
Queue Length 50th (ft)	7	73	10	12	80	4		96	27		58	21
Queue Length 95th (ft)	20	108	26	30	117	14		128	46		86	39
Internal Link Dist (ft)		997			1222			353			694	
Turn Bay Length (ft)	100		100	225		100						
Base Capacity (vph)	441	2280	998	468	2280	998		363	449		366	453
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	0.09	0.29	0.06	0.13	0.31	0.02		0.49	0.12		0.31	0.09

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

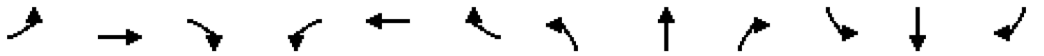
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	38	665	59	63	715	24	177	55	114	43
v/c Ratio	0.09	0.29	0.06	0.13	0.31	0.02	0.74	0.19	0.47	0.14
Control Delay (s/veh)	7.7	7.5	7.0	8.1	7.6	6.9	51.8	29.7	37.5	28.9
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)	7.7	7.5	7.0	8.1	7.6	6.9	51.8	29.7	37.5	28.9
Queue Length 50th (ft)	7	73	10	12	80	4	96	27	58	21
Queue Length 95th (ft)	20	108	26	30	117	14	128	46	86	39
Internal Link Dist (ft)		997			1222		353		694	
Turn Bay Length (ft)	100		100	225		100				
Base Capacity (vph)	441	2280	998	468	2280	998	363	449	366	453
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	0.09	0.29	0.06	0.13	0.31	0.02	0.49	0.12	0.31	0.09

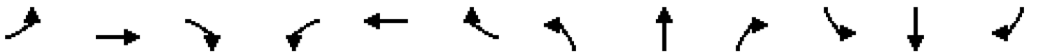
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	55
Future Volume (veh/h)	30	525	75	50	565	30	120	20	70	55	35	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	1826	1826	1826	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	665	59	63	715	24	152	25	55	70	44	43
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Percent Heavy Veh, %	5	5	5	5	5	5	2	2	2	1	1	1
Cap, veh/h	398	1962	856	409	1962	856	74	7	450	65	26	453
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	702	3469	1514	712	3469	1514	0	24	1563	0	92	1576
Grp Volume(v), veh/h	38	665	59	63	715	24	177	0	55	114	0	43
Grp Sat Flow(s),veh/h/ln	702	1735	1514	712	1735	1514	24	0	1563	92	0	1576
Q Serve(g_s), s	2.8	9.3	1.6	4.7	10.2	0.6	0.0	0.0	2.3	0.0	0.0	1.8
Cycle Q Clear(g_c), s	13.0	9.3	1.6	14.0	10.2	0.6	25.9	0.0	2.3	25.9	0.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	0.86		1.00	0.61		1.00
Lane Grp Cap(c), veh/h	398	1962	856	409	1962	856	81	0	450	91	0	453
V/C Ratio(X)	0.10	0.34	0.07	0.15	0.36	0.03	2.18	0.00	0.12	1.25	0.00	0.09
Avail Cap(c_a), veh/h	398	1962	856	409	1962	856	81	0	450	91	0	453
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	14.2	10.5	8.8	14.3	10.7	8.6	42.8	0.0	23.7	37.7	0.0	23.5
Incr Delay (d2), s/veh	0.5	0.5	0.2	0.8	0.5	0.1	569.3	0.0	0.0	177.4	0.0	0.0
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	0.9	6.0	0.9	1.4	6.5	0.4	26.3	0.0	1.5	11.7	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.7	11.0	9.0	15.1	11.2	8.7	612.1	0.0	23.7	215.1	0.0	23.5
LnGrp LOS	B	B	A	B	B	A	F		C	F		C
Approach Vol, veh/h		762			802			232			157	
Approach Delay, s/veh		11.0			11.4			472.6			162.6	
Approach LOS		B			B			F			F	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		33.0		57.0		33.0				
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		15.0		27.9		16.0		27.9				
Green Ext Time (p_c), s		11.0		0.0		11.9		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			78.2									
HCM 7th LOS			E									

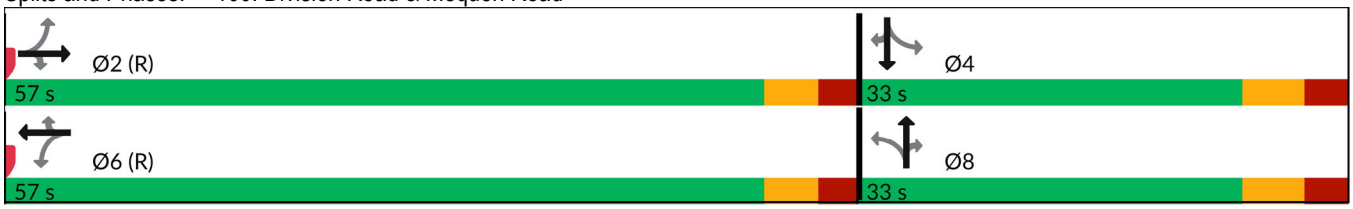


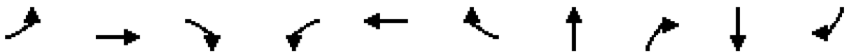
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (vph)	60	855	120	100	760	60	115	55	120	45	40	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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		0
Storage Lanes	1		1	1		1	0		1	0		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			35			25	
Link Distance (ft)		1077			1302			433			774	
Travel Time (s)		21.0			25.4			8.4			21.1	
Confl. Peds. (#/hr)	1		1	1		1	1		1	1		1
Confl. Bikes (#/hr)			3			1			1			2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	62%	100%	100%	62%	100%	100%	62%	100%	100%	62%
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	900	78	105	800	39	0	179	78	0	89	36
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	2	2	2	6	6	6	8	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	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	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	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%	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	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	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	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	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	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	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	0.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.15	0.38	0.08	0.29	0.34	0.04		0.72	0.28		0.38	0.13
Control Delay (s/veh)	7.9	7.7	6.5	9.9	7.3	6.4		50.3	32.5		35.6	29.5

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)	7.9	7.7	6.5	9.9	7.3	6.4		50.3	32.5		35.6	29.5
Queue Length 50th (ft)	11	103	13	21	88	7		97	39		45	17
Queue Length 95th (ft)	35	174	36	62	151	21		153	72		82	40
Internal Link Dist (ft)		997			1222			353			694	
Turn Bay Length (ft)	100		100	225		100						
Base Capacity (vph)	413	2359	1031	364	2359	1032		397	449		374	453
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	0.15	0.38	0.08	0.29	0.34	0.04		0.45	0.17		0.24	0.08

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: 45	
Control Type: Actuated-Coordinated	

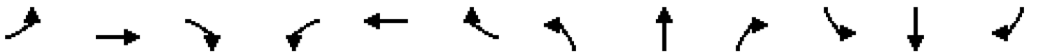
Splits and Phases: 100: Division Road & Mequon Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	63	900	78	105	800	39	179	78	89	36
v/c Ratio	0.15	0.38	0.08	0.29	0.34	0.04	0.72	0.28	0.38	0.13
Control Delay (s/veh)	7.9	7.7	6.5	9.9	7.3	6.4	50.3	32.5	35.6	29.5
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)	7.9	7.7	6.5	9.9	7.3	6.4	50.3	32.5	35.6	29.5
Queue Length 50th (ft)	11	103	13	21	88	7	97	39	45	17
Queue Length 95th (ft)	35	174	36	62	151	21	153	72	82	40
Internal Link Dist (ft)		997			1222		353		694	
Turn Bay Length (ft)	100		100	225		100				
Base Capacity (vph)	413	2359	1031	364	2359	1032	397	449	374	453
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	0.15	0.38	0.08	0.29	0.34	0.04	0.45	0.17	0.24	0.08

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	55
Future Volume (veh/h)	60	855	120	100	760	60	115	55	120	45	40	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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	63	900	78	105	800	39	121	58	78	47	42	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	1	1	1
Cap, veh/h	365	1994	869	318	1994	870	67	20	450	61	37	453
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	650	3526	1537	570	3526	1539	0	69	1563	0	130	1574
Grp Volume(v), veh/h	63	900	78	105	800	39	179	0	78	89	0	36
Grp Sat Flow(s),veh/h/ln	650	1763	1537	570	1763	1539	69	0	1563	130	0	1574
Q Serve(g_s), s	5.4	13.4	2.1	11.8	11.5	1.0	0.0	0.0	3.4	0.0	0.0	1.5
Cycle Q Clear(g_c), s	16.9	13.4	2.1	25.2	11.5	1.0	25.9	0.0	3.4	25.9	0.0	1.5
Prop In Lane	1.00		1.00	1.00		1.00	0.68		1.00	0.53		1.00
Lane Grp Cap(c), veh/h	365	1994	869	318	1994	870	87	0	450	99	0	453
V/C Ratio(X)	0.17	0.45	0.09	0.33	0.40	0.04	2.06	0.00	0.17	0.90	0.00	0.08
Avail Cap(c_a), veh/h	365	1994	869	318	1994	870	87	0	450	99	0	453
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	15.7	11.4	8.9	18.8	11.0	8.7	39.2	0.0	24.0	34.5	0.0	23.4
Incr Delay (d2), s/veh	1.0	0.7	0.2	2.8	0.6	0.1	513.6	0.0	0.1	59.3	0.0	0.0
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	1.6	8.5	1.2	3.1	7.5	0.6	25.8	0.0	2.2	6.5	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.8	12.1	9.2	21.5	11.6	8.8	552.8	0.0	24.1	93.7	0.0	23.4
LnGrp LOS	B	B	A	C	B	A	F		C	F		C
Approach Vol, veh/h		1041			944			257			125	
Approach Delay, s/veh		12.2			12.6			392.3			73.5	
Approach LOS		B			B			F			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.0		33.0		57.0		33.0				
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		18.9		27.9		27.2		27.9				
Green Ext Time (p_c), s		15.3		0.0		12.1		0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			56.9									
HCM 7th LOS			E									

TECHNICAL MEMORANDUM

DATE: November 26, 2025

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

SUBJECT: **The Carillon at Germantown Residential Development Sight Distance Analysis Village of Germantown, WI**

PURPOSE

This memo documents the intersection and stopping sight distance analysis completed for the proposed The Carillon at Germantown development's north and south site driveways to Division Road in Germantown, Wisconsin. The North Site Driveway is planned with right-in/right-out only turns to Division Road and the South Site Driveway is planned with full-access turns to Division Road.

SIGHT DISTANCE EVALUATION

Both intersection and stopping sight distance were evaluated at The Carillon site driveways to Division Road. Sight distances were calculated in accordance with the latest edition of the American Association of State Highway Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets. Sight distance compliance was evaluated using photographs representing driver visibility to objects/targets in the field.

Sight distance requirements were calculated using the roadway design speed of 40 mph (five mph over the posted speed limit), geometry (one through lane in each direction), and design vehicle (passenger car and single-unit truck). Sight distance calculations for The Carillon North Site Driveway are in Appendix A and sight distance calculations for the South Site Driveway are in Appendix B.

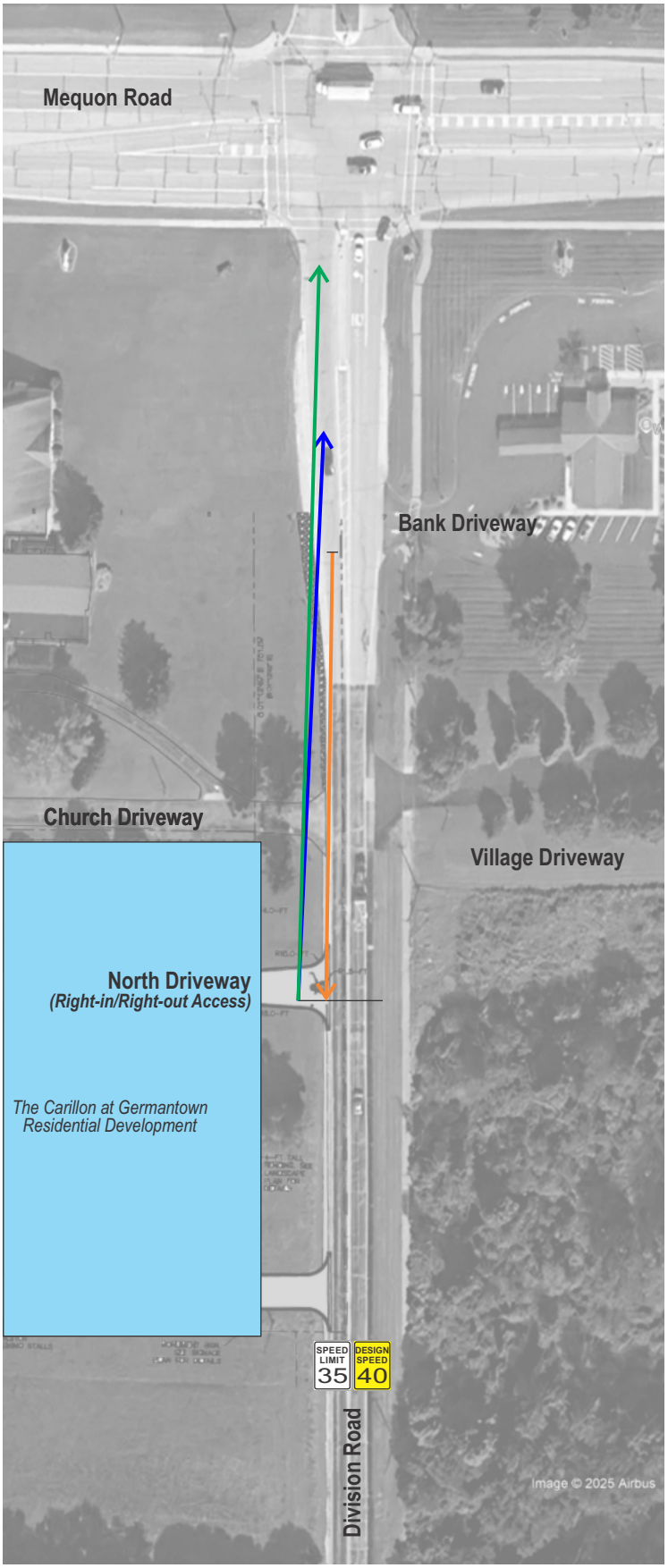
For intersection sight distance (ISD) evaluations, TADI took field photos from the site driveway locations, 14.5 feet from the edge of Division Road travel lanes at eye heights of 3.5 feet (representing the eye height of a person in a passenger car) and 7.6 feet (representing the eye height of a person in an SU truck). Photos were taken of an upstream 3.5-foot target ("object") on Division Road, representing an approaching vehicle. Photos to the left of the site driveways represent the ISD for a vehicle making a right-turn exit to Division Road and photos to the right of the site driveways represent the ISD for a vehicle making a left-turn exit.

For stopping sight distance (SSD) evaluations, TADI took field photos from the north and southbound travel lanes on Division Road to a 2.0-foot target positioned at each site driveway. The stopping sight distance (SSD) photos were taken at a 3.5-foot eye height.

ISD and SSD photos for the site driveways are presented on Exhibits 1-3. As shown, AASHTO ISD and SSD requirements are met for both passenger cars and single-unit trucks at both site driveways.

CONCLUSIONS

There is adequate visibility to meet AASHTO ISD and SSD requirements for traffic turning at The Carillon of Germantown's north and south site driveways to Division Road.



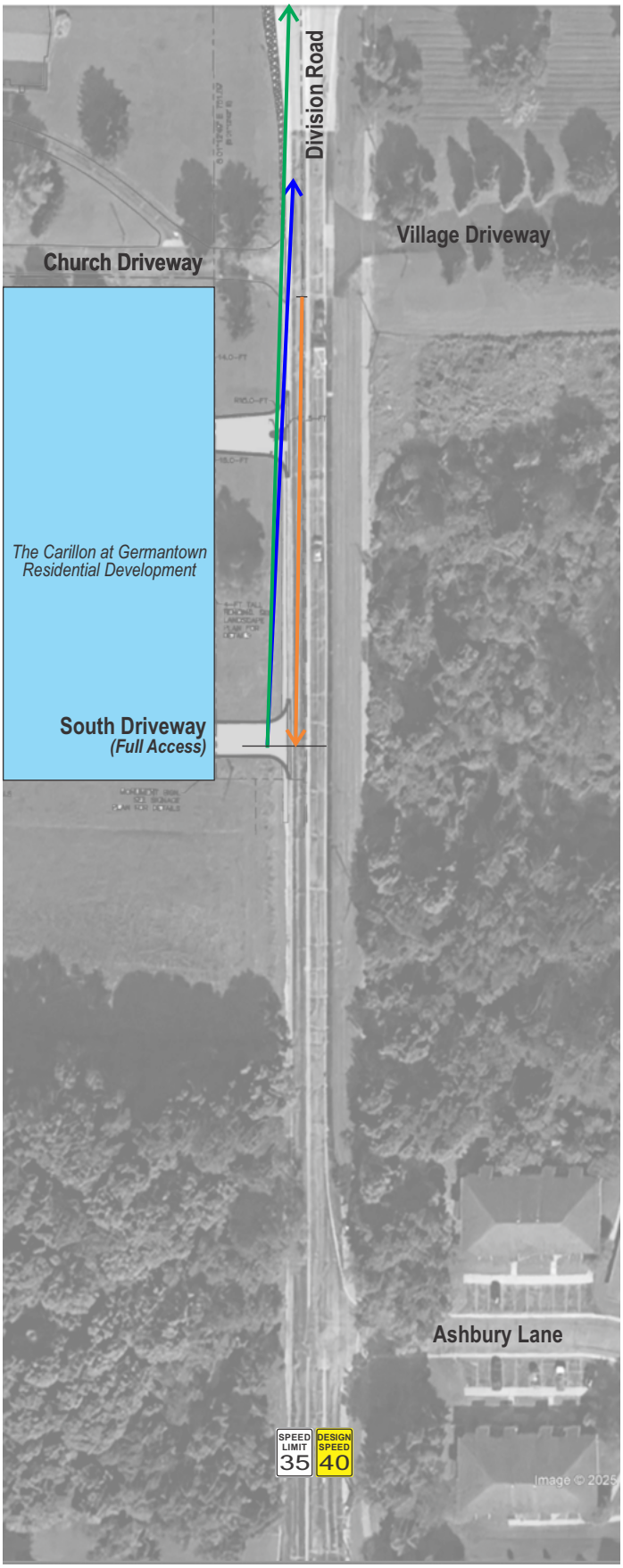
LEGEND

- Passenger Car (PC) Intersection Sight Distance
- Single-Unit (SU) Truck Intersection Sight Distance
- All Vehicles Stopping Sight Distance

TRAFFIC ANALYSIS & DESIGN, INC.
3547: 11-26-25

N
NOT TO SCALE

EXHIBIT 1
THE CARILLON NORTH SITE DRIVEWAY
INTERSECTION SIGHT DISTANCE (RIGHT TURN, LOOKING LEFT) & SOUTHBOUND STOPPING SIGHT DISTANCE
THE CARILLON SIGHT DISTANCE ANALYSIS - GERMANTOWN, WISCONSIN



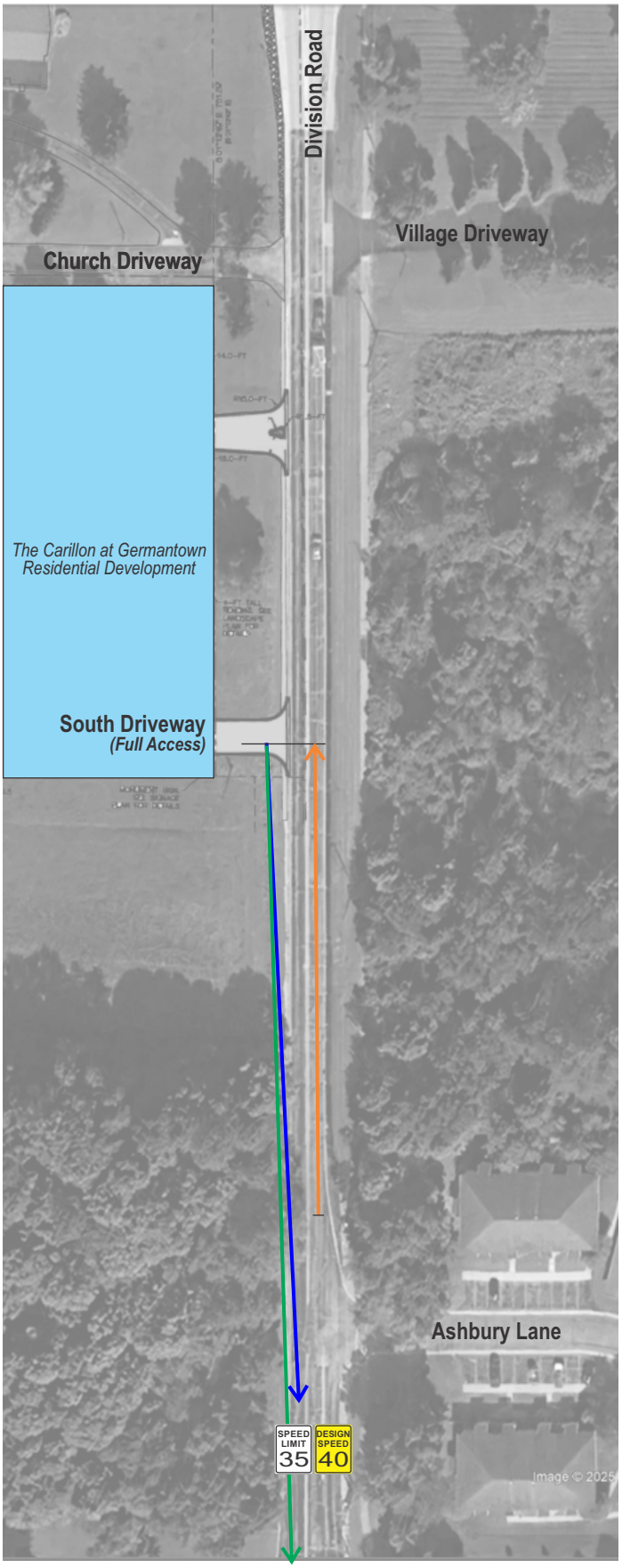
LEGEND

- Passenger Car (PC) Intersection Sight Distance
- Single-Unit (SU) Truck Intersection Sight Distance
- All Vehicles Stopping Sight Distance

TRAFFIC ANALYSIS & DESIGN, INC.
3547: 11-26-25

N
NOT TO SCALE

EXHIBIT 2
THE CARILLON SOUTH SITE DRIVEWAY
INTERSECTION SIGHT DISTANCE (RIGHT TURN, LOOKING LEFT) & SOUTHBOUND STOPPING SIGHT DISTANCE
THE CARILLON SIGHT DISTANCE ANALYSIS - GERMANTOWN, WISCONSIN



LEGEND

- Passenger Car (PC) Intersection Sight Distance
- Single-Unit (SU) Truck Intersection Sight Distance
- All Vehicles Stopping Sight Distance

TRAFFIC ANALYSIS & DESIGN, INC.
3547: 11-26-25

N
NOT TO SCALE

EXHIBIT 3
THE CARILLON SOUTH SITE DRIVEWAY
INTERSECTION SIGHT DISTANCE (LEFT TURN, LOOKING RIGHT) & NORTHBOUND STOPPING SIGHT DISTANCE
THE CARILLON SIGHT DISTANCE ANALYSIS - GERMANTOWN, WISCONSIN

APPENDIX A

SIGHT DISTANCE CALCULATION WORKSHEET

North Site Driveway

ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC Date: 11/20/2025
Intersection: Division Road & North Site Driveway (RIRO)
Community: Village of Germantown

Mainline Name: Division Road
Sidestreet Name: North Driveway

Left-In Allowed?	No						
Left-Out Allowed?	No		P-vehicle Design Length:	19.0	feet (P = 19.0. Overwrite if other design veh)		
Right-In Allowed?	Yes		SU-vehicle Design Length:	39.5	feet (SU-40 = 39.5. Overwrite if other design veh)		
Right-Out Allowed?	Yes		WB-vehicle Design Length:	73.5	feet (WB-67 = 73.5. Overwrite if other design veh)		
Through-Out Allowed?	No						
Design Speed from Left:	40	mph		P	SU	WB	
Design Speed from Right:	40	mph	Design Vehicles:	x	x		(place an "X")
Median Width:	0	feet					
Minor Street Approach Grade:	0.0%	If a minor street vehicle approaches the major street at greater than 3%, enter grade.					
Number of Near Side Right & Bike:	0.00	equivalent 12-ft lanes. Include tapers, auxiliary lanes, parking lanes, and bicycle accommodations.					
Number of Near Side Thru:	1.00	equivalent 12-ft lanes.					
Number of Far Side Thru:	1.00	equivalent 12-ft lanes.					
Number of Far Side Right & Bike:	0.00	equivalent 12-ft lanes. Include tapers, auxiliary lanes, parking lanes, and bicycle accommodations.					
AASHTO or WisDOT:	AASHTO						

ISD CASE B1: Left Turn from Minor Street or Median (driver looking right)

	AASHTO ISD			*WISDOT UPPER MINIMUM ISD*		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	7.50	9.50	11.50	10.00	12.00	13.00
Additional Time Gap 1, sec:	-7.50	-9.50	-11.50	-10.00	-12.00	-13.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Case B1 ISD, feet:	0.0	0.0	0.0	0.0	0.0	0.0
Rounded Case B1 ISD, feet:	*0*	*0*	*0*	*0*	*0*	*0*

ISD CASE B2: Right Turn from Minor Street (driver looking left)

	AASHTO ISD			*WISDOT UPPER MINIMUM ISD*		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	8.00	10.00	12.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	6.50	8.50	10.50	8.00	10.00	12.00
Case B2 ISD, feet:	381.3	498.7	616.0	469.3	586.7	704.0
Rounded Case B2 ISD, feet:	*385*	*500*	*620*	*470*	*590*	*705*

ISD CASE B3a: Crossing from Minor Street Traffic from Left (driver looking left)

	AASHTO ISD			*WISDOT UPPER MINIMUM ISD*		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00	13.00
Additional Time Gap 1, sec:	-6.50	-8.50	-10.50	-7.00	-10.00	-13.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Case B3a ISD, feet:	0.0	0.0	0.0	0.0	0.0	0.0
Rounded Case B3a ISD, feet:	*0*	*0*	*0*	*0*	*0*	*0*

ISD CASE B3b: Crossing from Minor Street or Median (driver looking right)

	AASHTO ISD			*WISDOT UPPER MINIMUM ISD*		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00	13.00
Additional Time Gap 1, sec:	-6.50	-8.50	-10.50	-7.00	-10.00	-13.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Case B3b ISD, feet:	0.0	0.0	0.0	0.0	0.0	0.0
Rounded Case B3b ISD, feet:	*0*	*0*	*0*	*0*	*0*	*0*

ISD CASE F: Left from Major to Minor (driver looking to left of access towards oncoming traffic)

	AASHTO ISD			*WISDOT UPPER MINIMUM ISD*		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	5.50	6.50	7.50	8.00	8.00	8.00
Additional Time Gap 1, sec:	-5.50	-6.50	-7.50	-8.00	-8.00	-8.00
Additional Time Gap 2, sec:	N/A	N/A	N/A	N/A	N/A	N/A
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Case F ISD, feet:	0.0	0.0	0.0	0.0	0.0	0.0
Rounded Case F ISD, feet:	*0*	*0*	*0*	*0*	*0*	*0*

ISD CONTROLLING DISTANCES:

	AASHTO ISD				***WISDOT UPPER MINIMUM ISD***		
	P	**SU**	WB		P	SU	WB
To Left of Access:	**385'**	**500'**	620'		470'	590'	705'
To Right of Access:	**0'**	**0'**	0'		0'	0'	0'
Left-Turn from Mainline:	**0'**	**0'**	0'		0'	0'	0'

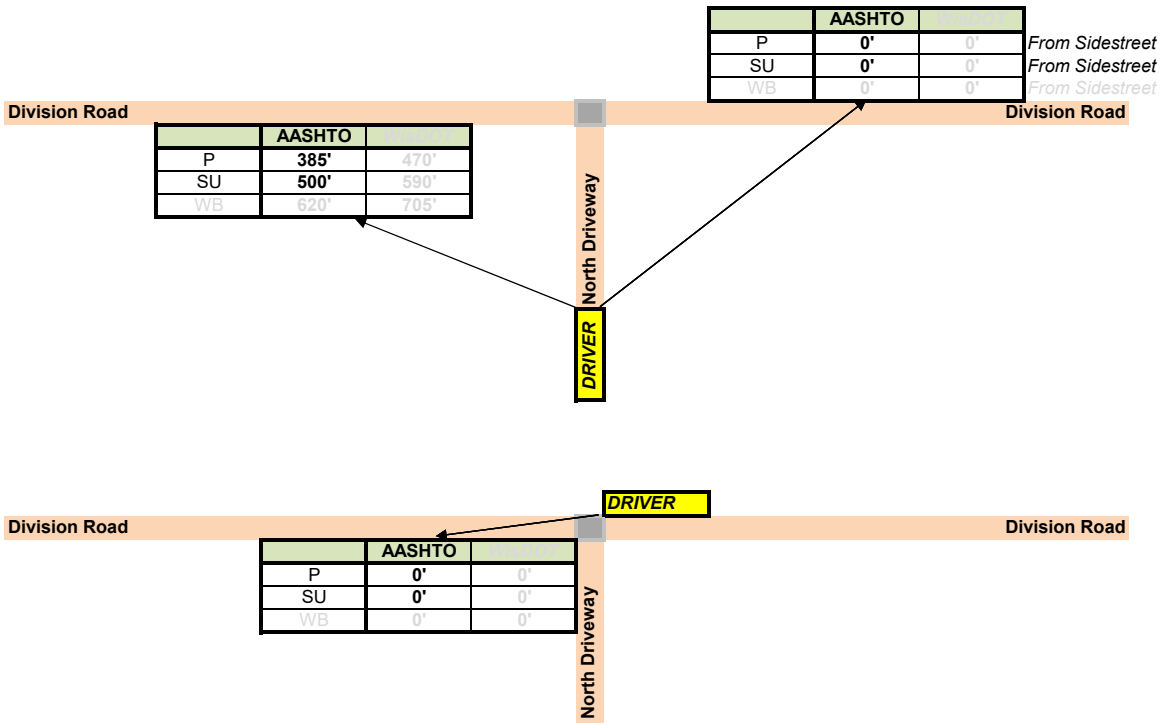
ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC Date: 11/20/2025
Intersection: Division Road & North Site Driveway (RIRO)
Community: Village of Germantown

Eye Height (start of Arrows): 3.5-ft for P, 7.6-ft for SU & WB
Object Height (head of Arrows): 3.5-ft
Eye Location: 14.5-ft from edge of traveled way

North

Special Instructions



SSD CALCULATIONS

	EB	WB	NB	SB	
Design Speed:			40	40	
Deceleration (ft/s^2):	11.2	11.2	11.2	11.2	*Default rate is 11.2 ft/s^2 per AASHTO GDHS*
Estimated Grade (%):	0.0%	0.0%	0.0%	0.0%	*Positive is uphill, negative is downhill*
Brake Reaction Time (s):	2.5	2.5	2.5	2.5	*Default rate is 2.5s per AASHTO GDHS*
Brake Reaction (ft):	0.0	0.0	146.7	146.7	
Braking Distance (ft):	0.0	0.0	153.3	153.3	
Calculated SSD (ft):	0.0	0.0	300.0	300.0	
Rounded SSD (ft):	0	0	**305**	**305**	

Eye Height (upstream of object to be seen): 3.5-ft
Object Height (downstream of motorist): 2.0-ft

Special Instructions

APPENDIX B

SIGHT DISTANCE CALCULATION WORKSHEET

South Site Driveway

ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC Date: 11/20/2025
Intersection: Division Road & South Site Driveway (Full Access)
Community: Village of Germantown

Mainline Name: Division Road
Sidestreet Name: South Driveway

Left-In Allowed?	Yes		P-vehicle Design Length:	19.0	feet (P = 19.0. Overwrite if other design veh)
Left-Out Allowed?	Yes		SU-vehicle Design Length:	39.5	feet (SU-40 = 39.5. Overwrite if other design veh)
Right-In Allowed?	Yes		WB-vehicle Design Length:	73.5	feet (WB-67 = 73.5. Overwrite if other design veh)
Right-Out Allowed?	Yes				
Through-Out Allowed?	No				
Design Speed from Left:	40	mph			
Design Speed from Right:	40	mph			
Median Width:	0	feet			
Minor Street Approach Grade:	0.0%	If a minor street vehicle approaches the major street at greater than 3%, enter grade.			
Number of Near Side Right & Bike:	0.00	equivalent 12-ft lanes. Include tapers, auxiliary lanes, parking lanes, and bicycle accommodations.			
Number of Near Side Thru:	1.00	equivalent 12-ft lanes.			
Number of Far Side Thru:	1.00	equivalent 12-ft lanes.			
Number of Far Side Right & Bike:	0.00	equivalent 12-ft lanes. Include tapers, auxiliary lanes, parking lanes, and bicycle accommodations.			
AASHTO or WisDOT:	AASHTO				

	P	SU	WB	
Design Vehicles:	x	x		(place an "X")

ISD CASE B1: Left Turn from Minor Street or Median (driver looking right)

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	7.50	9.50	11.50	10.00	12.00	13.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	7.50	9.50	11.50	10.00	12.00	13.00
Case B1 ISD, feet:	440.0	557.3	674.7	586.7	704.0	762.7
Rounded Case B1 ISD, feet:	*445*	*560*	*675*	*590*	*705*	*765*

ISD CASE B2: Right Turn from Minor Street (driver looking left)

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	8.00	10.00	12.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	6.50	8.50	10.50	8.00	10.00	12.00
Case B2 ISD, feet:	381.3	498.7	616.0	469.3	586.7	704.0
Rounded Case B2 ISD, feet:	*385*	*500*	*620*	*470*	*590*	*705*

ISD CASE B3a: Crossing from Minor Street Traffic from Left (driver looking left)

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00	13.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	6.50	8.50	10.50	7.00	10.00	13.00
Case B3a ISD, feet:	381.3	498.7	616.0	410.7	586.7	762.7
Rounded Case B3a ISD, feet:	*385*	*500*	*620*	*415*	*590*	*765*

ISD CASE B3b: Crossing from Minor Street or Median (driver looking right)

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	6.50	8.50	10.50	7.00	10.00	13.00
Additional Time Gap 1, sec:	-6.50	-8.50	-10.50	-7.00	-10.00	-13.00
Additional Time Gap 2, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Total Time Gap, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Case B3b ISD, feet:	0.0	0.0	0.0	0.0	0.0	0.0
Rounded Case B3b ISD, feet:	*0*	*0*	*0*	*0*	*0*	*0*

ISD CASE F: Left from Major to Minor (driver looking to left of access towards oncoming traffic)

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	SU	WB	P	SU	WB
Base Time Gap, sec:	5.50	6.50	7.50	8.00	8.00	8.00
Additional Time Gap 1, sec:	0.00	0.00	0.00	0.00	0.00	0.00
Additional Time Gap 2, sec:	N/A	N/A	N/A	N/A	N/A	N/A
Total Time Gap, sec:	5.50	6.50	7.50	8.00	8.00	8.00
Case F ISD, feet:	322.7	381.3	440.0	469.3	469.3	469.3
Rounded Case F ISD, feet:	*325*	*385*	*445*	*470*	*470*	*470*

ISD CONTROLLING DISTANCES:

	AASHTO ISD			WISDOT UPPER MINIMUM ISD		
	P	**SU**	**WB**	**P**	**SU**	**WB**
To Left of Access:	**385'**	**500'**	**620'**	**470'**	**590'**	**765'**
To Right of Access:	**445'**	**560'**	**675'**	**590'**	**705'**	**765'**
Left-Turn from Mainline:	**325'**	**385'**	**445'**	**470'**	**470'**	**470'**

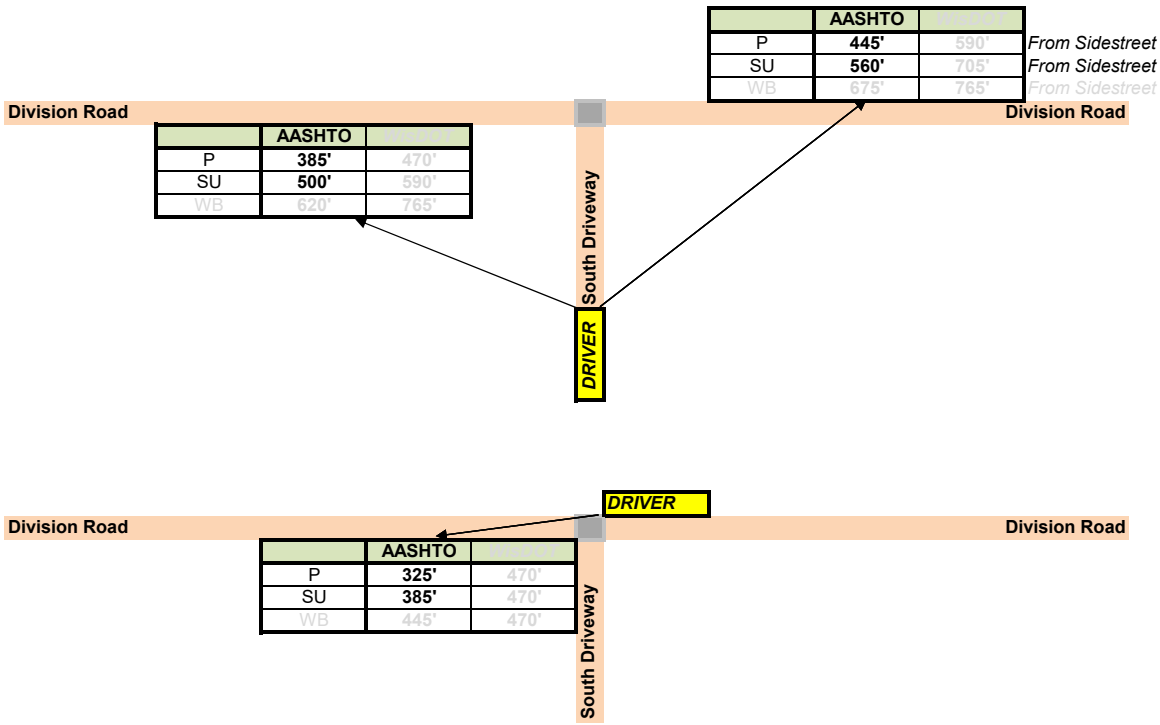
ISD CALCULATIONS (TWSC)

Performed by: TADI - TSC Date: 11/20/2025
Intersection: Division Road & South Site Driveway (Full Access)
Community: Village of Germantown

Eye Height (start of Arrows): 3.5-ft for P, 7.6-ft for SU & WB
Object Height (head of Arrows): 3.5-ft
Eye Location: 14.5-ft from edge of traveled way

North

Special Instructions



SSD CALCULATIONS

	EB	WB	NB	SB	
Design Speed:			40	40	
Deceleration (ft/s^2):	11.2	11.2	11.2	11.2	*Default rate is 11.2 ft/s^2 per AASHTO GDHS*
Estimated Grade (%):	0.0%	0.0%	0.0%	0.0%	*Positive is uphill, negative is downhill*
Brake Reaction Time (s):	2.5	2.5	2.5	2.5	*Default rate is 2.5s per AASHTO GDHS*
Brake Reaction (ft):	0.0	0.0	146.7	146.7	
Braking Distance (ft):	0.0	0.0	153.3	153.3	
Calculated SSD (ft):	0.0	0.0	300.0	300.0	
Rounded SSD (ft):	0	0	**305**	**305**	

Eye Height (upstream of object to be seen): 3.5-ft
Object Height (downstream of motorist): 2.0-ft

Special Instructions

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

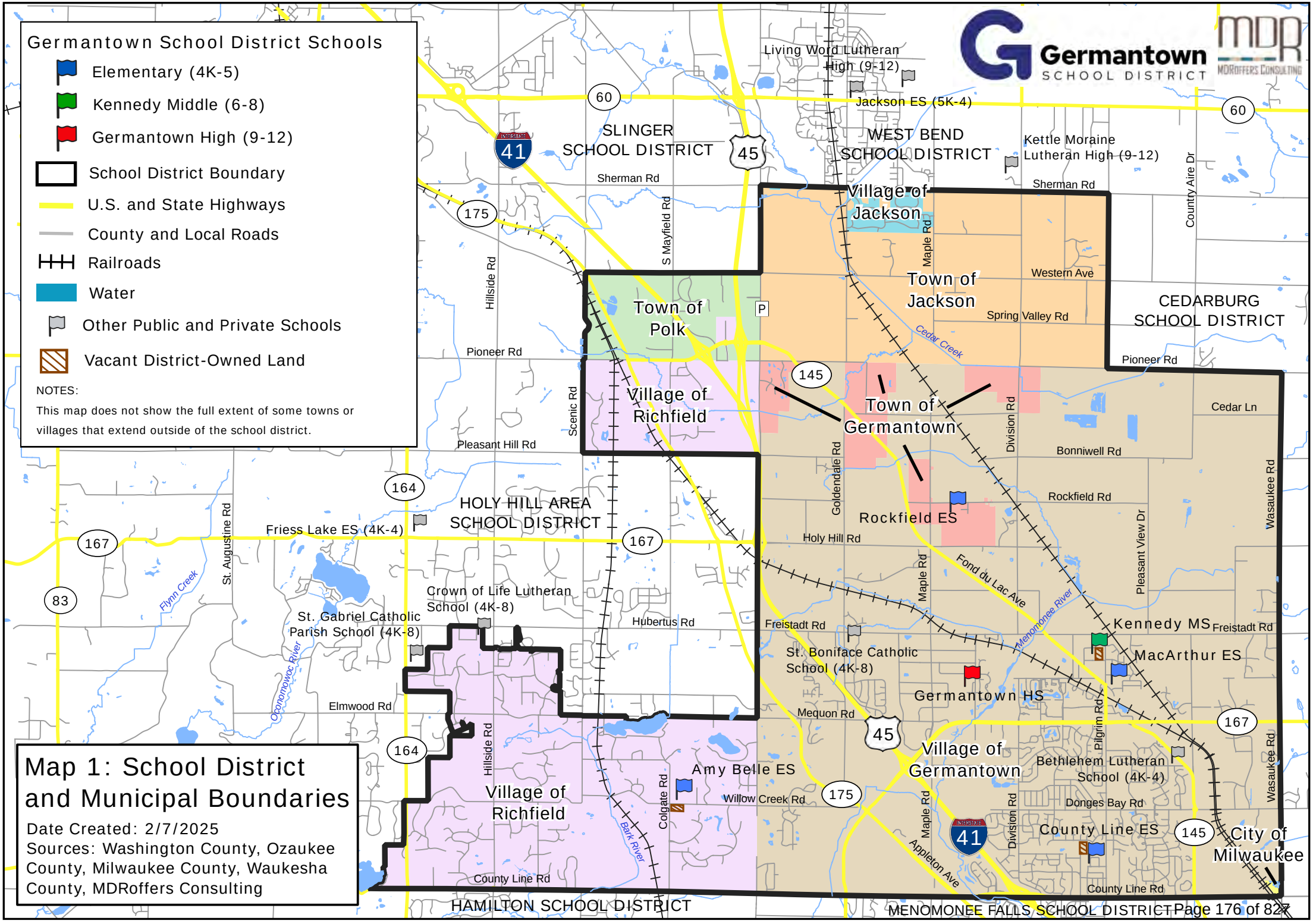
The Germantown School District (GSD) is a public school district in southern Washington County, Wisconsin (see Map 1). As of the 2024-25 academic year, the GSD educates approximately 3,800 grade 4K-12 students across four elementary schools, one middle school, and one high school.

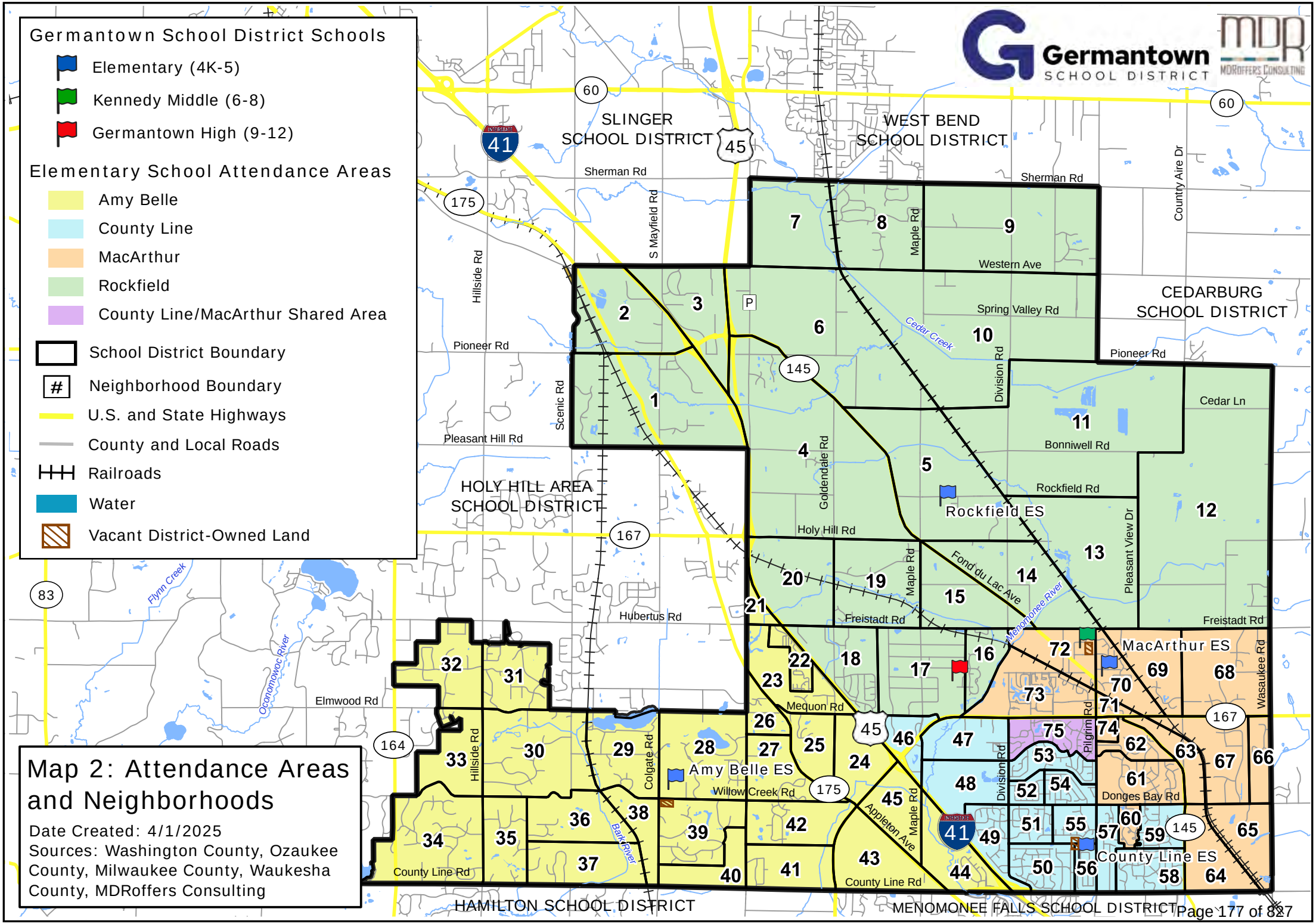
This Community Growth & Projections Report will assist the GSD to understand the impact of future residential development and demographic change on future student enrollment, where in the GSD enrollment change may occur, and how enrollment projections compare with current school configurations and capacities. 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
Hillside Rd
S Mayfield Rd
Scenic Rd
Maple Rd
Western Ave
Spring Valley Rd
Cedar Creek
Division Rd
Cedar Ln
Bonniwell Rd
Goldendale Rd
Rockfield Rd
Holy Hill Rd
Fond du Lac Ave
Menomonee River
Pleasant View Dr
Wasaukee Rd
Freistadt Rd
Hubertus Rd
Elmwood Rd
Mequon Rd
Pilgrim Rd
Willow Creek Rd
Donges Bay Rd
Colgate Rd
Bark River
Appleton Ave
County Line Rd
Flynn Creek
Oconomowoc River
St. Augustine Rd
Country Aire Dr
60
41
45
175
145
164
167
83
P


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
Sherman Rd
Pioneer Rd
Spring Valley Rd
Western Ave
Bonniwell Rd
Rockfield Rd
Holy Hill Rd
Freistadt Rd
Mequon Rd
Willow Creek Rd
Donges Bay Rd
County Line Rd
Pleasant Hill Rd
Elmwood Rd
Hubertus Rd
Cedar Ln
Cedar Creek
Fond du Lac Ave
Menomonee River
Flynn Creek
Oconomowoc River
Bark River
Appleton Ave
Hillside Rd
S Mayfield Rd
Maple Rd
Division Rd
Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
Scenic Rd
Country Aire Dr
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
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.

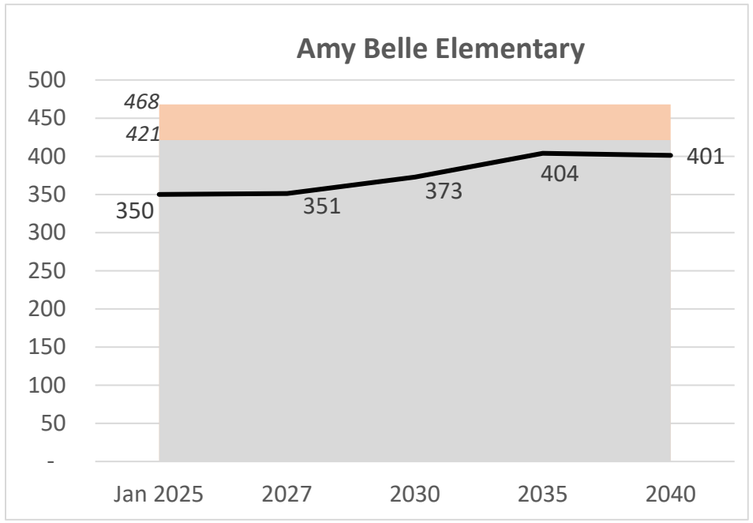
D. STUDENT ENROLLMENT PROJECTIONS SUMMARY

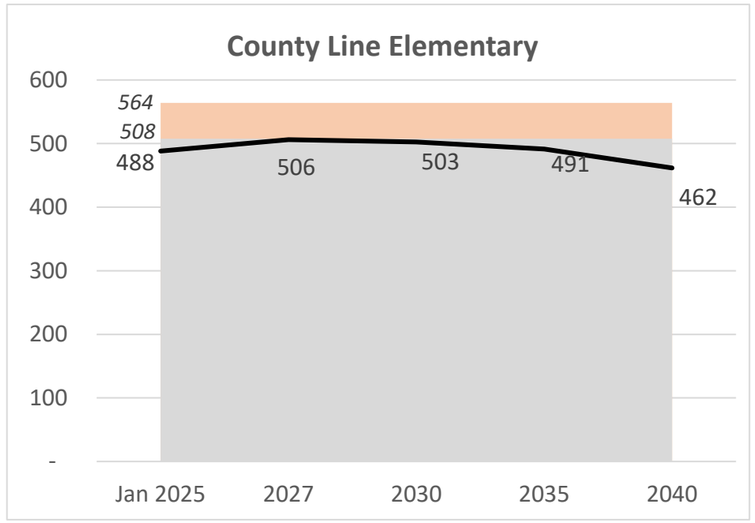
1. Between January 2025 and 2040, the consultant projects an increase of 148 4K-12 resident students enrolled in GSD schools based on its assessment of most likely housing and demographic changes. The consultant projects grade 4K-5 resident enrollment to increase by 129 students, grade 6-8 resident enrollment 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

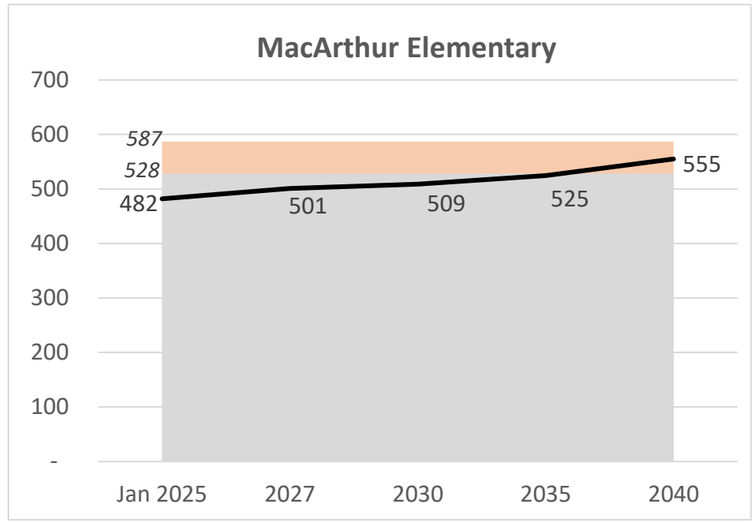
to exceed 90 percent of that building's capacity through around 2030, then decrease below 90 percent through the remainder of the 2030s.

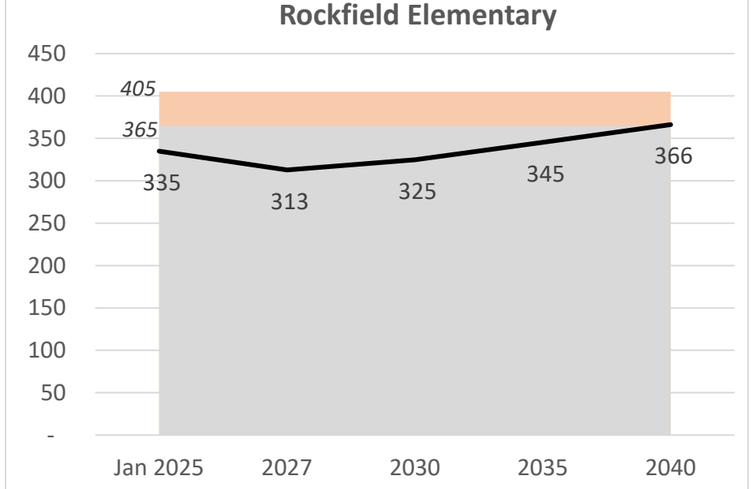
4. The consultant projects Kennedy Middle School (grade 6-8) resident enrollment will increase by 21 students between January 2025 and 2040—totaling 860 grade 6-8 students by 2040. Middle school enrollment is projected to decrease over the next few years due to current larger middle school classes being 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.

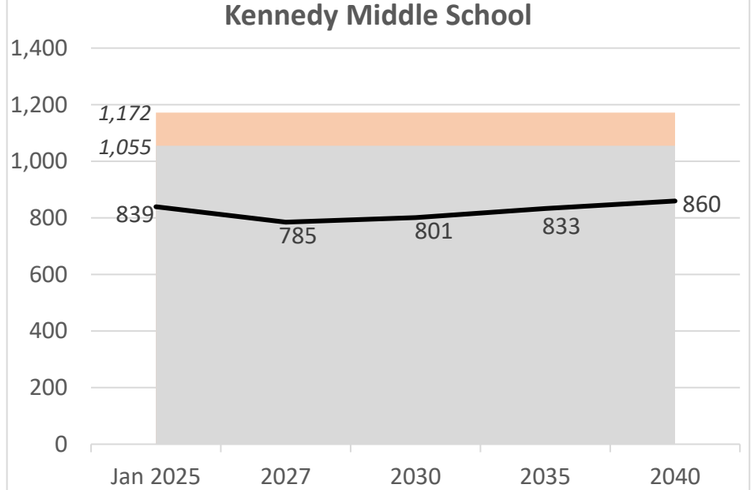
Projected GSD Resident Enrollment vs. Building Capacity at Current GSD Schools

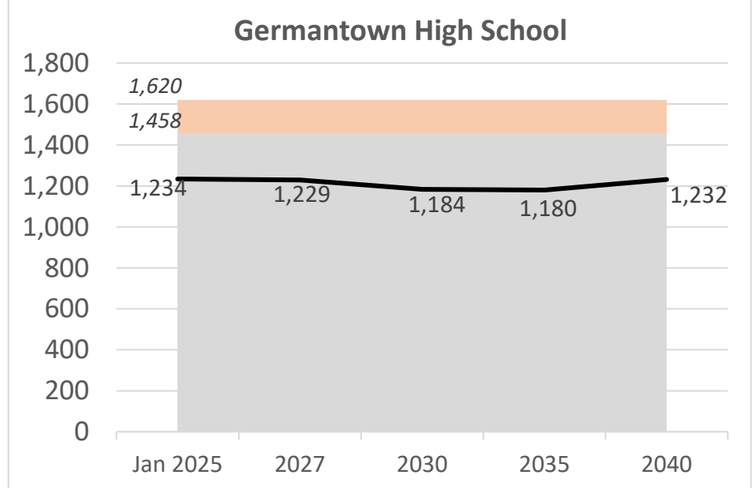












100% Maximum Building Capacity 90% Maximum Building Capacity Projected Resident Enrollment

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**

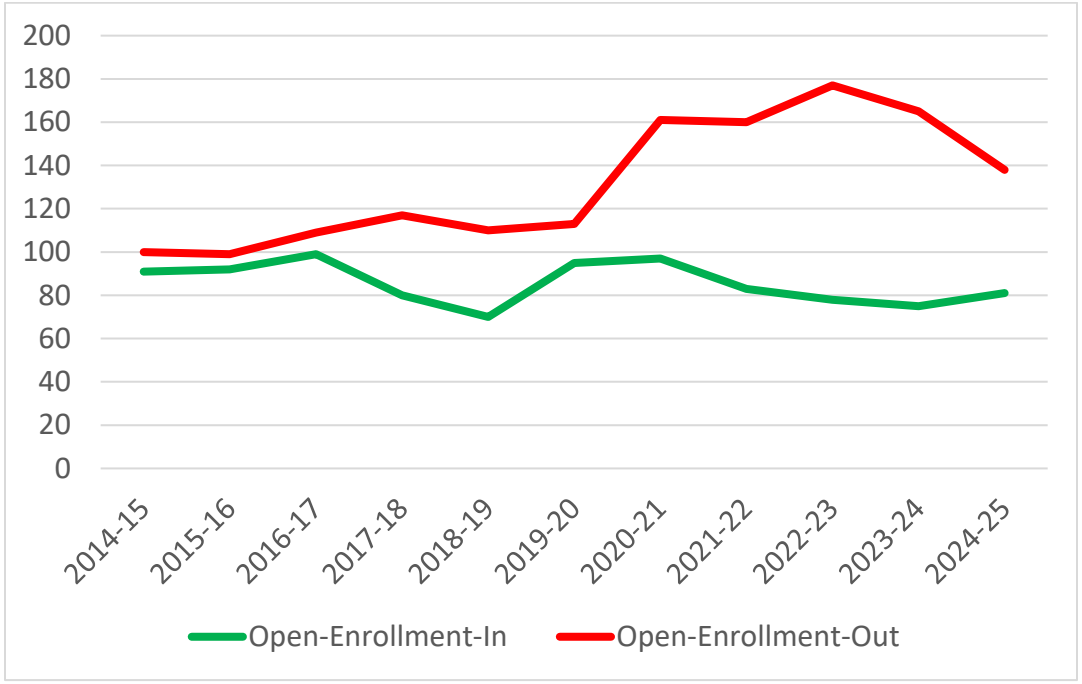
Source: GSD

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

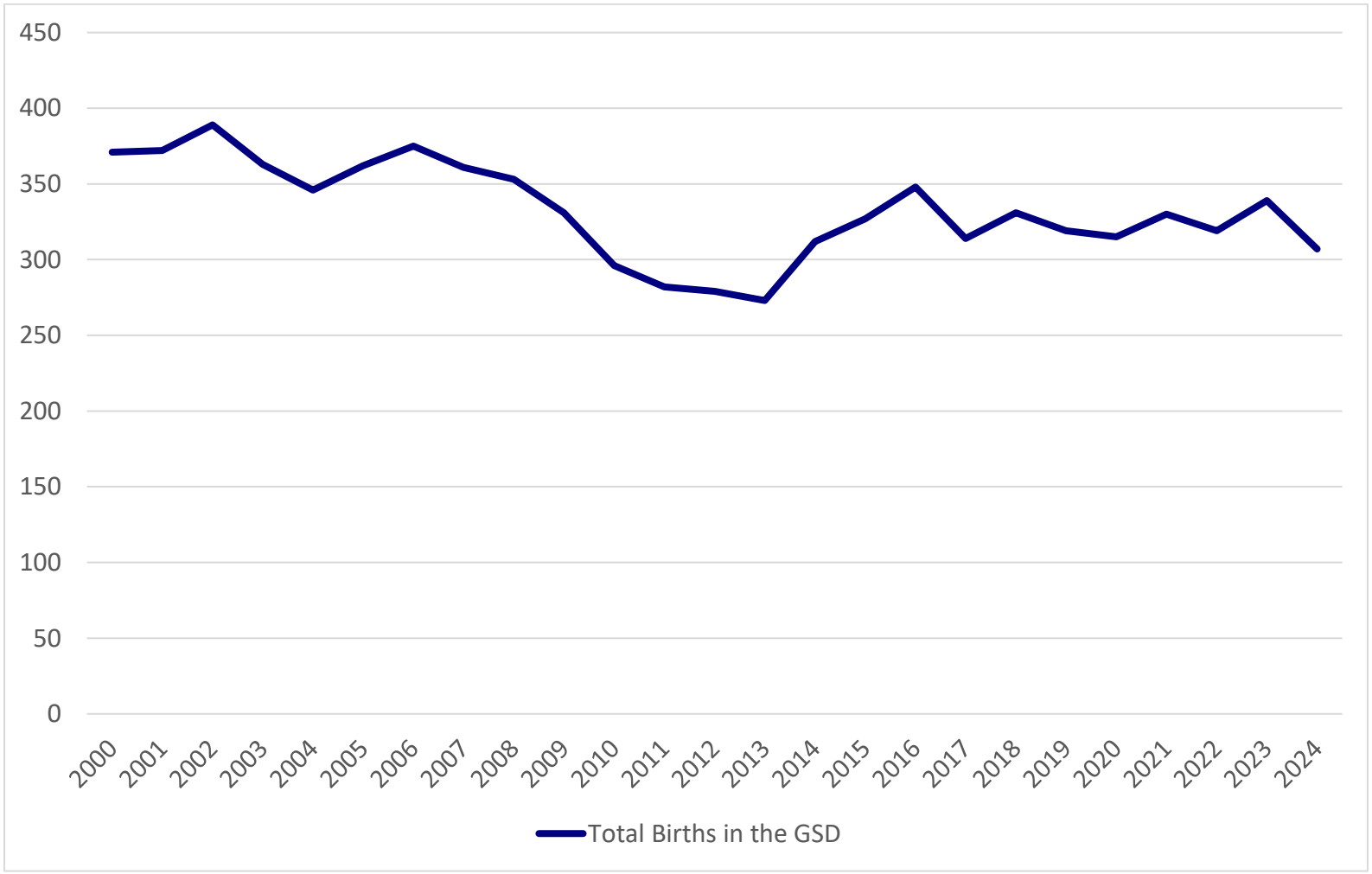
A. BIRTHS AND CHILD POPULATION TRENDS

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.

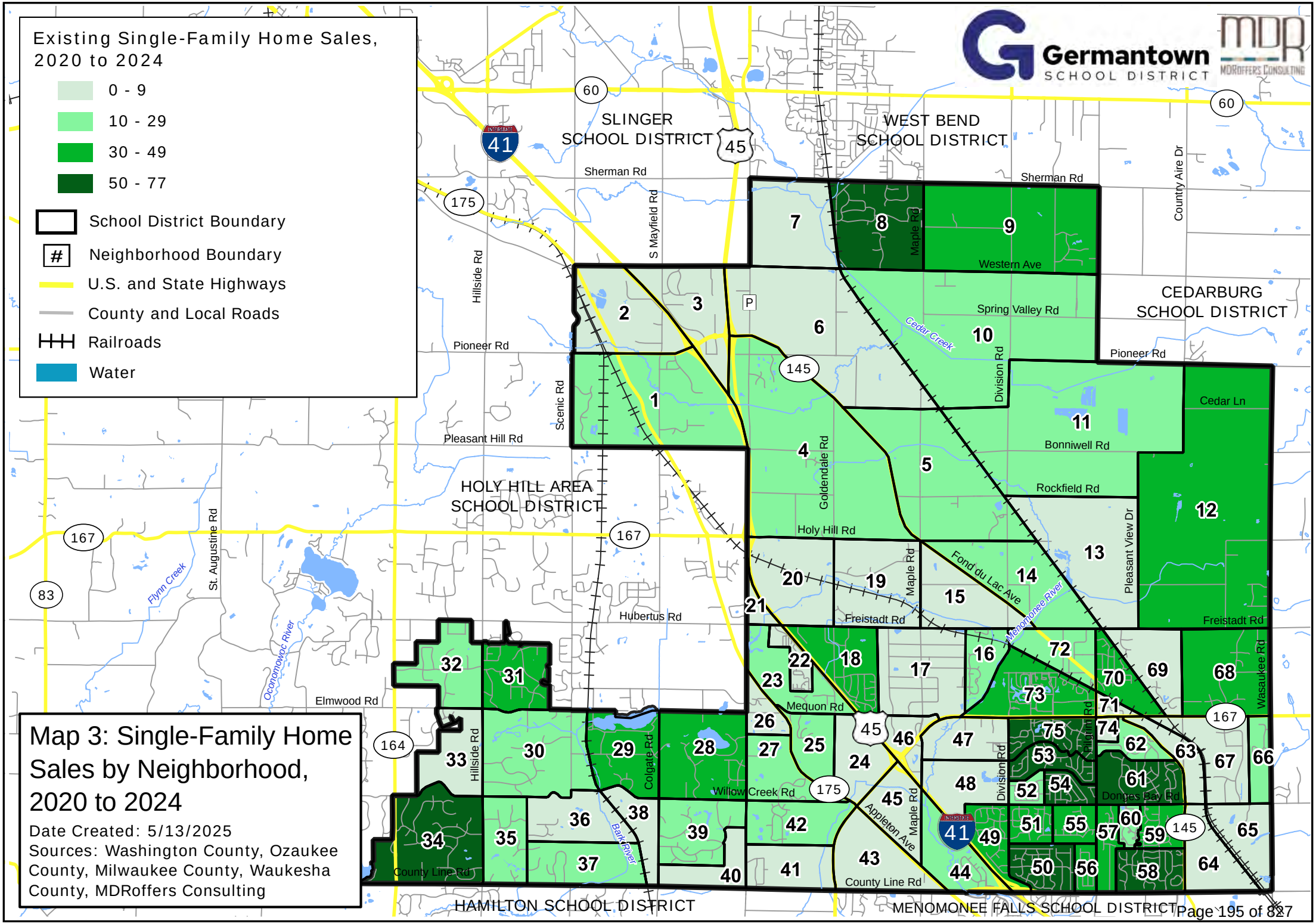
In contrast, older multiple-family housing units tend to generate *greater* numbers of students than newer multiple-family units, as older units tend to be more affordable and sometimes include more bedrooms per unit. The consultant found existing multiple-family units in the GSD generate students at 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.



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.

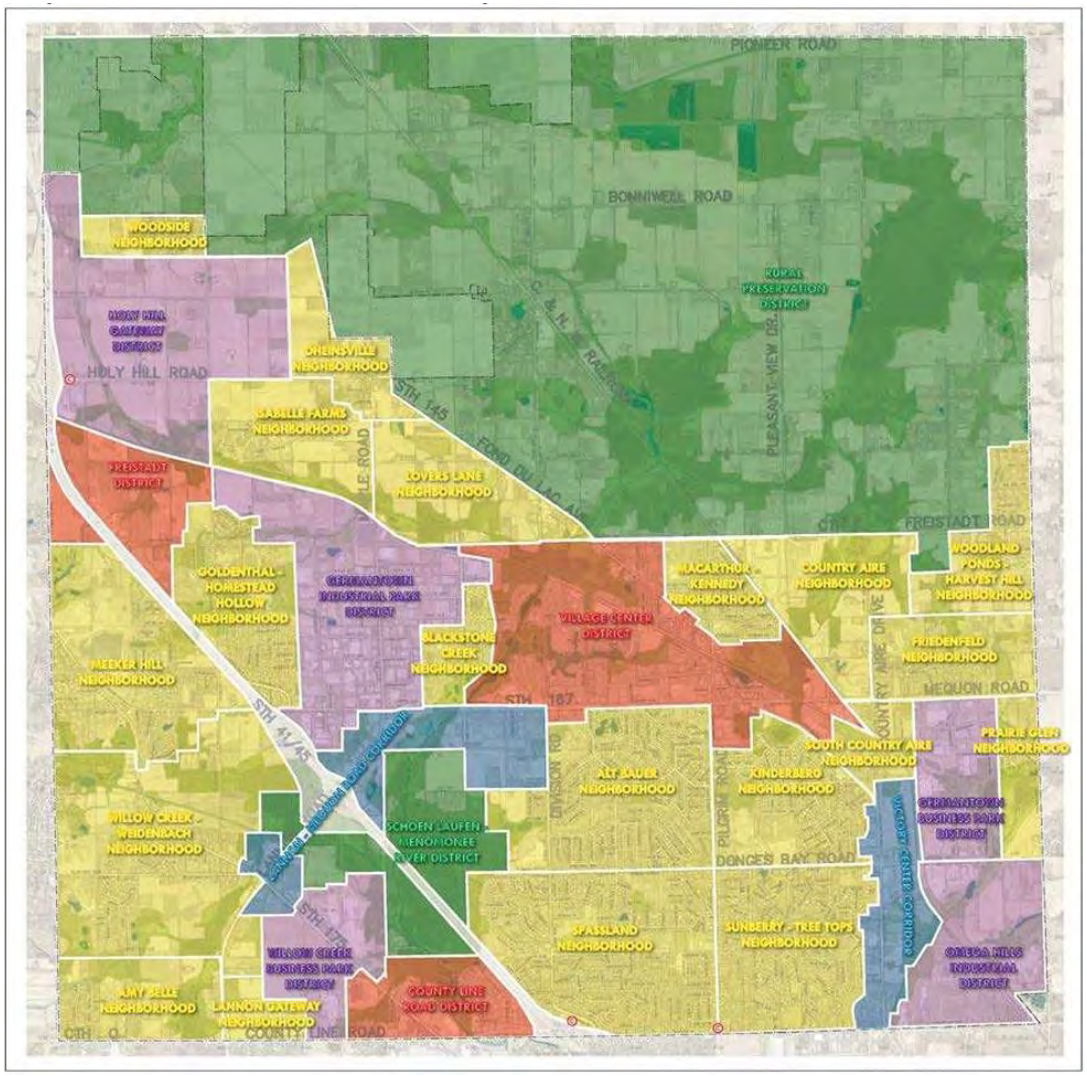
Compared to prior Village plans, and broadly speaking, the Village's 2022 Comprehensive Plan reduced recommended future housing density in the northern portions of the Village (i.e., Rural Preservation District in Figure 9) and increased recommended future housing density and types in some southern parts 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



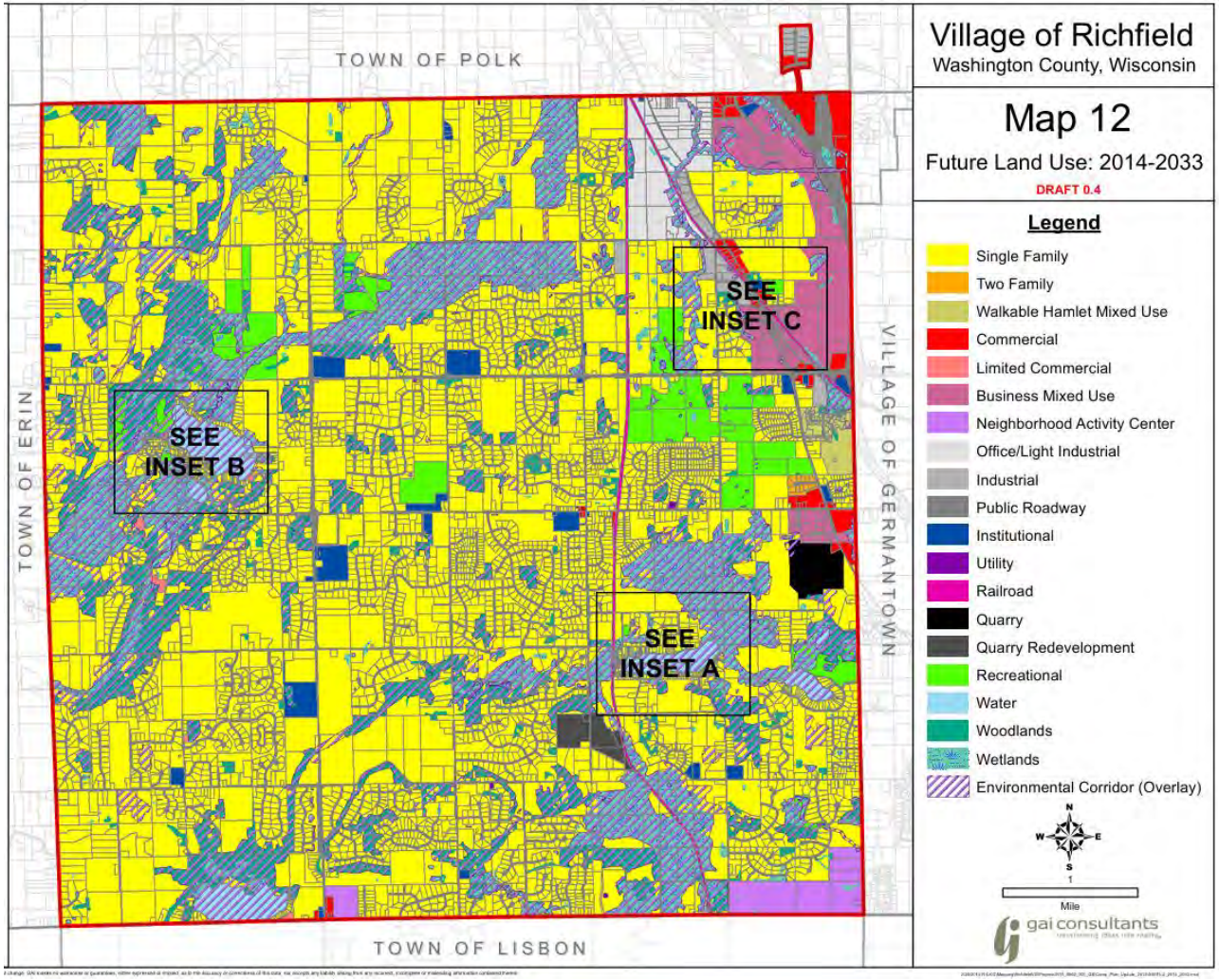
C. VILLAGE OF RICHFIELD PLANS AND EXPECTATIONS

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.

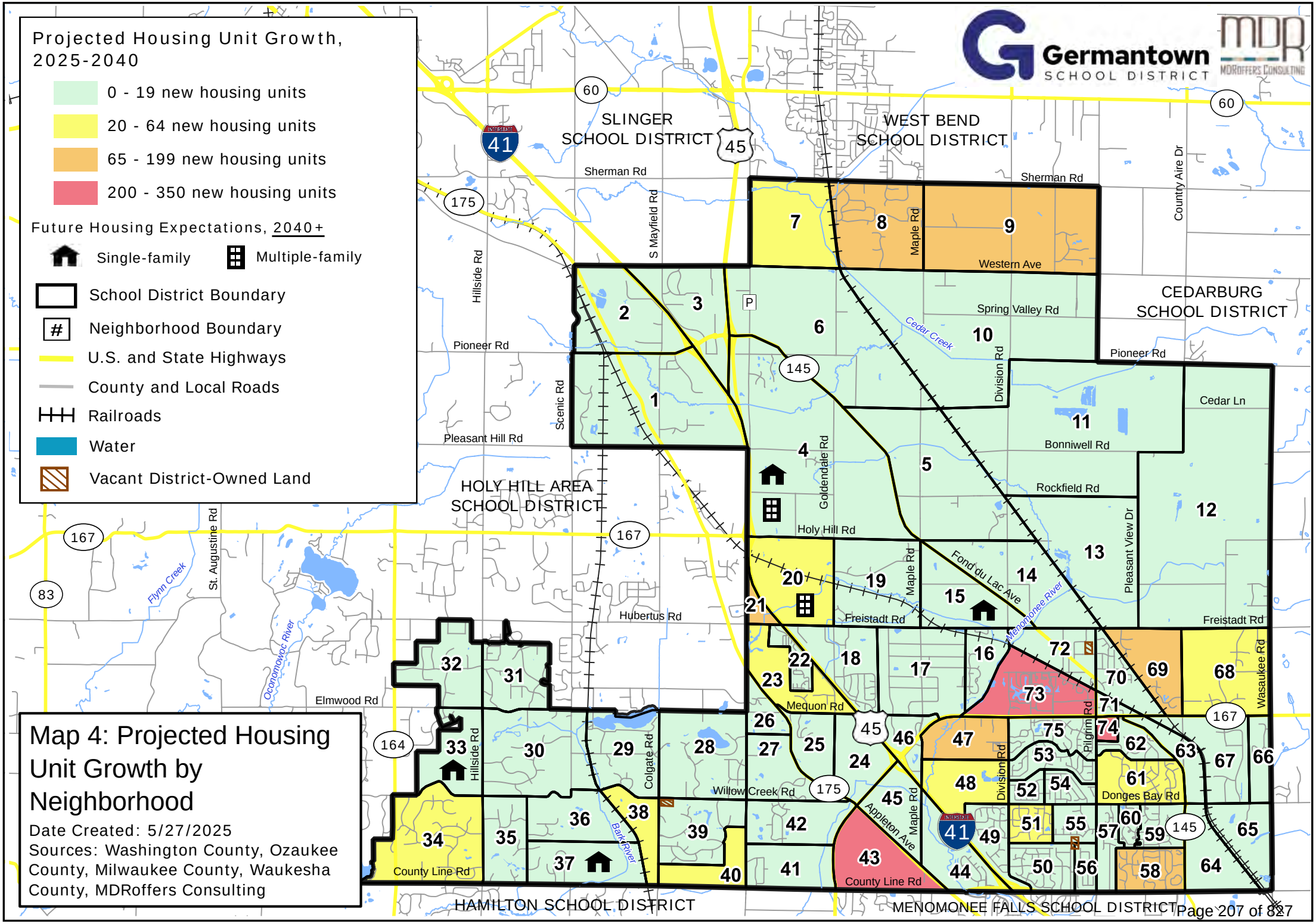
As shown in Figure 11, just over 40 percent of all new housing units are projected to be built in the current MacArthur Elementary School attendance area, about 30 percent are projected to be built in the current Amy Belle Elementary School attendance area, and 15 percent and 12 percent are projected 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.



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.

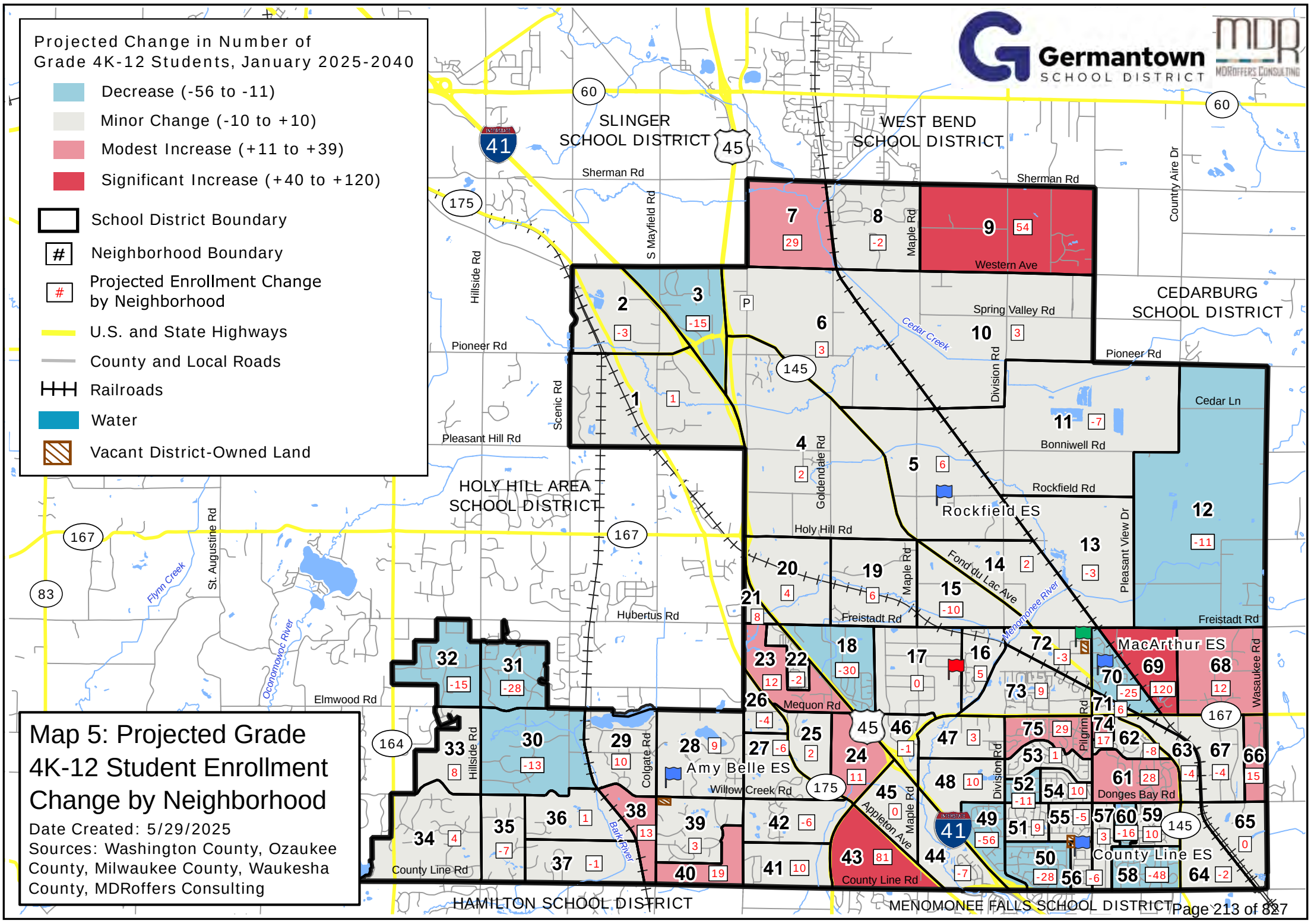
[4] Maximum building capacities provided by GSD.

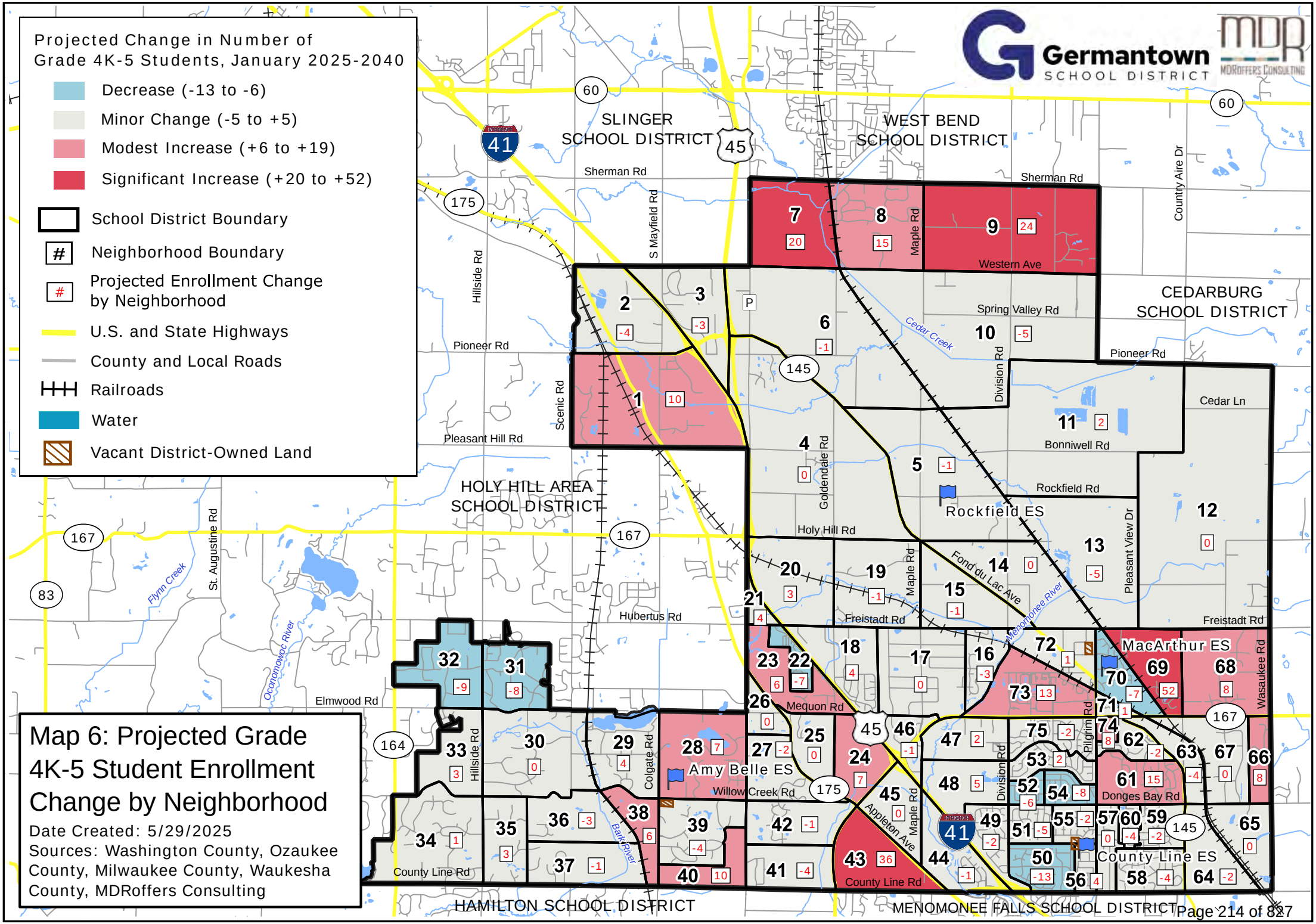
D. STUDENT ENROLLMENT PROJECTIONS BY NEIGHBORHOOD

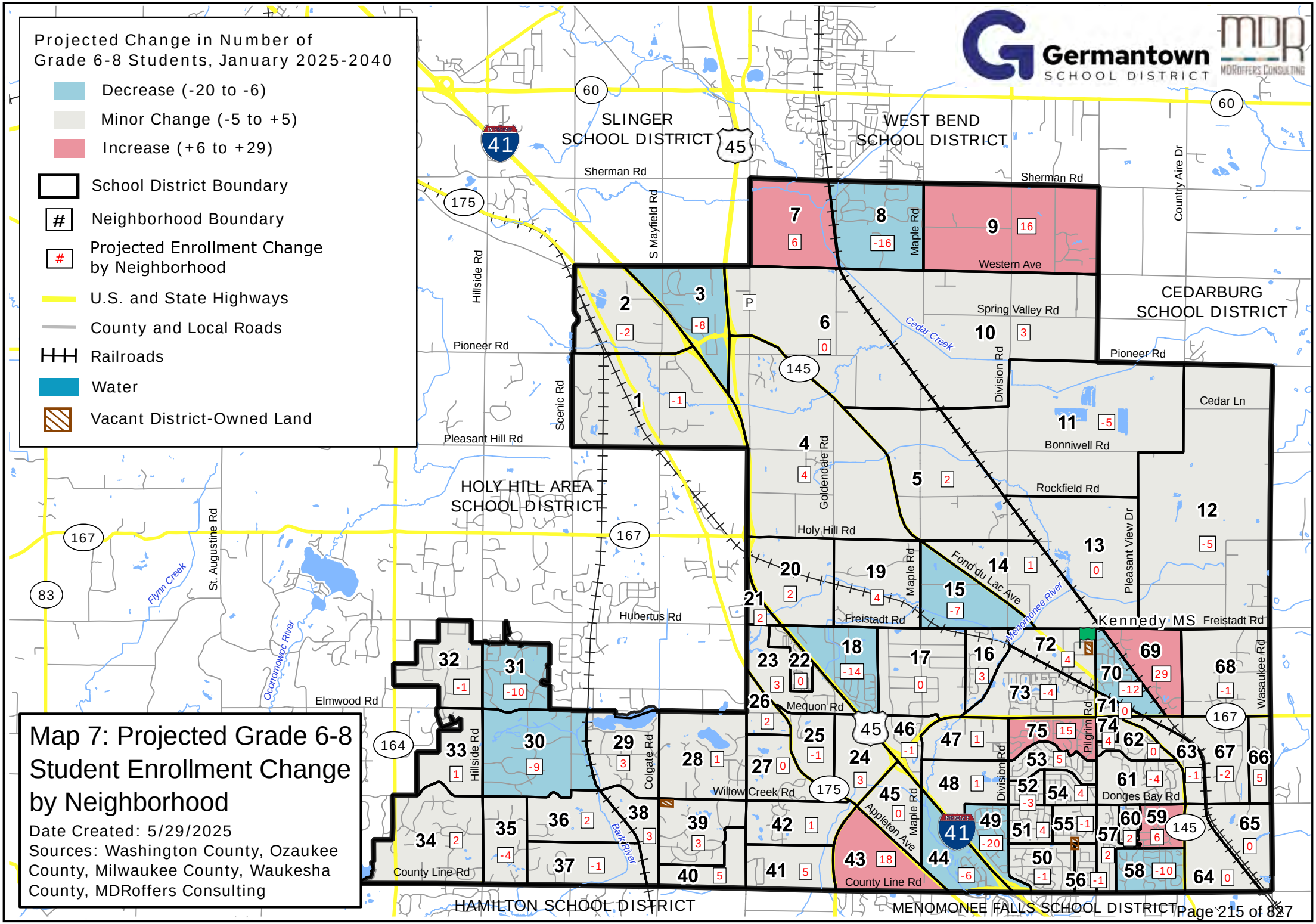
Map 5 indicates the consultant's projected grade 4K-12 GSD resident student enrollment change (between January 2025 and September 2040) within each of the 75 neighborhoods. For Map 5, the consultant categorized and color-coded neighborhoods as being in one of four groups, described as follows:

- **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.


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
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
MacArthur ES
Amy Belle 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
Elmwood Rd
Hubertus Rd
Pleasant Hill Rd
County Line Rd
Cedar Creek
Fond du Lac Ave
Menomonee River
Bark River
Flynn Creek
Oconomowoc River
Hillside Rd
S Mayfield Rd
Maple Rd
Division Rd
Goldendale Rd
Scenic Rd
St. Augustine Rd
Colgate Rd
Appleton Ave
Pilgrim Rd
Wasaukee Rd
Pleasant View Dr
Cedar Ln
Country Aire Dr
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


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
Rockfield ES
MacArthur ES
Amy Belle ES
County Line ES
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
Meguon Rd
Willow Creek Rd
Donges Bay Rd
County Line Rd
Fond du Lac Ave
Maple Rd
Division Rd
Hillside Rd
Scenic Rd
Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
Appleton Ave
Country Aire Dr
S Mayfield Rd
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
St. Augustine Rd
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
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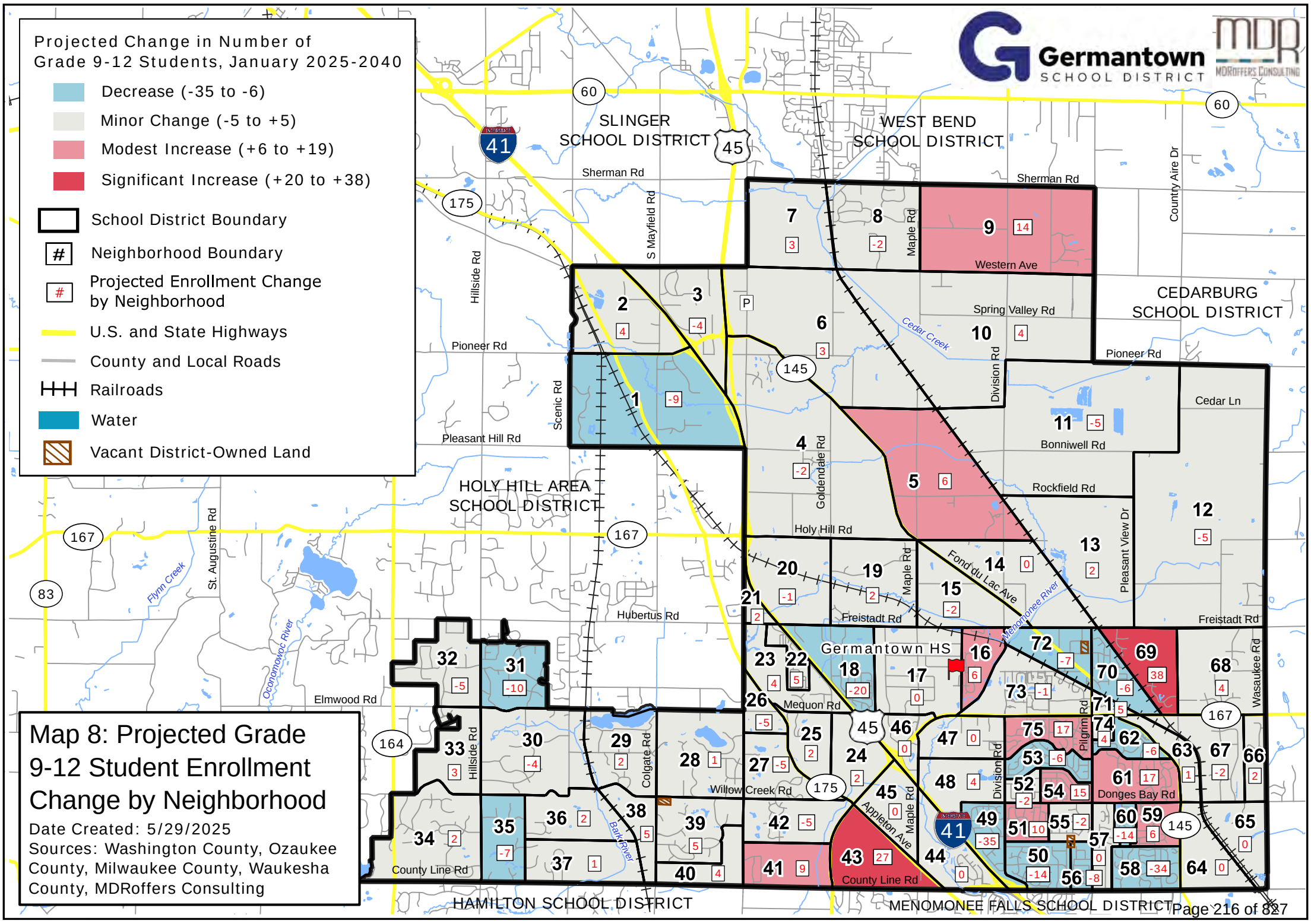
HAMILTON SCHOOL DISTRICT
MENOMONEE FALLS SCHOOL DISTRICT
Kennedy MS
Sherman Rd
Western Ave
Spring Valley Rd
Pioneer Rd
Cedar Ln
Bonniwell Rd
Rockfield Rd
Holy Hill Rd
Freistadt Rd
Mequon Rd
Willow Creek Rd
Donges Bay Rd
Elmwood Rd
County Line Rd
Pleasant Hill Rd
Hubertus Rd
Hillside Rd
S Mayfield Rd
Scenic Rd
Goldendale Rd
Maple Rd
Division Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
St. Augustine Rd
Country Aire Dr
Fond du Lac Ave
Appleton Ave
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark River
60
45
41
175
167
145
164
83
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
Goldendale Rd
Pleasant View Dr
Wasaukee Rd
Pilgrim Rd
Colgate Rd
S Mayfield Rd
St. Augustine Rd
Country Aire Dr
Cedar Creek
Menomonee River
Oconomowoc River
Flynn Creek
Bark 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

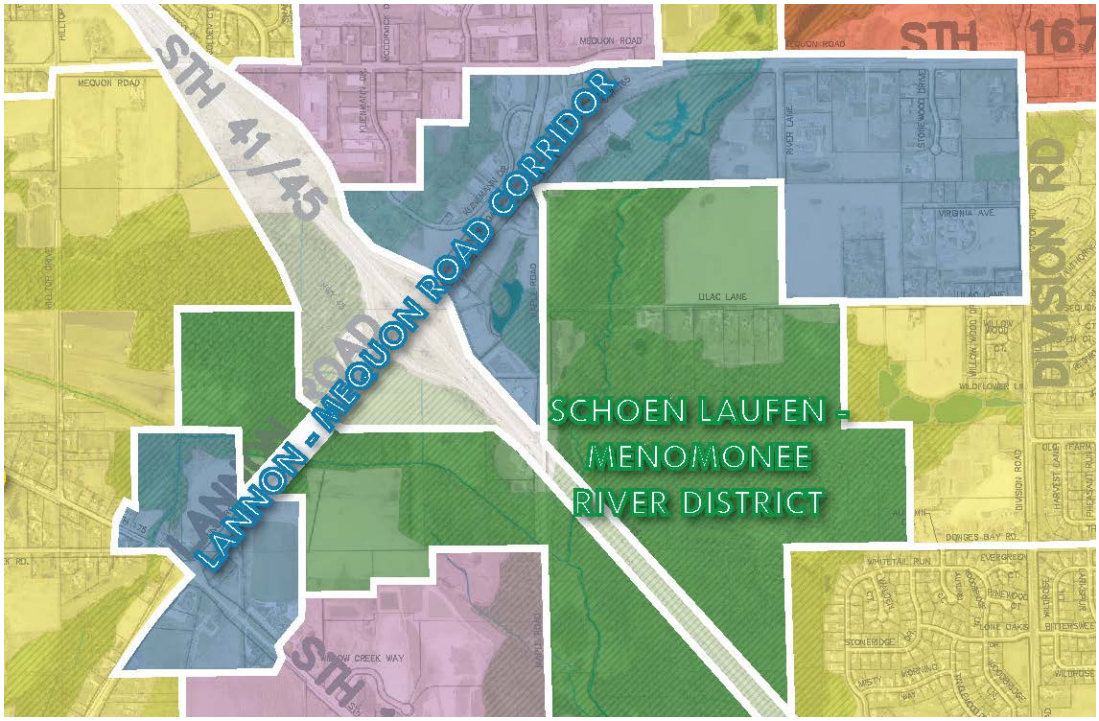
Neighborhood	Grades 4K-5 [2]					Grades 6-8 [2]					Grades 9-12 [2]					Grades 4K-12 [2]				
	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040	2025 [1]	2027	2030	2035	2040
40	1	2	2	8	11	0	0	1	2	5	1	0	0	2	5	2	2	2	11	21
41	24	22	20	18	20	5	11	10	10	10	6	7	14	14	15	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.

Lannon-Mequon Road CORRIDOR



GENERAL CHARACTER

The Lannon-Mequon Corridor is predominantly a mixed-use commercial corridor with service-oriented uses, including hotels and event venues, appliance sales, banking and financial uses, truck & trailer rental services, medical and general offices, institutional and government uses, independent senior and assisted living communities, and some single-family residential uses.

SPECIAL FEATURES

Transportation The Lannon-Mequon corridor includes land abutting portions of Lannon Road on both sides of I-41 and Mequon Road from Lannon Road east to Division Road.

Environmental, Natural & Agricultural The Menomonee River and associated primary environmental corridor is located across the middle of the corridor west of River Lane.

Public Park, Education, Safety & Utility The corridor is served by Village sewer and water.

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

The Lannon-Mequon Road corridor is intended to further develop as a mixed-use area with commercial, mixed-use commercial, institutional, and residential development. Residential development is intended to develop 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, hospitality and other service-oriented uses.

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.

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

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

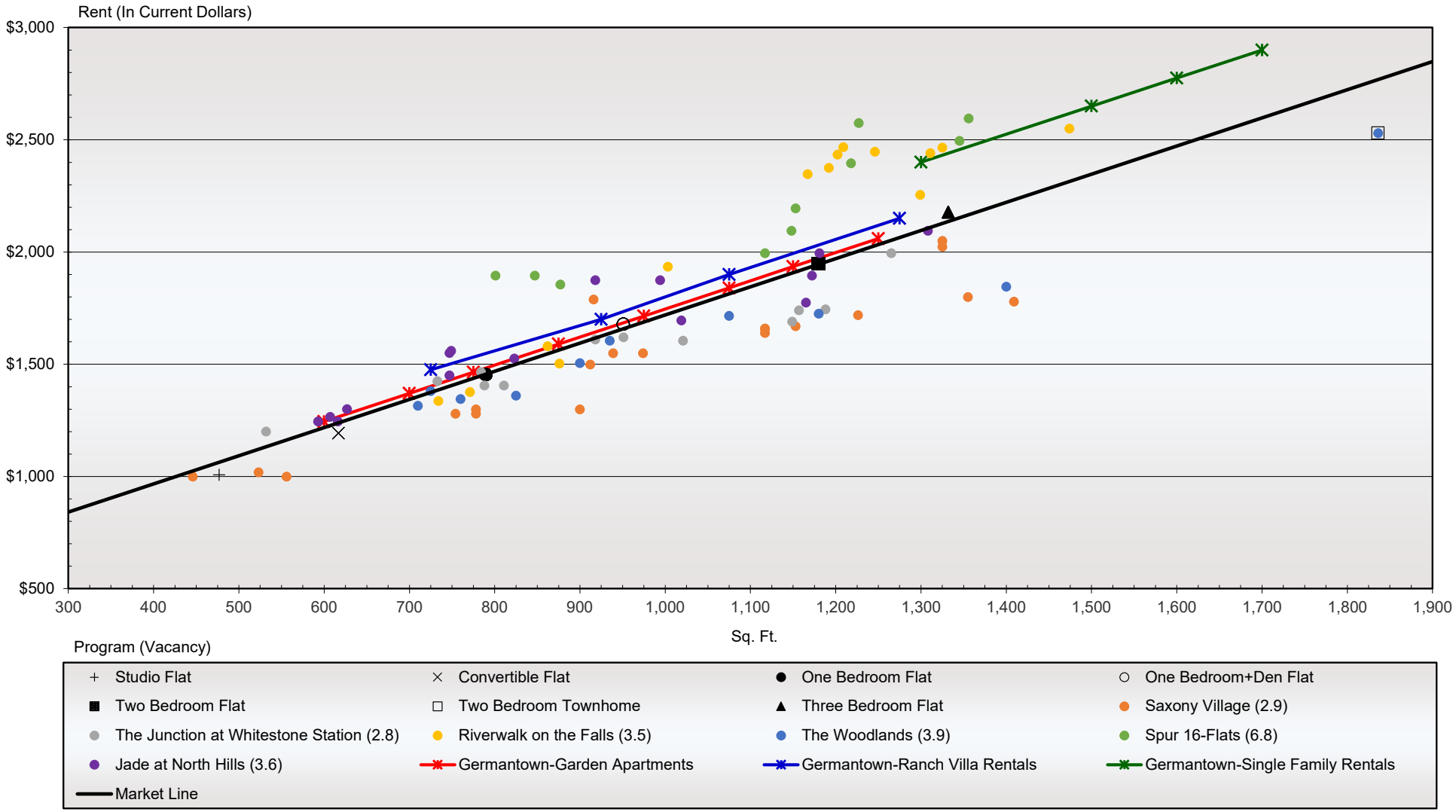
To achieve the rents/prices (and absorption) outlined for each product line, and apart from the requirement of higher densities, it will be imperative for the Village of Germantown, and other stakeholders, to work closely with builders/developers so that the recommendations are understood and embraced. 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									

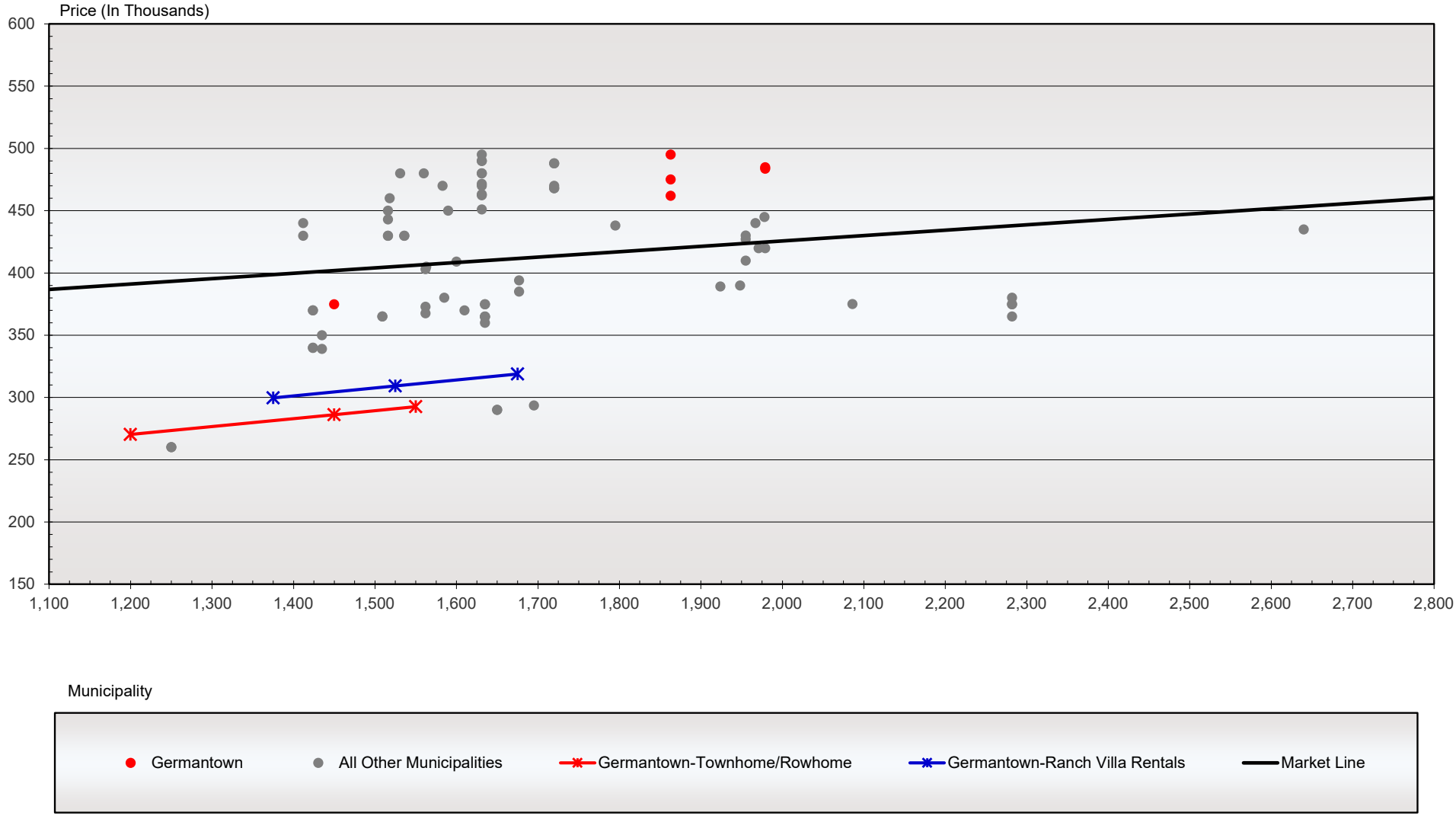
Slope: $1.25 per sq. ft.

(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

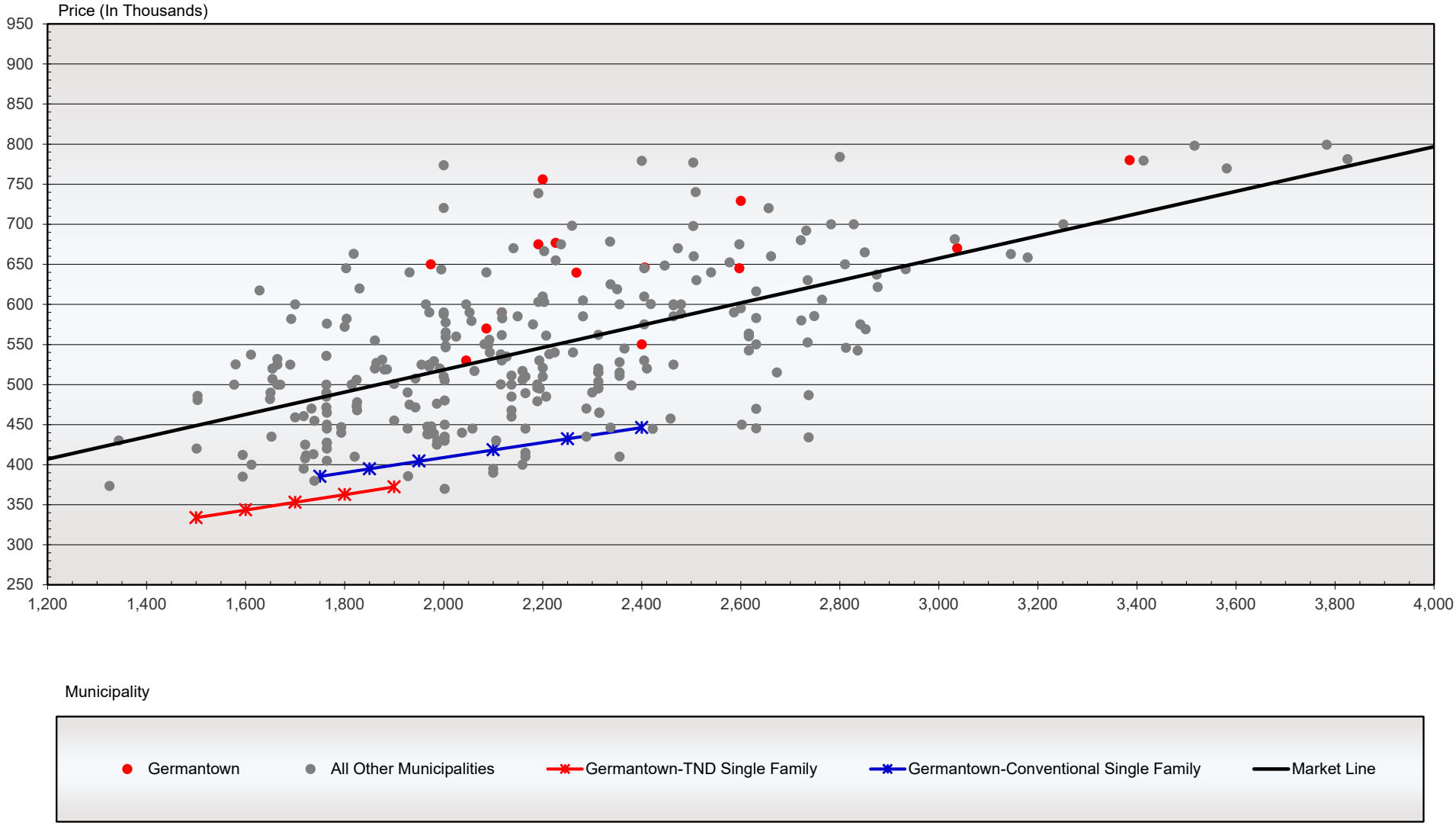


Price/value analysis uses a scatter diagram to graphically represent a set of observations found in today's marketplace, specifically the square footage of models offered and their associated sales prices. Regression analysis is then used to fit a line through the set of market observations that represent 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.

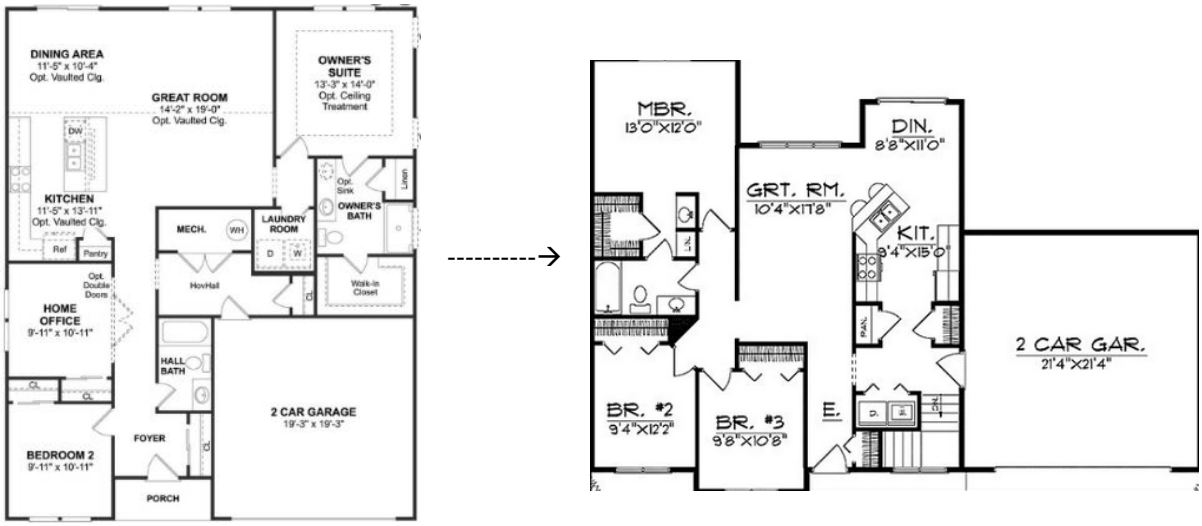
- ❑ None of the product lines should offer standard (included) basements, although the option for a basement can be made available in certain series (as indicated).

- ❑ 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.

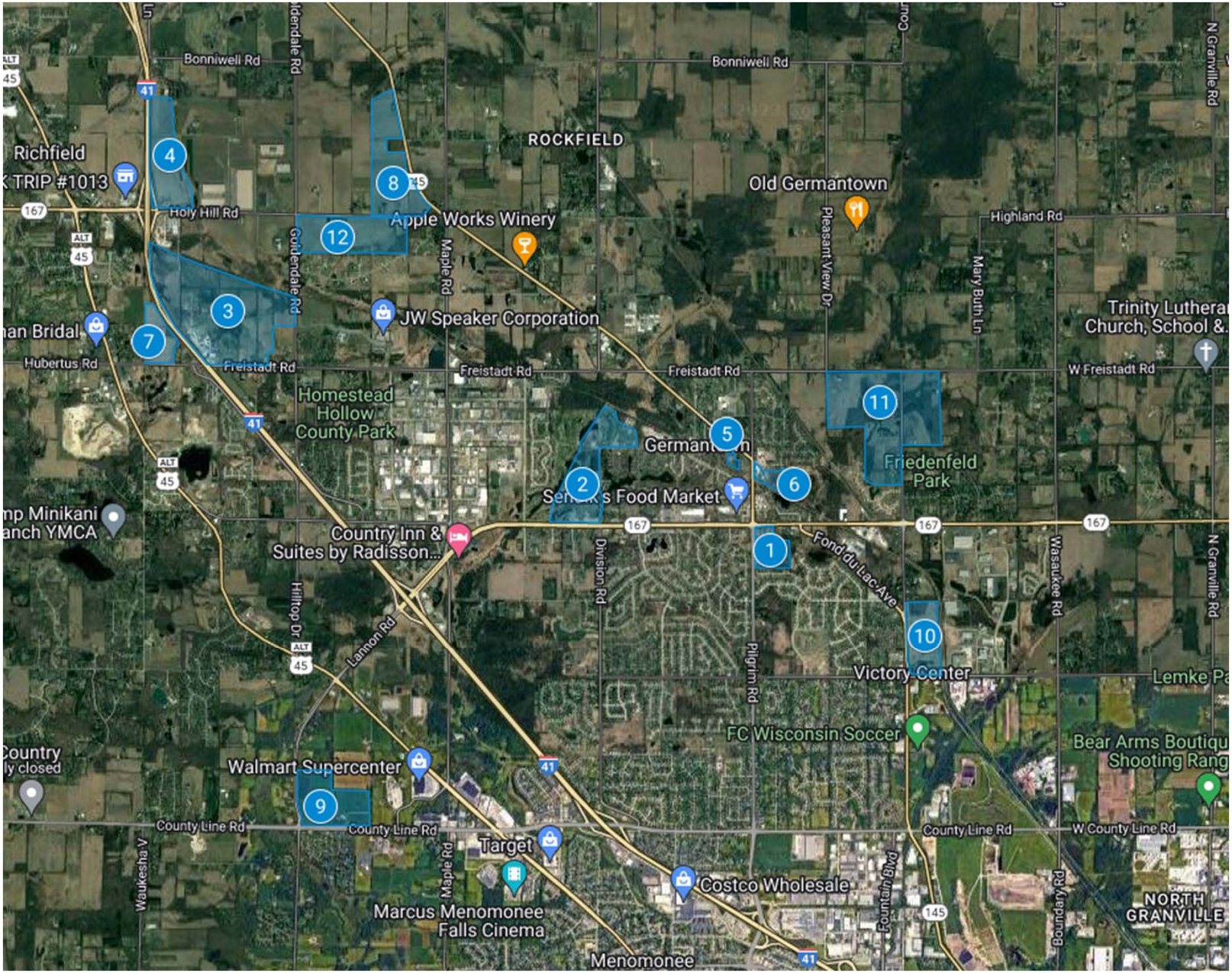
Most of the other properties identified by the Village could contain multiple product lines given their size (and the higher density allocations of each recommended home series). As a general guide, among the various larger assemblages that are proximate to Interstate 41 and/or align some of Germantown's 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.*

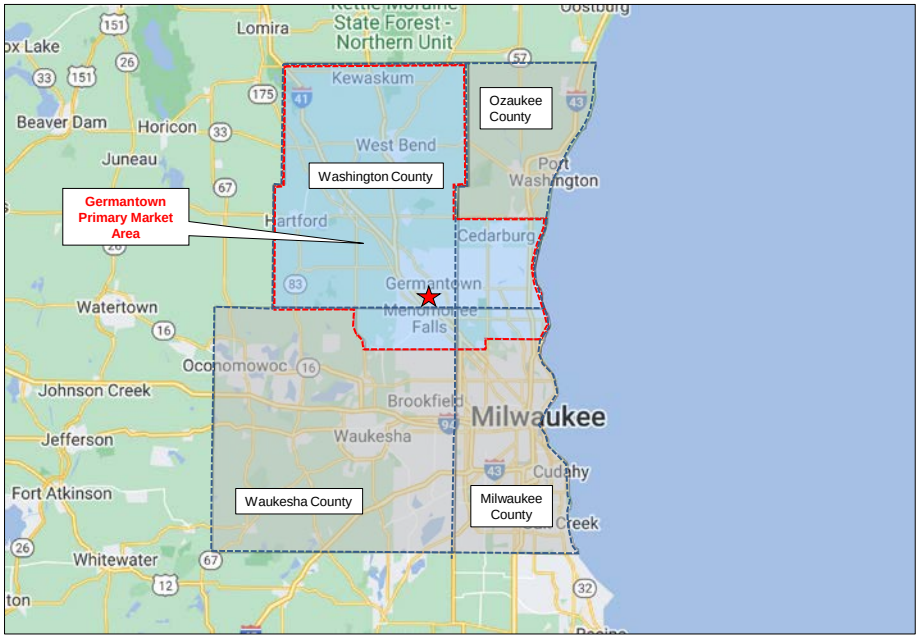
One only has to look at the first Pilot program under the Next Generation Housing banner to see the impact it is having and the success in terms of sales. In Jackson, roughly eight miles north of Germantown, Harbor Homes and Hillcrest Builders recently introduced new construction single family homes 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.

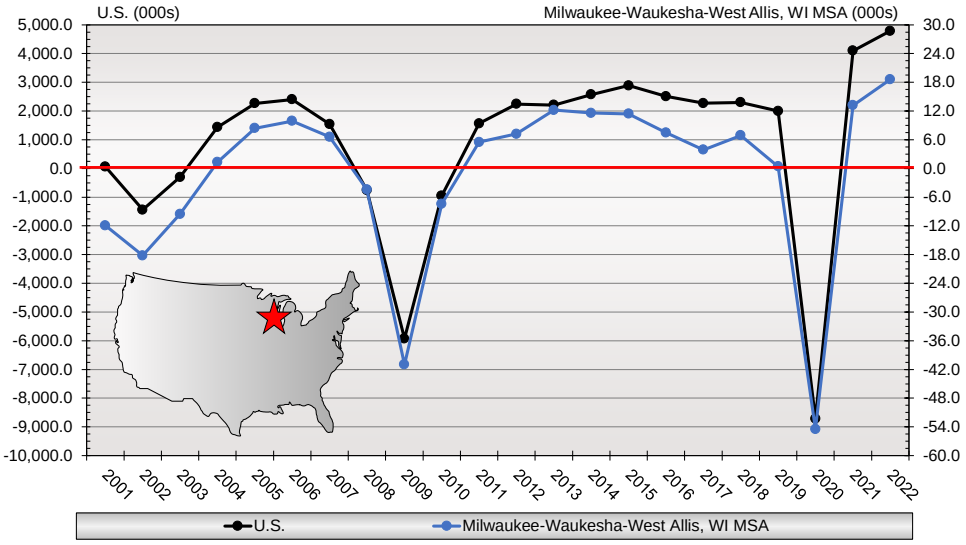
EMPLOYMENT

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. --



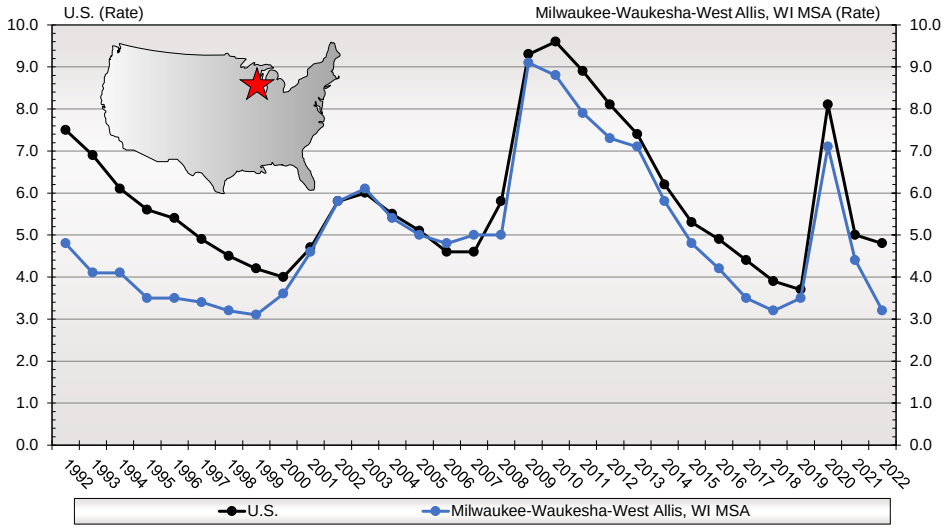
Source: U.S. Department of Labor, Bureau of Labor Statistics

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*

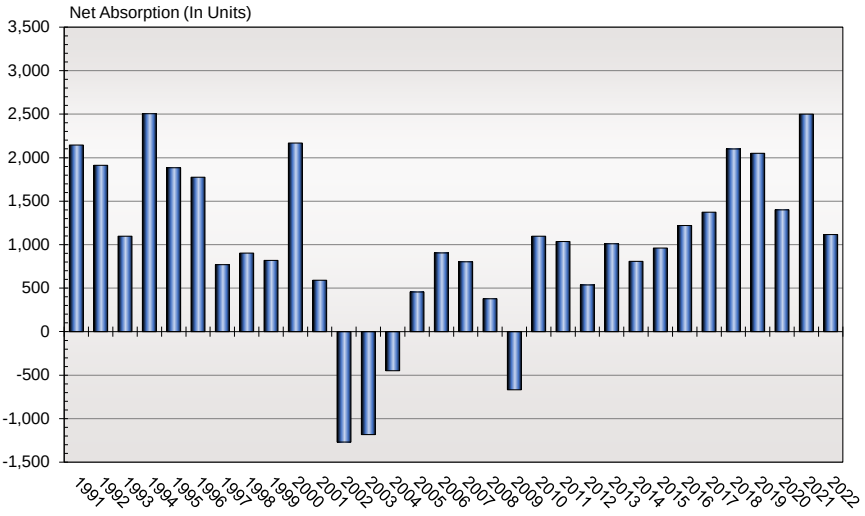
The current condition of the rental housing market in and around Germantown *lends full support* to the development of additional units throughout the area and within the village of Germantown in particular. Specifically, given the overall strength of this sector of the market (as highlighted in the 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.

Village of Germantown

Engineering Department Memorandum

To: **Jeff W. Retzlaff, AICP, Community Development Director**

From: **Kevin R. Driscoll, PE, Village Engineer**

Date: **11/13/2025**

Re: **Site Plan Review – GTNV_281967, W172 N11183 Division Road**

Items Reviewed:

1. Site Plan (1 page) Dated: 10/13/2025
2. Site Plan (1 page) Dated: 10/24/2025
3. Site Plan Application Dated: 10/24/2025 (with TIA 10/8/2025)

General Comments:

1. Applicant to respond to each item below in a **memo with a written response addressing each item**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines identified in the Village Code of Ordinances, Section 17.43. 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 is anticipated to require a WRAPP/NOI from the DNR. Please contact WDNR and submit a copy of an approved WDNR permit prior to construction.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. Permits for work within the ROW are required. Contact the Village Engineering Department to obtain a driveway permit and permit for excavation in the right of way.
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.

Easement.

1. CS101 - Sign located in easement Obstructions in easements are not allowed and would be removed. Relocate sign.
2. CG101 - Show water utility sanitary sewer connections.
3. CG101 – Show / Address set back and Buffer requirements.
4. Add easement number 710992 to plans for consistency with transmitted documents.

5. Revise from "Sanitary easement" to "30-ft Public Utility Easement"

Sanitary

1. CG101 - Show sanitary utility connection to main in plan and profile.
2. Show sanitary building sewer lateral connections from building into sanitary system.
3. Label Sanitary sewer with SAN not "SS"

Water

1. CG101 - Show water utility connection to main in plan and profile.
2. Show water service connections from buildings into water system.
3. One single water lateral per each building.
4. Each livable unit will be required to have its own meter.
5. Water lateral will not be allowed under driveway pavement.

Erosion Control

1. Provide erosion control plan including area near drainage swale. Identify proposed setbacks from centerline and channel embankments, per Erosion Control requirements listed in the Development Handbook Section 1.4.

Storm Water Management

1. CG101 missing proposed drainage patterns.
2. CG101 shows Storm water ponds. Missing drainage details for discharge from site. Clarify how proposed storm drainage leaves the site and goes under Division Road into drainage swale on east side. As part of northbound bypass lane work, the existing open channel ditch may become an enclosed storm sewer pipe draining under asphalt sidewalk approximately 450-ft south of existing driveway to Village Hall.
3. Identify / Address set backs from property line for pond in SEC and NWC of proposed lot.
4. Identify area of disturbance. Identify area of new impervious surface.
5. For disturbance over ½ acre, provide a storm water management plan per Village of Germantown Development Handbook.
6. Was a wetland delineation completed?

Private Driveway/Road

1. Label Street names. Add Division Road to site drawing.
2. Add site address and/or parcel ID to drawing
3. Connections to Division Road at Ava Court, Lone Oaks, and Tanglewood follow the Village's standard detail drawing #16. See Village of Germantown standard drawing approved by the Village Board and Public Works and Highways Committee, revised in 2022. Village Engineering staff advises following the standard details.
4. AASHTO Site Distance requirements shall be required at all driveway locations, per 5.2.1.11.1.5 of the Development Handbook. Provide sight distance evaluation at the driveways. Refer to AASHTO Geometric Design of Highways and Streets, Current Edition, per Village of Germantown Development Handbook 5.1.10.1
5. Provide an analysis for Driveways distances regarding criteria for design speed.

6. Any roadway intersecting with a collector or arterial street projected to have more than 100 ADT shall require Acceleration/Decelerations/Bypass Lanes per Village of Germantown Development Handbook Section 5.1.12.1.
7. Typically, a development agreement would include the bypass and acceleration/ deceleration lanes. However, Village DPW / Engineering staff are finalizing design and plat work, to advertise and present a base bid Division Road construction in winter 2025-2026 for construction to begin in spring 2026 without the bypass and acceleration/ deceleration lanes.
8. An alternate design for an alternate bid could be prepared. Village staff would anticipate recovering fees for the additional design and for the construction work beyond base design and base bid. The alternate design for fees for bypass and acceleration/ deceleration lanes would be established through a fee based approach, similar to a development agreement.
9. Complete a driveway permit and permit for excavation in the right of way.

Village-of-Germantown---Development-Handbook

5.1.10 SIGHT DISTANCE
5.1.10.1 For minimum sight distance requirements at intersections and driveways, refer to AASHTO Geometric Design of Highways and Streets, Current Edition including all updates.

5.1.11 INTERSECTION RADII
5.1.11.1 Internal to development for minor streets (measured from the edge of pavement/flange line): 5.1.11.1.1 Residential and multi-family: 25 feet
5.1.11.1.2 Commercial and industrial: 42 feet
5.1.11.1.3 Intersection radii at side roads, shall be as approved by the Village Engineer.

5.1.12 ACCELERATION/DECELERATIONS/BYPASS LANES
5.1.12.1 Any roadway intersecting with a collector or arterial street projected to have more than 100 ADT shall require Acceleration/Decelerations/Bypass Lanes per Detail Figure No. 4.

5.1.13 TRANSITIONS
5.1.13.1 Transitions areas, such as lane additions, bypass lanes, traffic shifting lanes, and areas between existing pavement and new pavement sections with varying widths, shall be transitioned based on speed and road type.

5.2.11.1.5 AASHTO Sight Distance requirements shall be required at all driveway locations

Sidewalk

1. How would people walk to and from the proposed site development?
2. Public Works and Highways Committee recently discussed updates to the "Trail Plan" for Division Road and do not object to improved connectivity and designs for safety improvement.
3. Parks and Recreation Commission supports amending the "Trail Plan" to design for safety improvements and connectivity of sidewalks including phases of Division Road work.

To: Kevin Driscoll, Village Engineer

CC: Jeff Retzlaff Village Planner

From: Bob Beilfuss, PLS

Date: November 16, 2025

Re: Cirrus-Tanner Hahn CSM

Kevin,

Here is my review comments for the CSM received 10/24/2025.

Certified Survey Map

Applicant or Owner: Tanner Hahn
Address: W174 N11187 Division Road, Germantown Wl. 53022
Tax Key No. GNTV 281967

Land Surveyor/Firm: Daniel E. Bednar, PLS – Land Surveys Inc.

1. The monument marking the Southeast corner of the Northeast ¼ of Section 28, Township 9 North, Range 20 East is a concrete monument with a brass cap not an aluminum cap.

2. No further review 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.

As of January 1, 2020, the digital mapping should be prepared using the NAD83 Datum (2011 Adjustment)

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 2024 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

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, December 8th, 2025
TIME: 6:30pm or later

The purpose of said hearing is to hear any and all parties, their attorneys or agents, for or against: (1) creating a Planned Development District (PDD) Zoning District for a portion of the property described below with underlying Rm-2: Multi-Family Residential Zoning District; and (2) Rezoning a portion of the property described below from the I: Institutional Zoning District to the newly created PDD Zoning District for the purpose of developing a residential community comprised of 36 dwelling units.

Applicant: Cirrus Property Group, LLC, Agent for Faith Lutheran Church, Property Owner
Property: W172N11183 Division Road; Tax Parcel GTNV_281967

Property Description:
CERTIFIED SURVEY MAP NO. 5387, RECORDED AUGUST 28, 2001, IN VOLUME 38 OF CERTIFIED SURVEY MAPS, PAGES 152, 153 AND 154, AS DOCUMENT NO. 898738, BEING A PART OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 28, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, COUNTY OF WASHINGTON, STATE OF WISCONSIN.

A copy of the application 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 and can be viewed on our website by following this link: https://www.germantownwi.gov/589/Proposed-Development-Projects

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 12th day of November 2025

To Be Published On: November 19th & November 26th, 2025

FLOODPLAIN ZONING ORDINANCE AMENDMENT / FEMA FLOOD INSURANCE STUDY (FIS) & FLOOD INSURANCE RATE MAP (FIRM) UPDATE

12/8/25 Plan Commission Meeting

Community Development Department

Staff Report & Recommendation **Germantown, Wisconsin**

Summary

The Community Development Department is presenting an amended Floodplain Zoning Ordinance (Chapter 23 of the Germantown Municipal Code) and updated Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) for review and adoption to comply with federal and state floodplain management requirements and maintain the Village's eligibility in the Federal National Flood Insurance Program (NFIP).

Background

As stated in the purpose section of the Village's Floodplain Zoning Ordinance, the primary purposes of the regulations and standards contained therein are to "protect life, health and property" and "minimize rescue and relief efforts undertaken at the expense of the taxpayers". To that end, the Village of Germantown is a "participating community" in the National Flood Insurance Program (NFIP) administered through the Department of Homeland Security's Federal Emergency Management Agency (FEMA). In exchange for adopting and enforcing a floodplain management ordinance, Federal flood insurance and disaster relief is made available to residents, property owners, and businesses throughout the Village because of our status as a "participating community". The NFIP was established in 1968 and the Village of Germantown has been an ongoing participating community since 1974.

As a participating community in the NFIP, the Village is responsible for making sure its floodplain management regulations enforced under the Village's Floodplain Zoning Code (Chapter 23) meet or exceed the minimum requirements of the NFIP under both federal and state requirements:

- Section 60.3(d) Title 44 of the Code of Federal Regulations (44 CFR); and
- Chapter NR 116 Wisconsin Administrative Code (Wisconsin's Floodplain Management Program)

One of the critical NFIP requirements is that each time FEMA provides updated and/or additional flood hazard information concerning the Village of Germantown, the Village is required to adopt that information, including any new or updated Flood Insurance Rate Maps (FIRMs) and/or Flood Insurance Studies (FIS). Also, Under NR 116, the Village is required to update its floodplain management requirements to meet or exceed the standards adopted by the DNR under NR 116.

Historically, the Village has been required to adopt new and/or updated FIRMs and floodplain zoning regulations every few years. In 2021, the Village adopted a revised floodplain ordinance, updated FIS, and FIRMs covering the north part of the Village within the Cedar Creek watershed. In 2015 the Village adopted a revised floodplain ordinance, updated FIS, and FIRMs along the west side of the Village resulting from a detailed study of the Rock River watershed including Amy Belle Creek and the Bark River in the Village of Richfield. In 2013, the Village adopted a revised FIS and FIRMs covering the entire Village as a part of FEMA's nationwide "Flood Map Modernization" program that was intended to create more reliable and accurate floodplain maps in a digital format overlayed on aerial photo images vs. previous "old school" paper maps.

Proposal

The latest updated FIS and FIRMs were prepared by FEMA in cooperation with the DNR following a multi-year effort involving multiple projects intended to update vertical survey data for Washington County and re-evaluate the rivers and streams that are tributary to and within the Milwaukee River and Rock River watersheds. The overall project reached FEMA's Letter of Final Determination (LFD) as of August 20, 2025. That date starts a 6-month period within which affected municipalities are required to adopt the updated FIS and FIRMs. Almost all jurisdictions in Washington County are affected and have until February 20, 2026, to adopt the revised FIS, FIRMs, and revisions to their own floodplain zoning ordinances to meet or exceed the DNR's recommended ordinance. Adoption of these items will allow the Village of Germantown to remain in good standing with FEMA and the National Flood Insurance Program (NFIP).

As shown in Figure 1, the Village of Germantown is covered by twelve (12) FIRM map "panels".

As shown in Figure 2, each FIRM panel shows an aerial image with the 100-year floodplain, floodway, and flood elevations associated with the streams, rivers, and other navigable waterways in that area.

Except for FIRM Panel #289 covering the far northeast corner of the Village (which has an effective date of February 25, 2022), the remaining (11) panels have been revised and will become effective on February 20, 2026.

Figure 1- FIRM Panel Index

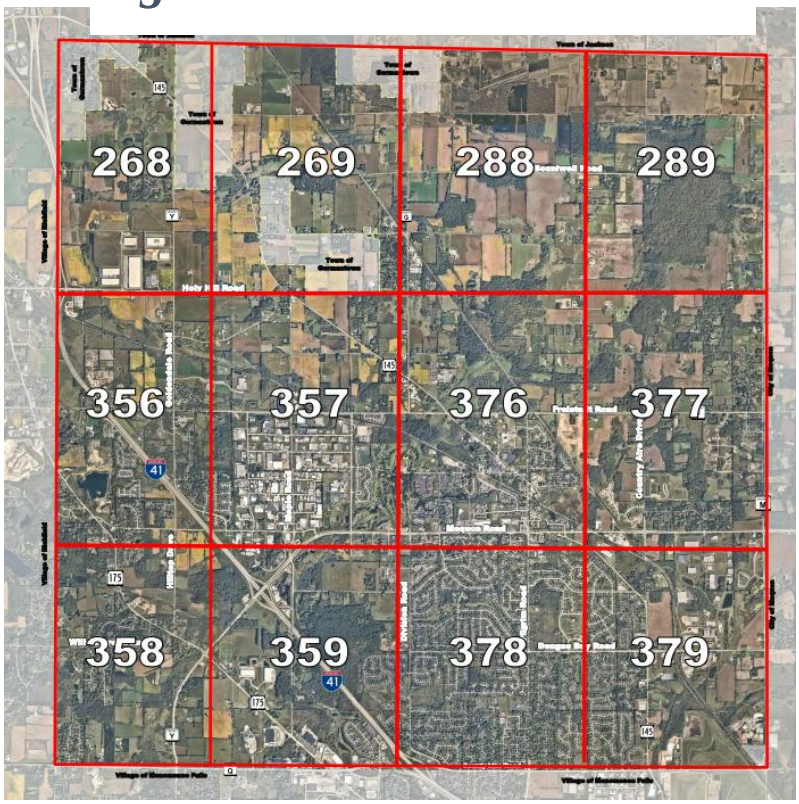


Figure 2- PANEL 268

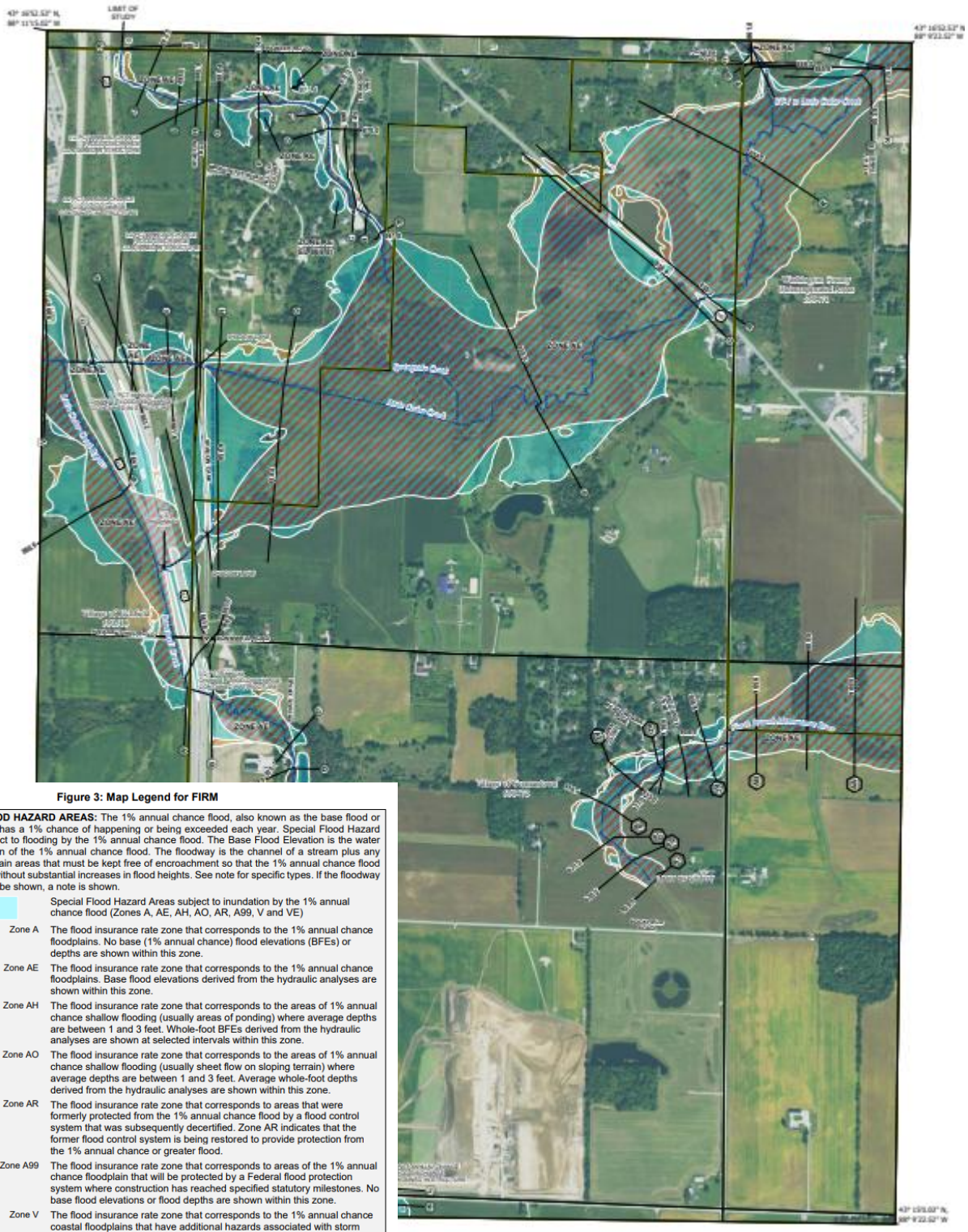


Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

The Flood Insurance Study (FIS) report contains flood hazard information and data sources used as the basis for developing the Flood Insurance Rate Maps (FIRMs). The updated FIS covers the entire geographic area of Washington County.

All twelve (12) of the updated FIRM panels and all nine (9) volumes of the updated Flood Insurance Study (FIS) are available for review on the Village website at the following link:

https://www.germantownwi.gov/731/Floodplain-Mapping-Update---FIRM-Panels

In addition, a unique "Floodplain Map Viewer" that one can use to see the differences between the current and the proposed updated FIRM panels in an interactive side-by-side format can be found on the Washington County website at the following link:

https://washingtoncowi.maps.arcgis.com/apps/instant/basic/index.html?appid=97a0ffb6ae7947d8aa3516d65f69282d

With respect to the proposed Floodplain Zoning Ordinance (copy attached), the changes between the current ordinance and the updated ordinance are minor. The DNR recommends that municipalities adopt DNR's version of an up-to-date Floodplain Zoning Ordinance to ensure ongoing compliance with Wis Stats and federal regulations each time a new FIS & FIRM is adopted by the municipality. Since Germantown just adopted a new ordinance back in 2021, the latest up-to-date DNR model ordinance is not much different than our current ordinance. The proposed up-to-date ordinance has the following:

1. Updated references to the new Flood Insurance Study (FIS) and Flood Insurance Rate Map panels (FIRMs) with an effective date of February 20, 2026;
2. Specific standards for the "flood storage district", a new component of the floodplain that is now shown separately on the FIRMs;
3. One new term & definition used within the ordinance standards ("Breakaway Wall"); and
4. Minor language revisions in the Administration Section of the ordinance

Staff Comment

Although Staff recommends that the updated FIS and FIRMs be adopted to ensure the Village retains its status as a participating community and eligibility in the National Flood Insurance Program (NFIP), it is not without some degree of hesitancy. First and foremost, it is critical that the Village retain its eligibility in the NFIP. The only way to do that is to adopt the new FIS, FIRMs, and floodplain zoning ordinance put forth by FEMA and the DNR before the February 20, 2026 deadline. Currently, there are twelve (12) property owners in the Village with federally-subsidized NFIP flood insurance "policies in force" insuring up to $3.95M in property value *(source: Sarah Rafajko, Floodplain Management Coordinator & State National Flood Insurance Program Coordinator, Wisconsin DNR).*

This does not include an equal if not greater number of property owners with private flood insurance whose lenders also rely on FEMA FIRMs for the basis of issuing flood insurance policies.

However, Staff is aware that the updated FIS and FIRMs are not without flaws. The recent 1,000-year flood event in August provided evidence observed by Staff that many locations in the Village that the new FIRMs indicate should have been flooded were, in fact, only slightly impacted if not entirely untouched by the flood water. Unfortunately, despite regular attempts to point out these obvious flaws in the FIS and FIRM development process, nothing short of significant and comprehensive hydrologic and hydraulic engineering analysis that proves the FIS and FIRMs to be wrong is enough for the Village to be successful in getting FEMA to revise the FIRMs.

That is not to say that the FIRMs cannot be changed. In fact, there is a process that individual property and business owners can follow to request that FEMA consider approving a site or property-specific change to the flood zone for their particular property. This process involves submitting an application to FEMA for a formal determination of the property's location and elevation relative to the 100-year flood zone (a.k.a. the SFHA or “special flood hazard area”). This process is called a Letter of Map Change (LOMC) request. Details on the LOMC process are available on the FEMA website here:
https://www.fema.gov/flood-maps/change-your-flood-zone#:~:text=How%20to%20Submit%20a%20Letter,Learn%20How%20to%20Access%20eLOMA

After FEMA reviews the LOMC request, it will issue a determination letter either approving or denying the map change. There are three (3) types of determinations documents one can seek in an LOMC request:

1. Letter of Map Amendment (LOMA) is a letter from FEMA stating that an existing structure or parcel of land would not be inundated by a 100-year flood; and

2. Letter of Map Revision Based on Fill (LOMR-F) is a letter from FEMA stating that an existing structure or parcel of land that has been elevated by the placement of earthen fill would not be inundated by the 100-year flood.

3. Letter of Map Revision (LOMR) is a letter from FEMA officially revising a FIRM to show changes to floodplain, floodway, or flood elevations. LOMR are associated with large scale map changes or larger commercial or residential subdivision developments. Unlike LOMA and LOMR-F, when a LOMR is issued by FEMA the affected FIRM will be reissued, physically changing the map to reflect the results of the LOMR.

With either determination, if FEMA grants the map amendment or revision request, property owner(s) may no longer be required to pay flood insurance by providing the FEMA determination document to their lender and request that any federal flood insurance requirement be removed.

It is important to point out that although FIRMs are not always physically revised to show approved LOMCs in a particular community, all LOMCs are documented and kept in a FEMA database and available to the public for viewing. Currently, there are forty-one (41) LOMCs in effect in the Village of Germantown according to FEMA.

Another important fact is that once a new FIS and FIRMs are adopted, not all previously approved LOMCs remain in effect. FEMA publishes lists of LOMCs that will and those that will not be "re-certified" after the effective date of a new FIS and FIRMs. FEMA provides a (very) brief explanation why certain LOMCs will not be re-certified. This can put property owners in a position of having to re-file an LOMC request using new survey and/or hydrologic & hydraulic engineering data to prove their property(ies) are not in a flood hazard area… despite what the revised FIRM indicates. According to FEMA twelve (12) previously approved LOMCs for property in the Village will NOT be re-certified and will expire after February 20, 2026.

STAFF RECOMMENDATION

APPROVE the proposed Floodplain Zoning Ordinance as drafted which includes updated references to the updated Flood Insurance Study (FIS) and Flood Insurance Rate Map panels (FIRMs) having an effective date of February 20, 2026.

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 N112 W17001 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, December 8, 2025
TIME: 6:30 p.m. or later

VILLAGE OF GERMANTOWN FLOODPLAIN ZONING ORDINANCE

The purpose of said hearing is to solicit public comments from any and all parties, their attorneys or agents, for or against an amendment to the Village of Germantown Floodplain Zoning Ordinance (Section 23 of the Village of Germantown Municipal Code) that includes the adoption of revised Flood Insurance Rate Maps (FIRM's) and a revised Flood Insurance Study (FIS) with an effective date of February 20, 2026, as required by state and federal law in order for the Village of Germantown to remain compliant with and participate in the National Flood Insurance Program (NFIP). The revised FIRM floodplain maps are the latest Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency (FEMA).

The Floodplain Zoning Ordinance, Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM) are intended to protect life, health and property in floodplain areas, govern permitted land uses and development of property located within and/or affected by mapped floodplains, and allow continued participation in the National Flood Insurance Program (NFIP).

A copy of the revised Floodplain Zoning Ordinance, Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM's) are on file in the Planning & Zoning Services counter of the Community Development Department in the Village Hall, N112 W17001 Mequon Road, and can be viewed on the Village's website by following link:

Website: https://www.germantownwi.gov

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 12th day of November 2025

To Be Published On: November 19th and November 26th, 2025

VILLAGE OF GERMANTOWN
FLOODPLAIN ZONING ORDINANCE
Effective: FEBRUARY 20, 2026

Adoption schedule:

1. Public Hearing Date: December 8, 2025
2. Adoption Date: December 15, 2025
3. Publication Dates: November 19 & November 26, 2025
4. Notice of Enacted Ordinance Publication Date: TBD

STATE OF WISCONSIN VILLAGE OF GERMANTOWN WASHINGTON COUNTY

ORDINANCE NO. _____-2025

AN ORDINANCE AMENDING SECTION 23 (FLOODPLAIN ZONING CODE) OF THE VILLAGE OF GERMANTOWN MUNICIPAL CODE

WHEREAS, The Wisconsin legislature recognizes that floodplain zoning is a necessary tool to protect human life, health and to minimize property damages and economic losses; and

WHEREAS, all municipalities including the Village of Germantown are required under s. 87.30 (1), Wis. Stats., to adopt reasonable and effective floodplain zoning ordinances to regulate land use and development within all floodplains where serious flood damage may occur; and

WHEREAS, The Federal Emergency Management Agency (FEMA) produces and updates Flood Insurance Rate Maps (FIRMs) that show areas at risk to flooding based on engineering studies called Flood Insurance Studies (FIS) that are designed to identify areas at risk of having a 1-percent chance of being flooded in any given year (a.k.a. a 100-year flood); and

WHEREAS, FEMA provides flood insurance to property owners, renters, and businesses through the National Flood Insurance Program (NFIP) but only in those communities that adopt the FIRMs and enforce minimum floodplain management standards and regulations designed to help avoid and/or minimize the effects of flooding; and

WHEREAS, The Wisconsin Department of Natural Resources (DNR) has been working in cooperation with FEMA to update the FIRMs for the Milwaukee River and Rock River watersheds that affect municipalities in Washington County since 2022 with a preliminary set of update FIRMs released on March 20, 2024; and

WHEREAS, following a comment and appeal period from September, 2024 to December, 2024, this project and the updated FIRMs and FIS that were produced has entered the final 6-month adoption phase beginning on August 20, 2025, where municipalities are required to adopt the updated FIRMs and FIS no later than February 20, 2026, to remain in good standing with FEMA and the NFIP;

NOW, THEREFORE, the Village Board of the Village of Germantown, Wisconsin, does ordain as follows:

SECTION I

That Section 23 of the Village of Germantown Municipal Code is repealed and recreated as set forth in Exhibit 1 (with all sections to be renumbered upon codification).

SECTION II

This ordinance shall take effect and be in full force on February 20, 2026, after its passage and publication as provided by law and approval by the Wisconsin Department of Natural Resources (DNR) and Federal Emergency Management Agency (FEMA) of the United States Department of Homeland Security.

SECTION III

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 IV

All ordinances or parts of ordinances contravening the terms of this ordinance are hereby to that extent repealed.

SECTION V

This ordinance shall take effect and be in full force upon its passage and the day after its publication.

Adopted: December 15, 2025

_____
Robert A. Soderberg, Village President

ATTEST:

_____
Donna Ott, Village Clerk

Approved as to form:

_____
Brian C. Sajdak, Village Attorney

Published:

EXHIBIT 1

Floodplain Zoning Ordinance
For the Village of Germantown, Wisconsin

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1.0 STATUTORY AUTHORIZATION, FINDING OF FACT, STATEMENT OF PURPOSE, TITLE, AND GENERAL PROVISIONS

1.1 STATUTORY AUTHORIZATION
This ordinance is adopted pursuant to the authorization in s. 61.35 and 62.23, for villages and cities; and the requirements in s. 87.30, Stats.

1.2 FINDING OF FACT
Uncontrolled development and use of the floodplains and rivers of this municipality would impair the public health, safety, convenience, general welfare, and tax base.

1.3 STATEMENT OF PURPOSE
This ordinance is intended to regulate floodplain development to:

(1) Protect life, health and property;
(2) Minimize expenditures of public funds for flood control projects;
(3) Minimize rescue and relief efforts undertaken at the expense of the taxpayers;
(4) Minimize business interruptions and other economic disruptions;
(5) Minimize damage to public facilities in the floodplain;
(6) Minimize the occurrence of future flood blight areas in the floodplain;
(7) Discourage the victimization of unwary land and homebuyers;
(8) Prevent increases in flood heights that could increase flood damage and result in conflicts between property owners; and
(9) Discourage development in a floodplain if there is any practicable alternative to locate the activity, use or structure outside of the floodplain.

1.4 TITLE
This ordinance shall be known as the Floodplain Zoning Ordinance for the Village of Germantown, Wisconsin.

1.5 GENERAL PROVISIONS
(1) AREAS TO BE REGULATED
This ordinance regulates all areas of special flood hazard identified as zones A, AO, AH, A1-30, or AE on the Flood Insurance Rate Map. Additional areas identified on maps approved by the Department of Natural Resources (DNR) and local community may also be regulated under the provisions of this ordinance, where applicable.

(2) OFFICIAL MAPS & REVISIONS
Special Flood Hazard Areas (SFHA) are designated as zones A, A1-30, AE, AH, or AO on the Flood Insurance Rate Maps (FIRMs) based on flood hazard analyses summarized in the Flood Insurance Study (FIS) listed in subd. (a) below. Additional flood hazard areas subject to regulation under this ordinance are identified on maps based on studies approved by the DNR and listed in subd. (b) below. These maps and revisions are on file in the office of the Director, Community Development Department, Germantown Village Hall, Germantown, WI.

(a) OFFICIAL MAPS: Based on the Flood Insurance Study (FIS):
1. Flood Insurance Rate Map (FIRM), panel number 55131C0289E dated 02/25/2022.
2. Flood Insurance Rate Map (FIRM), panel numbers 55131C0268F, 55131C0269F, 55131C0288F, 55131C0356G, 55131C0357E, 55131C0358F, 55131C0359E, 55131C0376E, 55131C0377E, 55131C0378E, and 55131C0379E, dated 02/20/2026.
3. Flood Insurance Study (FIS) for Washington County dated 02/20/2026.

Approved by: The DNR and FEMA

(b) OFFICIAL MAPS**:** Based on other studies. Any maps referenced in this section must be approved by the DNR and be more restrictive than those based on the FIS at the site of the proposed development.

1. Flood Storage Map, panel number 11 and 12, dated 02/20/2026, approved by the DNR.

(3) ESTABLISHMENT OF FLOODPLAIN ZONING DISTRICTS
The flood hazard areas regulated by this ordinance are divided into districts as follows:

a) The Floodway District (FW), is the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional floodwaters, within AE Zones as shown on the FIRM, or within A Zones shown on the FIRM when determined according to s. 5.1(5).

b) The Floodfringe District (FF) is that portion of a riverine special flood hazard area outside the floodway within AE Zones on the FIRM, or, when floodway limits have been determined according to s. 5.1(5), within A Zones shown on the FIRM.

c) The General Floodplain District (GFP) is those riverine areas that may be covered by floodwater during the regional flood in which a floodway boundary has not been delineated on the FIRM and also includes shallow flooding areas identified as AH and AO zones on the FIRM.

d) The Flood Storage District (FSD) is that area of the floodplain where storage of floodwaters is calculated to reduce the regional flood discharge.

(4) LOCATING FLOODPLAIN BOUNDARIES
Discrepancies between the exterior boundaries of zones A1-30, AE, AH, or A on the official floodplain zoning map and actual field conditions may be resolved using the criteria in subd (a) or (b) below. If a significant difference exists, the map shall be amended according to s. 8.0 *Amendments*. The Zoning Administrator can rely on a boundary derived from a profile elevation to grant or deny a land use permit, whether or not a map amendment is required. The Zoning Administrator shall be responsible for documenting actual pre-development field conditions and the basis upon which the district boundary was determined. Disputes between the Zoning Administrator and an applicant over the district boundary line shall be settled according to s. 7.3(3) and the criteria in (a) and (b) below**.** Where the flood profiles are based on established base flood elevations from a FIRM, FEMA must approve any map amendment or revision pursuant to s. 8.0 *Amendments*.

a) If flood profiles exist, the map scale and the profile elevations shall determine the district boundary. The regional or base flood elevations shall govern if there are any discrepancies.

b) Where flood profiles do not exist for projects, including any boundary of zone A, or AO the location of the boundary shall be determined by the map scale.

(5) REMOVAL OF LANDS FROM FLOODPLAIN
a) Compliance with the provisions of this ordinance shall not be grounds for removing land from the floodplain unless it is filled at least two feet above the regional or base flood elevation, the fill is contiguous to land outside the floodplain, and the map is amended pursuant to s. 8.0 *Amendments.*

b) The delineation of any of the Floodplain Districts may be revised by the community where

natural or man-made changes have occurred and/or where more detailed studies have been conducted. However, prior to any such change, approval must be obtained from the Wisconsin Department of Natural Resources and Federal Emergency Management Agency. A completed Letter of Map Revision is a record of this approval. The floodplain administrator shall not sign a community acknowledgement form unless all criteria set forth in the following paragraphs are met:

1. The land and/or land around the structure must be filled at least two feet above the regional or base flood elevation;

2. The fill must be contiguous to land outside the floodplain; Applicant shall obtain floodplain development permit before applying for a LOMR or LOMR-F;

c) Removal of lands from the floodplain may also occur by operation of §87.30(1)(e), Wis. Stat. if a property owner has obtained a letter of map amendment from the federal emergency management agency under 44 C.F.R. 70.

(6) COMPLIANCE

a) No structure or use within areas regulated by this ordinance shall hereafter be located, erected, constructed, reconstructed, repaired, extended, converted, enlarged, or altered without full compliance with the terms of these regulations and all other applicable regulations that apply to uses within the jurisdiction of these regulations.

b) Failure to obtain a floodplain development permit shall be a violation of these regulations and shall be punishable in accordance with s. 9.0.

c) Floodplain development permits issued on the basis of plans and applications approved by the Floodplain Administrator authorize only the use, and arrangement, set forth in such approved plans and applications, or amendments thereto if approved by the Floodplain Administrator. Use, arrangement, or construction contrary to that authorized shall be deemed a violation of these regulations and punishable in accordance with s. 9.0.

(7) MUNICIPALITIES AND STATE AGENCIES REGULATED

Unless specifically exempted by law, all cities, villages, towns, and counties are required to comply with this ordinance and obtain all necessary permits. State agencies are required to comply if s. 13.48(13), Stats., applies. The construction, reconstruction, maintenance and repair of state highways and bridges by the Wisconsin Department of Transportation is exempt when s. 30.2022, Stats., applies. Although exempt from a local zoning permit and permit fees, DOT must provide sufficient project documentation and analysis to ensure that the community is in compliance with Federal, State, and local floodplain standards. If a local transportation project is located within a Zone A floodplain and is not a WisDOT project under s. 30.2022, then the road project design documents (including appropriate detailed plans and profiles) may be sufficient to meet the requirements for issuance of a local floodplain permit if the following apply: The applicant provides documentation to the Floodplain Administrator that the proposed project is a culvert replacement or bridge replacement under 20' span at the same location, the project is exempt from a DNR permit under s. 30.123(6)(d), the capacity is not decreased, the top road grade is not raised, and no floodway data is available from a federal, state, or other source. If floodway data is available in the impacted area from a federal, state, or other source that existing data must be utilized by the applicant in the analysis of the project site.

(8) ABROGATION AND GREATER RESTRICTIONS

a) This ordinance supersedes all the provisions of any municipal zoning ordinance enacted under s. 61.35 for villages; or s. 87.30, Stats., which relate to floodplains. A more restrictive

ordinance shall continue in full force and effect to the extent of the greater restrictions, but not otherwise.

b) This ordinance is not intended to repeal, abrogate, or impair any existing deed restrictions, covenants, or easements. If this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail.

(9) INTERPRETATION

In their interpretation and application, the provisions of this ordinance are the minimum requirements liberally construed in favor of the governing body and are not a limitation on or repeal of any other powers granted by the Wisconsin Statutes. If a provision of this ordinance, required by ch. NR 116, Wis. Adm. Code, is unclear, the provision shall be interpreted in light of the standards in effect on the date of the adoption of this ordinance or in effect on the date of the most recent text amendment to this ordinance.

(10) WARNING AND DISCLAIMER OF LIABILITY

The flood protection standards in this ordinance are based on engineering experience and research. Larger floods may occur, or the flood height may be increased by man-made or natural causes. This ordinance does not imply or guarantee that non-floodplain areas or permitted floodplain uses will be free from flooding and flood damages. This ordinance does not create liability on the part of, or a cause of action against, the municipality or any officer or employee thereof for any flood damage that may result from reliance on this ordinance.

(11) SEVERABILITY

Should any portion of this ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, the remainder of this ordinance shall not be affected.

(12) ANNEXED AREAS FOR CITIES AND VILLAGES

The Washington County floodplain zoning provisions in effect on the date of annexation shall remain in effect and shall be enforced by the municipality for all annexed areas until the municipality adopts and enforces an ordinance which meets the requirements of ch. NR 116, Wis. Adm. Code and 44 CFR 59-72, *National Flood Insurance Program* (NFIP). These annexed lands are described on the municipality's official zoning map. County floodplain zoning provisions are incorporated by reference for the purpose of administering this section and are on file in the office of the municipal Zoning Administrator. All plats or maps of annexation shall show the regional flood elevation and the floodway location.

2.0 GENERAL STANDARDS APPLICABLE TO ALL FLOODPLAIN DISTRICTS

The community shall review all permit applications to determine whether proposed building sites will be reasonably safe from flooding and assure that all necessary permits have been received from those governmental agencies whose approval is required by federal or state law.

1) If a proposed building site is in a flood-prone area, all new construction and substantial improvements shall:

   a. be designed and anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

   b. be constructed with flood-resistant materials;

   c. be constructed by methods and practices that minimize flood damages; and

   d. Mechanical and utility equipment must be elevated to or above the flood protection elevation.

2) If a subdivision or other proposed new development is in a flood-prone area, the community shall assure that:

   a. such proposed subdivision or other proposed new development is consistent with the need to minimize flood damage within the flood-prone area;

   b. public utilities and facilities such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and

   c. adequate drainage is provided to reduce exposure to flood hazards.

   All subdivision proposals (including manufactured home parks) shall include regional flood elevation and floodway data for any development that meets the subdivision definition of this ordinance and all other requirements in s. 7.1(2).

2.1 HYDRAULIC AND HYDROLOGIC ANALYSES

1) No floodplain development shall:

   a. Obstruct flow, defined as development which blocks the conveyance of floodwaters by itself or with other development, causing any increase in the regional flood height; or

   b. Cause any increase in the regional flood height due to floodplain storage area lost.

2) The Zoning Administrator shall deny permits if it is determined the proposed development will obstruct flow or cause any increase in the regional flood height, based on the officially adopted FIRM or other adopted map, unless the provisions of s. 8.0 *Amendments* are met.

2.2 WATERCOURSE ALTERATIONS

No land use permit to alter or relocate a watercourse in a mapped floodplain shall be issued until the local official has notified in writing all adjacent municipalities, the Department and FEMA regional offices, and required the applicant to secure all necessary state and federal permits. The standards of s. 2.1 must be met and the flood carrying capacity of any altered or relocated watercourse shall be maintained.

As soon as is practicable, but not later than six months after the date of the watercourse alteration or relocation and pursuant to s. 8.0 *Amendments,* the community shall apply for a Letter of Map Revision (LOMR) from FEMA. Any such alterations must be reviewed and approved by FEMA and the DNR through the LOMC process.

2.3 CHAPTER 30, 31, WIS. STATS., DEVELOPMENT

Development which requires a permit from the Department, under chs. 30 and 31, Stats., such as docks, piers, wharves, bridges, culverts, dams, and navigational aids, may be allowed if the necessary permits are obtained and amendments to the floodplain zoning ordinance are made according to s. 8.0 *Amendments*.

2.4 PUBLIC OR PRIVATE CAMPGROUNDS

Public or private campgrounds shall have a low flood damage potential and shall meet the following provisions:

1) The campground is approved by the Department of Agriculture, Trade and Consumer Protection;

2) A land use permit for the campground is issued by the Zoning Administrator;

3) The character of the river system and the campground elevation are such that a 72-hour warning of an impending flood can be given to all campground occupants;

4) There is an adequate flood warning procedure for the campground that offers the minimum notice required under this section to all persons in the campground. This procedure shall include a written agreement between the campground owner, the floodplain zoning agency or Zoning Administrator, the municipal emergency government coordinator and the chief law enforcement official which specifies the flood elevation at which evacuation shall occur, personnel responsible for monitoring flood elevations, types of warning systems to be used and the procedures for notifying at-risk parties, and the methods and personnel responsible for conducting the evacuation;

5) This agreement shall be for no more than one calendar year, at which time the agreement shall be reviewed and updated - by the officials identified in sub. (4) - to remain in compliance with all applicable regulations, including those of the state Department of Agriculture, Trade and Consumer Protection and all other applicable regulations;

6) All mobile recreational vehicles placed on site must meet one of the following:

    a. Be fully licensed, if required, and ready for highway use; or

    b. Not occupy any site in the campground for more than 180 consecutive days, at which time the recreational vehicle must be removed from the floodplain for a minimum of 24 hours; or

    c. Meet the requirements in either s. 3.0, 4.0, or 5.1 for the floodplain district in which the structure is located;

    A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

7) All camping units that remain on site for more than 30 days shall be issued a limited authorization by the campground operator, a written copy of which is kept on file at the campground. Such authorization shall allow placement of a camping unit consistent with 2.4(6) and shall ensure compliance with all the provisions of this section;

8) The municipality shall monitor the limited authorizations issued by the campground operator to assure compliance with the terms of this section;

9) The campground shall have signs clearly posted at all entrances warning of the flood hazard and the procedures for evacuation when a flood warning is issued; and

10) All service facilities, including but not limited to refuse collection, electrical service, gas lines, propane tanks, sewage systems and wells shall be properly anchored and placed at or floodproofed to the flood protection elevation; and

11) Standards for structures in a campground:

    a. All structures must comply with section 2.4 or meet the applicable requirements in ss. 3.0, 4.0, or 5.1 for the floodplain district in which the structure is located;

    b. Deck/landing-a portable landing may be allowed for a camping unit for each entry provided that the landing is not permanently attached to the ground or camping unit,

is no more than 200 square feet in size, shall be portable, contain no walls or roof, and can be removed from the campground by a truck and/or trailer. Sections of such portable landings may be placed together to form a single deck not greater than 200 square feet at one entry point. Provisions for the removal of these temporary landings during flood events must be addressed within the written agreement with the municipality compliant with section 2.4(4). Any such deck/landing structure may be constructed at elevations lower than the flood protection elevation but must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.

c. Decks/patios that are constructed completely at grade may be allowed but must also comply with applicable shoreland zoning standards.

d. Camping equipment and appurtenant equipment in the campground may be allowed provided that the equipment is not permanently attached to the ground or camping unit, is not used as a habitable structure, and must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood. Provisions for the removal of this equipment during flooding events shall be addressed within the written agreement with the municipality compliant with section 2.4(4).

e. Once a flood warning in the written agreement has been issued for the campground, the campground owner or the designated operator shall ensure that all persons, camping units, decks, camping equipment and appurtenant equipment in the campground shall be evacuated within the timelines specified within the written agreement with the municipality compliant with section 2.4(4).

12) A land use permit shall be obtained as provided under 7.1(2) before any development; repair, modification, or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated.

1.0 FLOODWAY DISTRICT (FW)

3.1 APPLICABILITY

This section applies to all floodway areas on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

3.2 PERMITTED USES

The following open space uses are allowed in the Floodway District and the floodway areas of the General Floodplain District, if:

- they are not prohibited by any other ordinance;
- they meet the standards in s. 3.3 and 3.4; and
- all permits or certificates have been issued according to s. 7.1.

1) Agricultural uses, such as: farming, outdoor plant nurseries, horticulture, viticulture, and wild crop harvesting.

2) Nonstructural industrial and commercial uses, such as loading areas, parking areas and airport landing strips.

3) Nonstructural recreational uses, such as golf courses, tennis courts, archery ranges, picnic grounds, boat ramps, swimming areas, parks, wildlife and nature preserves, game farms, fish hatcheries, shooting, trap, and skeet activities, hunting and fishing areas and hiking and horseback riding trails, subject to the fill limitations of s. 3.3(4).

4) Uses or structures accessory to open space uses or classified as historic structures that comply with s. 3.3 and 3.4.

5) Extraction of sand, gravel or other materials that comply with s. 3.3(4).

6) Functionally water-dependent uses, such as docks, piers or wharves, dams, flowage areas, culverts, navigational aids and river crossings of transmission lines, and pipelines that comply with chs. 30 and 31, Stats.

7) Public utilities, streets and bridges that comply with s. 3.3(3).

8) Portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and Ch. SPS 383, Wis. Adm. Code.

9) Public or private wells used to obtain potable water for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code.

10) Wastewater treatment ponds or facilities permitted under s. NR 110.15(3)(b), Wis. Adm. Code.

11) Sanitary sewer or water supply lines to service existing or proposed development located outside the floodway that complies with the regulations for the floodplain area occupied.

3.3 STANDARDS FOR DEVELOPMENT IN THE FLOODWAY

1) GENERAL

   a. Any development in the floodway shall comply with s. 2.0 and have a low flood damage potential.

   b. Applicants shall provide an analysis calculating the effects of this proposal on the regional flood height to determine the effects of the proposal according to s. 2.1 and 7.1(2)(c). The analysis must be completed by a registered professional engineer in the state of Wisconsin.

   c. Any encroachment in the regulatory floodway is prohibited unless the data submitted for subd. 3.3(1)(b) above demonstrates that the encroachment will cause no increase in flood elevations in flood events up to the base flood at any location or removes the encroached area from the regulatory floodway as provided in s. 1.5(5).

2) STRUCTURES

   Structures accessory to permanent open space uses, including utility and sanitary facilities, or functionally dependent on a waterfront location may be allowed by permit if the structures comply with the following criteria:

   a. Not designed for human habitation, does not have a high flood damage potential and is constructed to minimize flood damage;

   b. Shall either have the lowest floor elevated to or above the flood protection elevation or shall meet all the following standards:

      1. Have the lowest floor elevated to or above the regional flood elevation and be dry floodproofed so that the structure is watertight with walls substantially impermeable to the passage of water and completely dry to the flood protection elevation without human intervention during flooding;

2. Have structural components capable of meeting all provisions of Section 3.3(2)(g) and;

3. Be certified by a registered professional engineer or architect, through the use of a Federal Emergency Management Agency Floodproofing Certificate, that the design and methods of construction are in accordance with Section 3.3(2)(g).

c. Must be anchored to resist flotation, collapse, and lateral movement;

d. Mechanical and utility equipment must be elevated to or above the flood protection elevation; and

e. Must not obstruct flow of flood waters or cause any increase in flood levels during the occurrence of the regional flood.

f. For a structure designed to allow the automatic entry of floodwaters below the Regional Flood Elevation, the applicant shall submit a plan that meets s. 3.3(2)(a) through 3.3(2)(e) and meets or exceeds the following standards:

1. The lowest floor must be elevated to or above the regional flood elevation;

2. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

3. the bottom of all openings shall be no higher than one foot above the lowest adjacent grade; openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters, otherwise must remain open.

4. The use must be limited to parking, building access or limited storage.

g. Certification: Whenever floodproofing measures are required, a registered professional engineer or architect shall certify that the following floodproofing measures will be utilized, where appropriate, and are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood:

1. Reinforcement of floors and walls to resist rupture, collapse, or lateral movement caused by water pressures or debris buildup;

2. Construction of wells, water supply systems and waste treatment systems so as to prevent the entrance of flood waters in such systems and must be in accordance with provisions in Sections 3.4(4) and 3.4(5);

3. Subsurface drainage systems to relieve external pressures on foundation walls and basement floors;

4. Cutoff valves on sewer lines or the elimination of gravity flow basement drains; and

5. Placement of utilities to or above the flood protection elevation.

3) PUBLIC UTILITIES, STREETS AND BRIDGES
Public utilities, streets and bridges may be allowed by permit, if:

a. Adequate floodproofing measures are provided to the flood protection elevation; and

b. Construction meets the development standards of s. 2.1.

4) FILLS OR DEPOSITION OF MATERIALS
Fills or deposition of materials may be allowed by permit, if:

a. The requirements of s. 2.1 are met;

b. No material is deposited in navigable waters unless a permit is issued by the Department pursuant to ch. 30, Stats., and a permit pursuant to s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344 has been issued, if applicable, and all other requirements have been met;

c. The fill or other materials will be protected against erosion by riprap, vegetative cover, sheet piling or bulkheading; and

d. The fill is not classified as a solid or hazardous material.

3.4 PROHIBITED USES
All uses not listed as permitted uses in s. 3.2 are prohibited, including the following uses:

1) Habitable structures, structures with high flood damage potential, or those not associated with permanent open-space uses;

2) Storing materials that are buoyant, flammable, explosive, injurious to property, water quality, or human, animal, plant, fish or other aquatic life;

3) Uses not in harmony with or detrimental to uses permitted in the adjoining districts;

4) Any private or public sewage systems, except portable latrines that are removed prior to flooding and systems associated with recreational areas and Department-approved campgrounds that meet the applicable provisions of local ordinances and ch. SPS 383, Wis. Adm. Code;

5) Any public or private wells which are used to obtain potable water, except those for recreational areas that meet the requirements of local ordinances and chs. NR 811 and NR 812, Wis. Adm. Code;

6) Any solid or hazardous waste disposal sites;

7) Any wastewater treatment ponds or facilities, except those permitted under s. NR 110.15(3)(b), Wis. Adm. Code; and

8) Any sanitary sewer or water supply lines, except those to service existing or proposed development located outside the floodway which complies with the regulations for the floodplain area occupied.

4.0 FLOODFRINGE DISTRICT (FF)

4.1 APPLICABILITY
This section applies to all floodfringe areas shown on the floodplain zoning maps and those identified pursuant to s. 5.1(5).

4.2 PERMITTED USES
Any structure, land use, or development is allowed in the Floodfringe District if the standards in s. 4.3 are met, the use is not prohibited by this, or any other ordinance or regulation and all permits or

certificates specified in s. 7.1 have been issued.

4.3 STANDARDS FOR DEVELOPMENT IN THE FLOODFRINGE

Section 2.0 shall apply in addition to the following requirements according to the use requested. Any existing structure in the floodfringe must meet the requirements of s. 6.0 *Nonconforming Uses*;

(1) RESIDENTIAL USES

Any structure, including a manufactured home, which is to be newly constructed or moved into the floodfringe, shall meet or exceed the following standards;

a) All new construction, including placement of manufactured homes, and substantial improvement of residential structures, shall have the lowest floor elevated to or above the flood protection elevation on fill. The fill around the structure shall be one foot or more above the regional flood elevation extending at least 15 feet beyond the limits of the structure. No area may be removed from the floodfringe district unless it can be shown to meet s. 1.5(5).

b) Notwithstanding s. 4.3 (1)(a), a basement or crawlspace floor may be placed at the regional flood elevation if the basement or crawlspace is designed to make all portions of the structure below the flood protection elevation watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. No floor of any kind is allowed below the regional flood elevation;

c) Contiguous dryland access shall be provided from a structure to land outside of the floodplain, except as provided in subd. (d).

d) In developments where existing street or sewer line elevations make compliance with subd. (c) impractical, the municipality may permit new development and substantial improvements where roads are below the regional flood elevation, if:

1. The municipality has written assurance from police, fire and emergency services that rescue, and relief will be provided to the structure(s) by wheeled vehicles during a regional flood event; or

2. The municipality has a DNR-approved emergency evacuation plan that follows acceptable hazard mitigation planning guidelines.

(2) ACCESSORY STRUCTURES OR USES

In addition to s. 2.0, new construction and substantial improvements of Accessory structures shall be constructed on fill with the lowest floor at or above the regional flood elevation.

(3) COMMERCIAL USES

In addition to s. 2.0, any commercial structure which is erected, altered, or moved into the floodfringe shall meet the requirements of s. 4.3(1). Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(4) MANUFACTURING AND INDUSTRIAL USES

In addition to s. 2.0, any manufacturing or industrial structure which is erected, altered, or moved into the floodfringe shall have the lowest floor elevated to or above the flood

protection elevation or meet the floodproofing standards in s 7.5. Subject to the requirements of s. 4.3(5), storage yards, surface parking lots and other such uses may be placed at lower elevations if an adequate warning system exists to protect life and property.

(5) STORAGE OF MATERIALS

Materials that are buoyant, flammable, explosive, or injurious to property, water quality or human, animal, plant, fish, or aquatic life shall be stored at or above the flood protection elevation or floodproofed in compliance with s. 7.5. Adequate measures shall be taken to ensure that such materials will not enter the water body during flooding.

(6) PUBLIC UTILITIES, STREETS AND BRIDGES

All utilities, streets and bridges shall be designed to be compatible with comprehensive floodplain development plans; and

a) When failure of public utilities, streets and bridges would endanger public health or safety, or where such facilities are deemed essential, construction or repair of such facilities shall only be permitted if they are designed to comply with s. 7.5.

b) Minor roads or non-essential utilities may be constructed at lower elevations if they are designed to withstand flood forces to the regional flood elevation.

(7) SEWAGE SYSTEMS

All sewage disposal systems shall be designed to minimize or eliminate infiltration of flood water into the system, pursuant to s. 7.5(3), to the flood protection elevation and meet the provisions of all local ordinances and ch. SPS 383, Wis. Adm. Code.

(8) WELLS

All wells shall be designed to minimize or eliminate infiltration of flood waters into the system, pursuant to s. 7.5(3), to the flood protection elevation and shall meet the provisions of chs. NR 811 and NR 812, Wis. Adm. Code.

(9) SOLID WASTE DISPOSAL SITES

Disposal of solid or hazardous waste is prohibited in floodfringe areas.

(10) DEPOSITION OF MATERIALS

Any deposited material must meet all the provisions of this ordinance.

(11) MANUFACTURED HOMES

a) Owners or operators of all manufactured home parks and subdivisions shall provide adequate surface drainage to minimize flood damage, and prepare, secure approval, and file an evacuation plan, indicating vehicular access and escape routes, with local emergency management authorities.

b) In existing manufactured home parks, all new homes, replacement homes on existing pads, and substantially improved homes shall:

1. have the lowest floor elevated to the flood protection elevation; and

2. be anchored so they do not float, collapse, or move laterally during a flood;

c) Outside of existing manufactured home parks, including new manufactured home parks and all single units outside of existing parks, all new, replacement and substantially improved manufactured homes shall meet the residential development standards for the floodfringe in s. 4.3(1).

(12) MOBILE RECREATIONAL VEHICLES

All mobile recreational vehicles must be on site for less than 180 consecutive days and be either:

a) fully licensed and ready for highway use; or

b) shall meet the elevation and anchoring requirements in s. 4.3 (11)(b) and (c).

A mobile recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick-disconnect utilities and security devices and has no permanently attached additions.

5.0 OTHER FLOODPLAIN DISTRICTS

5.1 GENERAL FLOODPLAIN DISTRICT (GFP)

1) APPLICABILITY

The provisions for the General Floodplain District shall apply to development in all floodplains mapped as A, AO, AH, and in AE zones within which a floodway is not delineated on the Flood Insurance Rate Maps identified in s. 1.5(2)(a).

2) FLOODWAY BOUNDARIES

For proposed development in zone A, or in zone AE within which a floodway is not delineated on the Flood Insurance Rate Map identified in s. 1.5(2)(a), the boundaries of the regulatory floodway shall be determined pursuant to s. 5.1(5). If the development is proposed to encroach upon the regulatory floodway, the development is subject to the standards of s 3.0. If the development is located entirely within the floodfringe, the development is subject to the standards of s. 4.0.

3) PERMITTED USES

Pursuant to s. 5.1(5) it shall be determined whether the proposed use is located within the floodway or floodfringe. Those uses permitted in the Floodway (s. 3.2) and Floodfringe (s. 4.2) Districts are allowed within the General Floodplain District, according to the standards of s. 5.1(4) provided that all permits or certificates required under s. 7.1 have been issued.

4) STANDARDS FOR DEVELOPMENT IN THE GENERAL FLOODPLAIN DISTRICT

Section 3.0 applies to floodway areas, determined to pursuant to 5.1(5); Section 4.0 applies to floodfringe areas, determined to pursuant to 5.1(5).

a) New construction and substantial improvement of structures in zone AO shall have the lowest floor, including basement, elevated:

1. To or above the depth, in feet, as shown on the FIRM above the highest adjacent

natural grade; or

2. If the depth is not specified on the FIRM, two feet (2) above the highest adjacent natural grade or higher.

b) New Construction and substantial improvement of structures in zone AH shall have the lowest floor, including basement, elevated to or above the flood protection elevation.

c) In AO/AH zones, provide adequate drainage paths to guide floodwaters around structures.

d) All development in zones AO and zone AH shall meet the requirements of s. 4.0 applicable to flood fringe areas.

5) DETERMINING FLOODWAY AND FLOODFRINGE LIMITS
Upon receiving an application for development within zone A, or within zone AE where a floodway has not been delineated on the Flood Insurance Rate Maps, the Zoning Administrator shall:

a) Require the applicant to submit two copies of an aerial photograph or a plan which shows the proposed development with respect to the general floodplain district limits, stream channel, and existing floodplain developments, along with a legal description of the property, fill limits and elevations, building floor elevations and flood proofing measures and the flood zone as shown on the FIRM.

b) Require the applicant to furnish any of the following information deemed necessary by the Department to evaluate the effects of the proposal upon flood height and flood flows, regional flood elevation and to determine floodway boundaries.

1. A Hydrologic and Hydraulic Study as specified in s. 7.1(2)(c).

2. Plan (surface view) showing elevations or contours of the ground; pertinent structure, fill or storage elevations; size, location, and layout of all proposed and existing structures on the site; location and elevations of streets, water supply, and sanitary facilities; soil types and other pertinent information.

3. Specifications for building construction and materials, floodproofing, filling, dredging, channel improvement, storage, water supply and sanitary facilities.

5.2 FLOOD STORAGE DISTRICT

The flood storage district delineates that portion of the floodplain where storage of floodwaters has been taken into account and is relied upon to reduce the regional flood discharge. The district protects the flood storage areas and assures that any development in the storage areas will not decrease the effective flood storage capacity which would cause higher flood elevations.

(1) APPLICABILITY
The provisions of this section apply to all areas within the Flood Storage District (FSD), as shown on the official floodplain zoning maps.

(2) PERMITTED USES
Any use or development which occurs in a flood storage district must meet the applicable requirements in s. 4.3.

(3) STANDARDS FOR DEVELOPMENT IN FLOOD STORAGE DISTRICTS

a. Development in a flood storage district shall not cause an increase equal or greater than 0.00 of a foot in the height of the regional flood.

b. No development shall be allowed which removes flood storage volume unless an equal volume of storage as defined by the pre-development ground surface and the regional flood elevation shall be provided in the immediate area of the proposed development to compensate for the volume of storage, which is lost, (compensatory storage). Excavation below the groundwater table is not considered to provide an equal volume of storage.

c. If compensatory storage cannot be provided, the area may not be developed unless the entire area zoned as flood storage district – on this waterway – is rezoned to the floodfringe district. This must include a revision to the floodplain study and map done for the waterway to revert to the higher regional flood discharge calculated without floodplain storage, as per s. 8.0 *Amendments* of this ordinance.

d. No area may be removed from the flood storage district unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside of the floodplain.

6.0 NONCONFORMING USES

6.1 GENERAL

1) Applicability

a) The standards in this section shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance or with s. 87.30, Stats. and §§ NR 116.12-14, Wis. Adm. Code and 44 CFR 59-72., these standards shall apply to all modifications or additions to any nonconforming use or structure and to the use of any structure or premises which was lawful before the passage of this ordinance or any amendment thereto. A party asserting existence of a lawfully established nonconforming use or structure has the burden of proving that the use or structure was compliant with the floodplain zoning ordinance in effect at the time the use or structure was created.

b) As permit applications are received for additions, modifications, or substantial improvements to nonconforming buildings in the floodplain, municipalities shall develop a list of those nonconforming buildings, their present equalized assessed value, and a list of the costs of those activities associated with changes to those buildings.

2) The existing lawful use of a structure or its accessory use which is not in conformity with the provisions of this ordinance may continue subject to the following conditions:

a) No modifications or additions to a nonconforming use or structure shall be permitted unless they comply with this ordinance. The words "modification" and "addition" include, but are not limited to, any alteration, addition, modification, structural repair, rebuilding or replacement of any such existing use, structure or accessory structure or use. Maintenance is not considered a modification; this includes painting, decorating, paneling and other nonstructural components and the maintenance, repair or replacement of existing private sewage or water supply systems or connections to public utilities. Any costs associated with the repair of a damaged structure are not considered maintenance.

The construction of a deck that does not exceed 200 square feet and that is adjacent to the exterior wall of a principal structure is not an extension, modification, or addition. The roof of the structure may extend over a portion of the deck in order to provide safe ingress and egress to the principal structure.

b) If a nonconforming use or the use of a nonconforming structure is discontinued for 12 consecutive months, it is no longer permitted and any future use of the property, and any structure or building thereon, shall conform to the applicable requirements of this ordinance;

c) The municipality shall keep a record which lists all nonconforming uses and nonconforming structures, their present equalized assessed value, the cost of all modifications or additions which have been permitted, and the percentage of the structure's total current value those modifications represent;

d) No modification or addition to any nonconforming structure or any structure with a nonconforming use, which over the life of the structure would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). The costs of elevating the lowest floor of a nonconforming building or a building with a nonconforming use to the flood protection elevation are excluded from the 50% provisions of this paragraph;

e) No maintenance on a per event basis to any nonconforming structure or any structure with a nonconforming use, the cost of which would equal or exceed 50% of its present equalized assessed value, shall be allowed unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1). Maintenance to any nonconforming structure, which does not exceed 50% of its present equalized assessed value on a per event basis, does not count against the cumulative calculations over the life of the structure for substantial improvement calculations.

f) If on a per event basis the total value of the work being done under (d) and (e) equals or exceeds 50% of the present equalized assessed value, the work shall not be permitted unless the entire structure is permanently changed to a conforming structure with a conforming use in compliance with the applicable requirements of this ordinance. Contiguous dry land access must be provided for residential and commercial uses in compliance with s. 4.3(1).

g) Except as provided in subd. (h), if any nonconforming structure or any structure with a nonconforming use is destroyed or is substantially damaged, it cannot be replaced, reconstructed, or rebuilt unless the use and the structure meet the current ordinance requirements. A structure is considered substantially damaged if the total cost to restore the structure to its pre-damaged condition equals or exceeds 50% of the structure's present equalized assessed value.

h) For nonconforming buildings that are substantially damaged or destroyed by a nonflood disaster, the repair or reconstruction of any such nonconforming building shall be permitted in order to restore it to the size and use in effect prior to the damage event, provided that the following minimum requirements are met, and all required permits have been granted prior to the start of construction:

1. Residential Structures

   a. Shall have the lowest floor, including basement, elevated to or above the base flood elevation using fill, pilings, columns, posts, or perimeter walls. Perimeter walls must meet the requirements of s. 7.5(2).

b. Shall be anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, and shall be constructed with methods and materials resistant to flood damage.

c. Shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or elevated so as to prevent water from entering or accumulating within the components during conditions of flooding.

d. In A Zones, obtain, review, and utilize any flood data available from a federal, state or other source.

e. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).

f. in AO Zones, shall have adequate drainage paths around structures on slopes to guide floodwaters around and away from the structure.

2. Nonresidential Structures

a. Shall meet the requirements of s. 6.1(2)(h)1a-f.

b. Shall either have the lowest floor, including basement, elevated to or above the regional flood elevation; or, together with attendant utility and sanitary facilities, shall meet the standards in s. 7.5 (1) or (2).

c. In AO Zones with no elevations specified, shall have the lowest floor, including basement, meet the standards in s. 5.1(4).

3) A nonconforming historic structure may be altered if the alteration will not preclude the structure's continued designation as a historic structure, the alteration will comply with s. 3.3 (1), flood resistant materials are used, and construction practices and floodproofing methods that comply with s. 7.5 are used. Repair or rehabilitation of historic structures shall be exempt from the development standards of s. 6.1 (2)(h)1 if it is determined that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and is the minimum necessary to preserve the historic character and design of the structure.

4) Notwithstanding anything in this chapter to the contrary, modifications, additions, maintenance, and repairs to a nonconforming building shall not be prohibited based on cost and the building's nonconforming use shall be permitted to continue if:

a) Any living quarters in the nonconforming building are elevated to be at or above the flood protection elevation;

b) The lowest floor of the nonconforming building, including the basement, is elevated to or above the regional flood elevation;

c) The nonconforming building is permanently changed to conform to the applicable requirements of 2.0;

d) If the nonconforming building is in the floodway, the building is permanently changed to conform to the applicable requirements of 3.3(1), 3.3(2)(b) through (e), 3.3(3), 3.3(4), and 6.2. Any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the

Commented [VHMAD(1]: OPTIONAL - Reserve for Communities who want to implement Act 175. This section is optional. If the Community is removing this language, please update the Table of Contents page references.

See guidance language

floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4);

e) f the nonconforming building is in the floodfringe and the building does not conform to the applicable requirements of 4.3 and 6.3, the building will remain nonconforming.

Commented [MV2]: e) language option 2 implies that there is flexibility to elevate a structure in the flood fringe, by any means, and that all of (4) applies to the structure.

f) Repair or reconstruction of nonconforming structures and substantial improvements of residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation;

g) Repair or reconstruction of nonconforming structures and substantial improvements of non-residential buildings in zones A1-30, AE, and AH must have the lowest floor (including basement) elevated to or above the base flood elevation, or (together with attendant utility and sanitary facilities) be designed so that below the base flood elevation the building is watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy:

    i. Where a non-residential structure is intended to be made watertight below the base flood elevation, a registered professional engineer or architect must develop and/or review structural design, specifications, and plans for the construction, and must certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of s. 6.1(4)(g) above.

    ii. The community must maintain a record of such certification including the specific elevation to which each such structure is floodproofed;

h) Fully enclosed areas below the lowest floor of repair or reconstruction of nonconforming structures and substantial improvements in zones A1-30, AE, and AH that are usable solely for parking of vehicles, building access, or storage, must be designed to adequately equalize hydrostatic forces on exterior walls by allowing for the entry and exit of floodwaters. Subsequent improvements to repaired or reconstructed nonconforming structures must not increase the degree of their nonconformity. Designs for meeting this requirement must either be certified by a registered professional engineer or architect, or meet the following criteria:

    i. A minimum of two openings into each enclosed area must be located below the base flood elevation and provide a total net area of not less than one square inch for every square foot of enclosed area.

    ii. The bottom of all openings must be no higher than one foot above the adjacent grade.

    iii. Openings may be equipped with screens, louvers, valves, or other coverings if they permit the automatic entry and exit of floodwaters;

i) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision, or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as a result of flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement;

j) Manufactured homes that are placed or substantially improved within zones A1-30, AE, and AH on existing sites in an existing manufactured home park that is not undergoing expansion and on which a manufactured home has not incurred substantial damage as a result of flood must be elevated so that either the lowest floor of the manufactured home is at or above the base flood elevation, or the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement;

k) Recreational vehicles placed on sites within zones A1-30, AH, and AE must either:

   i. Be on site for fewer than 180 consecutive days; or

   ii. Be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions); or

   iii. Meet the elevation and anchoring requirements for manufactured homes in s. 6.1(4)(i) above;

l) In a regulatory floodway that has been delineated on the FIRM in zone A1-30 or AE, encroachments, including repair or reconstruction of nonconforming structures, substantial improvement, or other development (including fill) must be prohibited unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the base flood discharge. Subsequent improvements to repaired or reconstructed nonconforming structures must not increase the degree of their nonconformity;

m) In zone A, the community must obtain, review, and reasonably utilize any base flood elevation and floodway data available from a federal, state, or other source as criteria for requiring repair or reconstruction of nonconforming structures, substantial improvement, and other development to meet ss. 6.1(4)(f) through (l) (inclusive) above. Any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity;

n) In zones A1-30 or AE where a regulatory floodway has not been delineated on the FIRM, repair or reconstruction of nonconforming structures, substantial improvement, or any development that adds additional fill or creates an encroachment in the floodplain from beyond the original nonconforming structure's 3-D building envelope must determine the floodway in accordance with section 5.1(5). If the encroachment is in the floodway, it must meet the standards in section 3.3(4). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity;

o) In zone AO, repair or reconstruction of nonconforming structures and substantial improvements of residential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified). Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity; or

p) In zone AO, repair or reconstruction of nonconforming structures and substantial improvements of nonresidential structures must have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM (at least two feet if no depth number is specified), or (together with attendant utility and sanitary facilities) be structurally dry-floodproofed to that level according to the standard specified in s. 6.1(4)(g) above. Subsequent improvements to repair or reconstructed nonconforming structures must not increase the degree of their nonconformity.

6.2 FLOODWAY DISTRICT

1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use in the Floodway District, unless such modification or addition:

   a) Has been granted a permit or variance which meets all ordinance requirements;

   b) Meets the requirements of s. 6.1;

   c) Shall not increase the obstruction to flood flows or regional flood height;

   d) Any addition to the existing structure shall be floodproofed, pursuant to s. 7.5, by means other than the use of fill, to the flood protection elevation; and,

   e) If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:

      1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;

      2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;

      3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and

      4. The use must be limited to parking, building access or limited storage.

2) No new on-site sewage disposal system, or addition to an existing on-site sewage disposal system, except where an addition has been ordered by a government agency to correct a hazard to public health, shall be allowed in the Floodway District. Any replacement, repair or maintenance of an existing on-site sewage disposal system in a floodway area shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and Ch. SPS 383, Wis. Adm. Code.

3) No new well or modification to an existing well used to obtain potable water shall be allowed in the Floodway District. Any replacement, repair, or maintenance of an existing well in the Floodway District shall meet the applicable requirements of all municipal ordinances, s. 7.5(3) and chs. NR 811 and NR 812, Wis. Adm. Code.

6.3 FLOODFRINGE DISTRICT

1) No modification or addition shall be allowed to any nonconforming structure or any structure with a nonconforming use unless such modification or addition has been granted a permit or variance by the municipality and meets the requirements of s. 4.3 except where s. 6.3(2) is applicable.

2) Where compliance with the provisions of subd. (1) would result in unnecessary hardship and only where the structure will not be used for human habitation or be associated with a high flood damage potential, the Board of Appeals, using the procedures established in s. 7.3, may grant a variance from those provisions of subd. (1) for modifications or additions using the criteria listed below. Modifications or additions which are protected to elevations lower than the flood protection elevation may be permitted if:

   a) No floor is allowed below the regional flood elevation for residential or commercial structures;

   b) Human lives are not endangered;

   c) Public facilities, such as water or sewer, shall not be installed;

   d) Flood depths shall not exceed two feet;

   e) Flood velocities shall not exceed two feet per second; and

   f) The structure shall not be used for storage of materials as described in s. 4.3(5).

3) All new private sewage disposal systems, or addition to, replacement, repair or maintenance of a private sewage disposal system shall meet all the applicable provisions of all local ordinances, s. 7.5 (3) and ch. SPS 383, Wis. Adm. Code.

4) All new wells, or addition to, replacement, repair, or maintenance of a well shall meet the applicable provisions of this ordinance, s. 7.5 (3) and ch. NR 811 and NR 812, Wis. Adm. Code.

6.4 FLOOD STORAGE DISTRICTS

No modifications or additions shall be allowed to any nonconforming structure in a flood storage area unless the standards outlined in 5.2(3) are met.

7.0 ADMINISTRATION

Where a Zoning Administrator, planning agency or a board of appeals has already been appointed to administer a zoning ordinance adopted under ss. 59.69, 59.692 or 62.23(7), Stats., these officials shall also administer this ordinance.

7.1 ZONING ADMINISTRATOR

1) DUTIES AND POWERS

The Zoning Administrator is authorized to administer this ordinance and shall have the following duties and powers:

   a) Advise applicants of the ordinance provisions, assist in preparing permit applications and appeals, and assure that the regional flood elevation for the proposed development is shown on all permit applications.

   b) Issue permits and inspect properties for compliance with provisions of this ordinance and issue certificates of compliance where appropriate

   c) Inspect and assess all damaged floodplain structures to determine if substantial damage to the structures has occurred.

d) Keep records of all official actions such as:
   1. All permits issued, inspections made, and work approved;
   2. Documentation of certified lowest floor and regional flood elevations;
   3. Floodproofing certificates.
   4. Water surface profiles, floodplain zoning maps and ordinances, nonconforming uses and structures including changes, appeals, variances and amendments.
   5. All substantial damage assessment reports for floodplain structures.
   6. List of nonconforming structures and uses.

e) Submit copies of the following items to the Department Regional office:
   1. Within 10 days of the decision, a copy of any decisions on variances, appeals for map or text interpretations, and map or text amendments;

   2. Copies of case-by-case analyses and other required information.

   3. Copies of substantial damage assessments performed and all related correspondence concerning the assessments.

f) Investigate, prepare reports, and report violations of this ordinance to the municipal zoning agency and attorney for prosecution. Copies of the reports shall also be sent to the Department Regional office.

g) Submit copies of amendments to the FEMA Regional office.

2) LAND USE PERMIT
A land use permit shall be obtained before any development; repair, modification, or addition to an existing structure; or change in the use of a building or structure, including sewer and water facilities, may be initiated. Application to the Zoning Administrator shall include:

a) GENERAL INFORMATION

   1. Name and address of the applicant, property owner and contractor;

   2. Legal description, proposed use, and whether it is new construction or a modification;

b) SITE DEVELOPMENT PLAN
A site plan drawn to scale shall be submitted with the permit application form and shall contain:

   1. Location, dimensions, area and elevation of the lot;

   2. Location of the ordinary highwater mark of any abutting navigable waterways;

   3. Location of any structures with distances measured from the lot lines and street center lines;

   4. Location of any existing or proposed on-site sewage systems or private water supply systems;

   5. Location and elevation of existing or future access roads;

6. Location of floodplain and floodway limits as determined from the official floodplain zoning maps;

7. The elevation of the lowest floor of proposed buildings and any fill using the vertical datum from the adopted study – either National Geodetic Vertical Datum (NGVD) or North American Vertical Datum (NAVD);

8. Data sufficient to determine the regional flood elevation in NGVD or NAVD at the location of the development and to determine whether or not the requirements of s. 3.0 or 4.0 are met; and

9. Data to determine if the proposed development will cause an obstruction to flow or an increase in regional flood height or discharge according to s. 2.1. This may include any of the information noted in s. 3.3(1).

c) HYDRAULIC AND HYDROLOGIC STUDIES TO ANALYZE DEVELOPMENT
All hydraulic and hydrologic studies shall be completed under the direct supervision of a professional engineer registered in the State. The study contractor shall be responsible for the technical adequacy of the study. All studies shall be reviewed and approved by the Department.

1. Zone A floodplains and in AE zones within which a floodway is not delineated:
   a. Hydrology
      i. The appropriate method shall be based on the standards in ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge.*

   b. Hydraulic modeling
      The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

      i. determination of the required limits of the hydraulic model shall be based on detailed study information for downstream structures (dam, bridge, culvert) to determine adequate starting WSEL for the study.

      ii. channel sections must be surveyed.

      iii. minimum four-foot contour data in the overbanks shall be used for the development of cross section overbank and floodplain mapping.

      iv. a maximum distance of 500 feet between cross sections is allowed in developed areas with additional intermediate cross sections required at transitions in channel bottom slope including a survey of the channel at each location.

      v. the most current version of HEC-RAS shall be used.

      vi. a survey of bridge and culvert openings and the top of road is required at each structure.

      vii. additional cross sections are required at the downstream and upstream limits of the proposed development and any necessary intermediate locations based on the length of the reach if greater than 500 feet.

viii. standard accepted engineering practices shall be used when assigning parameters for the base model such as flow, Manning's N values, expansion and contraction coefficients or effective flow limits. The base model shall be calibrated to past flooding data such as high-water marks to determine the reasonableness of the model results. If no historical data is available, adequate justification shall be provided for any parameters outside standard accepted engineering practices.

ix. the model must extend past the upstream limit of the difference in the existing and proposed flood profiles in order to provide a tie-in to existing studies. The height difference between the proposed flood profile and the existing study profiles shall be no more than 0.00 feet.

c. Mapping
A work map of the reach studied shall be provided, showing all cross-section locations, floodway/floodplain limits based on best available topographic data, geographic limits of the proposed development and whether the proposed development is located in the floodway.

i. If the proposed development is located outside of the floodway, then it is determined to have no impact on the regional flood elevation.

ii. If any part of the proposed development is in the floodway, it must be added to the base model to show the difference between existing and proposed conditions. The study must ensure that all coefficients remain the same as in the existing model, unless adequate justification based on standard accepted engineering practices is provided.

2. Zone AE Floodplains
a. Hydrology
If the proposed hydrology will change the existing study, the appropriate method to be used shall be based on ch. NR 116.07(3), Wis. Admin. Code, *Hydrologic Analysis: Determination of Regional Flood Discharge.*

b. Hydraulic model
The regional flood elevation shall be based on the standards in ch. NR 116.07(4), Wis. Admin. Code, *Hydraulic Analysis: Determination of Regional Flood Elevation* and the following:

i. Duplicate Effective Model
The effective model shall be reproduced to ensure correct transference of the model data and to allow integration of the revised data to provide a continuous FIS model upstream and downstream of the revised reach. If data from the effective model is available, models shall be generated that duplicate the FIS profiles and the elevations shown in the Floodway Data Table in the FIS report to within 0.1 foot.

ii. Corrected Effective Model.
The Corrected Effective Model shall not include any man-made physical changes since the effective model date but shall import the model into the most current version of HEC-RAS for Department review.

iii. Existing (Pre-Project Conditions) Model.
The Existing Model shall be required to support conclusions about the actual impacts of the project associated with the Revised (Post-Project) Model or to

establish more up-to-date models on which to base the Revised (Post-Project) Model.

iv. Revised (Post-Project Conditions) Model.
The Revised (Post-Project Conditions) Model shall incorporate the Existing Model and any proposed changes to the topography caused by the proposed development. This model shall reflect proposed conditions.

v. All changes to the Duplicate Effective Model and subsequent models must be supported by certified topographic information, bridge plans, construction plans and survey notes.

vi. Changes to the hydraulic models shall be limited to the stream reach for which the revision is being requested. Cross sections upstream and downstream of the revised reach shall be identical to those in the effective model and result in water surface elevations and top widths computed by the revised models matching those in the effective models upstream and downstream of the revised reach as required. The Effective Model shall not be truncated.

c. Mapping
Maps and associated engineering data shall be submitted to the Department for review which meet the following conditions:

i. Consistency between the revised hydraulic models, the revised floodplain and floodway delineations, the revised flood profiles, topographic work map, annotated FIRMs and/or Flood Boundary Floodway Maps (FBFMs), construction plans, bridge plans.

ii. Certified topographic map of suitable scale, contour interval, and a planimetric map showing the applicable items. If a digital version of the map is available, it may be submitted in order that the FIRM may be more easily revised.

iii. Annotated FIRM panel showing the revised 1% and 0.2% annual chance floodplains and floodway boundaries.

iv. If an annotated FIRM and/or FBFM and digital mapping data (GIS or CADD) are used, then all supporting documentation or metadata must be included with the data submission along with the Universal Transverse Mercator (UTM) projection and State Plane Coordinate System in accordance with FEMA mapping specifications.

v. The revised floodplain boundaries shall tie into the effective floodplain boundaries.

vi. All cross sections from the effective model shall be labeled in accordance with the effective map and a cross section lookup table shall be included to relate to the model input numbering scheme.

vii. Both the current and proposed floodways shall be shown on the map.

viii. The stream centerline, or profile baseline used to measure stream distances in the model shall be visible on the map.

d) EXPIRATION

All permits issued under the authority of this ordinance shall expire no more than 180 days after issuance. The permit may be extended for a maximum of 180 days for good and sufficient cause. If the permitted work has not started within 180 days of the permit date, the development must comply with any regulation, including any revision to the FIRM or FIS, that took effect after the permit date.

3) CERTIFICATE OF COMPLIANCE
No land shall be occupied or used, and no building which is hereafter constructed, altered, added to, modified, repaired, rebuilt, or replaced shall be occupied until a certificate of compliance is issued by the Zoning Administrator, except where no permit is required, subject to the following provisions:

a) The certificate of compliance shall show that the building or premises or part thereof, and the proposed use, conform to the provisions of this ordinance;

b) Application for such certificate shall be concurrent with the application for a permit;

c) If all ordinance provisions are met, the certificate of compliance shall be issued within 10 days after written notification that the permitted work is completed;

d) The applicant shall submit a certification signed by a registered professional engineer, architect, or land surveyor that the fill, lowest floor and floodproofing elevations are in compliance with the permit issued. Floodproofing measures also require certification by a registered professional engineer or architect that the requirements of s. 7.5 are met.

e) Where applicable pursuant to s. 5.1(4), the applicant must submit a certification by a registered professional engineer or surveyor of the elevation of the bottom of the lowest horizontal structural member supporting the lowest floor (excluding pilings or columns), and an indication of whether the structure contains a basement.

f) Where applicable pursuant to s. 5.1(4), the applicant must submit certifications by a registered professional engineer or architect that the structural design and methods of construction meet accepted standards of practice as required by s. 5.1(4).

4) OTHER PERMITS
Prior to obtaining a floodplain development permit the applicant must secure all necessary permits from federal, state, and local agencies, including but not limited to those required by the U.S. Army Corps of Engineers under s. 404 of the Federal Water Pollution Control Act, Amendments of 1972, 33 U.S.C. 1344.

7.2 ZONING AGENCY

1) The Community Development Director shall:

a) oversee the functions of the office of the Zoning Administrator; and

b) review and advise the governing body on all proposed amendments to this ordinance, maps, and text.

c) publish adequate notice pursuant to Ch. 985, Stats., specifying the date, time, place, and subject of the public hearing.

2) The Community Development Director shall not:

a) grant variances to the terms of the ordinance in place of action by the Board of Appeals; or

b) amend the text or zoning maps in place of official action by the governing body.

7.3 BOARD OF APPEALS

The Board of Appeals, created under s. 62.23(7)(e), Stats., for cities or villages, is hereby authorized or shall be appointed to act for the purposes of this ordinance. The Board shall exercise the powers conferred by Wisconsin Statutes and adopt rules for the conduct of business. The Zoning Administrator shall not be the secretary of the Board.

1) POWERS AND DUTIES

The Board of Appeals:

a) Appeals - Hear and decide appeals where it is alleged there is an error in any order, requirement, decision or determination made by an administrative official in the enforcement or administration of this ordinance;

b) Boundary Disputes - Hear and decide disputes concerning the district boundaries shown on the official floodplain zoning map; and

c) Variances - Hear and decide, upon appeal, variances from the ordinance standards.

2) APPEALS TO THE BOARD

a) Appeals to the board may be taken by any person aggrieved, or by any officer or department of the municipality affected by any decision of the Zoning Administrator or other administrative officer. Such appeal shall be taken within 30 days unless otherwise provided by the rules of the board, by filing with the official whose decision is in question, and with the board, a notice of appeal specifying the reasons for the appeal. The official whose decision is in question shall transmit to the board all records regarding the matter appealed.

b) NOTICE AND HEARING FOR APPEALS INCLUDING VARIANCES

1. Notice - The board shall:

   a. Fix a reasonable time for the hearing;
   b. Publish adequate notice pursuant to Wisconsin Statutes, specifying the date, time, place, and subject of the hearing; and
   c. Assure that notice shall be mailed to the parties in interest and the Department Regional office at least 10 days in advance of the hearing.

2. Hearing - Any party may appear in person or by agent. The board shall:
   a. Resolve boundary disputes according to s. 7.3(3);
   b. Decide variance applications according to s. 7.3(4); and
   c. Decide appeals of permit denials according to s. 7.4.

c) DECISION: The final decision regarding the appeal or variance application shall:

1. Be made within a reasonable time;

2. Be sent to the Department Regional office within 10 days of the decision;

3. Be a written determination signed by the chairman or secretary of the Board;

4. State the specific facts which are the basis for the Board's decision;

5. Either affirm, reverse, vary or modify the order, requirement, decision, or determination appealed, in whole or in part, dismiss the appeal for lack of jurisdiction or grant or deny the variance application; and

6. Include the reasons for granting an appeal, describing the hardship demonstrated by the applicant in the case of a variance, clearly stated in the recorded minutes of the Board proceedings.

3) BOUNDARY DISPUTES

The following procedure shall be used by the Board in hearing disputes concerning floodplain district boundaries:

a) If a floodplain district boundary is established by approximate or detailed floodplain studies, the flood elevations or profiles shall prevail in locating the boundary.

b) The person contesting the boundary location shall be given a reasonable opportunity to present arguments and technical evidence to the Board; and

c) If the boundary is incorrectly mapped, the Board should inform the zoning committee or the person contesting the boundary location to petition the governing body for a map amendment according to s. 8.0 *Amendments*.

4) VARIANCE

a) The Board may, upon appeal, grant a variance from the standards of this ordinance if an applicant convincingly demonstrates that:

1. Literal enforcement of the ordinance will cause unnecessary hardship;

2. The hardship is due to adoption of the floodplain ordinance and unique property conditions, not common to adjacent lots or premises. In such case the ordinance or map must be amended;

3. The variance is not contrary to the public interest; and

4. The variance is consistent with the purpose of this ordinance in s. 1.3.

b) In addition to the criteria in subd. (a), to qualify for a variance under FEMA regulations, the Board must find that the following criteria have been met:

1. The variance shall not cause any increase in the regional flood elevation;

2. The applicant has shown good and sufficient cause for issuance of the variance;

3. Failure to grant the variance would result in exceptional hardship;

4. Granting the variance will not result in additional threats to public safety, extraordinary expense, create a nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances;

5. The variance granted is the minimum necessary, considering the flood hazard, to afford relief.

c) A variance shall not:

1. Grant, extend or increase any use prohibited in the zoning district;

2. Be granted for a hardship based solely on an economic gain or loss;

3. Be granted for a hardship which is self-created.

4. Damage the rights or property values of other persons in the area;

5. Allow actions without the amendments to this ordinance or map(s) required in s. 8.0 *Amendments*; and

6. Allow any alteration of an historic structure, including its use, which would preclude its continued designation as an historic structure.

d) When a floodplain variance is granted, the Board shall notify the applicant in writing that it may increase risks to life and property and flood insurance premiums could increase up to $25.00 per $100.00 of coverage. A copy shall be maintained with the variance record.

7.4 TO REVIEW APPEALS OF PERMIT DENIALS

(1) The Zoning Agency (s. 7.2) or Board shall review all data related to the appeal. This may include:

a. Permit application data listed in s. 7.1(2);

b. Floodway/floodfringe determination data in s. 5.1(5);

c. Data listed in s. 3.3(1)(b) where the applicant has not submitted this information to the Zoning Administrator; and

d. Other data submitted with the application or submitted to the Board with the appeal.

(2) For appeals of all denied permits the Board shall:

a. Follow the procedures of s. 7.3;

b. Consider zoning agency recommendations; and

c. Either uphold the denial or grant the appeal.

(3) For appeals concerning increases in regional flood elevation the Board shall:

a. Uphold the denial where the Board agrees with the data showing an increase in flood elevation. Increases may only be allowed after amending the flood profile and map and all appropriate legal arrangements are made with all adversely affected property owners as per the requirements of s. 8.0 *Amendments*; and

b. Grant the appeal where the Board agrees that the data properly demonstrates that the project does not cause an increase provided no other reasons for denial exist.

7.5 FLOODPROOFING STANDARDS

(1) No permit or variance shall be issued for a non-residential structure designed to be watertight below the regional flood elevation until the applicant submits a plan certified by a registered professional engineer or architect that the floodproofing measures will protect the structure or development to or above the flood protection elevation and submits a FEMA Floodproofing Certificate. Floodproofing is not an alternative to the development standards in ss. 2.0, 3.0, 4.0, or 5.1.

(2) For a structure designed to allow the entry of floodwaters, no permit or variance shall be issued until the applicant submits a plan either:

a. certified by a registered professional engineer or architect; or

b. meeting or exceeding the following standards:
   1. a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
   2. the bottom of all openings shall be no higher than one foot above grade; and
   3. openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(3) Floodproofing measures shall be designed, as appropriate, to:

a. Withstand flood pressures, depths, velocities, uplift and impact forces and other regional flood factors;

b. Protect structures to the flood protection elevation;

c. Anchor structures to foundations to resist flotation and lateral movement;

d. Minimize or eliminate infiltration of flood waters;

e. Minimize or eliminate discharges into flood waters;

f. Placement of essential utilities to or above the flood protection elevation; and

g. If any part of the foundation below the flood protection elevation is enclosed, the following standards shall apply:

   1. The enclosed area shall be designed by a registered architect or engineer to allow for the efficient entry and exit of flood waters without human intervention. A minimum of two openings must be provided with a minimum net area of at least one square inch for every one square foot of the enclosed area. The lowest part of the opening can be no more than 12 inches above the adjacent grade;

   2. The parts of the foundation located below the flood protection elevation must be constructed of flood-resistant materials;

   3. Mechanical and utility equipment must be elevated or floodproofed to or above the flood protection elevation; and

   4. The use must be limited to parking, building access or limited storage.

7.6 PUBLIC INFORMATION

(1) Place marks on structures to show the depth of inundation during the regional flood.

(2) All maps, engineering data and regulations shall be available and widely distributed.

(3) Real estate transfers should show what floodplain district any real property is in.

8.0 AMENDMENTS

Obstructions or increases may only be permitted if amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1.

(1) In AE Zones with a mapped floodway, no obstructions or increases shall be permitted unless the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain zoning maps, floodway lines and water surface profiles, in accordance with s. 8.1. Any such alterations must be reviewed and approved by FEMA and the DNR.

(2) In A Zones increases equal to or greater than 1.0 foot may only be permitted if the applicant receives a Conditional Letter of Map Revision from FEMA and amendments are made to this ordinance, the official floodplain maps, floodway lines, and water surface profiles, in accordance with s. 8.1.

8.1 GENERAL

The governing body shall change or supplement the floodplain zoning district boundaries and this ordinance in the manner outlined in s. 8.2 below. Actions which require an amendment to the ordinance and/or submittal of a Letter of Map Change (LOMC) include, but are not limited to, the following:

(1) Any fill or floodway encroachment that obstructs flow causing any increase in the regional flood height;

(2) Any change to the floodplain boundaries and/or watercourse alterations on the FIRM;

(3) Any changes to any other officially adopted floodplain maps listed in s. 1.5 (2)(b);

(4) Any floodplain fill which raises the elevation of the filled area to a height at or above the flood protection elevation and is contiguous to land lying outside the floodplain;

(5) Correction of discrepancies between the water surface profiles and floodplain maps;

(6) Any upgrade to a floodplain zoning ordinance text required by s. NR 116.05, Wis. Adm. Code, or otherwise required by law, or for changes by the municipality; and

(7) All channel relocations and changes to the maps to alter floodway lines or to remove an area from the floodway or the floodfringe that is based on a base flood elevation from a FIRM requires prior approval by FEMA.

8.2 PROCEDURES

Ordinance amendments may be made upon petition of any party according to the provisions of s. 62.23, Stats., for cities and villages. The petitions shall include all data required by s. 5.1(5) and 7.1(2). The Land Use Permit shall not be issued until a Letter of Map Revision is issued by FEMA for the proposed changes.

(1) The proposed amendment shall be referred to the zoning agency for a public hearing and recommendation to the governing body. The amendment and notice of public hearing shall be submitted to the Department Regional office for review prior to the hearing. The amendment procedure shall comply with the provisions of s. 62.23, Stats., for cities and villages.

(2) No amendments shall become effective until reviewed and approved by the Department.

(3) All persons petitioning for a map amendment that obstructs flow causing any increase in the regional flood height, shall obtain flooding easements or other appropriate legal arrangements from all adversely affected property owners and notify local units of government before the amendment can be approved by the governing body.

9.0 ENFORCEMENT AND PENALTIES

Any violation of the provisions of this ordinance by any person shall be unlawful and shall be referred to the municipal attorney who shall expeditiously prosecute all such violators. A violator shall, upon conviction, forfeit to the municipality a penalty of not more than $50.00 (fifty dollars), together with a taxable cost of such action. Each day of continued violation shall constitute a separate offense. Every violation of this ordinance is a public nuisance, and the creation may be enjoined, and the maintenance may be abated by action at suit of the municipality, the state, or any citizen thereof pursuant to s. 87.30, Stats.

10.0 DEFINITIONS

Unless specifically defined, words and phrases in this ordinance shall have their common law meaning and shall be applied in accordance with their common usage. Words used in the present tense include the future, the singular number includes the plural and the plural number includes the singular. The word "may" is permissive, "shall" is mandatory and is not discretionary.

1. A ZONES – Those areas shown on the Official Floodplain Zoning Map which would be inundated by the regional flood. These areas may be numbered or unnumbered A Zones. The A Zones may or may not be reflective of flood profiles, depending on the availability of data for a given area.

2. AH ZONE – See “AREA OF SHALLOW FLOODING”.

3. AO ZONE – See “AREA OF SHALLOW FLOODING”.

4. ACCESSORY STRUCTURE OR USE – A facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building. An accessory structure shall not be used for human habitation.

5. ALTERATION – An enhancement, upgrade or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a structure.

6. AREA OF SHALLOW FLOODING – A designated AO, AH, AR/AO, AR/AH, or VO zone on a community’s Flood Insurance Rate Map (FIRM) with a 1 percent or greater annual chance of flooding to an average depth of 1 to 3 feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flood may be evident. Such flooding is characterized by ponding or sheet flow.

7. BASE FLOOD – Means the flood having a one percent chance of being equaled or exceeded in any given year, as published by FEMA as part of a FIS and depicted on a FIRM.

8. BASEMENT – Any enclosed area of a building having its floor sub-grade on all sides.

9. BUILDING – See STRUCTURE.

10. BULKHEAD LINE – A geographic line along a reach of navigable water that has been adopted by a municipal ordinance and approved by the Department pursuant to s. 30.11, Stats., and which allows limited filling between this bulkhead line and the original ordinary highwater mark, except where such filling is prohibited by the floodway provisions of this ordinance.

11. CAMPGROUND – Any parcel of land which is designed, maintained, intended, or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area.

12. CAMPING UNIT – Any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck, or tent that is fully licensed, if required, and ready for highway use.

13. CERTIFICATE OF COMPLIANCE – A certification that the construction and the use of land or a building, the elevation of fill or the lowest floor of a structure is in compliance with all of the provisions of this ordinance.

14. CHANNEL – A natural or artificial watercourse with definite bed and banks to confine and conduct normal flow of water.

15. CRAWLWAYS or CRAWL SPACE – An enclosed area below the first usable floor of a building, generally less than five feet in height, used for access to plumbing and electrical utilities.

16. DECK – An unenclosed exterior structure that has no roof or sides and has a permeable floor which allows the infiltration of precipitation.

17. DEPARTMENT – The Wisconsin Department of Natural Resources.

18. DEVELOPMENT – Any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or alterations to buildings, structures or accessory structures; the repair of any damaged structure or the improvement or renovation of any structure, regardless of percentage of damage or improvement; the placement of buildings or structures; subdivision layout and site preparation; mining, dredging, filling, grading, paving, excavation or drilling operations; the storage, deposition or extraction of materials or equipment; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.

19. DRYLAND ACCESS – A vehicular access route which is above the regional flood elevation, and which connects land located in the floodplain to land outside the floodplain, such as a road with its surface above regional flood elevation and wide enough for wheeled rescue and relief vehicles.

20. ENCROACHMENT – Any fill, structure, equipment, use or development in the floodway.

21. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) – The federal agency that administers the National Flood Insurance Program.

22. FLOOD INSURANCE RATE MAP (FIRM) – A map of a community on which the Federal Insurance Administration has delineated both the floodplain and the risk premium zones applicable to the community. This map can only be amended by the Federal Emergency Management Agency.

23. FLOOD or FLOODING – A general and temporary condition of partial or complete inundation of normally dry land areas caused by one of the following conditions:
    - The overflow or rise of inland waters;
    - The rapid accumulation or runoff of surface waters from any source;
    - The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; or
    - The sudden increase caused by an unusually high-water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.

24. FLOOD FREQUENCY – The probability of a flood occurrence which is determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average once in a specified number of years or as a percent (%) chance of occurring in any given year.

25. FLOODFRINGE – That portion of the floodplain outside of the floodway which is covered by flood waters during the regional flood and associated with standing water rather than flowing water.

26. FLOOD HAZARD BOUNDARY MAP – A map designating approximate flood hazard areas. Flood hazard areas are designated as unnumbered A-Zones and do not contain floodway lines or regional flood elevations. This map forms the basis for both the regulatory and insurance aspects of the National Flood Insurance Program (NFIP) until superseded by a Flood Insurance Study and a Flood Insurance Rate Map.

27. FLOOD INSURANCE STUDY – A technical engineering examination, evaluation, and determination of the local flood hazard areas. It provides maps designating those areas affected by the regional flood and provides both flood insurance rate zones and base flood elevations and may provide floodway lines. The flood hazard areas are designated as numbered and unnumbered A-Zones. Flood Insurance Rate Maps, that accompany the Flood Insurance Study, form the basis for both the regulatory and the insurance aspects of the National Flood Insurance Program.

28. FLOODPLAIN – Land which has been or may be covered by flood water during the regional flood. It includes the floodway and the floodfringe and may include other designated floodplain areas for regulatory purposes.

29. FLOODPLAIN ISLAND – A natural geologic land formation within the floodplain that is surrounded, but not covered, by floodwater during the regional flood.

30. FLOODPLAIN MANAGEMENT – Policy and procedures to ensure wise use of floodplains, including mapping and engineering, mitigation, education, and administration and enforcement of floodplain regulations.

31. FLOOD PROFILE – A graph or a longitudinal profile line showing the relationship of the water surface elevation of a flood event to locations of land surface elevations along a stream or river.

32. FLOODPROOFING – Any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.

33. FLOOD PROTECTION ELEVATION – An elevation of two feet of freeboard above the Regional Flood Elevation. (Also see: FREEBOARD.)

34. FLOOD STORAGE – Those floodplain areas where storage of floodwaters has been taken into account during analysis in reducing the regional flood discharge.

35. FLOODWAY – The channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.

36. FREEBOARD – A safety factor expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for any factors that cause flood heights greater than those calculated, including ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of watershed urbanization, loss of flood storage areas due to development and aggregation of the river or stream bed.

37. HABITABLE STRUCTURE – Any structure or portion thereof used or designed for human habitation.

38. HEARING NOTICE – Publication or posting meeting the requirements of Ch. 985, Stats. For appeals, a Class 1 notice, published once at least one week (7 days) before the hearing, is required. For all zoning ordinances and amendments, a Class 2 notice, published twice, once each week consecutively, the last at least a week (7 days) before the hearing. Local ordinances or bylaws may require additional notice, exceeding these minimums.

39. HIGH FLOOD DAMAGE POTENTIAL – Damage that could result from flooding that includes any danger to life or health or any significant economic loss to a structure or building and its contents.

40. HIGHEST ADJACENT GRADE – The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

41. HISTORIC STRUCTURE – Any structure that is either:
    - Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
    - Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
    - Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
    - Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program, as determined by the Secretary of the Interior; or by the Secretary of the Interior in states without approved programs.

42. INCREASE IN REGIONAL FLOOD HEIGHT – A calculated upward rise in the regional flood elevation greater than 0.00 foot, based on a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.

43. LAND USE – Any nonstructural use made of unimproved or improved real estate. (Also see DEVELOPMENT.)

44. LOWEST ADJACENT GRADE – Elevation of the lowest ground surface that touches any of the exterior walls of a building.

45. LOWEST FLOOR – The lowest floor of the lowest enclosed area (including basement).

46. MAINTENANCE – The act or process of ordinary upkeep and repairs, including redecorating, refinishing, nonstructural repairs, or the replacement of existing fixtures, systems or equipment with equivalent fixtures, systems, or structures.

47. MANUFACTURED HOME – A structure transportable in one or more sections, which is built on a permanent chassis and is designed to be used with or without a permanent foundation when connected to required utilities. The term "manufactured home" includes a mobile home but does not include a "mobile recreational vehicle."

48. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION – A parcel (or contiguous parcels) of land, divided into two or more manufactured home lots for rent or sale.

49. MOBILE/MANUFACTURED HOME PARK OR SUBDIVISION, EXISTING – A parcel of land, divided into two or more manufactured home lots for rent or sale, on which the construction of facilities for servicing the lots is completed before the effective date of this ordinance. At a minimum, this would include the installation of utilities, the construction of streets and either final site grading or the pouring of concrete pads.

50. MOBILE/MANUFACTURED HOME PARK, EXPANSION TO EXISTING – The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed. This includes installation of utilities, construction of streets and either final site grading, or the pouring of concrete pads.

51. MOBILE RECREATIONAL VEHICLE – A vehicle which is built on a single chassis, 400 square feet or less when measured at the largest horizontal projection, designed to be self-propelled, carried or permanently towable by a licensed, light-duty vehicle, is licensed for highway use if registration is required and is designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel or seasonal use. Manufactured homes that are towed or carried onto a parcel of land, but do not remain capable of being towed or carried, including park model homes, do not fall within the definition of "mobile recreational vehicles."

52. MODEL, CORRECTED EFFECTIVE – A hydraulic engineering model that corrects any errors that occur in the Duplicate Effective Model, adds any additional cross sections to the Duplicate Effective Model, or incorporates more detailed topographic information than that used in the current effective model.

53. MODEL, DUPLICATE EFFECTIVE – A copy of the hydraulic analysis used in the effective FIS and referred to as the effective model.

54. MODEL, EFFECTIVE – The hydraulic engineering model that was used to produce the current effective Flood Insurance Study.

55. MODEL, EXISTING (PRE-PROJECT) – A modification of the Duplicate Effective Model or Corrected Effective Model to reflect any man-made modifications that have occurred within the floodplain since the date of the effective model but prior to the construction of the project for which the revision is being requested. If no modification has occurred since the date of the effective model, then this model would be identical to the Corrected Effective Model or Duplicate Effective Model.

56. MODEL, REVISED (POST-PROJECT) – A modification of the Existing or Pre-Project Conditions Model, Duplicate Effective Model or Corrected Effective Model to reflect revised or post-project conditions.

57. MUNICIPALITY or MUNICIPAL – The county, city or village governmental units enacting, administering, and enforcing this zoning ordinance.

58. NAVD or NORTH AMERICAN VERTICAL DATUM – Elevations referenced to mean sea level datum, 1988 adjustment.

59. NGVD or NATIONAL GEODETIC VERTICAL DATUM – Elevations referenced to mean sea level datum, 1929 adjustment.

60. NEW CONSTRUCTION – Structures for which the start of construction commenced on or after the effective date of a floodplain zoning regulation adopted by this community and includes any subsequent improvements to such structures.

61. NON-FLOOD DISASTER – A fire or an ice storm, tornado, windstorm, mudslide, or other destructive act of nature, but excludes a flood.

62. NONCONFORMING STRUCTURE – An existing lawful structure or building which is not in conformity with the dimensional or structural requirements of this ordinance for the area of the floodplain which it occupies. (For example, an existing residential structure in the floodfringe district is a conforming use. However, if the lowest floor is lower than the flood protection elevation, the structure is nonconforming.)

63. NONCONFORMING USE – An existing lawful use or accessory use of a structure or building which is not in conformity with the provisions of this ordinance for the area of the floodplain which it occupies. (Such as a residence in the floodway.)

64. OBSTRUCTION TO FLOW – Any development which blocks the conveyance of floodwaters such that this development alone or together with any future development will cause an increase in regional flood height.

65. OFFICIAL FLOODPLAIN ZONING MAP – That map, adopted and made part of this ordinance, as described in s. 1.5(2), which has been approved by the Department and FEMA.

66. OPEN SPACE USE – Those uses having a relatively low flood damage potential and not involving structures.

67. ORDINARY HIGHWATER MARK – The point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic.

68. PERSON – An individual, or group of individuals, corporation, partnership, association, municipality, or state agency.

69. PRIVATE SEWAGE SYSTEM – A sewage treatment and disposal system serving one structure with a septic tank and soil absorption field located on the same parcel as the structure. It also means an alternative sewage system approved by the Department of Safety and Professional Services, including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure, or a system located on a different parcel than the structure.

70. PUBLIC UTILITIES – Those utilities using underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer, and storm sewer.

71. REASONABLY SAFE FROM FLOODING – Means base flood waters will not inundate the land or damage structures to be removed from the floodplain and that any subsurface waters related to the base flood will not damage existing or proposed buildings.

72. REGIONAL FLOOD – A flood determined to be representative of large floods known to have occurred in Wisconsin. A regional flood is a flood with a one percent chance of being equaled or

exceeded in any given year, and if depicted on the FIRM, the RFE is equivalent to the BFE.

73. START OF CONSTRUCTION – The date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond initial excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling, nor does it include the installation of streets and/or walkways, nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms, nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For an alteration, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

74. STRUCTURE – Any manmade object with form, shape and utility, either permanently or temporarily attached to, placed upon or set into the ground, stream bed or lakebed, including, but not limited to, roofed and walled buildings, gas or liquid storage tanks, bridges, dams and culverts.

75. SUBDIVISION – Has the meaning given in s. 236.02(12), Wis. Stats.

76. SUBSTANTIAL DAMAGE – Damage of any origin sustained by a structure, whereby the cost of restoring the structure to its pre-damaged condition would equal or exceed 50 percent of the equalized assessed value of the structure before the damage occurred.

77. SUBSTANTIAL IMPROVEMENT – Any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the equalized assessed value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the work performed. The term does not include either any project for the improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assure safe living conditions; or any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

78. UNNECESSARY HARDSHIP – Where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height, or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.

79. VARIANCE – An authorization by the board of adjustment or appeals for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards (not uses) contained in the floodplain zoning ordinance.

80. VIOLATION – The failure of a structure or other development to be fully compliant with the floodplain zoning ordinance. A structure or other development without required permits, lowest floor elevation documentation, floodproofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.

81. WATERSHED – The entire region contributing runoff or surface water to a watercourse or body of water.

82. WATER SURFACE PROFILE – A graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow.

A water surface profile of the regional flood is used in regulating floodplain areas.

83. WELL – means an excavation opening in the ground made by digging, boring, drilling, driving or other methods, to obtain groundwater regardless of its intended use.

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IN FOCUS

Updated April 22, 2025

A Brief Introduction to the National Flood Insurance Program

The National Flood Insurance Program (NFIP) is the primary source of flood insurance coverage for residential properties in the United States. The NFIP has two main policy goals: (1) to provide access to primary flood insurance, thereby allowing for the transfer of some of the financial risk of property owners to the federal government; and (2) to mitigate and reduce the nation's comprehensive flood risk through the development and implementation of floodplain management standards. A longer-term objective of the NFIP is to reduce federal expenditure on disaster assistance after floods. As a public insurance program, the goals of the NFIP are different from the goals of private-sector insurance companies. It encompasses social goals to provide flood insurance in flood-prone areas to property owners who otherwise would not be able to obtain it and to reduce the government's cost after floods. The NFIP also engages in many "noninsurance" activities in the public interest: it identifies and maps flood hazards, disseminates flood-risk information through flood maps, requires community land-use and building-code standards, contributes to community resilience by providing a mechanism to fund rebuilding after a flood, and offers grants and incentive programs for household- and community-level investments in flood-risk reduction.

Over 22,000 communities in 56 states and jurisdictions participate in the NFIP, with over 4.7 million policies providing over $1.3 trillion in coverage. The program collects $4.3 billion in annual premium revenue. Floods are the most common and costly natural disaster in the U.S.

NFIP Claims After a Flood

Flood damage is not covered by homeowners insurance; homeowners and renters must buy a separate flood insurance policy, usually from the NFIP. A disaster declaration is not required to claim after a flood. NFIP policyholders can file a claim as soon as it is safe to return to the property to document the damage. In many cases, FEMA has authorized advanced payments on claims. NFIP policyholders should contact their insurance agent to file a claim, not FEMA.

Structure of the NFIP

The NFIP is managed by the Federal Emergency Management Agency (FEMA) through its subcomponent, the Federal Insurance Directorate. A core design feature of the NFIP is that communities are not required to participate in the program by any law or regulation, but instead participate voluntarily in order to obtain access to NFIP flood insurance. Communities that choose to participate in the NFIP are required to adopt land use and control measures with effective enforcement provisions and to regulate development in the floodplain. FEMA has set forth in federal regulations the minimum standards required for participation in the NFIP; however, these standards have the force of law only because they are adopted and enforced by a state or local government. Legal enforcement of the floodplain management standards is the responsibility of the participating NFIP community, which can elect to adopt higher standards as a means of mitigating flood risk. In addition, FEMA operates a program, called the Community Rating System, to incentivize NFIP communities to adopt more rigorous floodplain management standards.

NFIP flood insurance policies are sold only in participating communities and are offered to both property owners and renters and to residential and nonresidential properties. NFIP policies have relatively low coverage limits, particularly for nonresidential properties or properties in high-cost areas. The maximum coverage for single-family dwellings (which also includes single-family residential units within a 2-4 family building) is $100,000 for contents and up to $250,000 for building coverage. The maximum available coverage limit for other residential buildings is $500,000 for building coverage and $100,000 for contents coverage, and the maximum coverage limit for nonresidential business buildings is $500,000 for building coverage and $500,000 for contents coverage.

Flood Mapping and Mitigation

The NFIP approaches the goal of reducing comprehensive flood risk primarily by requiring participating communities to collaborate with FEMA to develop and adopt flood maps called Flood Insurance Rate Maps (FIRMs). An area of specific focus of the FIRM is the Special Flood Hazard Area (SFHA). The SFHA is defined by FEMA as an area with a 1% or greater risk of flooding every year. FIRMs provide the basis for identifying properties whose owners are required to purchase flood insurance and establishing floodplain management standards that communities must adopt and enforce as part of their participation in the NFIP. There is no consistent, definitive timetable for revising and updating FIRMs for a particular community. Generally, FIRMs may require updating after significant new building development in or near the flood zone, changes to flood-protection systems, or environmental changes in the community. Statutory guidelines set out the procedure for developing new FIRMs for a community. For example, FEMA is required to conduct extensive communication and outreach efforts with the community during the mapping process, which includes several review and comment periods of 30 to 90 days. Communities and individuals also have legal recourse to appeal the FIRM updating process. After a FIRM is finalized and adopted by a community, it can still be revised to correct for errors in map accuracy. To correct these inaccuracies, FEMA allows individuals and communities to request letters amending a FIRM.

FEMA also operates a Flood Mitigation Assistance Grant Program (FMA) that is funded through revenue collected by the NFIP. FMA grants are only available to communities that participate in the NFIP, to reduce or eliminate flood

damage and structures insurable under the NFIP, particularly repetitive loss and severe repetitive loss structures. The Infrastructure Investment and Jobs Act appropriated $3.5 billion for the FMA program, with $700 million for each of FY2022 to FY2026.

The Mandatory Purchase Requirement

In a community that participates or has participated in the NFIP, property owners in the mapped SFHA are required to purchase flood insurance as a condition of receiving a federally backed mortgage. Federal agencies, federally regulated lending institutions, and government-sponsored enterprises must require these property owners to purchase flood insurance as a condition of any mortgage that these entities make, guarantee, or purchase. To comply with this mandatory purchase requirement (MPR), property owners may purchase flood insurance through the NFIP or through a private company, as long as the private flood insurance meets the condition set by statute that it "provides flood insurance coverage which is at least as broad as the coverage" of the NFIP. The MPR is enforced by the lender, rather than FEMA. Property owners who do not obtain flood insurance when required may find they are not eligible for certain types of disaster assistance after a flood.

Financial Standing of the NFIP

The NFIP is funded from (1) premiums, fees, and surcharges paid by NFIP policyholders; (2) direct annual appropriations for flood hazard mapping and risk analysis program); (3) borrowing from the Treasury when the balance of the National Flood Insurance Fund is insufficient to pay the NFIP's obligations (e.g., insurance claims); and (4) reinsurance if NFIP losses are sufficiently large. The NFIP was not designed to retain funding to cover claims for truly extreme events; instead, the statute allows the program to borrow money from the Treasury for such events. For most of the NFIP's history, the program was able to borrow relatively small amounts from the Treasury to pay claims and then repay the loans with interest. However, this changed when Congress increased the borrowing limit to $20.775 billion to pay claims in the aftermath of the 2005 hurricane season (particularly Hurricanes Katrina, Rita, and Wilma). Congress increased the borrowing limit again after Hurricane Sandy to its current limit of $30.425 billion.

The NFIP's debt is conceptually owed by current and future participants in the NFIP, as the insurance program itself owes the debt to the Treasury and pays for accruing interest on that debt through the premium revenues of policyholders. Under its current authorization, the only means the NFIP has to pay off the debt is through the accrual of premium revenues in excess of outgoing claims, and from payments made out of the reserve fund. Congress canceled $16 billion of NFIP debt in order to pay claims for Hurricanes Harvey, Irma, and Maria. This represents the first time that NFIP debt has been cancelled. The NFIP borrowed an additional $2 billion in February 2025. The NFIP debt is currently $22.525 billion, so the NFIP has $7.9 billion of remaining borrowing authority. Since 2005, the NFIP has paid $2.82 billion in principal repayments and $6.17 billion in interest to service the debt through the premiums collected on insurance policies, accruing $1.7 million in interest daily.

Risk Rating 2.0

FEMA introduced a new pricing methodology, known as Risk Rating 2.0, which represents the biggest change to the way the NFIP calculates flood insurance premiums since the program began in 1968. The new rates went fully into effect on April 1, 2022. Under the change, premiums for individual properties are tied to their actual flood risk and flood zones are no longer used in calculating a property's flood insurance premium, in contrast to the legacy rating system in which properties with the same NFIP flood risk were charged the same rates. Under Risk Rating 2.0 the premium is calculated based on the specific features of an individual structure. Risk Rating 2.0 incorporates a broader range of flood frequencies and sources than the legacy rating system, including flooding from rivers, storm surge, and heavy rainfall. Flood zones will still be used for floodplain management purposes, and the SFHA boundary is still required for the mandatory purchase requirement.

Risk Rating 2.0 is projected to increase premiums for about 66% of policies. If policyholders are currently paying less than the full risk-based rate for their property, their premiums will increase over time until they reach the full-risk rate for their property. By statute, FEMA is not allowed to increase NFIP premiums more than 18% annually for primary residences and 25% annually for other categories of properties. Although risk-based price signals could give policyholders a clearer understanding of their true flood risk, premium increases raise concerns about affordability.

Reauthorization of the NFIP

Since the end of FY2017, Congress has enacted 33 short-term NFIP extensions. The NFIP is currently authorized until September 30, 2025. The statute for the NFIP does not contain a comprehensive expiration, termination, or sunset provision for the whole of the program. Rather, the NFIP has multiple different legal provisions that generally tie to the expiration of key components of the program. Unless reauthorized or amended by Congress, the following will occur on September 30, 2025: (1) the authority to provide *new* flood insurance contracts will expire; however, insurance contracts entered into before the expiration would continue until the end of their policy term of one year; and (2) the authority for NFIP to borrow funds from the Treasury will be reduced from $30.425 billion to $1 billion.

CRS Products About the NFIP

CRS Report R44593, *Introduction to the National Flood Insurance Program (NFIP)*.

CRS Insight IN10784, *National Flood Insurance Program Borrowing Authority*.

CRS Insight IN10835, *What Happens If the National Flood Insurance Program (NFIP) Lapses?*

CRS Insight IN11777, *National Flood Insurance Program Risk Rating 2.0: Frequently Asked Questions*.

Diane P. Horn, Specialist in Flood Insurance and Emergency Management

IF10988

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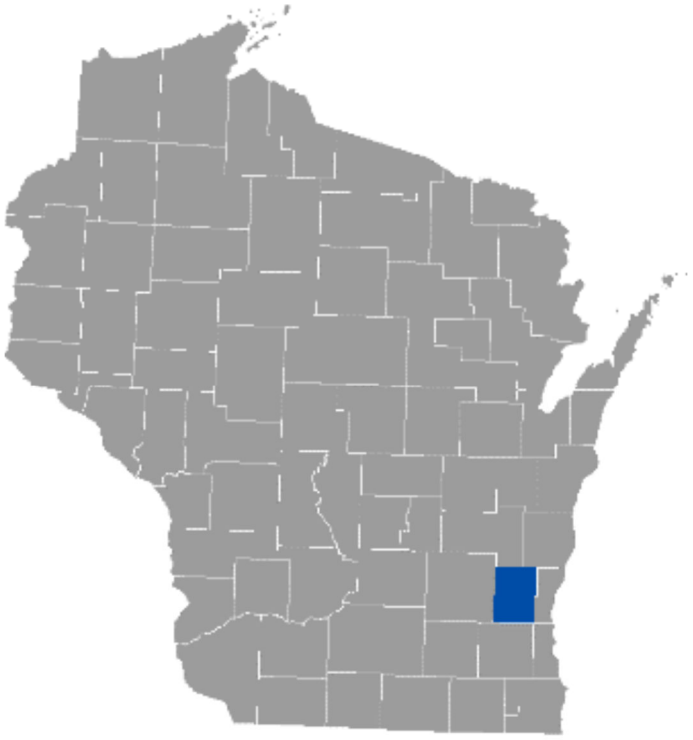
FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 9



WASHINGTON COUNTY, WISCONSIN

AND INCORPORATED AREAS

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
GERMANTOWN, VILLAGE OF	550472	NEWBURG, VILLAGE OF	550056
HARTFORD, CITY OF	550473	RICHFIELD, VILLAGE OF	550518
JACKSON, VILLAGE OF	550530	SLINGER, VILLAGE OF	550587
KEWASKUM, VILLAGE OF	550474	WASHINGTON COUNTY, UNINCORPORATED AREAS	550471
MILWAUKEE, CITY OF*	550278	WEST BEND, CITY OF	550475

*No Special Flood Hazard Areas Identified within Washington County

REVISED: TBD

PRELIMINARY March 20, 2024

FLOOD INSURANCE STUDY NUMBER
55131CV001D
Version Number 2.8.4.0

FEMA

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Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT
WASHINGTON COUNTY, WISCONSIN

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60, *Criteria for Land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed

decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) Report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Washington County, Wisconsin.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the United States Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC-8) sub-basins affecting each, are shown in Table 1. The FIRM panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Germantown, Village of	550472	04040003	55131C0268F, 55131C0269F, 55131C0288F, 55131C0289E, 55131C0356G, 55131C0357E, 55131C0358F, 55131C0359E, 55131C0376E, 55131C0377E, 55131C0378E, 55131C0379E	
Hartford, City of [1]	550473	07090001	55131C0206F, 55131C0207F, 55131C0208F, 55131C0209F, 55131C0217F, 55131C0226F, 55131C0228F, 55131C0229F, 55131C0233F, 55131C0236F, 55131C0241F	
Jackson, Village of	550530	04040003	55131C0254E, 55131C0258E, 55131C0259E, 55131C0266E, 55131C0267E	
Kewaskum, Village of [2]	550474	04040003	55131C0044E, 55131C0061E, 55131C0063E, 55131C0064E, 55131C0151E, 55131C0152E	
Milwaukee, City of [3,4]	550278	04040003	55131C0379E	
Newburg, Village of [5]	550056	04040003	55131C0183E, 55131C0191F	
Richfield, Village of	550518	04040003, 07090001, 07090002, 07120006	55131C0241F, 55131C0242F, 55131C0243F, 55131C0244F, 55131C0262E, 55131C0263F, 55131C0264E, 55131C0266E, 55131C0268F, 55131C0331F, 55131C0332F, 55131C0333F, 55131C0334F, 55131C0351F, 55131C0352F, 55131C0353F, 55131C0354F, 55131C0356G, 55131C0358F	
Slinger, Village of	550587	04040003, 07090001	55131C0227F, 55131C0229F, 55131C0231F, 55131C0232E, 55131C0233F, 55131C0234F, 55131C0253E, 55131C0261F	

[1] This community also mapped in Dodge County
[2] This community also mapped in Fond du Lac County
[3] This community also mapped in Milwaukee and Waukesha Counties
[4] No Special Flood Hazard Areas Identified
[5] This community also mapped in Ozaukee County

Table 1: Listing of NFIP Jurisdictions *(continued)*

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Washington County, Unincorporated Areas	550471	04040003, 07090001	55131C0017F, 55131C0019F, 55131C0036F, 55131C0037F[6], 55131C0038F, 55131C0039F, 55131C0041E[6], 55131C0042E, 55131C0043E, 55131C0044E, 55131C0061E, 55131C0062E, 55131C0063E, 55131C0064E, 55131C0066E, 55131C0067E, 55131C0068E, 55131C0069E, 55131C0086E, 55131C0087E, 55131C0088E, 55131C0089E, 55131C0091E, 55131C0093E, 55131C0107F, 55131C0109F, 55131C0117F, 55131C0119F, 55131C0126F, 55131C0127F, 55131C0128F, 55131C0129F, 55131C0131E, 55131C0132E, 55131C0133E, 55131C0134E, 55131C0136F, 55131C0137F, 55131C0138F, 55131C0139F, 55131C0141E, 55131C0142F, 55131C0143E, 55131C0144E, 55131C0151E, 55131C0152E, 55131C0153E, 55131C0154E, 55131C0156E, 55131C0157E, 55131C0158E, 55131C0159E, 55131C0161F, 55131C0162E, 55131C0163E, 55131C0164E, 55131C0166E, 55131C0167E, 55131C0168E, 55131C0169E, 55131C0176E, 55131C0177E, 55131C0178F, 55131C0179F, 55131C0181E, 55131C0183E, 55131C0186F, 55131C0187F, 55131C0188E, 55131C0189F, 55131C0191F, 55131C0193E, 55131C0206F, 55131C0207F, 55131C0208F, 55131C0209F, 55131C0216F, 55131C0217F, 55131C0218F, 55131C0219F, 55131C0226F, 55131C0227F, 55131C0228F, 55131C0229F, 55131C0231F, 55131C0232E, 55131C0233F, 55131C0234F, 55131C0236F, 55131C0237F, 55131C0238F, 55131C0239F, 55131C0241F, 55131C0242F, 55131C0243F, 55131C0244F, 55131C0251E, 55131C0252E, 55131C0253E, 55131C0254E, 55131C0256F, 55131C0257E, 55131C0258E, 55131C0259E, 55131C0261F, 55131C0262E, 55131C0263F, 55131C0264E, 55131C0266E, 55131C0267E, 55131C0268F, 55131C0269F, 55131C0276E, 55131C0277E, 55131C0278E, 55131C0279F, 55131C0281F, 55131C0286E, 55131C0287E, 55131C0288F, 55131C0289E, 55131C0306F, 55131C0307F, 55131C0308F, 55131C0309F, 55131C0326F, 55131C0327F, 55131C0328F, 55131C0329F, 55131C0331F, 55131C0333F	
West Bend, City of	550475	04040003	55131C0153E, 55131C0154E, 55131C0158E, 55131C0159E, 55131C0161F, 55131C0162E, 55131C0164E, 55131C0166E, 55131C0167E, 55131C0168E, 55131C0169E, 55131C0186F, 55131C0256F, 55131C0257E	

[1] This community also mapped in Dodge County
[2] This community also mapped in Fond du Lac County
[3] This community also mapped in Milwaukee and Waukesha Counties
[4] No Special Flood Hazard Areas Identified
[5] This community also mapped in Ozaukee County
[6] Panel not printed

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1-percent-annual-chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1-percent-annual-chance and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

  It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 30, "Map Repositories," within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

  The initial Countywide FIS Report for Washington County became effective on November 20, 2013. Refer to Table 27 for information about subsequent revisions to the FIRMs.

- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at www.fema.gov/flood-maps/tutorials.

The FIRM Index in Figure 1 shows the overall FIRM panel layout within Washington County, and also displays the panel number and effective date for each FIRM panel in the county. Other information shown on the FIRM Index includes community boundaries, flooding sources, watershed boundaries, and USGS HUC-8 codes.

FIGURE 1: FIRM INDEX

1. *0010D 11/20/2013
2. *0020F Prelim 03/20/2024
3. *0110F Prelim 03/20/2024
4. *0120F Prelim 03/20/2024

HUC8 04040003
Milwaukee

*0005D 11/20/2013	1	*0030D 11/20/2013	*0035D 11/20/2013	*0055D 11/20/2013	*0060D 11/20/2013	*0080D 11/20/2013	*0085D 11/20/2013						
*0015D 11/20/2013	2	0017F Prelim 03/20/2024	0036F Prelim 03/20/2024	**0037F 11/20/2013	**0041E Prelim 03/20/2024	0042E Prelim 03/20/2024	0061E Prelim 03/20/2024	0062E Prelim 03/20/2024	0066E Prelim 03/20/2024	0067E Prelim 03/20/2024	0086E Prelim 03/20/2024	0087E Prelim 03/20/2024	0091E Prelim 03/20/2024	*0092D 11/20/2013
		0019F Prelim 03/20/2024	0038F Prelim 03/20/2024	0039F Prelim 03/20/2024	0043E Prelim 03/20/2024	0044E Prelim 03/20/2024	0063E Prelim 03/20/2024	0064E Prelim 03/20/2024	0068E Prelim 03/20/2024	0069E Prelim 03/20/2024	0088E Prelim 03/20/2024	0089E Prelim 03/20/2024	0093E Prelim 03/20/2024	*0094D 11/20/2013
*0105D 11/20/2013	3	0107F Prelim 03/20/2024	0126F Prelim 03/20/2024	0127F Prelim 03/20/2024	0131E Prelim 03/20/2024	0132E Prelim 03/20/2024	0151E Prelim 03/20/2024	0152E Prelim 03/20/2024	0156E Prelim 03/20/2024	0157E Prelim 03/20/2024	0176E Prelim 03/20/2024	0177E Prelim 03/20/2024	0181E Prelim 03/20/2024	*0182D 11/20/2013
		0109F Prelim 03/20/2024	0128F Prelim 03/20/2024	0129F Prelim 03/20/2024	0133E Prelim 03/20/2024	0134E Prelim 03/20/2024	0153E Prelim 03/20/2024	0154E Prelim 03/20/2024	0158E Prelim 03/20/2024	0159E Prelim 03/20/2024	0178F Prelim 03/20/2024	0179F Prelim 03/20/2024	0183E Prelim 03/20/2024	*0184D 11/20/2013
*0115D 11/20/2013	4	0117F Prelim 03/20/2024	0136F Prelim 03/20/2024	0137F Prelim 03/20/2024	0141E Prelim 03/20/2024	0142F Prelim 03/20/2024	0161F Prelim 03/20/2024	0162E Prelim 03/20/2024	0166E Prelim 03/20/2024	0167E Prelim 03/20/2024	0186F Prelim 03/20/2024	0187F Prelim 03/20/2024	0191F Prelim 03/20/2024	*0192D 11/20/2013
		0119F Prelim 03/20/2024	0138F Prelim 03/20/2024	0139F Prelim 03/20/2024	0143E Prelim 03/20/2024	0144E 02/25/2022	0163E 02/25/2022	0164E Prelim 03/20/2024	0168E Prelim 03/20/2024	0169E Prelim 03/20/2024	0188E Prelim 03/20/2024	0189F Prelim 03/20/2024	0193E 02/25/2022	*0194D 11/20/2013
*0205D 11/20/2013		0206F Prelim 03/20/2024	0207F Prelim 03/20/2024	0226F Prelim 03/20/2024	0227F Prelim 03/20/2024	0231F 02/25/2022	0232E 02/25/2022	0251E 02/25/2022	0252E Prelim 03/20/2024	0256F Prelim 03/20/2024	0257E 02/25/2022	0276E 02/25/2022	0277E 02/25/2022	0281F Prelim 03/20/2024	*0282D 11/20/2013
		0208F Prelim 03/20/2024	0209F Prelim 03/20/2024	0228F Prelim 03/20/2024	0229F Prelim 03/20/2024	0233F Prelim 03/20/2024	0234F Prelim 03/20/2024	0253E 02/25/2022	0254E 02/25/2022	0258E 02/25/2022	0259E 02/25/2022	0278E 02/25/2022	0279F Prelim 03/20/2024	*0283D 11/20/2013	*0284D 11/20/2013
*0215D 11/20/2013		0216F Prelim 03/20/2024	0217F Prelim 03/20/2024	0236F Prelim 03/20/2024	0237F Prelim 03/20/2024	0241F Prelim 03/20/2024	0242F Prelim 03/20/2024	0261F 02/25/2022	0262E 02/25/2022	0266E 02/25/2022	0267E 02/25/2022	0286E 02/25/2022	0287E 02/25/2022	*0295D 11/20/2013	
		0218F Prelim 03/20/2024	0219F Prelim 03/20/2024	0238F Prelim 03/20/2024	0239F Prelim 03/20/2024	0243F Prelim 03/20/2024	0244F Prelim 03/20/2024	0263F 02/25/2022	0264E 02/25/2022	0268F Prelim 03/20/2024	0269F Prelim 03/20/2024	0288F Prelim 03/20/2024	0289E 02/25/2022		
*0305D 11/20/2013		0306F Prelim 03/20/2024	0307F Prelim 03/20/2024	0326F Prelim 03/20/2024	0327F Prelim 03/20/2024	0331F Prelim 03/20/2024	0332F Prelim 03/20/2024	0351F Prelim 03/20/2024	0352F Prelim 03/20/2024	0356G Prelim 03/20/2024	0357F Prelim 03/20/2024	0376E Prelim 03/20/2024	0377E Prelim 03/20/2024	*0385D 11/20/2013	
		0308F Prelim 03/20/2024	0309F Prelim 03/20/2024	0328F Prelim 03/20/2024	0329F Prelim 03/20/2024	0333F Prelim 03/20/2024	0334F Prelim 03/20/2024	0353F Prelim 03/20/2024	0354F Prelim 03/20/2024	0358F Prelim 03/20/2024	0359E Prelim 03/20/2024	0378E Prelim 03/20/2024	0379E Prelim 03/20/2024		
*0315D 11/20/2013		*0320D 11/20/2013	*0340D 11/20/2013	6	5	7					*0390D 11/20/2013		*0395D 11/20/2013		

WASHINGTON COUNTY 550471

VILLAGE OF NEWBURG 550056

CITY OF HARTFORD 550473

CITY OF WEST BEND 550475

VILLAGE OF SLINGER 550587

VILLAGE OF GERMANTOWN 550472

VILLAGE OF JACKSON 550530

VILLAGE OF MENOMONEE FALLS 550518

CITY OF MILWAUKEE 550278

5. *0365D 11/20/2013
6. *0345D 11/20/2013
7. *0370D 11/20/2013

HUC8 07090001
Upper Rock

HUC8 07090002
Lower Rock

HUC8 07120006
Upper
(Illinois) Fox

ATTENTION: The corporate limits shown on this FIRM Index are based on the best information available at the time of publication. As such, they may be more current than those shown on FIRM panels issued before [CW date].

N

1 inch = 20,087 feet 1:241,047

feet
0 5,000 10,000 20,000 30,000

Map Projection:
GCS WGS 1984
Vertical Datum: NAVD88

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
HTTPS://MSC.FEMA.GOV

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

* PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY
**PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP INDEX

WASHINGTON COUNTY, WISCONSIN And Incorporated Areas

PANELS PRINTED:

0017, 0019, 0036, 0038, 0039, 0042, 0043, 0044, 0061, 0062, 0063, 0064, 0066, 0067, 0068, 0069, 0086, 0087, 0088, 0089, 0091, 0093, 0107, 0109, 0117, 0119, 0126, 0127, 0128, 0129, 0131, 0132, 0133, 0134, 0136, 0137, 0138, 0139, 0141, 0142, 0143, 0144, 0151, 0152, 0153, 0154, 0156, 0157, 0158, 0159, 0161, 0162, 0163, 0164, 0166, 0167, 0168, 0169, 0176, 0177, 0178, 0179, 0181, 0183, 0186, 0187, 0188, 0189, 0191, 0193, 0206, 0207, 0208, 0209, 0216, 0217, 0218, 0219, 0226, 0227, 0228, 0229, 0231, 0232, 0233, 0234, 0236, 0237, 0238, 0239, 0241, 0242, 0243, 0244, 0251, 0252, 0253, 0254, 0256, 0257, 0258, 0259, 0261, 0262, 0263, 0264, 0266, 0267, 0268, 0269, 0276, 0277, 0278, 0279, 0281, 0286, 0287, 0288, 0289, 0306, 0307, 0308, 0309, 0326, 0327, 0328, 0329, 0331, 0332, 0333, 0334, 0351, 0352, 0353, 0354, 0356, 0357, 0358, 0359, 0376, 0377, 0378, 0379

FEMA

MAP NUMBER
55131CIND1G

EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

Each FIRM panel may contain specific notes to the user that provide additional information regarding the flood hazard data shown on that map. However, the FIRM panel does not contain enough space to show all the notes that may be relevant in helping to better understand the information on the panel. Figure 2 contains the full list of these notes.

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM including historic versions of this FIRM, how to order products, or the National Flood Insurance Program in general, please call the FEMA Mapping and Insurance eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Flood Map Service Center website or by calling the FEMA Mapping and Insurance eXchange.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 27 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Non-Coastal Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Figure 2. FIRM Notes to Users *(continued)*

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may have reduced flood hazards due to flood control structures. Refer to Section 4.3 "Dams and Other Flood Hazard Reduction Measures" of this FIS Report for information on flood control structures for this jurisdiction.

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 16N. The horizontal datum was the World Geodetic System (WGS) of 1984. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at www.ngs.noaa.gov.

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 30 of this FIS Report.

BASE MAP INFORMATION: For panels dated Month DD, YYYY, base map information shown on the FIRM was provided in digital format by the United States Geological Survey (USGS). The basemap shown is the USGS National Map: Orthoimagery, last refreshed October 2020. For panels dated February 25, 2022, base map information shown on the FIRM was provided in digital format by the Wisconsin Regional Orthoimagery Consortium (WROC). The aerial photography was acquired in the Spring of 2015 to create 1":1000' scale digital orthophotos with 18-in resolution. For information about base maps, refer to Section 6.2 "Base Map" in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Figure 2. FIRM Notes to Users *(continued)*

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Washington County, Wisconsin, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 27 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

ATTENTION: The corporate limits shown are based on the best information available at the time of publication of this FIRM Index. As such, they may be more current than those shown on FIRM panels issued before Month DD, YYYY.

SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Washington County, Wisconsin, effective XXXXXX.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Each FIRM panel contains an abbreviated legend for the features shown on the maps. However, the FIRM panel does not contain enough space to show the legend for all map features. Figure 3 shows the full legend of all map features. Note that not all of these features may appear on the FIRM panels in Washington County.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.

	Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)
Zone A	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
Zone AE	The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone.
Zone AH	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
Zone AO	The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
Zone AR	The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
Zone A99	The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
Zone V	The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
Zone VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.
	Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM *(continued)*

OTHER AREAS OF FLOOD HAZARD

Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.

Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.

Area with Reduced Flood Hazard due to Accredited or Provisionally Accredited Levee System: Area is shown as reduced flood hazard from the 1-percent-annual-chance or greater flood by a levee system. Overtopping or failure of any levee system is possible. **See Notes to Users for important information.**

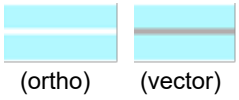
Area with Undetermined Flood Hazard due to Non-Accredited Levee System: Analysis and mapping procedures for non-accredited levee systems were applied resulting in a flood insurance rate zone where flood hazards are undetermined, but possible.

OTHER AREAS

Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

Unshaded Zone X: Areas of minimal flood hazard.

FLOOD HAZARD AND OTHER BOUNDARY LINES



Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)

Limit of Study

Jurisdiction Boundary

Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet

Figure 3: Map Legend for FIRM *(continued)*

GENERAL STRUCTURES	
Aqueduct *Channel* *Culvert* *Storm Sewer*	Channel, Culvert, Aqueduct, or Storm Sewer
Dam *Jetty* *Weir*	Dam, Jetty, Weir
	Levee, Dike, or Floodwall
Bridge	Bridge
REFERENCE MARKERS	
22.0	River mile Markers
CROSS SECTION & TRANSECT INFORMATION	
B 20.2	Lettered Cross Section with Regulatory Water Surface Elevation (BFE)
5280 21.1	Numbered Cross Section with Regulatory Water Surface Elevation (BFE)
17.5	Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)
8	Coastal Transect
	Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.
	Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.
513	Base Flood Elevation Line
ZONE AE **(EL 16)**	Static Base Flood Elevation value (shown under zone label)
ZONE AO **(DEPTH 2)**	Zone designation with Depth
ZONE AO **(DEPTH 2)** **(VEL 15 FPS)**	Zone designation with Depth and Velocity

Figure 3: Map Legend for FIRM *(continued)*

BASE MAP FEATURES	
Missouri Creek	River, Stream or Other Hydrographic Feature
234	Interstate Highway
234	U.S. Highway
234	State Highway
234	County Highway
MAPLE LANE	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
RAILROAD	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
+	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
$^{42}76^{000m}E$	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16’ 52.5”	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Washington County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1-percent-annual-chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 22), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1-percent and 0.2-percent-annual-chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1-percent-annual-chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1-percent and 0.2-percent-annual-chance floodplain boundaries are close together, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Washington County, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 12. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1-percent-annual-chance floodplain corresponds to the SFHAs. The 0.2-percent-annual-chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Allenton Creek	Washington County, Unincorporated Areas	Confluence with East Branch Rock River	Approximately 5,200 feet upstream of Aurora Road	0790001	3.0	*	Y	AE	2022
Allenton Creek Bypass	Washington County, Unincorporated Areas	Convergence with Allenton Creek	Divergence from Allenton Creek	0790001	0.9	*	Y	AE	2022
Allenton Creek Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with Allenton Creek	Approximately 2,300 feet upstream of Addison Road	0790001	0.7	*	Y	AE	2022
Allenton Creek Unnamed Tributary 1.1	Washington County, Unincorporated Areas	Confluence with Allenton Creek Unnamed Tributary 1	Approximately 650 feet upstream of Railroad	0790001	0.2	*	Y	AE	2022
Amy Bell Creek	Richfield, Village of	Mouth at Bark Lake	Amy Bell Lake	07090002	0.6	*	Y	AE	2013
Amy Bell Lake	Richfield, Village of	Entire Shoreline	Entire Shoreline	07090002	*	0.1	N	AE	2013
Ashippun River	Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Approximately 750 feet downstream of Druid Lake	07090001	3.9	*	Y	AE	2013
Ashippun River	Washington County, Unincorporated Areas	Approximately 750 feet downstream of Druid Lake	Approximately 2,100 feet upstream of Druid Lake	07090001	0.8	*	Y	AE	2016
Ashippun River	Washington County, Unincorporated Areas	Approximately 2,100 feet upstream of Druid Lake	Approximately 1.9 miles upstream of County Highway E	07090001	8.0	*	Y	AE	2013
Ashippun River Overland Flowpath	Washington County, Unincorporated Areas	Convergence with Unnamed Tributary to Ashippun River	Divergence from Ashippun River	07090001	0.6	*	Y	AE	2013

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Ashippun River Tributary 2	Washington County, Unincorporated Areas	Confluence with Ashippun River	Approximately 1,500 feet upstream of Riley Road	07090001	2.5	*	Y	AE	2013
Ashippun River Tributary 2.1	Washington County, Unincorporated Areas	Confluence with Ashippun River Tributary 2	Approximately 1,500 feet upstream of Cart Path	07090001	1.0	*	Y	AE	2013
Ashippun River Tributary 2.2	Washington County, Unincorporated Areas	Confluence with Ashippun River Tributary 2	Approximately 0.8 miles upstream	07090001	0.8	*	Y	AE	2013
Ashippun River Tributary 3	Washington County, Unincorporated Areas	Confluence with Ashippun River	Approximately 1,100 feet upstream	07090001	0.2	*	Y	AE	2013
Ashippun River Tributary 4	Washington County, Unincorporated Areas	Confluence with Ashippun River	Approximately 500 feet upstream of County Highway E	07090001	0.2	*	Y	AE	2013
Ashippun River Tributary 5	Washington County, Unincorporated Areas	Confluence with Ashippun River	Approximately 1,250 feet upstream	07090001	2.5	*	Y	AE	2013
Bark River	Richfield, Village of	Washington / Waukesha County Boundary	Approximately 620 feet upstream of Bark River Drive	07090002	5.4	*	Y	AE	2013
Bark River	Richfield, Village of	Approximately 620 feet upstream of Bark River Drive	Approximately 1,010 feet upstream of Bark River Drive	07090002	5.4	*	Y	AE	2022
Bark River	Richfield, Village of	Approximately 1,010 feet upstream of Bark River Drive	Approximately 1,400 feet upstream of Scenic Road	07090002	5.4	*	Y	AE	2013
Bark River Tributary 1	Richfield, Village of	Washington / Waukesha County Boundary	Approximately 1,140 feet upstream	07090002	0.2	*	Y	AE	2013

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Bark River Tributary 1.1	Richfield, Village of	Confluence with Bark River Tributary 1	Approximately 1,040 feet upstream	07090002	0.2	*	Y	AE	2013
Bolton Brook	Washington County, Unincorporated Areas	Confluence with Stony Creek	Approximately 4,100 feet upstream of Boltonville Road	04040003	1.4	*	Y	AE	2020
Bonniwell Creek	Richfield, Village of; Germantown, Village of	Confluence with Little Cedar Creek	Approximately 500 feet upstream of Holy Hill Road	04040003	1.6	*	Y	AE	2018
Brooklane Overflow	Kewaskum, Village of	Confluence with Edgewood Creek Overflow Channel	Divergence from Edgewood Creek	04040003	0.1	*	Y	AE	2019
Butler Creek Tributary 1	Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Approximately 1,060 feet upstream	07090001	0.2	*	Y	AE	2013
Butler Creek Tributary 2	Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Approximately 780 feet upstream	07090001	0.1	*	Y	AE	2013
Cedar Creek	Washington County, Unincorporated Areas	Ozaukee / Washington County Boundary	Approximately 40 feet upstream of Ozaukee / Washington County Boundary	04040003	<0.1	*	Y	AE	2019
Cedar Creek	Jackson, Village of; Washington County, Unincorporated Areas	Approximately 40 feet upstream of Washington / Ozaukee County Boundary	Cedar Lake	04040003	18.3	*	Y	AE	2018
Cedar Lake	Washington County, Unincorporated Areas	Entire Shoreline	Entire Shoreline	04040003	*	1.8	Y	AE	2018

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Cedarburg Creek	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 250 feet downstream of Washington / Ozaukee County Boundary	04040003	3.4	*	Y	AE	2018
Cedarburg Creek	Washington County, Unincorporated Areas	Approximately 250 feet downstream of Washington / Ozaukee County Boundary	Washington / Ozaukee County Boundary	04040003	<0.1	*	Y	AE	2019
Coney River	Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Oconomowoc River	County Highway E	07090001	4.5	*	Y	AE	2013
Coney River	Washington County, Unincorporated Areas	County Highway E	County Highway CC	07090001	3.0	*	Y	AE	2013
Coney River Overland Flowpath	Washington County, Unincorporated Areas	Convergence with Coney River	Divergence from Coney River	07090001	1.2	*	Y	AE	2013
Deer Creek	Washington County, Unincorporated Areas	Confluence with North Branch Cedar Creek	Approximately 2,500 feet upstream of Church Road	04040003	3.1	*	Y	AE	2018
East Branch Milwaukee River	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Approximately 20 feet downstream of Washington / Fond du Lac County Boundary	04040003	5.8	*	Y	AE	2019
East Branch Milwaukee River	Washington County, Unincorporated Areas	Approximately 20 feet downstream of Washington / Fond du Lac County Boundary	Washington / Fond du Lac County Boundary	04040003	<0.1	*	N	A	2019

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Branch Rock River	Washington County, Unincorporated Areas	Approximately 250 feet upstream of Dodge / Washington County Boundary	Approximately 4,500 feet downstream of State Highway 33	07090001	11.6	*	Y	AE	2022
East Branch Rock River	Washington County, Unincorporated Areas	Approximately 4,500 feet downstream of State Highway 33	Hillcrest Drive	07090001	1.8	*	Y	AE	2013
East Branch Rock River	Washington County, Unincorporated Areas	Hillcrest Drive	Approximately 4,000 feet upstream of Deer Road	07090001	4.3	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 1	Washington County, Unincorporated Areas	Dodge / Washington County Boundary	Approximately 1,100 feet upstream of the confluence with East Branch Rock River Unnamed Tributary 1.4	07090001	1.8	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 1.1	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 1	Approximately 1,300 feet upstream of the confluence with East Branch Rock River Unnamed Tributary 1	07090001	0.2	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 1.2	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 1	Washington / Dodge County Boundary	07090001	0.2	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 1.3	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 1	Approximately 3,300 feet upstream of State Highway 28	07090001	0.7	*	Y	AE	2022

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Branch Rock River Unnamed Tributary 1.3.1	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 1.3	Approximately 950 feet upstream of the confluence with East Branch Rock River Unnamed Tributary 1.3	07090001	0.2	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 1.4	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 1	Just downstream of Interstate 41	07090001	0.5	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with East Branch Rock River	Approximately 2,700 feet Upstream of Wildlife Road	07090001	2.3	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 2 Bypass	Washington County, Unincorporated Areas	Convergence with East Branch Rock River	Divergence from East Branch Rock River Unnamed Tributary 2	07090001	0.4	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 2.1	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 2	Approximately 450 feet upstream of Wildlife Road	07090001	0.4	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 2.1 Bypass	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 2.2	Approximately 600 feet upstream of confluence with East Branch Rock River Unnamed Tributary 2.2	07090001	0.1	*	Y	AE	2022
East Branch Rock River Unnamed Tributary 2.2	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 2	Approximately 1,200 feet upstream of Wildlife Road	07090001	0.5	*	Y	AE	2022

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
East Branch Rock River Unnamed Tributary 2.3	Washington County, Unincorporated Areas	Confluence with East Branch Rock River Unnamed Tributary 2	Approximately 100 Feet Upstream of Highway 33	07090001	0.3	*	Y	AE	2022
Edgewood Creek	Kewaskum, Village of	Confluence with North Creek	Approximately 0.5 mile upstream of Brooklane Overflow	04040003	0.9	*	Y	AE	2019
Edgewood Creek Overflow Channel	Kewaskum, Village of	Confluence with Kewaskum Creek	Divergence from Edgewood Creek	04040003	0.6	*	Y	AE	2019
Evergreen Bypass	Washington County, Unincorporated Areas	Confluence with Evergreen Creek	Divergence from Evergreen Creek	04040003	0.1	*	Y	AE	2018
Evergreen Creek	Washington County, Unincorporated Areas; West Bend, City of	County Highway G	Approximately 2,400 feet upstream of Hron Road	04040003	5.1	*	Y	AE	2018
Flynn Creek	Washington County, Unincorporated Areas	Confluence with Oconomowoc River	Approximately 700 feet upstream of Shannon Road	07090001	5.9	*	Y	AE	2013
Frieden's Creek	Jackson, Village of; Washington County, Unincorporated Areas	Confluence with Cedar Creek	State Highway 45	04040003	4.5	*	Y	AE	2018
Green Lake	Washington County, Unincorporated Areas	Entire Shoreline	Entire Shoreline	04040003	*	0.1	N	AE	2019
Hasmer Creek	Jackson, Village of; Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 2,000 feet upstream of Hasmer Lake	04040003	1.8	*	Y	AE	2018
Hubertus Ditch No. 1	Richfield, Village of	Confluence with Bark River	Approximately 800 feet upstream of Hubertus Road	07090002	0.9	*	Y	AE	2013

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
HWY 41 Overflow	Germantown, Village of	Confluence with West Branch Menomonee River	Divergence from UT to West Branch Menomonee River	04040003	0.9	*	Y	AE	2019
Jackson Creek	Jackson, Village of; Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 600 feet upstream of Jackson Drive	04040003	1.0	*	Y	AE	2018
Kettleview Creek	Kewaskum, Village of; Washington County, Unincorporated Areas	Confluence with Kewaskum Creek	County Highway B	04040003	2.2	*	Y	AE	2019
Kewaskum Creek	Kewaskum, Village of; Washington County, Unincorporated Areas	Confluence with Milwaukee River	Ridge Road	04040003	5.1	*	Y	AE	2019
Kewaskum Creek	Washington County, Unincorporated Areas	Ridge Road	Approximately 1/3 mile upstream of Schuster Drive	04040003	4.0	*	Y	AE	2019
Kewaskum Creek Overflow Channel	Washington County, Unincorporated Areas	Confluence with Kettleview Creek	Divergence from Kewaskum Creek	04040003	0.6	*	Y	AE	2019
Knights Creek	Kewaskum, Village of; Washington County, Unincorporated Areas	Confluence with North Creek	Approximately 500 feet downstream of Highland Drive	04040003	1.3	*	Y	AE	2019
Knights Creek Overflow	Kewaskum, Village of	Confluence with Edgewood Creek	Divergence from Knights Creek	04040003	0.2	*	Y	AE	2019
Kohlsville River	Washington County, Unincorporated Areas	Confluence with East Branch Rock River	Beechnut Drive	07090001	3.0	*	Y	AE	2022
Kohlsville River	Washington County, Unincorporated Areas	Beechnut Drive	Approximately 300 feet downstream of County Highway D	07090001	1.9	*	Y	AE	2013

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Kohlsville River	Washington County, Unincorporated Areas	Approximately 300 feet downstream of County Highway D	Approximately 5,800 feet upstream of Townline Road	07090001	4.6	*	Y	AE	2022
Kohlsville River – Park Route	Washington County, Unincorporated Areas	Convergence with Kohlsville River	Divergence from Kohlsville River	07090001	0.5	*	Y	AE	2013
Kohlsville River Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with Kohlsville River	Approximately 3,200 feet upstream of the confluence with Kohlsville River	07090001	0.6	*	Y	AE	2022
Kohlsville River Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with Kohlsville River	Approximately 8,300 feet upstream of Aurora Road	07090001	3.4	*	Y	AE	2022
Kohlsville River Unnamed Tributary 2.1	Washington County, Unincorporated Areas	Confluence with Kohlsville River Unnamed Tributary 2	Approximately 1,100 feet upstream of the confluence with Kohlsville River Unnamed Tributary 2	07090001	0.2	*	Y	AE	2022
Kressen Branch	Germantown, Village of; Washington County, Unincorporated Areas	Confluence with Little Cedar Creek	Approximately 1,800 feet upstream of Pioneer Road	04040003	3.5	*	Y	AE	2018
Lake Five	Richfield, Village of	Entire shoreline within Washington County	Entire shoreline within Washington County	07090002	*	0.2	N	AE	2013
Lehner Outlet	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 4,800 feet upstream of Scenic Road	04040003	2.5	*	Y	AE	2018
Limestone Creek	Washington County, Unincorporated Areas	Confluence with East Branch Rock River	Just downstream of County Road U	07090001	6.3	*	Y	AE	2022

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Limestone Creek Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Approximately 2,800 feet upstream of the confluence with Limestone Creek	07090001	0.5	*	Y	AE	2022
Limestone Creek Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Approximately 2,100 feet upstream of the confluence with Limestone Creek	07090001	0.4	*	Y	AE	2022
Limestone Creek Unnamed Tributary 3	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Approximately 4,300 feet upstream of Crooked Road	07090001	1.0	*	Y	AE	2022
Limestone Creek Unnamed Tributary 3.1	Washington County, Unincorporated Areas	Confluence with Limestone Creek Unnamed Tributary 3	Approximately 3,400 Feet Upstream of County Highway S	07090001	1.4	*	Y	AE	2022
Limestone Creek Unnamed Tributary 3.2	Washington County, Unincorporated Areas	Confluence with Limestone Creek Unnamed Tributary 3	Approximately 3,200 feet upstream of the confluence with Limestone Creek Unnamed Tributary 3	07090001	0.6	*	Y	AE	2022
Limestone Creek Unnamed Tributary 4	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Approximately 600 feet upstream of Hillcrest Drive	07090001	0.3	*	Y	AE	2022
Limestone Creek Unnamed Tributary 5	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Approximately 2,450 feet upstream of County Road U	07090001	0.9	*	Y	AE	2022
Limestone Creek Unnamed Tributary 6	Washington County, Unincorporated Areas	Confluence with Limestone Creek	Just downstream of County Road U	07090001	0.6	*	Y	AE	2022

* Not calculated for this Flood Risk Project

Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Little Cedar Creek	Germantown, Village of; Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 2,900 feet upstream of Scenic Road	04040003	8.2	*	Y	AE	2018
Little Cedar Creek Bypass	Germantown, Village of; Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Little Cedar Creek	Divergence from Little Cedar Creek	04040003	0.9	*	Y	AE	2018
Little Oconomowoc River	Washington County, Unincorporated Areas	Confluence with Oconomowoc River	Approximately 1.1. miles upstream of Donegal Road	07090001	4.7	*	Y	AE	2013
Lower Rock River Watershed Zone A studies	Richfield, Village of	Various	Various	07090002	1.0	*	N	A	2013
Marsh Creek	Richfield, Village of	Confluence with Bark River	0.5 miles upstream of confluence with Bark River	07090002	0.4	*	N	AE	1980
Mason Creek	Washington County, Unincorporated Areas	Washington / Waukesha County Boundary	Washington / Dodge County Boundary	07090001	2.2	*	Y	AE	2013
Mason Creek Tributary 1	Washington County, Unincorporated Areas	Washington / Waukesha County Boundary	Approximately 1.3 miles upstream	07090001	1.1	*	Y	AE	2013
Menomonee River	Germantown, Village of	Washington / Waukesha County Boundary	2,800 feet upstream of Lovers Lane	04040003	6.3	*	N	AE	1980
Menomonee River Unnamed Tributary 1	Germantown, Village of	Confluence with Menomonee River	Approximately 460 feet upstream of De La Court	04040003	1.5	*	Y	AE	2020

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Milwaukee River	Kewaskum, Village of; Newburg, Village of; Washington County, Unincorporated Areas; West Bend, City of	Ozaukee / Washington County Boundary	Washington / Fond du Lac County Boundary	04040003	28.3	*	Y	AE	2019
Milwaukee River Watershed Zone A studies	Germantown, Village of; Washington County, Unincorporated Areas; West Bend, City of	Various	Various	04040003	1.0	*	N	A	2013
Mueller Lake	Washington County, Unincorporated Areas	Entire Shoreline	Entire Shoreline	04040003	*	0.2	N	AE	2018
Myra Creek	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Approximately 0.85 miles upstream of Tillman and Stern Dam	04040003	3.2	*	Y	AE	2019
Nature's Friends Tributary	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 2,400 feet upstream of confluence with Cedar Creek	04040003	0.5	*	Y	AE	2018
No Name Creek Unnamed Tributary 1	Washington County, Unincorporated Areas	Dodge / Washington County Boundary	Approximately 1,700 feet upstream of Dodge / Washington County Boundary	07090001	0.3	*	Y	AE	2022
Nolan Creek	Washington County, Unincorporated Areas	Confluence with East Branch Rock River	Just downstream of West Bend Road	07090001	1.4	*	Y	AE	2022
North Branch Cedar Creek	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 2,000 feet upstream of County Highway Y	04040003	9.0	*	Y	AE	2018

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
North Branch Menomonee River	Germantown, Village of; Washington County, Unincorporated Areas	Confluence with Menomonee River	Approximately 0.5 mile upstream of Goldendale Road	04040003	4.3	*	Y	AE	2019
North Branch Milwaukee River	Washington County, Unincorporated Areas	Ozaukee / Washington County Boundary	Washington / Sheboygan County Boundary	04040003	8.5	*	Y	AE	2020
North Branch Milwaukee River Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with North Branch Milwaukee River	Approximately 2,150 feet upstream of County Road M	04040003	1.5	*	Y	AE	2020
North Branch Milwaukee River Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with North Branch Milwaukee River	Washington / Ozaukee County Boundary	04040003	1.8	*	Y	AE	2020
North Creek	Kewaskum, Village of; Washington County, Unincorporated Areas	Confluence with Milwaukee River	Highland Drive	04040003	2.4	*	Y	AE	2019
North Crossway Channel	Washington County, Unincorporated Areas	Waukesha / Washington County Boundary	Approximately 1,960 feet upstream of Strawgrass Lane	04040003	2.4	*	Y	AE	2020
North Crossway Channel Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with North Crossway Channel	Approximately 2,360 feet upstream of Washington Drive	04040003	0.7	*	Y	AE	2020
North Crossway Channel Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with North Crossway Channel	Approximately 135 feet upstream of Wasaukee Road	04040003	0.2	*	Y	AE	2020
Oconomowoc Bypass	Richfield, Village of; Washington County, Unincorporated Areas	Pleasant Hill Road	Divergence from Little Cedar Creek	04040003	1.3	*	Y	AE	2018

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Oconomowoc River	Richfield, Village of; Washington County, Unincorporated Areas	Washington / Waukesha County Boundary	Approximately 2,600 feet upstream of Hillside Road	07090001	10.5	*	Y	AE	2013
Polk Springs Creek	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Approximately 300 feet upstream of Mayfield Road	04040003	1.8	*	Y	AE	2018
Putter Creek	Washington County, Unincorporated Areas	Confluence with Coney River	Approximately 4,300 feet upstream	07090001	0.8	*	Y	AE	2013
Quaas Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	Parkway Drive	04040003	6.1	*	Y	AE	2019
Rubicon River	Hartford, City of; Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Just downstream of State Highway 60	07090001	6.3	*	Y	AE	2013
Rubicon River	Hartford, City of; Washington County, Unincorporated Areas	Just downstream of State Highway 60	Just upstream of Franklin Drive	07090001	1.2	*	Y	AE	2018
Rubicon River	Hartford, City of; Slinger, Village of; Washington County, Unincorporated Areas	Just upstream of Franklin Drive	Approximately 2,600 feet upstream of State Highway 175	07090001	2.9	*	Y	AE	2013
Rubicon River Overland Flowpath	Hartford, City of; Washington County, Unincorporated Areas	Convergence with Rubicon River	Divergence from Rubicon River	07090001	0.5	*	Y	AE	2013
Rubicon River Tributary 1	Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Approximately 1,600 feet upstream	07090001	0.3	*	Y	AE	2013
Rubicon River Tributary 2	Washington County, Unincorporated Areas	Washington / Dodge County Boundary	Approximately 960 feet upstream	07090001	0.2	*	Y	AE	2013
Scenic Brook	Richfield, Village of	Confluence with Bark River	Approximately 4,700 feet upstream	07090002	0.9	*	Y	AE	2013

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Silver Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	Silver Lake	04040003	5.7	*	Y	AE	1995
Silverbrook Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Silver Creek	0.5 miles upstream of U.S. Highway 45	04040003	1.4	*	Y	AE	1995
Smith Lake Channel	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Pond just north of Smith Lake	04040003	1.5	*	Y	AE	2019
Springside Creek	Germantown, Village of; Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Little Cedar Creek	Pioneer Road	04040003	1.2	*	Y	AE	2018
Stony Creek	Washington County, Unincorporated Areas	Confluence with North Branch Milwaukee River	Washington / Fond du Lac County Boundary	04040003	11.2	*	Y	AE	2020
Stony Creek Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with Stony Creek	Approximately 2,550 feet upstream of Westcott Road	04040003	0.8	*	Y	AE	2020
Stream 1	Washington County, Unincorporated Areas	Dodge / Washington County Boundary	Divergence from East Branch Rock River Unnamed Tributary 1	07090001	0.1	*	Y	AE	2022
Tributary 1 to Milwaukee River	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	Approximately 2/3 miles upstream of State Highway 33	04040003	1.0	*	Y	AE	2019
Tributary 2 to Milwaukee River	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	Approximately 0.2 mile upstream of North Oak Road	04040003	1.2	*	Y	AE	2019
Tributary 2 to Milwaukee River Split	Washington County, Unincorporated Areas	Confluence with Tributary 2 to Milwaukee River	Divergence from UT-3 Milwaukee River	04040003	1.3	*	Y	AE	2019

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Tributary No. 1	Germantown, Village of	Confluence with Menomonee River	Butternut Road	04040003	3.3	*	Y	AE	2019
Tributary No. 1A	Germantown, Village of	Confluence with Tributary No. 1	Division Road	04040003	1.0	*	Y	AE	2019
Tributary No. 1B	Germantown, Village of	Confluence with Tributary No. 1	Donges Bay Road	04040003	0.6	*	Y	AE	2019
Tributary No. 2	Germantown, Village of	Confluence with Menomonee River	Mequon Road	04040003	1.2	*	Y	AE	2019
Tributary No. 2 Unnamed Tributary 1	Germantown, Village of	250 feet upstream of State Highway 167	Approximately 70 feet downstream of Legend Avenue	04040003	0.1	*	Y	AE	2020
Tributary No. 3	Germantown, Village of	Confluence with Menomonee River	300 feet west of Park Avenue	04040003	0.6	*	Y	AE	2019
Tributary No. 4	Germantown, Village of	Confluence with North Branch Menomonee River	Divergence from North Branch Menomonee River	04040003	2.4	*	Y	AE	2019
Tributary No. 5	Germantown, Village of	Confluence with Menomonee River	Approximately 3/4 miles upstream of Tributary No. 5 Overflow	04040003	2.1	*	Y	AE	2019
Tributary No. 5 Overflow	Germantown, Village of	Confluence with Tributary No. 5	Divergence from Tributary No. 5 to Menomonee River	04040003	0.7	*	Y	AE	2019
Unnamed Tributary to Ashippun River	Hartford, City of; Washington County, Unincorporated Areas	Confluence with Ashippun River	Approximately 1.0 miles upstream	07090001	0.4	*	Y	AE	2013
Unnamed Tributary to Frieden's Creek	Washington County, Unincorporated Areas	Confluence with Frieden's Creek	Approximately 500 feet upstream of confluence with Frieden's Creek	04040003	0.1	*	N	AE	2005

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UT to West Branch Menomonee River	Germantown, Village of	Confluence with West Branch Menomonee River	Approximately 0.25 miles upstream of Freistadt Road	04040003	2.8	*	Y	AE	2019
UT to West Branch Menomonee River Overflow	Germantown, Village of	Confluence with West Branch Menomonee River	Divergence from UT to West Branch Menomonee River	04040003	0.4	*	Y	AE	2019
UT Washington Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Washington Creek	Approximately 0.2 miles upstream of West Washington Street	04040003	0.4	*	N	A	2019
UT Wingate Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Wingate Creek	Approximately 0.4 miles upstream of confluence with Wingate Creek	04040003	0.4	*	N	A	2019
UT-1 Kewaskum Creek	Washington County, Unincorporated Areas	Confluence with Kewaskum Creek	Approximately 0.4 mile upstream of Townline Road	04040003	2.0	*	Y	AE	2019
UT-1 Milwaukee River	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Approximately 1.3 miles upstream of US Highway 45	04040003	2.1	*	Y	AE	2019
UT-1 Mink Creek	Washington County, Unincorporated Areas	Sheboygan / Washington County Boundary	Approximately 100 feet downstream of Cranberry Road	04040003	<0.1	*	N	A	2019
UT-1 Mink Creek	Washington County, Unincorporated Areas	Approximately 100 feet downstream of Cranberry Road	Approximately 1,130 feet upstream of Boltonville Road	04040003	1.0	*	Y	AE	2020
UT-1 Quaas Creek	Washington County, Unincorporated Areas	Confluence with Quaas Creek	Just south of George Court	04040003	2.5	*	Y	AE	2019

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Upper Rock River Watershed Zone A studies	Hartford, City of; Richfield, Village of; Washington County, Unincorporated Areas	Various	Various	07090001	1.0	*	N	A	2013
UT-1 to Big Cedar Lake	Washington County, Unincorporated Areas	Confluence with Cedar Lake	Arthur Road	04040003	3.2	*	Y	AE	2018
UT-1 to Cedar Creek	Washington County, Unincorporated Areas	County Highway Y	Washington Drive	04040003	0.5	*	Y	AE	2018
UT-1 to Coney River	Washington County, Unincorporated Areas	Confluence with Coney River	Approximately 1,100 feet upstream of Slinger Road	07090001	1.4	*	Y	AE	2013
UT-1 to Coney River Overflow	Washington County, Unincorporated Areas	Confluence with Coney River	Divergence from UT-1 to Coney River	07090001	0.3	*	Y	AE	2013
UT-1 to Coney River Overflow West	Washington County, Unincorporated Areas	Confluence with Coney River	Approximately 1,000 feet upstream	07090001	0.2	*	Y	AE	2013
UT-1 to Evergreen Creek	Washington County, Unincorporated Areas	Confluence with Evergreen Creek	Approximately 1,600 feet upstream of County Highway G	04040003	0.5	*	Y	AE	2018
UT-1 to Hasmer Creek	Jackson, Village of; Washington County, Unincorporated Areas	Confluence with Hasmer Creek	Approximately 4,000 feet upstream of confluence with Hasmer Creek	04040003	0.6	*	N	AE	2011
UT-1 to Kressen Branch	Washington County, Unincorporated Areas	Confluence with Kressen Branch	Approximately 600 feet upstream of Church Road	04040003	1.5	*	Y	AE	2018
UT-1 to Little Cedar Creek	Washington County, Unincorporated Areas	Confluence with Little Cedar Creek	Approximately 2,500 feet upstream of Jackson Drive	04040003	0.6	*	Y	AE	2018

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UT-1 to Little Cedar Lake	Washington County, Unincorporated Areas	Confluence with Little Cedar Lake	Approximately 300 feet upstream of Wayne Drive	04040003	0.4	*	Y	AE	2018
UT-1 to Oconomowoc River	Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Oconomowoc River	Divergence from Oconomowoc River	07090001	2.6	*	Y	AE	2013
UT-1 to Polk Springs Creek	Washington County, Unincorporated Areas	Confluence with Polk Springs Creek	State Highway 45	04040003	0.2	*	Y	AE	2018
UT-1 to Rubicon River	Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 1,900 feet upstream of County Highway U	07090001	6.1	*	Y	AE	2013
UT-1.1 Quaas Creek	Washington County, Unincorporated Areas	Confluence with UT-1 Quaas Creek	Approximately 0.5 mile upstream of UT-1 Quaas Creek	04040003	0.5	*	Y	AE	2019
UT-1.1 to Rubicon River	Washington County, Unincorporated Areas	Confluence with UT-1 to Rubicon River	Washington / Dodge County Boundary	07090001	1.6	*	Y	AE	2013
UT-1.1.1 to Rubicon River	Washington County, Unincorporated Areas	Confluence with UT-1.1 to Rubicon River	Approximately 3,200 feet upstream	07090001	0.6	*	Y	AE	2013
UT-1.2 Quaas Creek	Washington County, Unincorporated Areas	Confluence with UT-1 Quaas Creek	Approximately 0.1 miles upstream of US Highway 45	04040003	1.3	*	Y	AE	2019
UT-1.2 to Rubicon River	Washington County, Unincorporated Areas	Confluence with UT-1 to Rubicon River	Approximately 2,800 feet upstream of County Highway K	07090001	1.7	*	Y	AE	2013
UT-1.2.1 to Rubicon River	Washington County, Unincorporated Areas	Confluence with UT-1.2 to Rubicon River	Approximately 2,800 feet upstream of Saint Lawrence Lane	07090001	1.6	*	Y	AE	2013
UT-2 Kewaskum Creek	Washington County, Unincorporated Areas	Confluence with Kewaskum Creek	Kettle View Drive	04040003	0.8	*	Y	AE	2019

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UT-2 Milwaukee River	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	Approximately 1.1 miles upstream of UT-2.1 Milwaukee River	04040003	1.8	*	Y	AE	2019
UT-2 to Cedar Creek	Washington County, Unincorporated Areas	Confluence with Cedar Creek	Center Road	04040003	1.6	*	Y	AE	2018
UT-2 to Coney River	Richfield, Village of; Washington County, Unincorporated Areas	Confluence with Coney River	Approximately 1.4 miles upstream	07090001	1.4	*	Y	AE	2013
UT-2 to Little Cedar Creek	Washington County, Unincorporated Areas	Confluence with Little Cedar Creek	Approximately 1,500 feet upstream of confluence with Little Cedar Creek	04040003	0.3	*	Y	AE	2018
UT-2 to Oconomowoc River	Richfield, Village of	Confluence with Oconomowoc River	State Highway 164	07090001	2.3	*	Y	AE	2013
UT-2 to Rubicon River	Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 1,900 feet upstream of County Highway U	07090001	6.1	*	Y	AE	2013
UT-2.1 Milwaukee River	Washington County, Unincorporated Areas	Confluence with UT-2 Milwaukee River	Approximately 0.7 miles upstream of UT-2 Milwaukee River	04040003	0.7	*	Y	AE	2019
UT-2.1 to Rubicon River	Hartford, City of; Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 1.0 miles upstream of State Highway 83	07090001	1.7	*	Y	AE	2013
UT-3 Milwaukee River	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Green Lake	04040003	3.7	*	Y	AE	2019
UT-3 to Rubicon River	Hartford, City of; Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 3,000 feet upstream of confluence with UT-3.1 to Rubicon River	07090001	2.2	*	Y	AE	2013

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UT-3.1 to Rubicon River	Hartford, City of; Washington County, Unincorporated Areas	Confluence with UT-3 to Rubicon River	Arthur Road	07090001	0.7	*	Y	AE	2013
UT-4 Milwaukee River	Washington County, Unincorporated Areas	Confluence with Milwaukee River	Approximately 0.5 miles upstream of East Newark Drive	04040003	1.5	*	Y	AE	2019
UT-4 to Rubicon River	Slinger, Village of; Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 4,200 feet upstream	07090001	0.8	*	Y	AE	2013
UT-5 to Rubicon River	Slinger, Village of; Washington County, Unincorporated Areas	Confluence with Rubicon River	Approximately 2,200 feet upstream of Wisconsin Central Railroad	07090001	1.6	*	Y	AE	2013
Wallace Creek	Washington County, Unincorporated Areas	Confluence with North Branch Milwaukee River	Approximately 200 feet downstream of Wallace Lake Road	04040003	10.3	*	Y	AE	2020
Wallace Creek Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with Wallace Creek	Approximately 1,900 feet upstream of the confluence	04040003	0.4	*	Y	AE	2020
Wallace Creek Unnamed Tributary 3	Washington County, Unincorporated Areas	Confluence with Wallace Creek	Approximately 780 feet upstream of South Indian Lore Road	04040003	0.6	*	Y	AE	2020
Washington Creek	Washington County, Unincorporated Areas, West Bend, City of	Confluence with Silver Creek	500 feet upstream of Sheppard's Drive	04040003	1.5	*	Y	AE	1995
Wayne Creek	Washington County, Unincorporated Areas	Confluence with Kohlsville River	Just downstream of Saint Killian Drive	07090001	6.3	*	Y	AE	2022

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Wayne Creek Unnamed Tributary 1	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Approximately 2,500 feet upstream of the confluence with Wayne Creek	07090001	0.5	*	Y	AE	2022
Wayne Creek Unnamed Tributary 2	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Approximately 8,900 feet upstream of County Highway W	07090001	3.2	*	Y	AE	2022
Wayne Creek Unnamed Tributary 2.1	Washington County, Unincorporated Areas	Confluence with Wayne Creek Unnamed Tributary 2	Approximately 600 feet upstream of the confluence with Wayne Creek Unnamed Tributary 2	07090001	0.1	*	Y	AE	2022
Wayne Creek Unnamed Tributary 3	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Approximately 1,900 feet upstream of Fairview Drive	07090001	0.4	*	Y	AE	2022
Wayne Creek Unnamed Tributary 4	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Just downstream of Woodlawn Drive	07090001	1.3	*	Y	AE	2022
Wayne Creek Unnamed Tributary 4.1	Washington County, Unincorporated Areas	Confluence with Wayne Creek Unnamed Tributary 4	Approximately 1,600 feet upstream of the confluence with Wayne Creek Unnamed Tributary 4	07090001	0.3	*	Y	AE	2022
Wayne Creek Unnamed Tributary 4.2	Washington County, Unincorporated Areas	Confluence with Wayne Creek Unnamed Tributary 4	Approximately 550 feet upstream of the confluence with Wayne Creek Unnamed Tributary 4	07090001	0.1	*	Y	AE	2022
Wayne Creek Unnamed Tributary 5	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Approximately 1,700 feet upstream of the confluence with Wayne Creek	07090001	0.3	*	Y	AE	2022

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Wayne Creek Unnamed Tributary 6	Washington County, Unincorporated Areas	Confluence with Wayne Creek	Approximately 4,100 feet upstream of the confluence with Wayne Creek	07090001	0.8	*	Y	AE	2022
West Branch Menomonee River	Germantown, Village of	Confluence with Menomonee River	Approximately 600 feet upstream of Brookside Drive	04040003	3.6	*	Y	AE	2019
West Branch Menomonee River Overflow	Germantown, Village of	Confluence with West Branch Menomonee River	Divergence from West Branch Menomonee River	04040003	0.2	*	Y	AE	2019
West Branch Milwaukee River	Washington County, Unincorporated Areas	Confluence with Milwaukee River	US Highway 45	04040003	0.8	*	Y	AE	2019
West Branch Milwaukee River	Washington County, Unincorporated Areas	US Highway 45	At confluence of West Branch Milwaukee River Unnamed Tributary 1	04040003	1.7	*	Y	AE	2020
West Branch Milwaukee River Unnamed Tributary 1	Washington County, Unincorporated Areas	Fond du Lac / Washington County Boundary	Just downstream of Lake Bernice Road	04040003	6.3	*	Y	AE	2020
West Branch Milwaukee River Unnamed Tributary 1.1	Washington County, Unincorporated Areas	Confluence with West Branch Milwaukee River Unnamed Tributary 1	Just downstream of Townline Road	04040003	0.2	*	Y	AE	2020
West Branch Milwaukee River Unnamed Tributary 1.2	Washington County, Unincorporated Areas	Confluence with West Branch Milwaukee River Unnamed Tributary 1	Approximately 1,120 feet upstream of the confluence with West Branch Milwaukee River Unnamed Tributary 1	04040003	0.2	*	Y	AE	2020

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Table 2: Flooding Sources Included in this FIS Report *(continued)*

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Wetland Extension 2	Washington County, Unincorporated Areas	Confluence with West Branch Milwaukee River Unnamed Tributary 1	Approximately 2,100 feet upstream of Sunset Drive	07090001	1.7	*	Y	AE	2022
Wetland Extension 2.1	Washington County, Unincorporated Areas	Confluence with Wetland Extension 2	Approximately 5,950 feet upstream of Townline Road	07090001	2.5	*	Y	AE	2022
Willow Creek	Germantown, Village of; Richfield, Village of	Confluence with Menomonee River	Just upstream of Amy Belle Road extended	04040003	2.9	*	Y	AE	2019
Willow Creek Unnamed Tributary 1	Germantown, Village of	Confluence with Willow Creek	Just downstream of County Line Road	04040003	0.6	*	Y	AE	2020
Willow Creek Unnamed Tributary 1.1	Germantown, Village of	Confluence with Willow Creek Unnamed Tributary 1	Approximately 1,950 feet upstream of the confluence with Willow Creek	04040003	0.4	*	Y	AE	2020
Wingate Creek	Washington County, Unincorporated Areas; West Bend, City of	Confluence with Milwaukee River	420 feet downstream of Wallace Lake Road	04040003	2.5	*	Y	AE	1989

* Not calculated for this Flood Risk Project

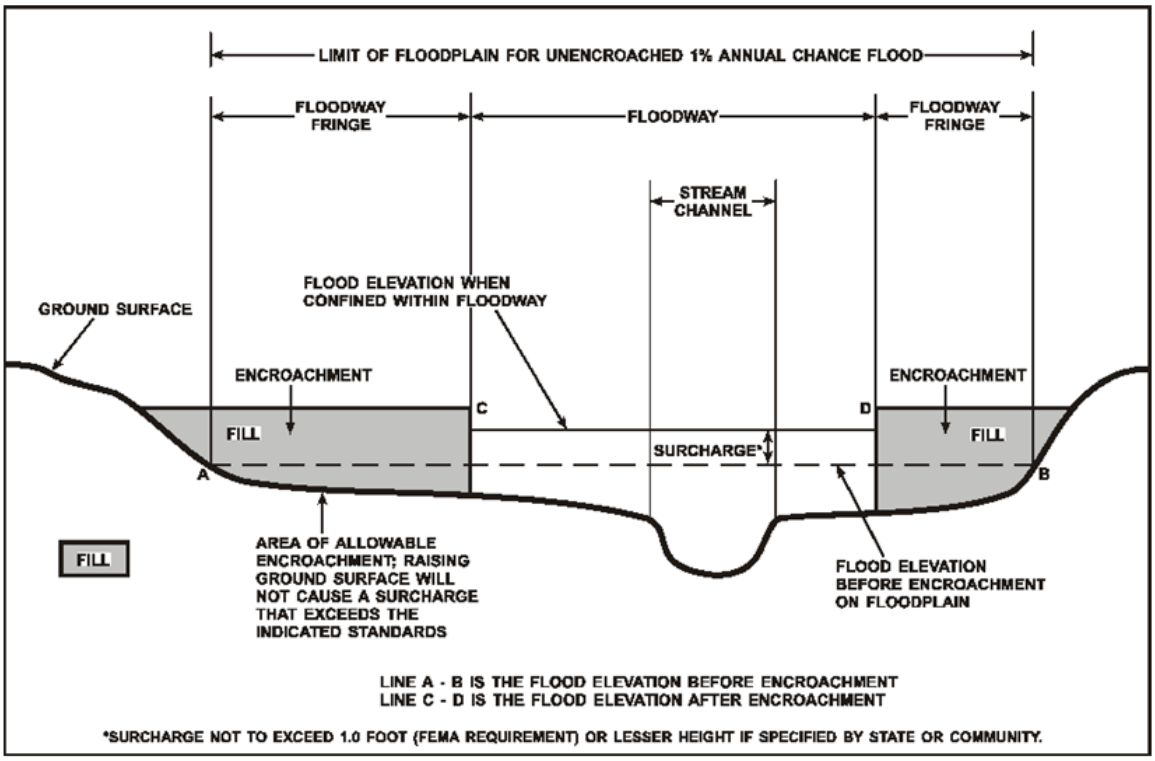
2.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1-percent-annual-chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1-percent-annual-chance flood. The floodway fringe is the area between the floodway and the 1-percent-annual-chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1-percent-annual-chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure .

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for Wisconsin require communities in Washington County to limit increases caused by encroachment to 0.00 feet and several communities have adopted additional restrictions. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 23, “Floodway Data.”

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1-percent-annual-chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The BFE is the elevation of the 1-percent-annual-chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in

the Floodway Data table and Flood Profiles in this FIS Report. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. For example, the user may use the FIRM to determine the stream station of a location of interest and then use the profile to determine the 1-percent annual chance elevation at that location. Because only selected cross sections may be shown on the FIRM for riverine areas, the profile should be used to obtain the flood elevation between mapped cross sections. Additionally, for riverine areas, whole-foot elevations shown on the FIRM may not exactly reflect the elevations derived from the hydraulic analyses; therefore, elevations obtained from the profile may more accurately reflect the results of the hydraulic analysis.

2.4 Non-Encroachment Zones

This section is not applicable to this Flood Risk Project.

2.5 Coastal Flood Hazard Areas

2.5.1 Water Elevations and the Effects of Waves

This section is not applicable to this Flood Risk Project.

Figure 5: Wave Runup Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

This section is not applicable to this Flood Risk Project.

2.5.3 Coastal High Hazard Areas

This section is not applicable to this Flood Risk Project.

Figure 6: Coastal Transect Schematic

[Not Applicable to this Flood Risk Project]

2.5.4 Limit of Moderate Wave Action

This section is not applicable to this Flood Risk Project.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign

premium rates for flood insurance policies.

The 1-percent-annual-chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2-percent-annual-chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood zones in Washington County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
Germantown, Village of	A, AE, X
Hartford, City of	A, AE, X
Jackson, Village of	AE, X
Kewaskum, Village of	AE, X
Milwaukee, City of	X
Newburg, Village of	AE, X
Richfield, Village of	A, AE, X
Slinger, Village of	A, AE, X
Washington County, Unincorporated Areas	A, AE, X
West Bend, City of	A, AE, X

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 4 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 4: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Lower Rock	07090002	Rock River	Drains a small portion of Southern Washington County that includes the headwaters of the Bark River	1,830
Milwaukee	04040003	Milwaukee River	Encompasses the Eastern half of Washington County	879
Upper (Illinois) Fox	07120006	Fox River	Upper portion of the (Illinois) Fox River basin in Wisconsin (no SFHA's in Washington County)	1,544
Upper Rock	07010001	Rock River	Encompasses the Western half of Washington County	1,892

4.2 Principal Flood Problems

Table 5 contains a description of the principal flood problems that have been noted for Washington County by flooding source.

Table 5: Principal Flood Problems

Flooding Source	Description of Flood Problems
Multiple	Washington County is most susceptible to flooding in spring due to a combination of rapid snowmelt, spring rains, and frozen ground. Ice and debris may jam at bridge construction and cause much higher river stages than would normally be expected. The largest and most disastrous flood occurred in August 1924. Almost eight inches of rain fell causing severe flooding of the county's waterways. Most bridges of the county were washed out, dams were destroyed, and a train wreck occurred near the Village of Kewaskum. Other large floods occurred in 1952, 1965, and 1978 (WCHS 1979).
Multiple	On June 8, 2008, heavy rains resulted in flash flooding over much of Washington County. Water depths on road surfaces reached 3 feet or more and there were gravel washouts. Some farm fields would remain flooded into early July.
Rubicon River	Major flooding of the Rubicon River near the City of Hartford occurred in March 1929 and April 1959. These flooding events are estimated to be less than 10-year recurrence interval floods based on comparison of the historic information with the flood profiles. The late winter flood was attributed to the simultaneous occurrence of snowmelt and a light rainfall. The river rose very rapidly, and just east of the Hartford, washed out much of the area that is now Wilson Avenue. Floodwaters overtopped the Rural Street Bridge which is located 1,000 feet downstream of the dam. Flood stages dropped rapidly and the river returned to its banks on the following day. A rainfall-snowmelt combination caused flooding the night of April 2, 1959. This flood was not as severe as the 1929 event because the floodwaters were generally contained by the river banks, although some industries and city parkland did experience flooding (SEWRPC 1974).

Table 6 contains information about historic flood elevations in the communities within Washington County.

Table 6: Historic Flooding Elevations

[Not Applicable to this Flood Risk Project]

4.3 Dams and Other Flood Hazard Reduction Measures

Table 7 contains information about non-levee flood hazard reduction measures within Washington County such as dams or jetties. Levee systems are addressed in Section 4.4 of this FIS Report.

Table 7: Dams and Other Flood Hazard Reduction Measures

[Not Applicable to this Flood Risk Project]

4.4 Levee Systems

This section is not applicable to this Flood Risk Project.

Table 8: Levee Systems

[Not Applicable to this Flood Risk Project]

SECTION 5.0 – ENGINEERING METHODS

For the flooding sources in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded at least once on the average during any 10-, 25-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management. These events, commonly termed the 10-, 25-, 50-, 100-, and 500-year floods, have a 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance, respectively, of being equaled or exceeded during any year.

Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedance) during the term of a 30-year mortgage is approximately 26 percent (about 3 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

In addition to these flood events, the “1-percent-plus”, or “1%+”, annual chance flood elevation has been modeled and included on the flood profile for certain flooding sources in this FIS Report. While not used for regulatory or insurance purposes, this flood event has been calculated to help illustrate the variability range that exists between the regulatory 1-percent-annual-chance flood elevation and a 1-percent-annual-chance elevation that has taken into account an additional amount of uncertainty in the flood discharges (thus, the 1% “plus”). For flooding sources whose discharges were estimated using regression equations, the 1%+ flood elevations are derived by taking the 1-percent-annual-chance flood discharges and increasing the modeled discharges by a percentage equal to the average predictive error for the regression equation. For flooding sources with gage- or rainfall-runoff-based discharge estimates, the upper 84-percent confidence limit of the discharges is used to compute the 1%+ flood elevations.

The engineering analyses described here incorporate the results of previously issued Letters of Map Change (LOMCs) listed in Table 26, “Incorporated Letters of Map Change”, which include Letters of Map Revision (LOMRs). For more information about LOMRs, refer to Section 6.5, “FIRM Revisions.”

5.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak elevation-frequency relationships for floods of the selected recurrence intervals for each flooding source

studied. Hydrologic analyses are typically performed at the watershed level. Depending on factors such as watershed size and shape, land use and urbanization, and natural or man-made storage, various models or methodologies may be applied. A summary of the hydrologic methods applied to develop the discharges used in the hydraulic analyses for each stream is provided in Table 12. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

A summary of the discharges is provided in Table 9. A summary of stillwater elevations developed for non-coastal flooding sources is provided in Table 10.

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Allenton Creek	At confluence of Allenton Creek Unnamed Tributary 1	3.5	353	514	665	841	1,146	1,342
Allenton Creek	Convergence of Allenton Creek Bypass	3.5	353	514	665	841	1,146	1,342
Allenton Creek	Divergence of Allenton Creek Bypass	3.5	347	500	644	814	1,106	1,294
Allenton Creek	Approximately 3,000 feet downstream of Cedar View Road	1.7	234	334	425	529	708	822
Allenton Creek Bypass	Divergence from Allenton Creek	3.5	6	15	21	27	40	48
Allenton Creek Unnamed Tributary 1	At I-41	1.0	81	123	162	208	295	342
Allenton Creek Unnamed Tributary 1	At confluence of Allenton Creek Unnamed Tributary 1.1	1.0	80	121	161	206	291	339
Allenton Creek Unnamed Tributary 1	Approximately 2,250 feet upstream of Addison Road	0.9	77	117	155	199	281	327
Allenton Creek Unnamed Tributary 1.1	Approximately 1,800 feet upstream of Addison Road	<0.1	8	13	17	22	31	36
Amy Bell Creek	At mouth of Amy Bell Lake	0.4	75	100	125	160	*	215
Ashippun River	At confluence with Ashippun River Tributary 2	15.4	250	340	420	500	*	740
Ashippun River	Approximately 4,100 feet upstream of County Highway O	11.8	210	260	280	320	*	470
Ashippun River	At Druid Lake outlet	10.2	200	240	260	290	*	440
Ashippun River	At confluence with Ashippun River Tributary 3	8.8	310	430	520	600	*	860
Ashippun River	At State Highway 83	7.0	280	400	480	560	*	770
Ashippun River	At confluence with Unnamed Tributary to Ashippun River	5.9	270	380	450	520	*	720
Ashippun River	Downstream of divergence with Ashippun River - Overland Flowpath	3.7	183	266	310	368	*	490

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Ashippun River	At confluence with Ashippun River Tributary 4	3.0	185	275	325	395	*	550
Ashippun River	At confluence with Ashippun River Tributary 5	1.7	110	190	230	290	*	415
Ashippun River	Approximately 1.2 miles upstream of County Highway E	0.9	80	110	135	175	*	240
Ashippun River	Approximately 1.9 miles upstream of County Highway E	0.6	65	90	115	150	*	210
Ashippun River - Overland Flowpath	At divergence from Ashippun River	*	2	9	15	27	*	60
Ashippun River Tributary 2	At confluence with Ashippun River Tributary 2.1	2.1	165	235	290	385	*	530
Ashippun River Tributary 2	At confluence with Ashippun River Tributary 2.2	0.8	70	95	120	155	*	215
Ashippun River Tributary 2	At Riley Road	0.4	40	55	70	95	*	135
Ashippun River Tributary 2	Approximately 1,600 feet upstream of Riley Road	0.4	45	65	85	110	*	155
Ashippun River Tributary 2.1	Approximately 1,100 feet downstream of cart path	1.3	125	170	205	270	*	365
Ashippun River Tributary 2.1	At Cart Path	1.2	120	165	200	260	*	355
Ashippun River Tributary 2.1	Approximately 1,500 feet upstream of cart path	0.1	15	20	25	30	*	45
Ashippun River Tributary 2.2	Approximately 2,200 feet upstream of mouth	0.2	20	25	30	40	*	60
Ashippun River Tributary 2.2	Approximately 4,300 feet upstream of mouth	0.1	10	13	16	20	*	30
Ashippun River Tributary 3	At mouth	0.9	175	230	275	350	*	465
Ashippun River Tributary 4	Approximately 500 feet upstream of County Highway E	0.7	90	120	150	190	*	255

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Ashippun River Tributary 4	At County Highway E	0.6	50	50	50	60	*	80
Ashippun River Tributary 5	At mouth	0.1	25	35	40	55	*	75
Bark River	At confluence with Scenic Brook	6.4	53	70	85	98	*	148
Bark River	At Bark Lake Drive	5.3	22	32	41	50	*	84
Bark River	At Bark Lake Road	3.8	103	138	163	185	*	258
Bark River	At confluence with Hubertus Ditch No. 1	3.0	73	97	115	131	*	183
Bark River	Upstream of Hubertus Ditch No. 1	2.1	65	87	103	117	*	164
Bark River Tributary 1	Approximately 950 feet upstream of County Highway Q	0.7	25	45	75	105	*	155
Bark River Tributary 1	At County Highway Q	0.6	20	35	65	95	*	135
Bark River Tributary 1.1	At mouth	0.1	6	9	11	13	*	19
Bolton Brook	At Boltonville Road	1.6	107	241	368	518	861	1,007
Bolton Brook	Approximately 2,000 feet upstream of Boltonville Road	1.2	81	184	280	394	742	755
Bolton Brook	Approximately 1,600 feet downstream of Washington County Boundary	1.1	79	180	275	388	794	744
Bonniwell Creek	At U.S. Highway 41	2.5	651	851	1,011	1,251	*	1,665
Bonniwell Creek	At U.S. Highway 41	1.3	338	442	526	652	*	873
Bonniwell Creek	At Rockfield Road	1.0	295	384	455	563	*	747
Bonniwell Creek	At Holy Hill Road	0.6	171	223	264	327	*	434
Brooklane Overflow	Divergence from Edgewood Creek	0.4	0	2	12	31	72	116
Butler Creek Tributary 1	At Washington / Dodge County Boundary	0.7	95	125	145	185	*	245
Butler Creek Tributary 2	At Washington / Dodge County Boundary	0.3	95	125	150	185	*	245

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Cedar Creek	At confluence with North Branch Cedar Creek	92.6	3,023	3,951	4,643	5,227	*	6,964
Cedar Creek	At confluence approximately 1.2 miles upstream of CTH M	79.2	2,846	3,693	4,327	4,866	*	6,441
Cedar Creek	At confluence with Cedarburg Creek	77.4	3,008	4,054	4,632	5,415	*	7,228
Cedar Creek	At confluence with Evergreen Creek	68.0	3,127	4,221	4,808	5,606	*	7,442
Cedar Creek	At confluence with Frieden's Creek	62.4	3,254	4,459	5,096	5,957	*	7,907
Cedar Creek	At confluence with UT-2 to Cedar Creek	54.2	2,751	3810	4,401	5,191	*	7,020
Cedar Creek	At confluence with Jackson Creek	49.5	2,509	3440	3,953	4,639	*	6,240
Cedar Creek	At Hickory Lane	48.7	2,512	3437	3,951	4,638	*	6,239
Cedar Creek	At confluence with Little Cedar Creek	47.0	2,472	3421	3,934	4,631	*	6,245
Cedar Creek	At confluence with Polk Springs Creek	24.1	1,023	1,409	1,621	1,870	*	2,435
Cedar Creek	At confluence with Hasmer Creek	20.4	619	842	957	1,108	*	1,482
Cedar Creek	At confluence with Nature's Friends Tributary	17.1	266	380	445	537	*	768
Cedar Creek	At confluence with Lehner Outlet	17.0	255	365	431	521	*	742
Cedar Creek	At Lent Dam	14.8	116	175	228	285	*	488
Cedar Creek	At Cedar Creek Road	13.9	109	165	216	271	*	468
Cedar Creek	At Little Cedar Lake Dam	12.6	100	151	199	249	*	438
Cedar Creek	At Little Cedar Lake Inlet	10.8	90	131	176	221	*	415
Cedar Creek	At Big Cedar Lake Dam	9.7	76	117	157	194	*	379
Cedarburg Creek	At County Highway M	6.1	278	381	472	610	*	867
Cedarburg Creek	At Washington / Ozaukee County Boundary	4.9	249	343	418	534	*	754

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Coney River	Approximately 2,100 feet upstream of Pleasant Hill Road	8.3	400	540	650	830	*	1,150
Coney River	At confluence with Putter Creek	7.2	350	460	550	700	*	950
Coney River	Downstream of divergence with Coney River - Overland Flowpath	5.3	170	220	250	278	*	283
Coney River	At County Highway E	5.3	170	220	250	300	*	350
Coney River	At confluence with UT-1 to Coney River	5.3	175	*	245	270	*	332
Coney River	At confluence with UT-1 to Coney River Overflow	2.5	138	*	290	386	*	608
Coney River	At confluence with UT-1 to Coney River Overflow West	2.5	96	*	220	300	*	464
Coney River	Approximately 1,500 feet downstream of County Highway E	2.5	54	*	91	113	*	151
Coney River	At County Highway CC	1.8	38	*	64	80	*	106
Coney River - Overland Flowpath	At divergence from Coney River	*	0	0	0	22	*	67
Deer Creek	At County Highway M	3.4	236	316	381	490	*	695
Deer Creek	At confluence approximately 1,600 feet upstream of Birchwood Trail	3.0	327	432	517	649	*	891
Deer Creek	At Church Road	0.8	116	152	181	226	*	307
Deer Creek	At Church Road	0.5	70	93	112	142	*	195
Deer Creek	Approximately 3,000 feet upstream of Church Road	0.3	31	41	49	66	*	94
East Branch Milwaukee River	Approximately 3,300 feet upstream of confluence with Milwaukee River	44.2	592	854	1,093	1,370	1,784	2,194
East Branch Milwaukee River	Approximately 3,700 feet downstream of State Highway 28	43.6	589	849	1,087	1,363	1,775	2,184
East Branch Milwaukee River	Approximately 1,700 feet downstream of State Highway 28	42.0	580	835	1,069	1,342	1,748	2,149

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
East Branch Milwaukee River	Approximately 5,200 feet downstream of Moraine Drive	40.9	571	823	1,054	1,324	1,724	2,118
East Branch Milwaukee River	Approximately 500 feet downstream of Moraine Drive	40.0	566	814	1,044	1,311	1,708	2,100
East Branch Milwaukee River	At Washington County Boundary	39.1	561	806	1,035	1,300	1,694	2,083
East Branch Rock River	At Washington County Boundary	80.8	717	1,124	1,523	1,988	2,862	3,517
East Branch Rock River	Approximately 8,300 feet downstream of confluence of Kohlsville River	78.9	798	1,252	1,687	2,204	3,201	3,973
East Branch Rock River	At confluence of Kohlsville River	74.6	1,545	2,438	3,357	4,513	6,608	8,301
East Branch Rock River	At confluence of Nolan Creek	52.7	1,542	2,472	3,363	4,449	6,280	7,691
East Branch Rock River	Approximately 1 mile upstream of WCL Railroad crossing	34.3	508	810	1,125	1,498	2,158	2,760
East Branch Rock River	Approximately 4,500 feet upstream of County Road DW	31.4	648	1,025	1,427	1,911	2,808	3,500
East Branch Rock River	At Railroad Crossing	27.7	674	1,072	1,481	1,990	2,910	3,697
East Branch Rock River	At Hillcrest Drive	26.5	1,290	1,770	2,110	2,420	*	3,340
East Branch Rock River	At confluence of East Branch Rock River Unnamed Tributary 2	26.5	519	805	1,125	1,519	2,223	2,998
East Branch Rock River	At confluence of Limestone Creek	22.4	1,438	2,143	2,825	3,645	5,043	6,353
East Branch Rock River	Convergence of East Branch Rock River Unnamed Tributary 2 Bypass	22.4	1,462	2,222	2,963	3,831	5,310	6,675
East Branch Rock River	At confluence of Allenton Creek	6.0	418	619	808	1,025	1,411	1,745
East Branch Rock River	Approximately 70 feet upstream of Deer Road	1.0	326	482	628	792	1,097	1,260
East Branch Rock River	Approximately 0.75 miles upstream of Deer Road	0.2	51	75	98	124	172	199
East Branch Rock River Unnamed Tributary 1	At confluence of East Branch Rock River Unnamed Tributary 1.1	4.7	386	575	751	851	968	992

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
East Branch Rock River Unnamed Tributary 1	At confluence of East Branch Rock River Unnamed Tributary 1.2	3.4	290	434	570	732	1,022	1,207
East Branch Rock River Unnamed Tributary 1	Divergence of Stream 1	3.4	290	434	570	632	662	672
East Branch Rock River Unnamed Tributary 1	At confluence of East Branch Rock River Unnamed Tributary 1.3	3.1	262	387	506	645	892	1,049
East Branch Rock River Unnamed Tributary 1	At confluence of East Branch Rock River Unnamed Tributary 1.4	1.0	116	175	232	297	420	485
East Branch Rock River Unnamed Tributary 1	Approximately 0.2 miles upstream of confluence of East Branch Rock River Unnamed Tributary 1.4	0.6	110	166	218	279	394	454
East Branch Rock River Unnamed Tributary 1.1	Approximately 0.2 miles upstream of confluence with East Branch Rock River Unnamed Tributary 1	1.1	113	165	214	269	367	428
East Branch Rock River Unnamed Tributary 1.2	At Washington County Boundary	0.2	47	67	85	106	141	163
East Branch Rock River Unnamed Tributary 1.3	At confluence of East Branch Rock River Unnamed Tributary 1.3.1	1.7	160	236	308	390	538	626
East Branch Rock River Unnamed Tributary 1.3	Approximately 0.1 miles upstream of confluence of East Branch Rock River Unnamed Tributary 1.3.1	0.2	77	110	141	175	236	271
East Branch Rock River Unnamed Tributary 1.3.1	Approximately 125 feet downstream of Mullen Lane	1.6	154	228	298	378	523	608
East Branch Rock River Unnamed Tributary 1.4	Downstream of I-41	0.5	57	83	107	135	183	213
East Branch Rock River Unnamed Tributary 2	Divergence of East Branch Rock River Unnamed Tributary 2 Bypass	3.6	273	271	279	283	281	274
East Branch Rock River Unnamed Tributary 2	At Hillcrest Drive	3.1	297	350	418	469	548	596
East Branch Rock River Unnamed Tributary 2	At confluence of East Branch Rock River Unnamed Tributary 2.1	2.5	544	797	1,033	1,303	1,796	2,110
East Branch Rock River Unnamed Tributary 2	At confluence of East Branch Rock River Unnamed Tributary 2.2	2.3	544	823	1,092	1,404	1,970	2,329
East Branch Rock River Unnamed Tributary 2	At confluence of East Branch Rock River Unnamed Tributary 2.3	1.9	381	554	715	898	1,220	1,419

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
East Branch Rock River Unnamed Tributary 2	Approximately 4,080 feet downstream of Aurora Road	1.4	326	474	611	766	1,043	1,204
East Branch Rock River Unnamed Tributary 2 Bypass	Divergence from East Branch Rock River Unnamed Tributary 2	3.6	24	79	138	186	267	322
East Branch Rock River Unnamed Tributary 2.1	Approximately 400 feet upstream of Wildlife Road	0.2	104	149	192	239	324	372
East Branch Rock River Unnamed Tributary 2.1	Divergence of East Branch Rock River Unnamed Tributary 2.1 Bypass	0.2	104	123	133	138	150	153
East Branch Rock River Unnamed Tributary 2.1 Bypass	Divergence from East Branch Rock River Unnamed Tributary 2.1	0.2	1	26	59	101	174	219
East Branch Rock River Unnamed Tributary 2.2	Convergence of East Branch Rock River Unnamed Tributary 2.1 Bypass	0.3	41	85	135	195	300	364
East Branch Rock River Unnamed Tributary 2.2	Approximately 1,200 feet upstream of Wildlife Road	0.1	41	59	76	94	126	145
East Branch Rock River Unnamed Tributary 2.3	Approximately 150 feet upstream of State Highway 33	0.3	196	271	339	415	544	627
Edgewood Creek	At confluence of Edgewood Culvert	0.5	41	65	106	155	232	284
Edgewood Creek	At confluence of Knights Creek Overflow	0.5	22	47	88	139	216	273
Edgewood Creek	Divergence of Edgewood Creek Overflow Channel	0.4	22	36	45	53	71	80
Edgewood Creek	At Edgewood Road	0.4	69	117	155	191	246	266
Edgewood Creek	Downstream of Brooklane Overflow	0.4	88	135	172	208	262	280
Edgewood Creek	Upstream of Brooklane Overflow	0.4	88	137	184	239	334	396
Edgewood Creek	Approximately 3,500 feet upstream of Edgewood Road	0.2	53	82	109	141	194	232
Edgewood Creek Overflow Channel	At confluence of Brooklane Overflow	0.4	47	83	122	171	247	304
Edgewood Creek Overflow Channel	Divergence from Edgewood Creek	0.4	47	81	111	140	175	188

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Evergreen Bypass	At divergence from Evergreen Creek	*	5	11	16	26	*	44
Evergreen Creek	At confluence approximately 1,600 feet upstream of County Highway G	4.7	523	704	846	1,060	*	1,442
Evergreen Creek	At confluence with UT-1 to Evergreen Creek	4.3	506	683	821	1,030	*	1,401
Evergreen Creek	At confluence approximately 1,800 feet upstream of Stoney Creek Road	3.6	458	618	748	946	*	1,286
Evergreen Creek	At County Highway NN	3.5	450	607	736	932	*	1,268
Evergreen Creek	At Maple Road	1.4	204	279	343	443	*	591
Evergreen Creek	At confluence approximately 600 feet downstream of Jackson Drive	0.5	118	156	187	235	*	322
Evergreen Creek	At West Bend Sub Railroad	0.2	55	72	86	109	*	150
Evergreen Creek	At divergence of Evergreen Bypass	*	12	13	13	13	*	13
Evergreen Creek	At Hron Road	0.1	17	23	29	39	*	57
Flynn Creek	At confluence with Oconomowoc River	4.7	487	*	1,126	1,548	*	2,450
Flynn Creek	At Emerald Drive	4.4	472	*	1,091	1,503	*	2,381
Flynn Creek	Approximately 4,100 feet downstream of Shamrock Lane	3.8	431	*	1,006	1,378	*	2,179
Flynn Creek	Approximately 2,100 feet upstream of Shamrock Lane	3.0	374	*	870	1,188	*	1,865
Flynn Creek	At Donegal Road	2.6	345	*	802	1,095	*	1,716
Flynn Creek	At State Highway 167	1.3	221	*	497	656	*	1,018
Flynn Creek	Approximately 700 feet upstream of Shannon Road	0.7	117	*	264	356	*	593
Frieden's Creek	Approximately 3,500 feet downstream of Cedar Creek Road	4.8	654	841	992	1,230	*	1,667
Frieden's Creek	At Jackson Drive	4.0	513	656	771	978	*	1,344

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Frieden's Creek	At Cameros Way	3.7	477	613	737	934	*	1,280
Frieden's Creek	At confluence approximately 700 feet downstream of County Highway P	2.6	402	506	589	721	*	961
Frieden's Creek	At U.S. Highway 45	1.5	231	318	387	498	*	696
Hasmer Creek	At Hasmer Lake Outlet	1.4	174	279	366	500	*	716
Hasmer Creek	At Hasmer Lake Inlet	1.0	265	342	403	498	*	663
Hasmer Creek	Approximately 2,000 feet upstream of Hasmer Lake	0.7	176	231	274	341	*	456
Hubertus Ditch No. 1	Approximately 1,400 feet downstream of Hubertus Road	0.8	130	175	215	280	*	380
Hubertus Ditch No. 1	At Hubertus Road	0.4	105	140	170	215	*	285
Hubertus Ditch No. 1	Approximately 800 feet upstream of Hubertus Road	0.1	20	25	30	35	*	50
Hwy 41 Overflow	Divergence from UT to West Branch Menomonee River	0.4	0	6	50	105	213	273
Jackson Creek	At Eagle Drive	0.2	98	130	160	195	*	277
Jackson Creek	Approximately 1,400 feet downstream of Jackson Drive	0.1	70	92	112	137	*	187
Jackson Creek	At Jackson Drive	0.1	46	59	71	87	*	120
Kettleview Creek	At confluence of Kewaskum Creek Overflow Channel	1.2	215	356	503	695	1,087	1,037
Kettleview Creek	Approximately 1,100 feet upstream of Kettleview Drive	1.1	198	327	452	592	848	734
Kettleview Creek	At Highland Drive	0.4	80	132	183	239	345	416
Kewaskum Creek	At Railroad	11.5	609	1,011	1,429	1,962	2,768	3,046
Kewaskum Creek	At confluence of Edgewood Creek Overflow Channel	11.2	614	1,020	1,442	1,976	2,791	3,048
Kewaskum Creek	At confluence of Kettleview Creek	11.0	635	1,064	1,508	2,034	2,881	3,086

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Kewaskum Creek	Divergence of Kewaskum Creek Overflow Channel	8.9	691	1,155	1,595	2,050	2,793	2,858
Kewaskum Creek	Approximately 850 feet upstream of Badger Road	8.9	691	1,156	1,609	2,103	2,962	3,036
Kewaskum Creek	Approximately 2,600 feet upstream of Kettleview Drive	8.1	675	1,124	1,564	2,044	2,863	3,009
Kewaskum Creek	At Ridge Road	7.2	729	1,224	1,650	2,120	2,995	2,945
Kewaskum Creek	Approximately 3,300 feet downstream of County Highway D	6.3	864	1,419	1,954	2,589	3,686	4,478
Kewaskum Creek	At confluence of UT-1 Kewaskum Creek	5.7	791	1,296	1,777	2,353	3,351	4,072
Kewaskum Creek	At County Highway D	4.0	589	1,016	1,426	1,915	2,844	3,339
Kewaskum Creek	Approximately 4,900 feet upstream of County Highway D	2.9	382	654	921	1,242	1,842	2,189
Kewaskum Creek	Approximately 2,200 feet downstream of Beaver Dam Road	2.1	324	554	776	1,045	1,550	1,842
Kewaskum Creek	At Beaver Dam Road	1.2	166	278	387	518	755	896
Kewaskum Creek	Approximately 800 feet downstream of Schusters Drive	0.7	96	153	208	273	386	459
Kewaskum Creek	At Schusters Drive	0.4	9	20	32	49	77	99
Kewaskum Creek	Approximately 2,000 feet upstream of Schusters Drive	0.4	47	87	129	180	292	332
Kewaskum Creek Overflow Channel	Divergence from Kewaskum Creek	8.9	0	1	14	53	169	178
Knights Creek	Divergence of Knights Creek Overflow	0.9	129	193	241	298	392	495
Knights Creek	Upstream of Knights Avenue	0.9	129	204	284	384	537	687
Knights Creek	Approximately 1,400 feet upstream of Knights Avenue	0.6	98	168	239	326	474	585
Knights Creek	Approximately 3,800 feet upstream of Knights Avenue	0.5	102	170	237	316	458	550
Knights Creek	At Highland Drive	0.3	89	139	188	243	341	407

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Knights Creek Overflow	Divergence from Knights Creek	0.9	0	11	43	86	145	192
Kohlsville River	At confluence of Kohlsville River Unnamed Tributary 1	19.7	799	1,228	1,678	2,260	3,214	4,088
Kohlsville River	At confluence of Wayne Creek	18.5	814	1,249	1,704	2,246	3,188	4,020
Kohlsville River	Approximately 100 feet downstream of Beechnut Drive	9.3	348	548	768	1,026	1,451	1,931
Kohlsville River	At confluence with Kohlsville River - Park Route	8.0	400	570	680	810	*	1,130
Kohlsville River	At Kohlsville Dam (primary spillway)	8.0	185	276	308	332	*	483
Kohlsville River	At County Highway D	7.1	380	540	640	770	*	1,060
Kohlsville River	At confluence of Kohlsville River Unnamed Tributary 2	7.1	325	517	722	962	1,353	1,810
Kohlsville River	At Beaver Dam Road	1.8	170	280	386	515	784	940
Kohlsville River	Approximately 1.1 miles upstream of Townline Road	0.2	41	66	91	120	181	206
Kohlsville River - Park Route	At Kohlsville Dam (Park Route outlet)	*	215	294	372	478	*	647
Kohlsville River Unnamed Tributary 1	Approximately 2,000 feet downstream of County Road D	0.8	266	382	488	606	816	940
Kohlsville River Unnamed Tributary 2	At confluence of Kohlsville River Unnamed Tributary 2.1	3.2	215	343	462	611	890	1,063
Kohlsville River Unnamed Tributary 2	Approximately 0.5 miles downstream of Alpine Road	1.2	127	189	244	310	431	504
Kohlsville River Unnamed Tributary 2.1	Approximately 1,100 feet upstream of confluence with Kohlsville River Unnamed Tributary 2	0.2	154	228	297	375	526	597
Kressen Branch	At County Highway G	7.0	642	849	1,020	1,278	*	1,734
Kressen Branch	At confluence approximately 3,300 feet upstream of County Highway G	5.2	571	738	876	1,079	*	1,432
Kressen Branch	At County Highway M	2.7	256	332	396	486	*	679

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Lehner Outlet	At State Highway 60	1.1	76	101	141	166	*	269
Lehner Outlet	At Scenic Road	0.7	48	70	110	130	*	208
Lehner Outlet	At Lehner Lake Outlet	0.5	22	38	70	87	*	142
Lehner Outlet	At Lehner Lake Inlet	0.2	28	38	48	53	*	74
Limestone Creek	At confluence of Limestone Creek Unnamed Tributary 1	15.4	1,033	1,527	2,014	2,607	3,579	4,610
Limestone Creek	At confluence of Limestone Creek Unnamed Tributary 2	13.5	996	1,484	1,950	2,515	3,465	4,195
Limestone Creek	At confluence of Limestone Creek Unnamed Tributary 3	11.7	1,075	1,560	2,013	2,537	3,420	4,037
Limestone Creek	At confluence of Limestone Creek Unnamed Tributary 4	9.4	963	1,381	1,778	2,228	2,989	3,552
Limestone Creek	At confluence of Limestone Creek Unnamed Tributary 5	6.0	667	979	1,315	1,715	2,371	2,896
Limestone Creek	Downstream of County Road U	4.4	653	978	1,295	1,668	2,338	2,770
Limestone Creek Unnamed Tributary 1	Approximately 800 feet downstream of Deer Road	0.2	159	227	291	363	491	564
Limestone Creek Unnamed Tributary 2	Approximately 2,100 feet upstream of confluence with Limestone Creek	0.5	185	273	354	446	616	707
Limestone Creek Unnamed Tributary 3	At confluence of Limestone Creek Unnamed Tributary 3.1	1.9	107	168	228	303	426	527
Limestone Creek Unnamed Tributary 3.1	Approximately 3,400 feet upstream of County Highway S	0.1	66	99	131	168	239	272
Limestone Creek Unnamed Tributary 3.2	Approximately 3,200 feet upstream of confluence with Limestone Creek Unnamed Tributary 3	0.2	61	91	119	151	211	242
Limestone Creek Unnamed Tributary 4	Approximately 600 feet upstream of Hillcrest Drive	2.7	612	880	1,126	1,403	1,891	2,187
Limestone Creek Unnamed Tributary 5	Approximately 100 feet downstream of County Road U	0.6	415	596	764	950	1,288	1,474

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Limestone Creek Unnamed Tributary 5	Approximately 2,400 feet upstream of County Road U	0.1	89	126	159	196	261	298
Limestone Creek Unnamed Tributary 5	Approximately 700 feet upstream of County Road U	0.1	87	123	156	192	255	293
Little Cedar Creek	At confluence approximately 850 feet upstream of Cedar Creek	22.7	1,836	2,402	2,872	3,603	*	4,922
Little Cedar Creek	At confluence with Kressen Branch Cedar Creek	19.5	1,791	2,322	2,756	3,430	*	4,655
Little Cedar Creek	At West Bend Sub Railroad	10.7	1,391	1,814	2,160	2,697	*	3,653
Little Cedar Creek	At confluence with UT-1 to Little Cedar Creek	10	1,387	1,809	2,154	2,688	*	3,635
Little Cedar Creek	At confluence with Springside and Bonniwell Creeks	9.0	1,535	2,030	2,423	3,020	*	4,085
Little Cedar Creek	At U.S. Highway 45 (includes Bonniwell Creek inflow)	7.6	1,297	1,711	2,031	2,522	*	3,422
Little Cedar Creek	At divergence of Little Cedar Creek Bypass	*	647	786	961	1,022	*	1,048
Little Cedar Creek	At confluence approximately 600 feet upstream of Mayfield Road	4.0	463	599	706	871	*	1,156
Little Cedar Creek	At Town Line Road	2.1	166	211	248	306	*	404
Little Cedar Creek	At Scenic Road	1.6	57	59	59	63	*	66
Little Cedar Creek	Approximately 3,500 feet upstream of Scenic Road	0.4	45	63	78	101	*	144
Little Cedar Creek Bypass	At divergence from Little Cedar Creek	*	650	925	1,070	1,500	*	2,374
Little Oconomowoc River	At County Line Road	8.6	250	360	440	520	*	780
Little Oconomowoc River	At confluence near Roosevelt Road	5.9	250	350	430	500	*	730
Little Oconomowoc River	At Donegal Road	3.3	250	340	440	480	*	650

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Little Oconomowoc River	At Dublin Drive	1.9	130	180	250	280	*	420
Mason Creek	Approximately 2,200 feet downstream of Erin Road	1.1	170	230	280	350	*	470
Mason Creek	At Erin Road	0.5	130	180	210	270	*	350
Mason Creek Tributary 1	Approximately 1.2 miles upstream of confluence	0.8	80	110	165	210	*	300
Mason Creek Tributary 1	Approximately 3,200 feet upstream of confluence	0.2	35	45	55	70	*	95
Menomonee River Unnamed Tributary 1	At Division Road	1.0	288	436	606	811	1,219	1,461
Menomonee River Unnamed Tributary 1	Approximately 1,900 feet upstream of Division Road	0.6	326	486	635	804	1,133	1,282
Menomonee River Unnamed Tributary 1	Approximately 260 feet downstream of Holy Hill Road	0.5	294	438	570	721	1,014	1,150
Milwaukee River	At County Highway A	261.4	4,152	6,332	8,368	10,764	14,694	17,979
Milwaukee River	Approximately 3,000 feet upstream of County Highway A	259.6	4,141	6,308	8,344	10,741	14,651	17,955
Milwaukee River	Approximately 11,000 feet upstream of County Highway A	256.3	4,124	6,252	8,277	10,660	14,507	17,838
Milwaukee River	At confluence of Riveredge Creek	254.1	4,091	6,207	8,221	10,593	14,395	17,724
Milwaukee River	At Main Street	249.0	4,006	6,088	8,082	10,407	14,125	17,377
Milwaukee River	At confluence of UT-3 Milwaukee River	246.6	4,008	6,080	8,076	10,401	14,098	17,362
Milwaukee River	At confluence of Myra Creek	241.2	3,879	5,895	7,828	10,077	13,651	16,780
Milwaukee River	At confluence of Tributary 2 to Milwaukee River	236.8	3,840	5,842	7,763	9,992	13,529	16,610
Milwaukee River	At confluence of Tributary 1 to Milwaukee River	235.8	3,849	5,849	7,772	9,998	13,545	16,602
Milwaukee River	At confluence of UT-2 Milwaukee River	234.8	3,880	5,913	7,876	10,141	13,774	16,832

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Milwaukee River	At confluence of Wingate Creek	232.2	3,859	5,917	7,912	10,199	13,879	16,823
Milwaukee River	At confluence of Quaas Creek	230.2	3,848	5,906	7,906	10,185	13,872	16,806
Milwaukee River	At South Indiana Avenue	219.1	3,582	5,515	7,379	9,496	12,967	15,625
Milwaukee River	At West Bend Dam	217.7	3,557	5,481	7,324	9,430	12,890	15,529
Milwaukee River	At confluence of Silver Creek	217.6	3,559	5,487	7,332	9,442	12,909	15,552
Milwaukee River	At Barton Dam	207.3	3,191	4,931	6,599	8,500	11,649	13,981
Milwaukee River	Approximately 1,600 feet upstream of Woodford Road	206.5	3,181	4,916	6,578	8,476	11,621	13,951
Milwaukee River	At confluence of Smith Lake Channel	203.4	3,090	4,778	6,389	8,223	11,275	13,491
Milwaukee River	At confluence of East Branch Milwaukee River	199.6	3,053	4,752	6,375	8,207	11,274	13,427
Milwaukee River	At confluence of UT-1 Milwaukee River	152.2	2,880	4,420	5,890	7,538	10,336	12,204
Milwaukee River	At confluence of Kewaskum Creek	146.4	2,798	4,327	5,821	7,460	10,336	12,130
Milwaukee River	At confluence of North Creek	134.2	1,907	2,973	3,997	5,126	7,132	8,406
Milwaukee River	At confluence of West Branch Milwaukee River	128.8	1,619	2,492	3,326	4,262	5,907	7,177
Milwaukee River	At Washington County Boundary	71.0	741	1,221	1,680	2,296	3,177	4,361
Myra Creek	At confluence with Milwaukee River	2.7	111	186	266	365	561	666
Myra Creek	At Tuscola Lane	2.4	105	178	252	347	535	637
Myra Creek	Approximately 5,000 feet upstream of Tuscola Lane	1.6	85	145	204	274	409	480
Myra Creek	Approximately 8,500 feet upstream of Tuscola Lane	0.8	60	99	134	172	261	280
Nature's Friends Tributary	At Nature’s Friends Dam	0.1	10	13	16	20	*	35
Nature's Friends Tributary	Approximately 900 feet upstream of Nature’s Friends Lake	0.1	26	33	40	50	*	68

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
No Name Creek Unnamed Tributary 1	At Washington County Boundary	0.5	186	289	388	498	705	837
No Name Creek Unnamed Tributary 1	Approximately 400 feet downstream of Ohio Road	0.1	91	131	169	210	285	327
Nolan Creek	Approximately 900 feet upstream of Nenno Road	17.0	1,458	2,313	3,167	4,198	6,036	7,336
Nolan Creek	At West Bend Road	14.5	1,382	2,175	2,970	3,925	5,623	6,832
North Branch Cedar Creek	At confluence with Deer Creek	11.2	399	596	702	851	*	1,216
North Branch Cedar Creek	At St. Augustine Road	6.0	204	294	347	420	*	605
North Branch Cedar Creek	At Knoll Wood Drive	3.7	120	178	210	254	*	373
North Branch Cedar Creek	At Washington / Ozaukee County Boundary	1.9	97	143	168	200	*	289
North Branch Cedar Creek	Upstream of Washington / Ozaukee County Boundary	0.2	16	22	29	33	*	50
North Branch Menomonee River	Divergence of Tributary No. 4	3.3	250	371	480	588	741	803
North Branch Menomonee River	Downstream of Railroad	2.7	256	401	540	707	1,063	1,230
North Branch Menomonee River	Approximately 2,300 feet upstream of County Highway Y	0.8	275	445	613	821	1,267	1,510
North Branch Milwaukee River	At confluence of North Branch Milwaukee River Unnamed Tributary 1	144.2	2,336	4,059	5,799	7,988	12,728	15,048
North Branch Milwaukee River	Approximately 1,250 feet upstream of County Road M	142.7	2,359	4,101	5,865	8,076	12,867	15,237
North Branch Milwaukee River	Approximately 250 feet upstream of Trading Post Trail	139.7	2,436	4,266	6,122	8,470	13,579	16,181
North Branch Milwaukee River	At confluence of Wallace Creek	137.2	2,450	4,286	6,148	8,496	13,632	16,225
North Branch Milwaukee River	At confluence of Stony Creek	123.1	2,200	3,841	5,529	7,651	12,258	14,469

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
North Branch Milwaukee River	At confluence of North Branch Milwaukee River Unnamed Tributary 2	101.3	2,063	3,566	5,073	6,965	11,122	13,053
North Branch Milwaukee River	Approximately 600 feet upstream of Jay Road	91.7	1,781	3,101	4,437	6,117	9,816	11,568
North Branch Milwaukee River	At confluence of North Branch Milwaukee River Unnamed Tributary 3	89.2	2,007	3,446	4,893	6,775	10,829	12,719
North Branch Milwaukee River	At Washington County Boundary	88.8	1,991	3,422	4,860	6,733	10,753	12,657
North Branch Milwaukee River Unnamed Tributary 1	Upstream of County Road M	0.5	169	250	323	406	564	641
North Branch Milwaukee River Unnamed Tributary 1	Approximately 1,000 feet downstream of Meadow Road	0.3	100	146	187	234	321	367
North Branch Milwaukee River Unnamed Tributary 2	Downstream of Camp Awana Road	8.6	532	852	1,150	1,535	2,195	2,776
North Creek	Downstream of Wildlife Drive	2.4	326	488	625	888	1,234	1,782
North Creek	At confluence of Edgewood Creek	2.2	371	586	791	1,026	1,445	1,761
North Creek	Approximately 1,100 feet upstream of Edgewood Road	1.7	317	494	651	831	1,149	1,392
North Creek	At confluence of Knights Creek	1.5	279	431	563	713	974	1,187
North Creek	Approximately 700 feet downstream of State Highway 28	0.6	132	211	287	374	526	628
North Creek	At State Highway 28	0.5	98	160	219	287	409	485
North Creek	Approximately 1,500 feet upstream of State Highway 28	0.3	57	95	132	174	254	301
North Creek	At Highland Drive	0.2	40	64	87	113	161	191
North Crossway Channel	At County Line Road	3.4	305	400	488	602	796	1,000
North Crossway Channel	Approximately 1,000 feet downstream of Union Pacific Railroad crossing	3.2	265	335	405	485	630	827

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
North Crossway Channel	At the Union Pacific Railroad crossing	2.6	131	156	177	200	232	251
North Crossway Channel	At Donges Bay Road	2.4	206	236	255	269	295	320
North Crossway Channel	At confluence of North Crossway Channel Unnamed Tributary 1	2.1	193	216	236	258	286	315
North Crossway Channel	At confluence of North Crossway Channel Unnamed Tributary 2	1.5	161	183	203	226	273	286
North Crossway Channel	Approximately 600 feet downstream of Strawgrass Lane	0.2	100	114	130	149	195	206
North Crossway Channel	At Strawgrass Lane	0.1	78	116	149	188	262	301
North Crossway Channel	Approximately 650 feet downstream of Mequon Road	0.1	65	95	123	155	213	244
North Crossway Channel Unnamed Tributary 1	At Washington Drive	0.6	156	206	256	336	445	712
North Crossway Channel Unnamed Tributary 1	Approximately 2,000 feet downstream of Union Pacific Railroad crossing	0.5	260	383	496	625	865	989
North Crossway Channel Unnamed Tributary 2	Downstream of Wasaukee Road	1.0	78	82	86	90	99	102
North Crossway Channel Unnamed Tributary 2	Approximately 150 feet upstream of Wasaukee Road	1.0	78	81	85	89	97	100
Oconomowoc Bypass	At divergence from Little Cedar Creek	*	20	62	70	80	*	170
Oconomowoc Bypass	Approximately 2,100 feet downstream of Pioneer Road	*	20	62	106	180	*	314
Oconomowoc River	At confluence with Flynn Creek	27.5	480	690	820	920	*	1,290
Oconomowoc River	At confluence with UT-1 to Oconomowoc River	20.3	440	640	730	820	*	1,130

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Oconomowoc River	At Elmwood Road	18.0	420	620	698	731	*	934
Oconomowoc River	At Hubertus Road	17.2	410	610	688	721	*	904
Oconomowoc River	Downstream of divergence of UT-1 to Oconomowoc River	17.2	470	640	718	761	*	964
Oconomowoc River	At Friess Lake Outlet	16.7	470	640	730	810	*	1,110
Oconomowoc River	At Friess Lake Inlet	15.3	520	660	760	840	*	1,120
Oconomowoc River	At confluence with UT-2 to Oconomowoc River	14.9	530	670	780	870	*	1,130
Oconomowoc River	At State Highway 164	11.9	440	560	640	700	*	930
Oconomowoc River	At confluence with Coney River	11.1	610	780	920	1,140	*	1,520
Oconomowoc River	At Hillside Road	2.2	310	400	470	580	*	770
Oconomowoc River	Approximately 2,700 feet upstream of Hillside Road	1.2	56	64	70	85	*	139
Polk Springs Creek	At County Highway P	3.5	671	861	1,015	1,253	*	1,658
Polk Springs Creek	At U.S. Highway 45	2.7	498	645	761	940	*	1,247
Putter Creek	Approximately 3,000 feet upstream of the mouth	0.5	140	180	210	260	*	340
Quaas Creek	At County Highway I	8.5	475	739	1,005	1,342	1,838	2,390
Quaas Creek	Approximately 1,300 feet upstream of Sand Drive	7.7	505	782	1,050	1,393	1,903	2,410
Quaas Creek	Approximately 2,400 feet downstream of Paradise Drive	6.9	468	701	937	1,235	1,655	2,173
Quaas Creek	At County Highway G	6.0	420	641	864	1,144	1,563	2,031
Quaas Creek	Approximately 1,300 feet upstream of Progress Drive	5.1	380	585	793	1,058	1,452	1,894
Quaas Creek	At confluence of UT-1 Quaas Creek	4.4	337	520	704	939	1,293	1,674

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Quaas Creek	Approximately 4,700 feet above confluence of UT-1 Quaas Creek	0.9	128	186	240	302	396	478
Rubicon River	At confluence with UT-3 to Rubicon River	30.8	780	1,050	1,290	1,540	*	2,350
Rubicon River	At Wacker Drive	26.8	640	930	1,170	1,400	*	2,150
Rubicon River	At Steel Craft Drive	25.5	620	900	1,140	1,370	*	2,070
Rubicon River	At confluence with UT-2 to Rubicon River	24.7	610	890	1,120	1,350	*	2,030
Rubicon River	At confluence with UT-1 to Rubicon River	20.7	560	830	1,030	1,230	*	1,820
Rubicon River	At confluence with Rubicon River Overland Flowpath	11.5	150	230	400	500	*	1,010
Rubicon River	At Pike Lake Outlet	11.0	150	180	210	220	*	260
Rubicon River	Downstream of divergence from Rubicon River Overland Flowpath	7.4	350	510	636	655	*	600
Rubicon River	At Kettle Moraine Road	6.8	460	630	820	930	*	1,380
Rubicon River	At confluence approximately 1,600 feet downstream of Milwaukee Sub Railroad	6.2	460	630	820	920	*	1,340
Rubicon River	At confluence with UT-5 to Rubicon River	5.1	410	550	710	800	*	1,140
Rubicon River	At confluence with UT-4 to Rubicon River	2.1	190	250	320	360	*	510
Rubicon River	At State Highway 75	1.0	80	101	132	154	*	250
Rubicon River	Approximately 2,600 feet upstream of State Highway 75	1.0	73	98	127	142	*	203
Rubicon River Overland Flowpath	At divergence from Rubicon River	*	0	0	53	135	*	790
Rubicon River Tributary 1	At Washington / Dodge County Boundary	1.3	170	225	275	355	*	485
Rubicon River Tributary 2	At Washington / Dodge County Boundary	0.4	145	185	220	275	*	355
Scenic Brook	At mouth	1.1	37	48	55	62	*	83

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Silver Creek	At confluence with the Milwaukee River	6.3	253	*	379	447	*	628
Silver Creek	At City Park Drive in Regner Park	6.0	184	*	323	399	*	600
Silver Creek	At West Washington Street, downstream of the confluence of Silverbrook Creek	5.7	184	*	302	366	*	532
Silver Creek	At University Drive	5.6	365	*	520	590	*	740
Silver Creek	At Silverbrook Drive, upstream of the confluence of Silverbrook Creek	4.0	184	*	320	394	*	590
Silver Creek	At West Washington Street	3.9	141	*	250	305	*	460
Silver Creek	Above confluence of Washington Creek	2.1	20	*	30	30	*	40
Silver Creek	Above Lucas Lake	1.5	55	*	85	95	*	125
Silver Creek	Below Paradise Valley Lake	1.4	30	*	40	45	*	55
Silver Creek	Above Paradise Valley Lake	1.3	10	*	15	15	*	20
Silverbrook Creek	At confluence with Silver Creek	1.6	46	*	117	150	*	276
Silverbrook Creek	At Silverbrook Drive	1.5	196	*	330	398	*	580
Silverbrook Creek	Just upstream of 15th Avenue	1.4	178	*	310	371	*	550
Silverbrook Creek	Just upstream of the intersection of 18th Avenue and Chestnut Street	1.1	89	*	200	268	*	470
Silverbrook Creek	Just downstream of U.S. Highway 45	0.2	40	*	54	62	*	87
Smith Lake Channel	At Smith Lake Outlet	1.7	70	129	193	275	402	526
Smith Lake Channel	At Smith Lake Inlet	0.9	110	161	210	265	359	421
Smith Lake Channel	At Little Drickens Lake Inlet	0.7	98	145	188	237	312	372
Springside Creek	At Springside Lane	0.7	143	188	224	279	*	375
Springside Creek	At Shadow Lane	0.3	70	92	109	135	*	180
Stony Creek	At confluence of Bolton Brook	18.6	485	785	1,129	1,557	2,357	2,967

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Stony Creek	At Bolton Drive	16.4	415	675	936	1,275	1,905	2,382
Stony Creek	At North Paradise Road	15.2	388	635	880	1,199	1,804	2,241
Stony Creek	At confluence of Stony Creek Unnamed Tributary 1	12.9	412	673	924	1,219	1,863	2,164
Stony Creek	At Forest View Road	10.0	119	220	326	456	792	923
Stony Creek	Approximately 0.5 miles upstream of Forest View Road	9.8	131	243	368	519	933	982
Stony Creek	At County Line Drive	8.0	55	98	175	278	498	695
Stony Creek Unnamed Tributary 1	At Westcott Road	1.4	253	406	553	727	1,075	1,261
Stony Creek Unnamed Tributary 1	Approximately 2,450 feet upstream of Wescott Road	1.2	260	403	538	701	1,015	1,170
Stony Creek Unnamed Tributary 1	Approximately 2,550 feet upstream of Wescott Road	1.0	223	345	460	600	867	1,002
Stream1	Divergence from East Branch Rock River Unnamed Tributary 1	3.4	0	0	0	100	360	535
Tributary 1 to Milwaukee River	At confluence with Milwaukee River	0.6	127	182	228	284	373	423
Tributary 1 to Milwaukee River	At State Highway 33	0.2	55	77	99	118	154	187
Tributary 1 to Milwaukee River	2,400 feet upstream of State Highway 33	0.1	17	27	37	48	73	79
Tributary 2 to Milwaukee River	At State Highway 33	0.9	47	78	110	160	228	309
Tributary 2 to Milwaukee River	Approximately 1,000 feet upstream of State Highway 33	0.7	40	59	77	98	131	158
Tributary 2 to Milwaukee River	At Oak Road	0.1	6	13	20	29	54	60
Tributary 2 to Milwaukee River Split	Divergence from UT-3 Milwaukee River	3.3	9	21	37	62	109	140
Tributary No. 1	At confluence of Tributary No. 1A	2.3	37	53	68	85	114	138
Tributary No. 1	At confluence of Tributary No. 1B	1.4	1,050	1,490	1,880	2,320	3,220	3,550

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Tributary No. 1	Upstream of Donges Bay Road	0.5	237	330	409	497	674	740
Tributary No. 1	At Pilgrim Road	0.4	181	284	375	477	690	756
Tributary No. 1	Divergence of Pilgrim Road Storm Sewer	0.1	1	18	34	51	87	97
Tributary No. 1	At Butternut Road	0.1	31	48	64	81	117	127
Tributary No. 1A	At Division Road	0.2	85	124	158	196	260	306
Tributary No. 1A	At convergence of Hawthorn Drive/Western Avenue Storm Sewer	0.2	46	65	83	102	133	155
Tributary No. 1A	Divergence of Hawthorn Drive/Western Avenue Storm Sewer	0.1	41	60	78	97	128	150
Tributary No. 1A	At Western Avenue	0.1	46	65	83	102	133	155
Tributary No. 1B	At Pilgrim Road	0.8	166	254	338	432	588	696
Tributary No. 1B	Approximately 600 feet downstream of Donges Bay Road	0.3	131	200	265	337	455	537
Tributary No. 1B	At Donges Bay Road	0.1	67	98	127	158	211	246
Tributary No. 2	Approximately 300 feet upstream of the confluence with Menomonee River	0.7	265	383	486	600	787	913
Tributary No. 2	Approximately 600 feet upstream of Western Avenue	0.5	260	370	466	571	748	856
Tributary No. 2	At Mequon Road	0.2	130	182	229	279	359	417
Tributary No. 2 Unnamed Tributary 1	Downstream of Legend Avenue	0.1	102	142	178	218	285	326
Tributary No. 3	Approximately 2,900 feet upstream of confluence with Menomonee River	0.1	98	139	175	213	281	313
Tributary No. 4	Approximately 1,700 feet upstream of Rockfield Road	3.3	86	165	252	383	749	937
Tributary No. 4	Divergence from North Branch Menomonee River	2.7	6	30	60	119	322	427
Tributary No. 5	At Lovers Lane	1.8	119	196	274	367	526	650
Tributary No. 5	At confluence of Tributary No. 5 Overflow	1.6	130	212	302	407	584	751

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Tributary No. 5	At County Highway F	1.3	116	170	209	285	407	481
Tributary No. 5	Divergence of Tributary No. 5 Overflow	0.8	26	59	35	20	27	39
Tributary No. 5	Upstream of divergence of Tributary No. 5 Overflow	0.8	26	63	105	150	217	284
Tributary No. 5	Approximately 1,200 feet upstream of Railroad	0.3	8	10	11	12	16	14
Tributary No. 5 Overflow	At County Highway F	0.8	0	24	64	80	120	145
Tributary No. 5 Overflow	Divergence from Tributary No. 5	0.8	0	4	70	130	190	247
Unnamed Tributary to Ashippun River	Approximately 2,100 feet upstream of confluence with Ashippun River	2.0	102	149	185	227	*	350
Unnamed Tributary to Ashippun River	At convergence with Ashippun River - Overland Flowpath	0.7	62	89	105	137	*	210
Unnamed Tributary to Ashippun River	Approximately 1.0 miles upstream of confluence with Ashippun River	0.7	60	80	90	110	*	150
Unnamed Tributary to Frieden's Creek	Just downstream of County Highway P	0.9	8	*	*	581	*	*
UT-1 Kewaskum Creek	Approximately 3,800 feet upstream of Highland Drive	1.1	211	342	466	610	860	1,030
UT-1 Kewaskum Creek	Approximately 2,200 feet upstream of Townline Road	0.6	144	229	311	404	567	678
UT-1 Milwaukee River	At State Highway 45	4.8	179	279	375	472	622	736
UT-1 Milwaukee River	Approximately 4,200 feet upstream of State Highway 45	3.7	170	272	355	443	587	687
UT-1 Milwaukee River	Approximately 7,000 feet upstream of State Highway 45	2.5	252	371	488	613	834	965
UT-1 Mink Creek	At Washington County Boundary	1.4	255	432	605	810	1,282	1,423
UT-1 Mink Creek	At the confluence of UT-1.1 Mink Creek	1.2	256	429	597	800	1,271	1,401
UT-1 Mink Creek	Approximately 250 feet upstream of Boltonville Road	0.1	42	64	85	109	157	177

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
UT-1 Quaas Creek	Upstream of confluence with Quaas Creek	3.1	214	336	459	626	878	1,153
UT-1 Quaas Creek	At confluence of UT-1.2 Quaas Creek	2.7	217	340	458	611	853	1,100
UT-1 Quaas Creek	At State Highway 45	1.4	167	269	367	489	697	875
UT-1 Quaas Creek	At confluence of UT-1.1 Quaas Creek	1.1	122	190	256	341	477	603
UT-1 Quaas Creek	At Quaas Lake Outlet	0.6	89	141	190	249	351	412
UT-1 Quaas Creek	At Quaas Lake Inlet	0.5	87	137	184	239	333	396
UT-1 to Big Cedar Lake	At County Highway NN	1.4	172	234	285	371	*	519
UT-1 to Big Cedar Lake	At detention pond downstream of Arthur Road	0.6	91	122	146	185	*	253
UT-1 to Cedar Creek	At County Highway Y	0.7	92	124	150	190	*	266
UT-1 to Cedar Creek	At Cedar Sauk Road	0.4	48	63	75	94	*	129
UT-1 to Cedar Creek	At Washington Drive	0.2	17	23	29	41	*	65
UT-1 to Coney River	At mouth	0.9	86	*	125	142	*	143
UT-1 to Coney River	Downstream of divergence with UT-1 to Coney River Overflow	0.6	52	*	56	58	*	60
UT-1 to Coney River	At Sherman Road	0.6	137	*	256	332	*	518
UT-1 to Coney River	Approximately 1,100 feet upstream of Slinger Road	0.4	110	*	223	289	*	453
UT-1 to Coney River Overflow	At divergence from UT-1 to Coney River	*	85	*	200	274	*	458
UT-1 to Coney River Overflow	At divergence with UT-1 to Coney River Overflow West	*	42	*	71	88	*	145
UT-1 to Coney River Overflow West	At divergence from UT-1 to Coney River Overflow	*	43	*	130	188	*	314
UT-1 to Evergreen Creek	Approximately 900 feet upstream of County Highway G	0.4	125	160	187	227	*	302

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
UT-1 to Evergreen Creek	Approximately 1,700 feet upstream of County Highway G	0.1	44	56	66	81	*	108
UT-1 to Hasmer Creek	Hasmer Lake inlet upstream of U.S. Highway 45	0.4	50	*	80	100	*	130
UT-1 to Kressen Branch	At Church Road	0.7	47	70	89	119	*	176
UT-1 to Little Cedar Creek	At Jackson Drive	0.3	84	110	130	162	*	216
UT-1 to Little Cedar Creek	Approximately 2,200 feet upstream of Jackson Drive	0.1	37	48	56	70	*	93
UT-1 to Little Cedar Lake	At Lake Drive	0.2	30	43	53	70	*	99
UT-1 to Oconomowoc River	At divergence from Oconomowoc River	*	0	0	12	49	*	146
UT-1 to Oconomowoc River	Approximately 3,100 feet upstream of Hogsback Road	1.0	44	66	92	150	*	276
UT-1 to Polk Springs Creek	At U.S. Highway 45	0.7	178	225	261	316	*	410
UT-1 to Rubicon River	At Clover Road	8.6	260	350	420	540	*	740
UT-1 to Rubicon River	At confluence with UT-1.2 to Rubicon River	6.8	470	600	700	870	*	1,130
UT-1 to Rubicon River	At confluence with UT-1.1 to Rubicon River	2.1	140	190	200	220	*	260
UT-1 to Rubicon River	Approximately 2,400 feet upstream of County Highway U	0.3	80	110	130	160	*	210
UT-1.1 Quaas Creek	Approximately 1,300 feet upstream of Mile View Road	0.5	42	70	98	135	194	241
UT-1.1 to Rubicon River	At confluence with UT-1.1.1 to Rubicon River	0.8	100	130	160	210	*	280
UT-1.1 to Rubicon River	At County Highway U	0.3	80	100	120	140	*	190
UT-1.1.1 to Rubicon River	Approximately 3,100 feet upstream of the mouth	0.2	33	41	47	57	*	74

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
UT-1.2 Quaas Creek	At State Highway 45	0.3	73	111	147	188	260	302
UT-1.2 to Rubicon River	At confluence with UT-1.2.1 to Rubicon River	2.6	400	510	600	730	*	950
UT-1.2 to Rubicon River	Approximately 2,800 feet upstream of County Highway K	0.3	130	160	190	240	*	310
UT-1.2.1 to Rubicon River	At confluence approximately 1,300 feet downstream of Saint Lawrence Lane	1.6	200	260	310	390	*	520
UT-1.2.1 to Rubicon River	Approximately 2,900 feet upstream of Saint Lawrence Lane	0.5	60	80	100	130	*	170
UT-2 Kewaskum Creek	At confluence with Kewaskum Creek	0.6	119	192	261	340	481	575
UT-2 Milwaukee River	Below confluence of UT-2.1 Milwaukee River	0.8	48	87	129	185	280	363
UT-2 Milwaukee River	Approximately 2,900 feet upstream of confluence of UT-2.1 Milwaukee River	0.4	78	127	175	235	337	404
UT-2 Milwaukee River	Approximately 5,800 feet upstream of confluence of UT-2.1 Milwaukee River	0.2	28	48	70	95	144	171
UT-2 to Cedar Creek	At County Highway G	3.2	459	597	707	874	*	1,182
UT-2 to Cedar Creek	At Center Road	2.2	318	414	490	608	*	822
UT-2 to Coney River	Approximately 1.4 miles upstream of mouth	0.8	16	*	27	33	*	45
UT-2 to Little Cedar Creek	At Scenic Road	0.7	83	108	127	166	*	232
UT-2 to Oconomowoc River	Approximately 1,300 feet downstream of Pleasant Hill Road	1.6	284	*	599	790	*	1,233
UT-2 to Oconomowoc River	Approximately 1,700 feet downstream of State Highway 164	0.5	106	*	212	274	*	427
UT-2 to Oconomowoc River	Downstream of State Highway 164	0.3	79	*	159	205	*	320
UT-2 to Oconomowoc River	Upstream of State Highway 164	0.1	13	*	26	34	*	53

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
UT-2 to Rubicon River	Approximately 1,400 feet upstream of Main Street	0.9	90	120	150	190	*	260
UT-2 to Rubicon River	Approximately 2,900 feet downstream of Arthur Road	0.3	110	140	160	200	*	260
UT-2 to Rubicon River	At Arthur Road	0.1	28	36	42	52	*	67
UT-2.1 Milwaukee River	Above confluence with UT-2 Milwaukee River	0.3	3	8	14	23	41	57
UT-2.1 to Rubicon River	Approximately 5,000 feet upstream of State Highway 83	0.9	60	90	110	140	*	190
UT-3 Milwaukee River	At confluence with Milwaukee River	4.8	151	227	282	358	459	608
UT-3 Milwaukee River	Approximately 1,500 feet downstream of Poplar Road	4.4	141	214	266	338	439	570
UT-3 Milwaukee River	Divergence of Tributary 2 to Milwaukee River Split	3.3	104	163	215	270	367	429
UT-3 Milwaukee River	Approximately 1,800 feet upstream of Poplar Road	3.3	113	184	252	332	476	569
UT-3 Milwaukee River	At Wallace Lake Road	2.1	43	68	91	116	160	199
UT-3 Milwaukee River	At Church Road	1.7	25	42	61	83	118	170
UT-3 Milwaukee River	Green Lake Outlet	0.7	16	29	46	70	104	153
UT-3 to Rubicon River	At County Highway N	2.0	500	650	770	950	*	1,250
UT-3 to Rubicon River	At confluence with UT-3.1 to Rubicon River	1.1	230	300	360	440	*	580
UT-3 to Rubicon River	Approximately 3,000 feet upstream of confluence with UT-3.1 to Rubicon River	0.3	110	140	170	200	*	260
UT-3.1 to Rubicon River	At Arthur Road	0.8	180	230	270	340	*	450
UT-4 Milwaukee River	At County Highway M	1.2	190	314	429	567	818	962
UT-4 Milwaukee River	At Newark Drive	0.6	83	137	189	251	370	431
UT-4 Milwaukee River	Approximately 2,500 feet upstream of Newark Drive	0.1	21	36	51	69	107	120

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
UT-4 to Rubicon River	Approximately 4,000 feet upstream of the mouth	1.0	120	160	200	260	*	370
UT-5 to Rubicon River	At confluence approximately 2,200 feet upstream of the mouth	2.6	400	530	640	820	*	1,110
UT-5 to Rubicon River	At State Highway 175	0.5	14	28	40	41	*	42
UT-5 to Rubicon River	Approximately 2,200 feet upstream of Chicago Sub Railroad	0.5	21	31	45	52	*	88
UT to West Branch Menomonee River	Approximately 500 feet upstream of Maple Road	1.8	183	276	360	456	630	736
UT to West Branch Menomonee River	Approximately 1,100 feet downstream of County Highway Y	1.6	163	245	317	398	554	636
UT to West Branch Menomonee River	At County Highway Y	1.0	64	83	99	117	156	179
UT to West Branch Menomonee River	Divergence of UT to West Branch Menomonee River Overflow	0.6	28	31	31	32	33	49
UT to West Branch Menomonee River	At U.S. Highway 41	0.4	102	154	165	173	183	187
UT to West Branch Menomonee River	Approximately 1,500 feet upstream of Hubertus Road	0.2	58	94	128	167	244	280
UT to West Branch Menomonee River Overflow	Divergence from UT to West Branch Menomonee River	0.6	131	215	258	305	371	424
Wallace Creek	At Orchard Valley Road	13.6	624	1,060	1,541	2,115	3,242	4,047
Wallace Creek	Approximately 0.5 miles upstream of Boltonville Road	12.2	614	1,040	1,513	2,075	3,166	3,957
Wallace Creek	At Shalom Drive	9.5	783	1,301	1,820	2,442	3,658	4,363
Wallace Creek	Approximately 450 feet upstream of Indian Lore Road	9.4	783	1,300	1,819	2,441	3,655	4,361
Wallace Creek	At confluence of Wallace Creek Unnamed Tributary 2	8.8	777	1,287	1,800	2,396	3,577	4,251
Wallace Creek	At County Road A	3.3	193	314	437	590	889	1,098

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Wallace Creek	At confluence of Wallace Creek Unnamed Tributary 3	2.5	169	272	367	477	712	854
Wallace Creek	Approximately 250 feet upstream of Newark Drive	1.7	82	149	219	307	522	593
Wallace Creek	Approximately 200 feet downstream of North River Road	0.6	5	9	18	44	82	166
Wallace Creek	At inlet to Wallace Lake	0.2	7	13	20	28	46	53
Wallace Creek Unnamed Tributary 2	Approximately 1,900 feet upstream of mouth	5.0	588	957	1,321	1,744	2,588	3,057
Wallace Creek Unnamed Tributary 3	Upstream of South Indian Lore Road	0.1	7	14	22	31	51	62
Washington Creek	Above confluence with Silver Creek	3.5	260	*	540	600	*	900
Washington Creek	At confluence with Silver Creek	2.5	166	*	260	296	*	400
Washington Creek	Just upstream of confluence of an unnamed tributary	1.6	82	*	120	136	*	180
Washington Creek	Just downstream of West Washington Street	1.6	56	*	80	91	*	120
Washington Creek	At West Washington Street	1.5	30	*	38	42	*	50
Washington Creek	Just upstream of West Washington Street	0.9	53	*	98	120	*	170
Washington Creek	Upstream of Villa Park Drive	0.6	112	*	208	242	*	360
Washington Creek	Downstream of City of West Bend corporate limits	0.6	112	*	208	239	*	360
Washington Creek	Just downstream of City of West Bend corporate limits	0.6	79	*	147	170	*	255
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 1	8.3	541	874	1,199	1,609	2,332	2,855
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 2	7.3	512	831	1,141	1,530	2,212	2,709
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 3	5.1	499	826	1,137	1,525	2,223	2,676

*Not calculated for this Flood Risk Project

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 4	4.1	429	707	970	1,306	1,943	2,285
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 5	2.2	233	350	465	622	881	1,101
Wayne Creek	At confluence of Wayne Creek Unnamed Tributary 6	2.0	250	375	496	668	949	1,184
Wayne Creek	At State Road 28	1.4	298	447	591	758	1,063	1,257
Wayne Creek	At Saint Kilian Drive	0.6	216	319	414	521	721	826
Wayne Creek Unnamed Tributary 1	Approximately 2,500 feet upstream of confluence with Wayne Creek	0.4	122	178	230	288	395	454
Wayne Creek Unnamed Tributary 2	At confluence of Wayne Creek Unnamed Tributary 2.1	1.9	181	273	364	467	651	768
Wayne Creek Unnamed Tributary 2	At County Highway W	1.3	44	63	92	126	177	239
Wayne Creek Unnamed Tributary 2	Approximately 1.5 miles upstream of County Highway W	0.1	20	28	42	58	81	111
Wayne Creek Unnamed Tributary 2	Approximately 1.7 miles upstream of County Highway W	0.1	24	34	50	70	101	136
Wayne Creek Unnamed Tributary 2.1	Approximately 600 feet upstream of confluence with Wayne Creek Unnamed Tributary 2	0.3	122	182	237	299	416	476
Wayne Creek Unnamed Tributary 3	Approximately 1,900 feet upstream of Fairview Drive	0.6	113	164	211	264	359	416
Wayne Creek Unnamed Tributary 4	At confluence of Wayne Creek Unnamed Tributary 4.1	1.8	236	404	556	743	1,089	1,284
Wayne Creek Unnamed Tributary 4	At confluence of Wayne Creek Unnamed Tributary 4.2	1.1	435	650	852	1,081	1,518	1,735
Wayne Creek Unnamed Tributary 4	Approximately 100 feet downstream of Woodlawn Drive	0.1	76	105	133	163	217	247
Wayne Creek Unnamed Tributary 4.1	Approximately 1,600 feet upstream of confluence with Wayne Creek Unnamed Tributary 4	0.2	71	105	137	173	239	274

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Wayne Creek Unnamed Tributary 4.2	Approximately 600 feet upstream of confluence with Wayne Creek Unnamed Tributary 4	1.0	414	622	815	1,034	1,457	1,663
Wayne Creek Unnamed Tributary 5	Approximately 1,700 feet upstream of confluence with Wayne Creek	0.1	52	80	106	135	193	219
Wayne Creek Unnamed Tributary 6	Approximately 500 feet downstream of State Highway 28	0.2	182	258	328	407	545	627
West Branch Menomonee River	At Private Driveway	4.1	726	1,060	1,370	1,740	2,424	2,870
West Branch Menomonee River	At Maple Road	3.8	786	1,150	1,480	1,870	2,604	3,070
West Branch Menomonee River	Approximately 1,900 feet upstream of Railroad	1.3	648	942	1,207	1,510	2,061	2,377
West Branch Menomonee River	Approximately 250 feet upstream of Private Drive	1.1	499	727	934	1,170	1,595	1,837
West Branch Menomonee River	Approximately 1,100 feet downstream of Dalebrook Drive	0.9	447	681	904	1,158	1,561	1,879
West Branch Menomonee River	At confluence of UT to West Branch Menomonee River Overflow	0.7	399	607	804	1,027	1,384	1,652
West Branch Menomonee River	At confluence of West Branch Menomonee River Overflow	0.5	249	361	496	652	924	1,087
West Branch Menomonee River	At County Highway Y	0.5	146	181	237	295	416	497
West Branch Menomonee River	Divergence of West Branch Menomonee River Overflow	0.3	100	114	141	191	276	337
West Branch Menomonee River	At confluence of HWY 41 Overflow	0.3	204	294	412	548	785	938
West Branch Menomonee River	At Hilltop Drive	0.3	204	288	362	443	572	665
West Branch Menomonee River	Approximately 600 feet upstream of Brookside Drive	0.1	34	45	55	66	82	94
West Branch Menomonee River Overflow	Divergence from West Branch Menomonee River	0.3	103	180	259	357	508	590

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
West Branch Milwaukee River	At State Highway 45	57.7	1,154	1,769	2,361	3,019	4,183	4,856
West Branch Milwaukee River	Approximately 3,500 feet upstream of Eisenbahn State Trail	56.2	1,330	2,077	2,786	3,592	5,278	5,983
West Branch Milwaukee River Unnamed Tributary 1	At confluence of West Branch Milwaukee River Unnamed Tributary 1.2	10.9	446	692	943	1,244	1,796	2,152
West Branch Milwaukee River Unnamed Tributary 1	At County Road H	7.7	283	431	584	770	1,087	1,335
West Branch Milwaukee River Unnamed Tributary 1	Approximately 3,600 feet downstream of County Road H	6.0	289	425	547	692	938	1,094
West Branch Milwaukee River Unnamed Tributary 1	At confluence of West Branch Milwaukee River Unnamed Tributary 1.2	1.4	282	421	539	691	950	1,095
West Branch Milwaukee River Unnamed Tributary 1	Approximately 1,100 feet downstream of Lake Bernice Road	0.4	130	180	227	280	366	434
West Branch Milwaukee River Unnamed Tributary 1	Downstream of Lake Bernice Road	<0.1	8	12	16	21	30	35
West Branch Milwaukee River Unnamed Tributary 1.1	At Townline Road	1.9	178	263	343	434	596	699
West Branch Milwaukee River Unnamed Tributary 1.2	Approximately 1,100 feet upstream of confluence with West Branch Milwaukee River Unnamed Tributary 1	0.9	223	319	408	518	698	812
Wetland Extension 2	At confluence of Wetland Extension 2.1	2.5	187	280	365	464	484	748
Wetland Extension 2	Approximately 1,900 feet downstream of Sunset Drive	0.4	61	90	118	152	166	250
Wetland Extension 2	Divergence from Wayne Creek Unnamed Tributary 2	0.1	4	6	8	12	20	25
Wetland Extension 2.1	At Townline Road	1.1	95	144	187	238	250	390

Table 9: Summary of Discharges *(continued)*

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance Future	0.2% Annual Chance
Wetland Extension 2.1	Approximately 1.1 miles upstream of Townline Road	0.1	12	20	25	33	45	57
Willow Creek	At County Highway Y	5.1	757	1,100	1,410	1,770	2,435	2,900
Willow Creek	Approximately 2,400 feet upstream of State Highway 175	3.0	411	614	802	1,020	1,462	1,700
Willow Creek	At confluence of Willow Creek Tributary 1	2.9	394	594	782	1,010	1,453	1,710
Willow Creek	Divergence of Willow Creek Tributary 1	1.5	265	291	305	305	305	305
Willow Creek	Approximately 6,400 feet upstream of confluence of Willow Creek Tributary 1	1.1	394	594	782	1,010	1,453	1,710
Willow Creek Unnamed Tributary 1	At confluence of Willow Creek Unnamed Tributary 1.1	1.4	436	786	1,107	1,497	2,510	2,663
Willow Creek Unnamed Tributary 1	At County Line Road	1.0	328	472	606	757	1,029	1,181
Willow Creek Unnamed Tributary 1.1	Approximately 2,000 feet upstream of confluence with Willow Creek	0.2	241	469	694	979	1,831	1,842
Wingate Creek	Above confluence with Milwaukee River	1.5	412	*	604	697	*	*

*Not calculated for this Flood Risk Project

Figure 7: Frequency Discharge-Drainage Area Curves

[Not Applicable to this Flood Risk Project]

Table 10: Summary of Non-Coastal Stillwater Elevations

Flooding Source	Location	Elevations (feet NAVD88)					
		10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1%+ Annual Chance	0.2% Annual Chance
Amy Bell Lake	Richfield, Village of	975.0	975.1	975.4[1]	976.1[1]	*	979.1[1]
Cedar Lake	Entire shoreline	1032.0	1032.3	1032.5	1032.7	*	1033.2
Green Lake	Washington County, Unincorporated Areas	869.1	869.2	869.4	869.6	870.0	870.1
Lake Five	Richfield, Village of	975.5	975.8	976.1	976.3	*	976.9
Mueller Lake	Entire shoreline	1035.4	1035.8	1036.1	1036.3	*	1036.9

[1]Elevations reflect backwater effects from Bark River

*Not calculated for this Flood Risk Project

Table 11: Stream Gage Information used to Determine Discharges

[Not Applicable to this Flood Risk Project]

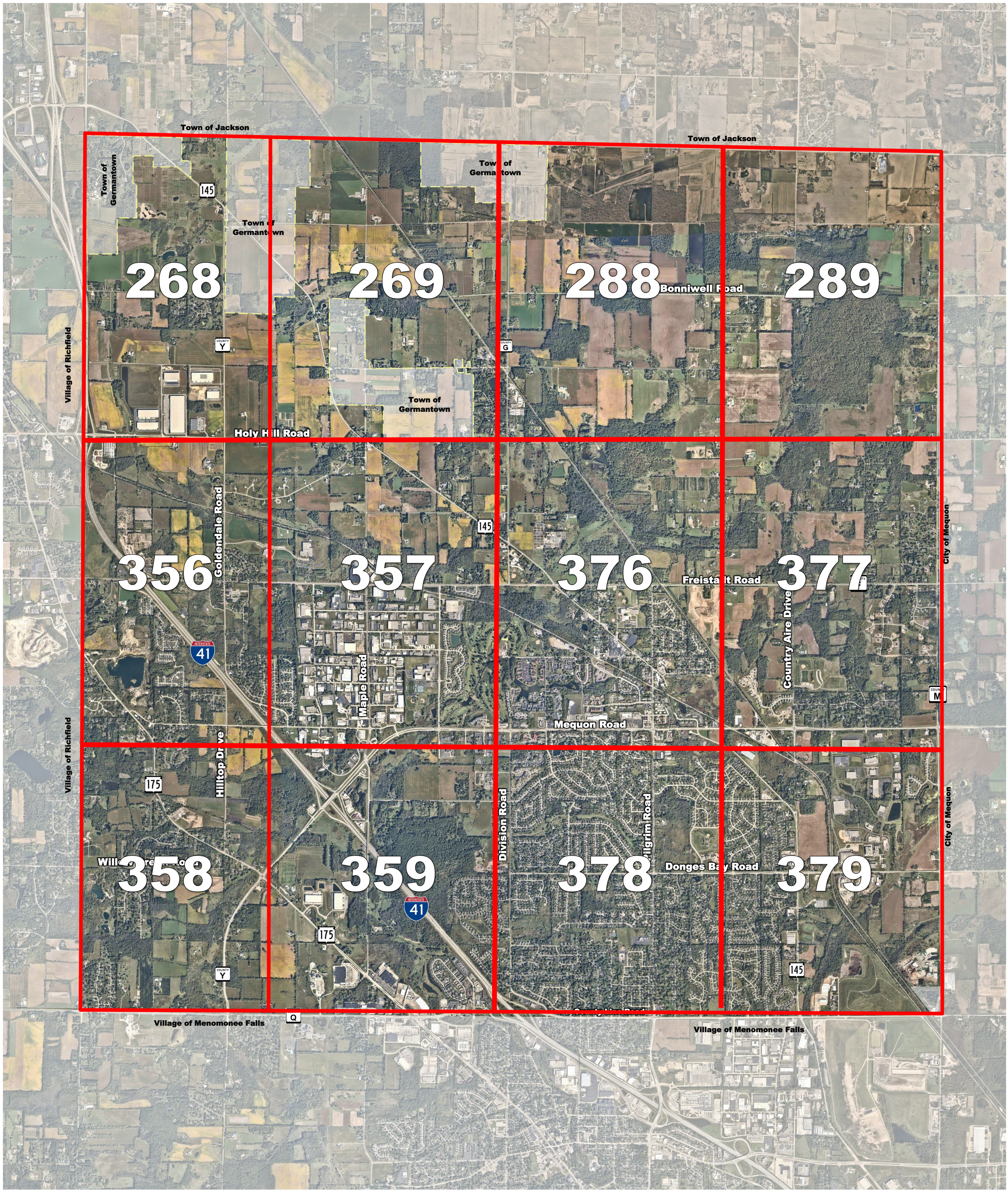
5.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Base flood elevations on the FIRM represent the elevations shown on the Flood Profiles and in the Floodway Data tables in the FIS Report. Rounded whole-foot elevations may be shown on the FIRM in coastal areas, areas of ponding, and other areas with static base flood elevations. These whole-foot elevations may not exactly reflect the elevations derived from the hydraulic analyses. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM. The hydraulic analyses for this FIS were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

For streams for which hydraulic analyses were based on cross sections, locations of selected cross sections are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 6.3), selected cross sections are also listed in Table 23, “Floodway Data.”

A summary of the methods used in hydraulic analyses performed for this project is provided in Table 12. Roughness coefficients are provided in Table 13. Roughness coefficients are values representing the frictional resistance water experiences when passing overland or through a channel. They are used in the calculations to determine water surface elevations. Greater detail (including assumptions, analysis, and results) is available in the archived project documentation.

Village of Germantown



U.S. Department of Homeland Security
Washington, DC 20472

FEMA

RECEIVED
NOV 17 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

November 12, 2025

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Bob Soderberg
Village President, Village of Germantown
N112 W17001 Mequon Road
Germantown, Wisconsin 53022

Dear President Soderberg:

I commend you for the efforts that have been put forth in implementing the floodplain management measures for the Village of Germantown, Wisconsin, to participate in the National Flood Insurance Program (NFIP). As you implement these measures, I want to emphasize the following:

- a Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) have been completed for your community;
- the FIS and FIRM will become effective on February 20, 2026; and
- by the FIS and FIRM effective date, the Department of Homeland Security's Federal Emergency Management Agency (FEMA) Regional Office is required to approve the legally enforceable floodplain management measures your community adopts in accordance with Title 44 Code of Federal Regulations (CFR) Section 60.3(d).

As noted in FEMA's letter dated August 20, 2025, no significant changes have been made to the flood hazard data on the Preliminary and/or revised Preliminary copies of the FIRM for Washington County. Therefore, the Village of Germantown should use the Preliminary and/or revised Preliminary copies of the FIRM as the basis for adopting the required floodplain management measures. Final printed copies of the FIRM for the Village of Germantown will be sent to you within the next few months.

If you encounter difficulties in enacting the measures, I recommend you contact the Wisconsin Department of Natural Resources. You may contact Sarah Rafajko, CFM, the NFIP State Coordinator, by telephone at (608) 893-8710, in writing at 3550 Mormon Coulee Road, La Crosse, Wisconsin 54601, or by electronic mail at sarah.rafajko@wisconsin.gov.

The FEMA Regional staff in Chicago, Illinois, is also available to provide technical assistance and guidance in the development of floodplain management measures. The adoption of compliant

floodplain management measures will provide protection for the Village of Germantown and will ensure its participation in the NFIP. The Regional Office may be contacted by telephone at (312) 408-5500 or in writing. Please send your written inquiries to the Director, Mitigation Division, FEMA Region 5, at 536 South Clark Street, Sixth Floor, Chicago, Illinois 60605.

You may have already contacted the NFIP State Coordinator and/or the FEMA Regional Office, and may be in the final adoption process or recently adopted the appropriate measures. However, in the event your community has not adopted the appropriate measures, this letter is FEMA's official notification that you only have until February 20, 2026, to adopt and/or submit a floodplain management ordinance that meets or exceeds the minimum NFIP requirements, and request approval from the FEMA Regional Office by the effective date. Your community's adopted measures will be reviewed upon receipt and the FEMA Regional Office will notify you when the measures are approved.

I appreciate your cooperation to ensure that your community's floodplain management measures are approved by the FEMA Regional Office by February 20, 2026. Your compliance with these mandatory program requirements will enable your community to avoid suspension from the NFIP.

Additional information on community suspensions as proposed, other notices of current NFIP community status information, and details regarding updated publication requirements of community eligibility status information under the NFIP can be found on the Community Status Book section of our website at www.fema.gov/flood-insurance/work-with-nfip/community-status-book. Notices for scheduled suspension will be available on the National Flood Insurance Community Status and Public Notification section of our website at www.fema.gov/flood-insurance/work-with-nfip/community-status-book/public-notification. Individuals without internet access will be able to contact their local floodplain management official and/or NFIP State Coordinating Office directly for assistance.

Sincerely,

Rachel Sears, Director
Floodplain Management Division
Mitigation Directorate | FEMA

cc: Michael Chesney, Acting Regional Administrator, FEMA Region 5
Sarah Rafajko, CFM, NFIP State Coordinator, Wisconsin Department of Natural Resources
Jeff Retzlaff, Community Development Director, Village of Germantown

U.S. Department of Homeland Security
Washington, DC 20472

FEMA

August 20, 2025

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
19P

The Honorable Dean Wolter
Village President, Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022

Community Name:	Village of Germantown, Washington County, Wisconsin
Community No.:	550472
Map Panels Affected:	See FIRM Index

Dear President Wolter:

This is to notify you of the final flood hazard determination for Washington County, Wisconsin and Incorporated Areas, in compliance with Title 44, Chapter I, Part 67, Section 67.11, Code of Federal Regulations (CFR). This section requires that notice of final flood hazards shall be sent to the Chief Executive Officer of the community, all individual appellants, and the State Coordinating Agency, and shall be published in the *Federal Register*.

The statutory 90-day appeal period that was initiated for your community when the Department of Homeland Security's Federal Emergency Management Agency (FEMA) published a notice of proposed flood hazard determinations for your community in the local newspaper has elapsed. FEMA did not receive any appeals of the proposed flood hazard determinations or submittals regarding the Preliminary Flood Insurance Study (FIS) report and Flood Insurance Rate Map (FIRM) during that time.

Accordingly, the flood hazard determinations for your community are considered final. The final notice for flood hazard determinations will be published in the *Federal Register* as soon as possible. The FIS report and FIRM for your community will become effective on February 20, 2026. Before the effective date, we will send your community final printed copies of the FIS report and FIRM. For insurance purposes, the community number and new suffix code for the panels being revised are indicated on the FIRM and must be used for all new policies and renewals.

Because the FIS report for your community has been completed, certain additional requirements must be met under Section 1361 of the National Flood Insurance Act of 1968, as amended, within 6 months from the date of this letter.

It must be emphasized that all the standards specified in 44 CFR Part 60.3(d) of the National Flood Insurance Program (NFIP) regulations must be enacted in a legally enforceable document. This

includes adoption of the current effective FIS report and FIRM to which the regulations apply and other modifications made by this map revision. Some of the standards should already have been enacted by your community in order to establish initial eligibility in the NFIP. Your community can meet any additional requirements by taking one of the following actions in this Paragraph of the NFIP regulations:

1. Amending existing regulations to incorporate any additional requirements of 44 CFR Part 60.3(d);

2. Adopting all the standards of 44 CFR Part 60.3(d) into one new, comprehensive set of regulations; or

3. Showing evidence that regulations have previously been adopted that meet or exceed the minimum requirements of 44 CFR Part 60.3(d).

Also, prior to the effective date, your community is required, as a condition of continued eligibility in the NFIP, to adopt or show evidence of adoption of the floodplain management regulations that meet the standards of 44 CFR Part 60.3(d) of the NFIP regulations by the effective date of the FIRM. These standards are the minimum requirements and do not supersede any State or local requirements of a more stringent nature.

Many states and communities have adopted building codes based on the International Codes (I-Codes); the model I-Codes (2009 and more recent editions) contain flood provisions that either meet or exceed the minimum requirements of the NFIP for buildings and structures. The model codes also contain provisions, currently found in an appendix to the International Building Code, that apply to other types of development and NFIP requirements. In these cases, communities should request review by the NFIP State Coordinator to ensure that local floodplain management regulations are coordinated (not duplicative or inconsistent) with the State or Local building code. FEMA's resource, *Reducing Flood Losses through the International Code: Coordinating Building Codes and Floodplain Management Regulations, 5th Edition (2019)*, provides some guidance on this subject and is available at https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes/flood.

Communities that fail to enact the necessary floodplain management regulations will be suspended from participation in the NFIP and subject to the prohibitions contained in Section 202(a) of the Flood Disaster Protection Act of 1973 (Public Law 93-234) as amended, and 44 CFR Part 59.24.

To assist your community in maintaining the FIRM, we have enclosed a Summary of Map Actions (SOMA) to document previous Letters of Map Change (LOMC) actions (i.e., Letters of Map Amendment, Letters of Map Revision) that will be affected when the revised FIRM panels referenced above become effective. If no LOMCs were issued previously for your community, you are receiving a SOMA for informational purposes only.

Once the FIS report and FIRM are printed and distributed, the digital files containing the flood hazard data for the entire county can be provided for use in a computer mapping system. These files can be used in conjunction with other thematic data for floodplain management purposes, insurance requirements, and many other planning applications. Copies of the digital files of the FIRM panels may be obtained by calling our FEMA Mapping and Insurance eXchange (FMIX), toll free, at (877)

336-2627 (877-FEMA MAP) or by visiting the Map Service Center at https://www.msc.fema.gov. In addition, your community may be eligible for additional credits under our Community Rating System if you implement your activities using digital mapping files.

For assistance with your floodplain management ordinance or enacting the floodplain management regulations, please contact Sarah Rafajko, NFIP State Coordinator for Wisconsin by telephone at (608) 893-8710. If you should require any additional information, we suggest that you contact the Director, Mitigation Division of FEMA, Region V at (312) 408-5500 for assistance. If you have any questions concerning mapping issues in general or the enclosed SOMA, please call our FMIX at the telephone number shown above. Additional information and resources you may find helpful regarding the NFIP and floodplain management can be found on our website at https://www.fema.gov/flood-maps.

Sincerely,

David N. Bascom

David N. Bascom, Acting Director
Engineering and Modeling Division
Risk Analysis, Planning and Information Directorate

Enclosure:
Final SOMA

cc: Community Map Repository
Jeff Retzlaff, Community Development Director, Village of Germantown

FINAL SUMMARY OF MAP ACTIONS

Community: GERMANTOWN, VILLAGE OF Community No: 550472

To assist your community in maintaining the Flood Insurance Rate Map (FIRM), we have summarized below the effects of the enclosed revised FIRM panels(s) on previously issued Letter of Map Change (LOMC) actions (i.e., Letters of Map Revision (LOMRs), Letter of Map Revision based on Fill (LOMR-Fs), and Letters of Map Amendment (LOMAs)) that will be affected when the revised FIRM becomes effective on February 20, 2026.

1. LOMCs Incorporated

The modifications effected by the LOMCs listed below will be reflected on the revised FIRM. In addition, these LOMCs will remain in effect until the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
			NO CASES RECORDED		

2. LOMCs Not Incorporated

The modifications effected by the LOMCs listed below will not be reflected on the revised FIRM panels or will not be reflected on the revised FIRM panels because of scale limitations or because the LOMC issued had determined that the lot(s) or structure(s) involved were outside the Special Flood Hazard Area, as shown on the FIRM. These LOMCs will remain in effect until the revised FIRM becomes effective. These LOMCs will be revalidated free of charge 1 day after the revised FIRM becomes effective through a single revalidation letter that reaffirms the validity of the previous LOMCs.

FINAL SUMMARY OF MAP ACTIONS

Community: GERMANTOWN, VILLAGE OF Community No: 550472

2A. LOMCs on Revised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	86-05-0734W	06/20/1986	W207 N13465 FAWN COURT	5504720004B	55131C0268F
LOMA	88-05-1404W	12/09/1988	N. 116 W. 16686 MAIN STREET	5504720008B	55131C0376E
LOMA	95-05-910A	06/19/1995	W170 N11435 ARMADA DRIVE	5504720008B	55131C0376E
LOMR-F	96-05-2562A	10/04/1996	LOT 191 - HATHORNE MEADOWS ADDITION NO. 2	5504720008B	55131C0378E
LOMR-F	99-05-6616A	09/19/2000	W 118 N 1070 MAPLE ROAD	5504720007B 5504720010B	55131C0359E
LOMR-F	03-05-3125A	12/31/2003	A PORTION OF SECTION 25, T9N, R20E	5504720009B	55131C0377E 55131C0379E
LOMA	04-05-A590A	09/15/2004	WILLOW WOOD SUBDIV -- N107 W17252 WILLOW COURT	5504720011B	55131C0378E
LOMA	06-05-BM94A	07/25/2006	PRAIRIE GLEN, LOT 8 -- W125 N10955 STRAWGRASS LANE (WI)	5504720009B	55131C0379E
LOMR-F	06-05-BZ48A	01/11/2007	BLDGS. 9 & 16, ADDENDUM NO. 1 TO ASHBURY WOODS -- N110 W16906 & N 169 W11079 ASHBURY LANE (WI)	5504720008B	55131C0376E 55131C0378E
LOMA	08-05-2451A	03/28/2008	PORTION OF SECTION 22, T9N, R20E -- N116 W16800 MAIN STREET	5504720008B	55131C0376E
LOMA	08-05-4435A	07/31/2008	GLENWOOD PARK, BLOCK 1, LOT 11 -- W157 N9822 GLENWOOD ROAD	5504720011B	55131C0378E
LOMA	12-05-1198A	12/08/2011	LOT 192, HAWTHORNE MEADOWS ADDITION NO. 2 -- N109W16760 HAWTHORNE DRIVE	5504720008B	55131C0378E
LOMA	12-05-3302A	02/29/2012	Lot 55, Meadow Creek Crossing Subdivision - W175N9963 Wendy Lane	5504720011B	55131C0359E
LOMA	12-05-9091A	01/03/2013	MEADOW CREEK CROSSING, LOT 70 -- N100W17543 WHITETAIL RUN	5504720011B	55131C0359E
LOMA	13-05-6795A	07/16/2013	W156N9878 PILGRIM ROAD	5504720011B	55131C0378E
LOMA	14-05-2978A	01/27/2014	Lot 2, Block 12, Old Farm Annex No. 1 at Germantown Subdivision - W165 N10732 Wagon Trail	55131C0378D	55131C0378E

FINAL SUMMARY OF MAP ACTIONS

Community: GERMANTOWN, VILLAGE OF Community No: 550472

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	14-05-3558A	02/12/2014	Lot 104, Cedar Hills II Subdivision - N109 W16812 Hawthorne Drive	55131C0378D	55131C0378E
LOMA	14-05-2871A	02/25/2014	LOT 105, CEDAR HILLS II - N109W16834 HAWTHORNE DRIVE	55131C0378D	55131C0378E
LOMA	14-05-4365A	03/18/2014	PARCEL 1, CERTIFIED SURVEY MAP NO. 5065 -- N106 W17385 WILDFLOWER LANE	55131C0359D	55131C0359E
LOMA	14-05-5233A	04/09/2014	Lot 1, Block 1, Hickory Hills Subdivision - W156N9895 Pilgrim Road	55131C0378D	55131C0378E
LOMR-F	15-05-1278A	02/19/2015	CERTIFIED SURVEY MAP NO. 6562, LOTS 1 - 3 -- N96 W18034 & N96 W17990 COUNTY LINE ROAD	55131C0359D	55131C0359E
LOMA	15-05-3371A	04/10/2015	GLENWOOD PARK, BLOCK 2, LOT 14 -- N98W15816 CONCORD ROAD	55131C0378D	55131C0378E
LOMA	15-05-2240A	04/17/2015	CSM 2453, PARCEL 3 --N114 W16050 SYLVAN CIRCLE (NE & NW GARAGES)	55131C0376D	55131C0376E
LOMA	15-05-6081A	07/21/2015	Lot 9, Willow Wood Subdivision - N106 W17321 Wildflower Lane	55131C0378D	55131C0378E
LOMA	16-05-2097A	01/11/2016	Lot 8, Willow Wood Subdivision - W106 N17355 Wildflower Lane	55131C0378D	55131C0378E
LOMA	19-05-1097A	01/04/2019	WILLOW WOOD, LOT 10 -- N106W17261 WILDFLOWER LANE	55131C0378D	55131C0378E

2B. LOMCs on Unrevised Panels

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	12-05-9638A	11/27/2012	W124N13185 WASAUKEE ROAD	5504720006B	55131C0289E
LOMA	18-05-3567A	05/22/2018	CSM NO. 5018, PARCEL 2 -- N136 W13835 BONNIWELL ROAD	55131C0290D	55131C0289E

FINAL SUMMARY OF MAP ACTIONS

Community: GERMANTOWN, VILLAGE OF Community No: 550472

3. LOMCs Superseded

The modifications effected by the LOMCs listed below have not been reflected on the Final revised FIRM panels because they are being superseded by new or revised flood hazard information or the information available was not sufficient to make a determination. The reason each is being superseded is noted below. These LOMCs will no longer be in effect when the revised FIRM becomes effective.

LOMC	Case No.	Date Issued	Project Identifier	Reason Determination Will be Superseded
LOMA	86-05-1190W	09/12/1986	LOT 2, BLOCK 3 - WOODSIDE ACRES	4
LOMR-F	95-05-2144A	11/21/1995	W167 N10981 WESTERN AVENUE	3
LOMA	02-05-0196A	10/24/2001	PORTION OF SECTION 16, T9N, R20E; NORTH 120 WEST 17740 FREISTADT ROAD	4
LOMA	02-05-2811A	06/12/2002	PART OF SECTION 33, T9N, R20E	4
LOMA	05-05-0683A	12/08/2004	PORTION OF SECTION 9, T9N, R20E	3
LOMA	07-05-2242A	03/27/2007	GLENWOOD PARK, BLOCK 2, LOT 8 -- N98 W15725 SHAGBARK ROAD (WI)	3
LOMA	13-05-1693A	12/05/2012	Lot 12, Block 2, Glenwood Park Subdivision - N98 W15878 Concord Road	2
LOMA	13-05-6595A	06/28/2013	Lot Lot 1, Certified survey map no. 5055 Subdivision - w195 n13595 fond du lac avenue	2
LOMA	13-05-8168A	11/26/2013	UNITS 1-10, LAKE PARK FOREST CONDOMINIUM -- MULTIPLE ADDRESSES ON CROWN COURT EAST	4
LOMA	14-05-3189A	01/30/2014	Lot 73, Esquire Estates Subdivision - W167 N11005 Western Ave.	2

FINAL SUMMARY OF MAP ACTIONS

Community: GERMANTOWN, VILLAGE OF Community No: 550472

LOMC	Case No.	Date Issued	Project Identifier	Reason Determination Will be Superseded
LOMA	14-05-5093A	04/03/2014	Lot 72, Resubdivision of Lot 68 of Esquire Estates Subdivision - W167 N11017 Western Avenue	2
LOMA	25-05-0536A	02/24/2025	CERTIFIED SURVEY MAP 6501, OUTLOT 1 -- LANNON ROAD	5

1. Insufficient information available to make a determination.
2. Lowest Adjacent Grade and Lowest Finished Floor are below the proposed Base Flood Elevation.
3. Lowest Ground Elevation is below the proposed Base Flood Elevation.
4. Revised hydrologic and hydraulic analyses.
5. Revised topographic information.
6. Superseded by another LOMC.

4. LOMCs To Be Redetermined

The LOMCs in Category 2 above will be revalidated through a single revalidation letter that reaffirms the validity of the determination in the previously issued LOMC. For LOMCs issued for multiple lots or structures where the determination for one or more of the lots or structures is no longer valid, the LOMC cannot be revalidated through this administrative process. Therefore, we will review the data previously submitted for the LOMC requests listed below and if appropriate issue a new determination for the affected properties after the effective date of the revised FIRM.

LOMC	Case No.	Date Issued	Project Identifier	Original Panel	Current Panel
LOMA	14-05-3897A	03/11/2014	CSM 2453, PARCELS 1 THROUGH 3 -- N114 W16020, N114 W16045, N114 W16050 & N114 W16080 SYLVAN CIRCLE	55131C0376D	55131C0376E

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS
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- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

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- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

NATIONAL FLOOD INSURANCE PROGRAM

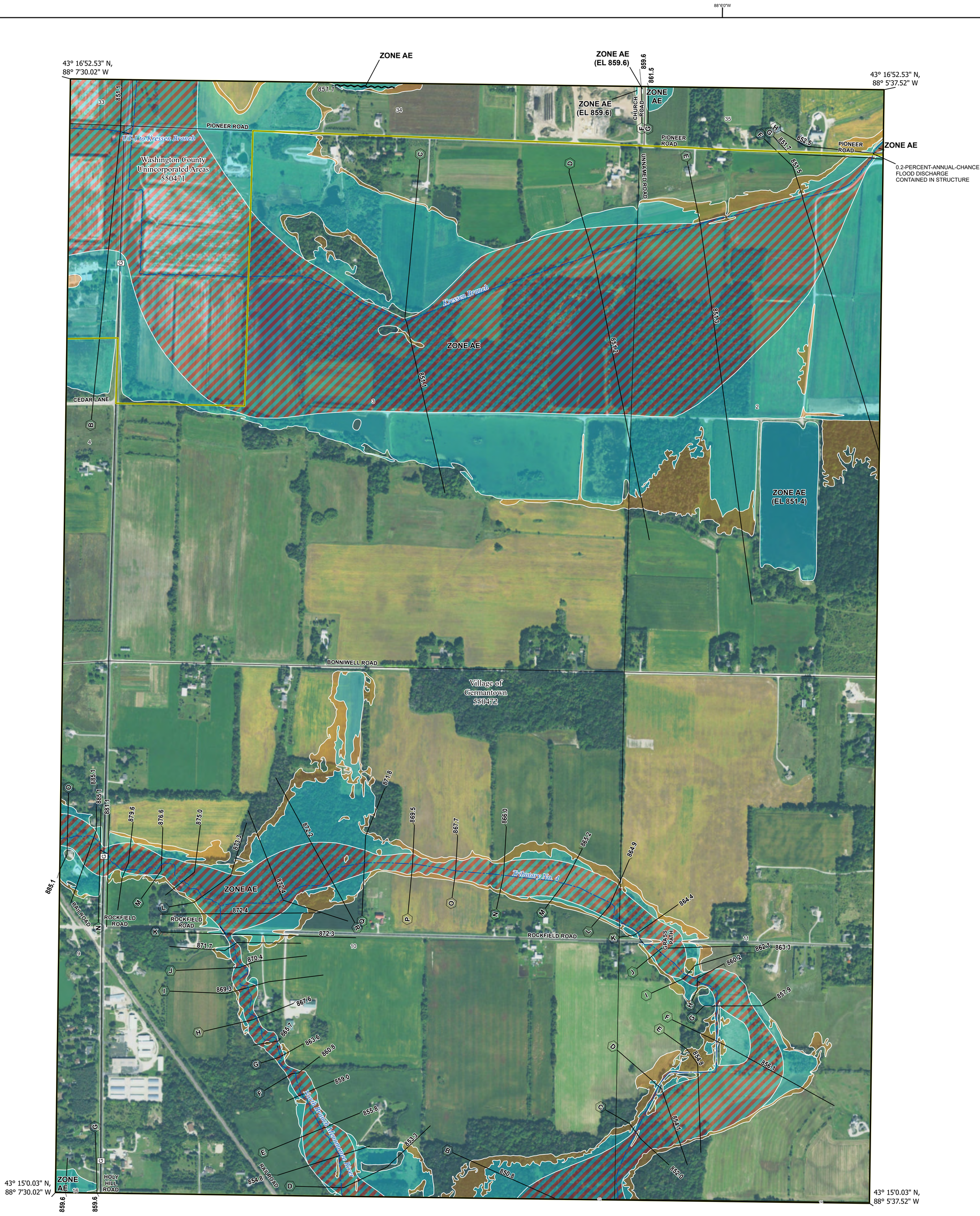
FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
WASHINGTON COUNTY UNINCORPORATED AREAS	550471	0269	F
VILLAGE OF GERMANTOWN	550472	0269	F

MAP NUMBER
55131C0269F
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024



FLOOD HAZARD INFORMATION

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- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
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SCALE

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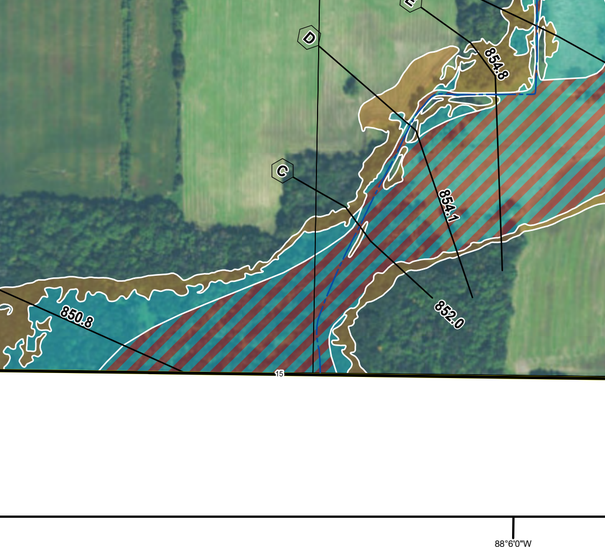
Vertical Datum: NAVD88

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
WASHINGTON COUNTY UNINCORPORATED AREAS	550471	0288	F
VILLAGE OF GERMANTOWN	550472	0288	F

MAP NUMBER
55131C0288F
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

FLOOD HAZARD INFORMATION

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0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF RICHFIELD	550518	0356	G
VILLAGE OF GERMANTOWN	550472	0356	G

MAP NUMBER
55131C0356G
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SCALE

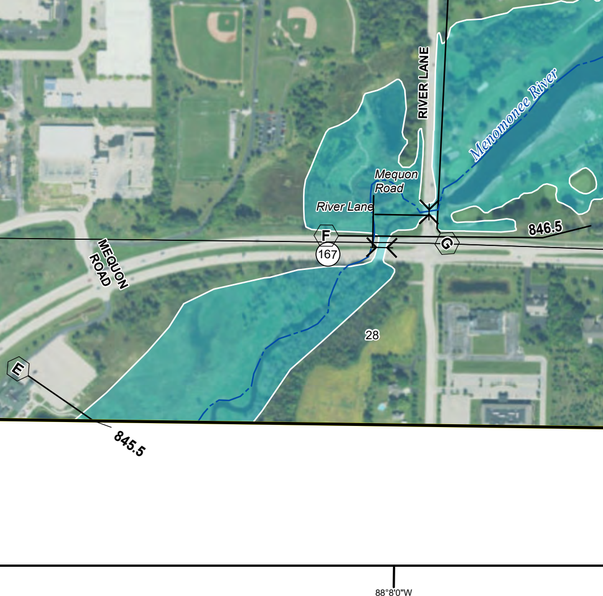
1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF GERMANTOWN	550472	0357	E

MAP NUMBER
55131C0357E
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

88°10'0"W

43° 13'7.53" N,
88° 11'15.02" W

43° 13'7.53" N,
88° 9'22.52" W

43° 11'15.03" N,
88° 11'15.02" W

43° 11'15.03" N,
88° 9'22.52" W

USGS, USDA

88°10'0"W

FLOOD HAZARD INFORMATION

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SCALE

N

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0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

FEMA National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF RICHFIELD	550518	0358	F
VILLAGE OF GERMANTOWN	550472	0358	F

MAP NUMBER
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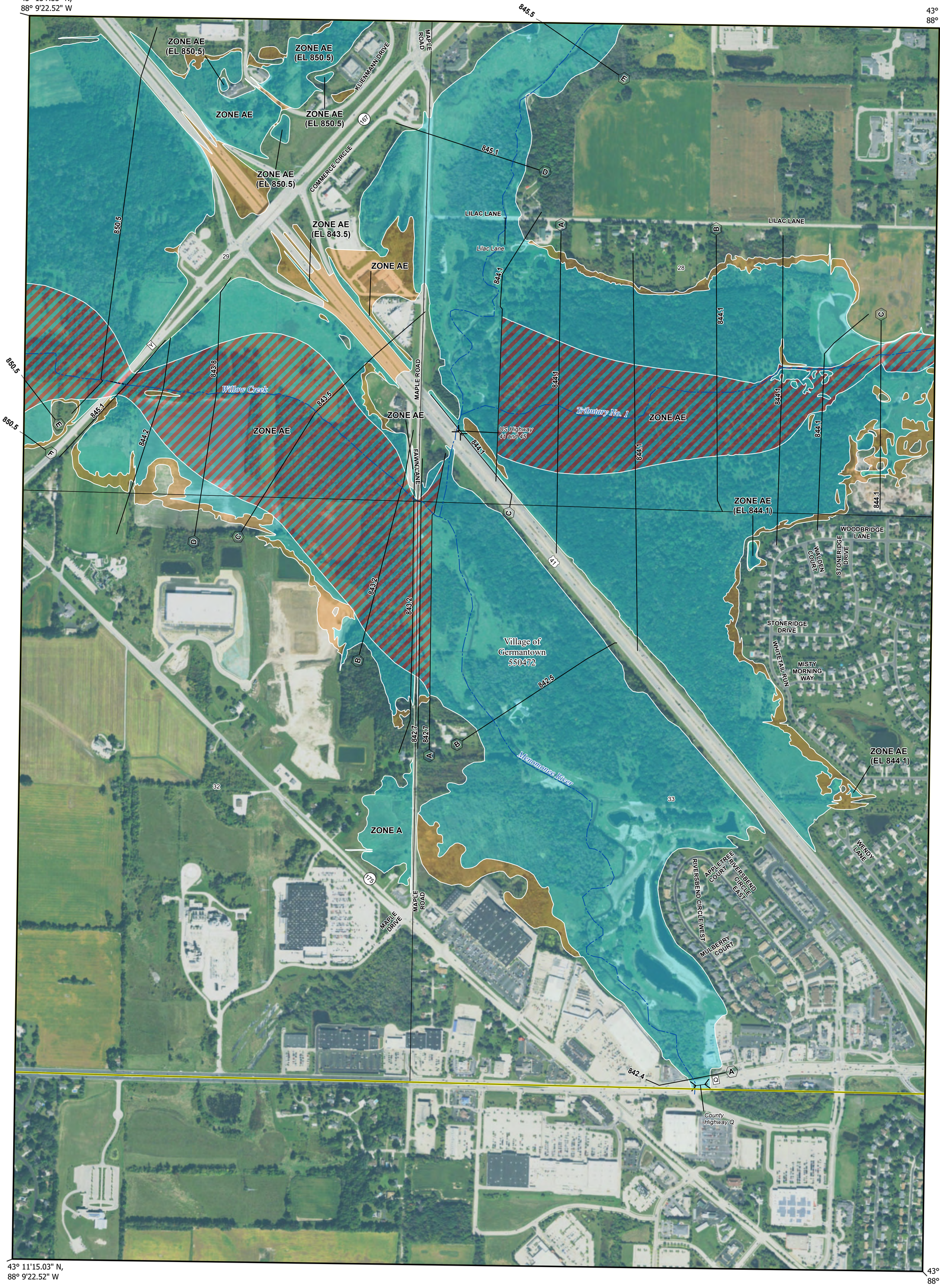
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

88°8'0"W

43° 13'7.53" N, 88° 9'22.52" W

43° 13'7.53" N, 88° 7'30.02" W



43° 11'15.03" N, 88° 9'22.52" W

43° 11'15.03" N, 88° 7'30.02" W

USGS, USDA

88°8'0"W

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

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SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF GERMANTOWN	550472	0359	E

MAP NUMBER
55131C0359E
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

88°6'0"W

43° 15'0.03" N, 88° 7'30.02" W

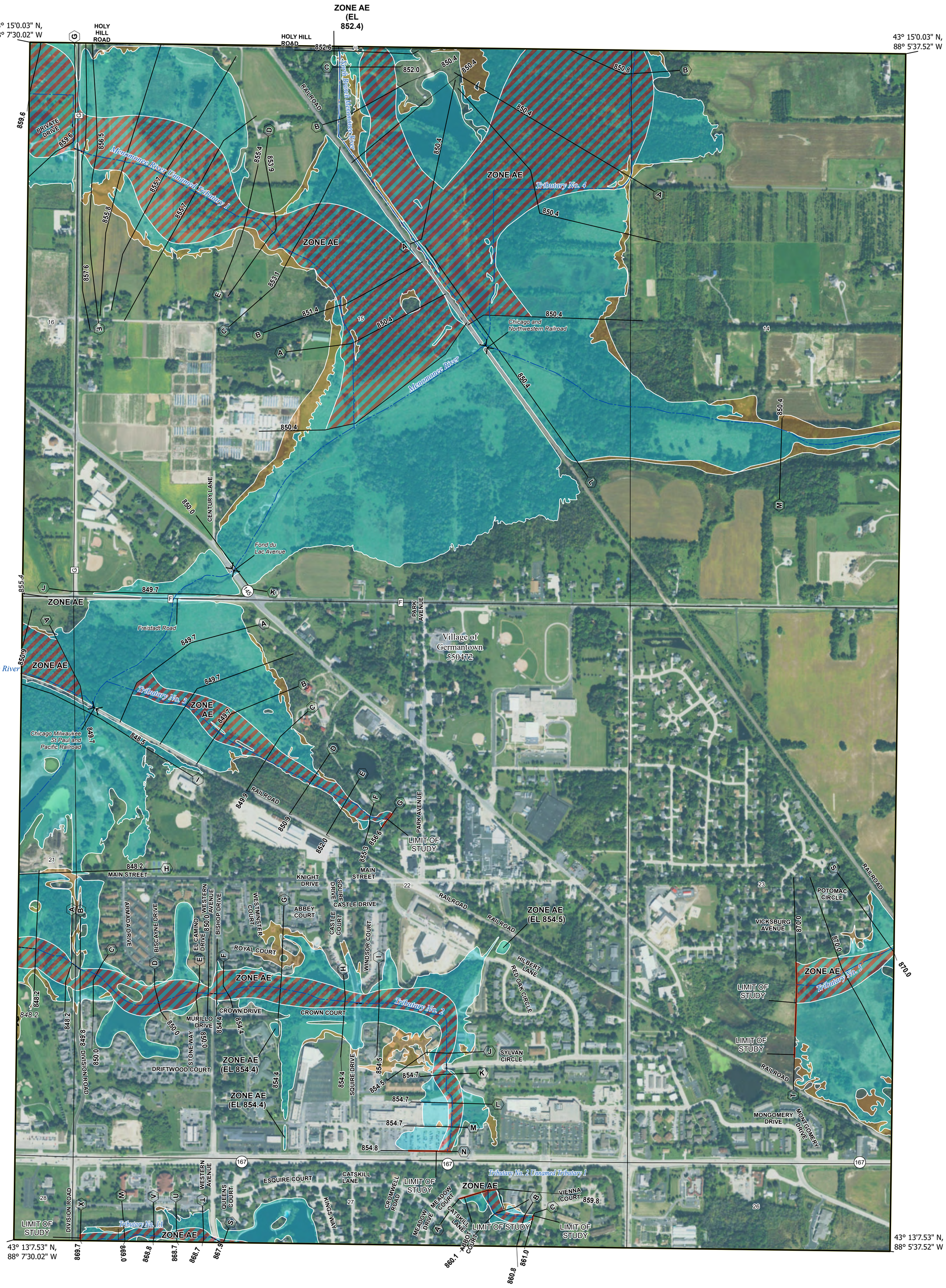
43° 15'0.03" N, 88° 5'37.52" W

43° 14'0"N

43° 13'7.53" N, 88° 7'30.02" W

43° 13'7.53" N, 88° 5'37.52" W

88°6'0"W


ZONE AE (EL 852.4)
HOLY HILL ROAD
HOLY HILL ROAD
PRIVATE DRIVE
Menomonee River Unnamed Tributary 1
North Branch Menomonee River
RAILROAD
ZONE AE
Tributary No. 4
ZONE AE
Chicago and Northwestern Railroad
Menomonee River
CENTURY LANE
Fond du Lac Avenue
ZONE AE
Freistadt Road
West Branch Menomonee River
ZONE AE
Tributary No. 3
Chicago Milwaukee St Paul and Pacific Railroad
PARK AVENUE
Village of Germantown 550472
LIMIT OF STUDY
MAIN STREET
KNIGHT DRIVE
SQUIRE DRIVE
CASTLE DRIVE
ABBEY COURT
WESTMINSTER COURT
CASTLE COURT
WINDSOR COURT
ROYAL COURT
ARMADA DRIVE
BISCAYNE DRIVE
EL CAMINO DRIVE
WESTERN AVENUE
BISHOP DRIVE
ZONE AE
Tributary No. 2
CROWN DRIVE
CROWN COURT
MURILLO DRIVE
STONEWAY DRIVE
DRIFTWOOD COURT
ZONE AE (EL 854.4)
ZONE AE (EL 854.4)
DIVISION ROAD
SQUIRE DRIVE
ZONE AE (EL 854.5)
HILBERT LANE
RED OAK CIRCLE
SYLVAN CIRCLE
POTOMAC CIRCLE
VICKSBURG AVENUE
ZONE AE
Tributary No. 5
LIMIT OF STUDY
LIMIT OF STUDY
MONTGOMERY DRIVE
MONTGOMERY DRIVE
ESQUIRE COURT
CATSKILL LANE
LIMIT OF STUDY
ZONE AE
Tributary No. 2 Unnamed Tributary 1
MEADOW COURT
MEADOW DRIVE
CATSKILL LANE
ABBOT COURT
VIENNA COURT
LIMIT OF STUDY
LIMIT OF STUDY
CROMWELL ROAD
KINGSWAY
QUEENS COURT
WESTERN AVENUE
DIVISION ROAD
LIMIT OF STUDY
Tributary No. 14
ZONE AE
RAILROAD
RAILROAD
RAILROAD
RAILROAD
RAILROAD
859.6
856.5
855.4
853.9
855.7
855.8
855.7
857.6
853.1
851.4
850.4
850.4
850

88°6'0"W

88°4'0"W

43° 15'0.03" N,
88° 5'37.52" W

ZONE A

43° 15'0.03" N,
88° 3'45.02" W

ZONE A

853.0

P

LIMIT OF STUDY

A

O

Lovers Lane

LOVERS LANE

853.7

B

13

Menomonee River

852.5

853.0

855.8

C

852.8

852.0

856.1

D

PLEASANT VIEW DRIVE

ZONE AE

856.8

Pleasant View Drive

852

14

856.9

E

857.6

857.4

F

N

857.6

G

857.6

858.8

A

B

ZONE AE

Tributary No. 5

H

859.6

C

857.8

D

860.0

858.9

F

I

1-PERCENT-ANNUAL-CHANCE FLOOD DISCHARGE CONTAINED IN STRUCTURE

E

863.2

863.2

J

F

863.2

Tributary No. 5 Overflow

Village of Germantown 550472

863.2

863.2

863.2

863.3

G

863.3

K

ZONE AE

863.3

L

864.0

863.3

N

M

COUNTRY AIRE DRIVE

1-PERCENT-ANNUAL-CHANCE FLOOD DISCHARGE CONTAINED IN STRUCTURE

865.9

869.0

23

O

24

870.0

0.2-PERCENT-ANNUAL-CHANCE FLOOD DISCHARGE CONTAINED IN STRUCTURE

866.9

ZONE AE

Q

RAILROAD

867.5

R

P

870.0

S

870

870

RAILROAD

167

26

25

167

857.0

849.8

North Crossway Channel

LIMIT OF STUDY

ZONE AE

W

V

43° 13'7.53" N,
88° 5'37.52" W

43° 13'7.53" N,
88° 3'45.02" W

USGS, USDA

88°4'0"W

43°14'0"N

43°14'0"N

FLOOD HAZARD INFORMATION

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SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

N

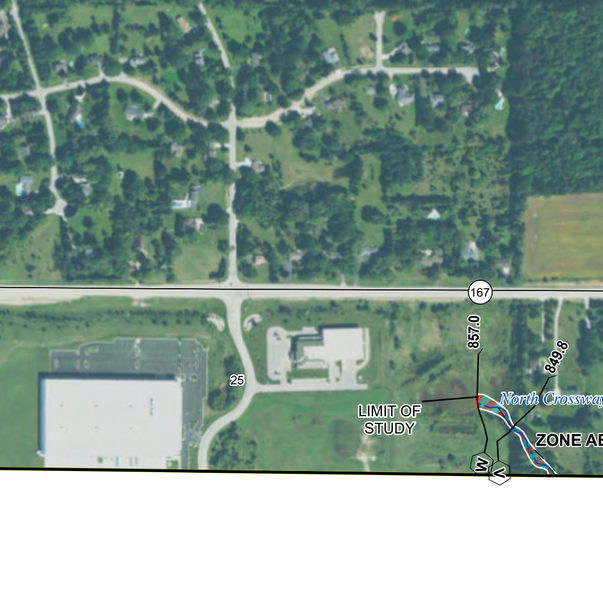
1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR



*PANEL NOT PRINTED

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

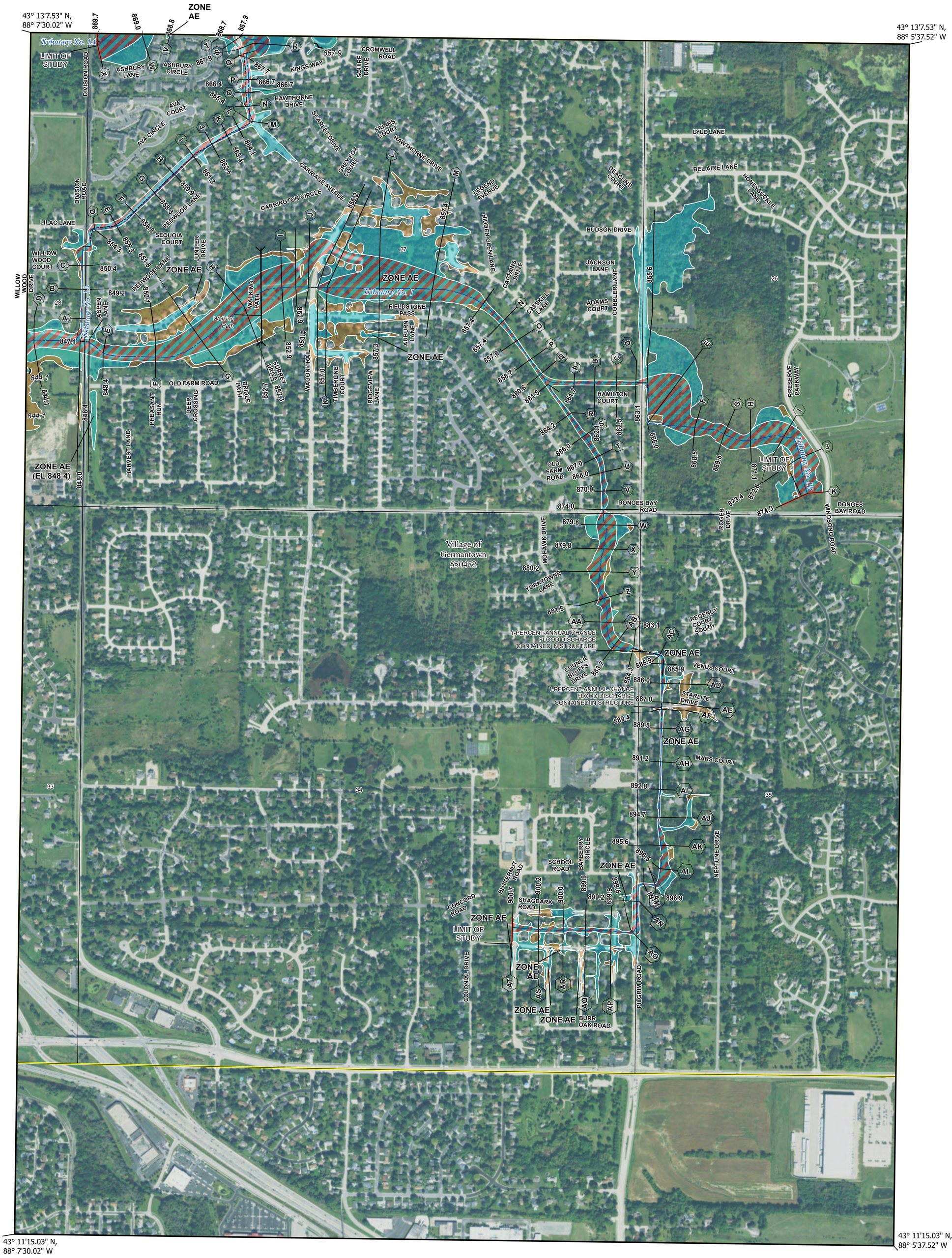
FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF GERMANTOWN	550472	0377	E

MAP NUMBER
55131C0377E
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024



FLOOD HAZARD INFORMATION

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OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
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GENERAL STRUCTURES
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- Levee, Dike, or Floodwall

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- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
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0 250 500 1,000 1,500 2,000 feet

0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF GERMANTOWN	550472	0378	E

MAP NUMBER
55131C0378E
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024

88°6'0"W

88°4'0"W

43° 13'7.53" N,
88° 5'37.52" W

43° 13'7.53" N,
88° 3'45.02" W

43° 11'15.03" N,
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43° 11'15.03" N,
88° 3'45.02" W

USGS, USDA

88°4'0"W

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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
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- Coastal Transect
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- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
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NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR

*PANEL NOT PRINTED

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

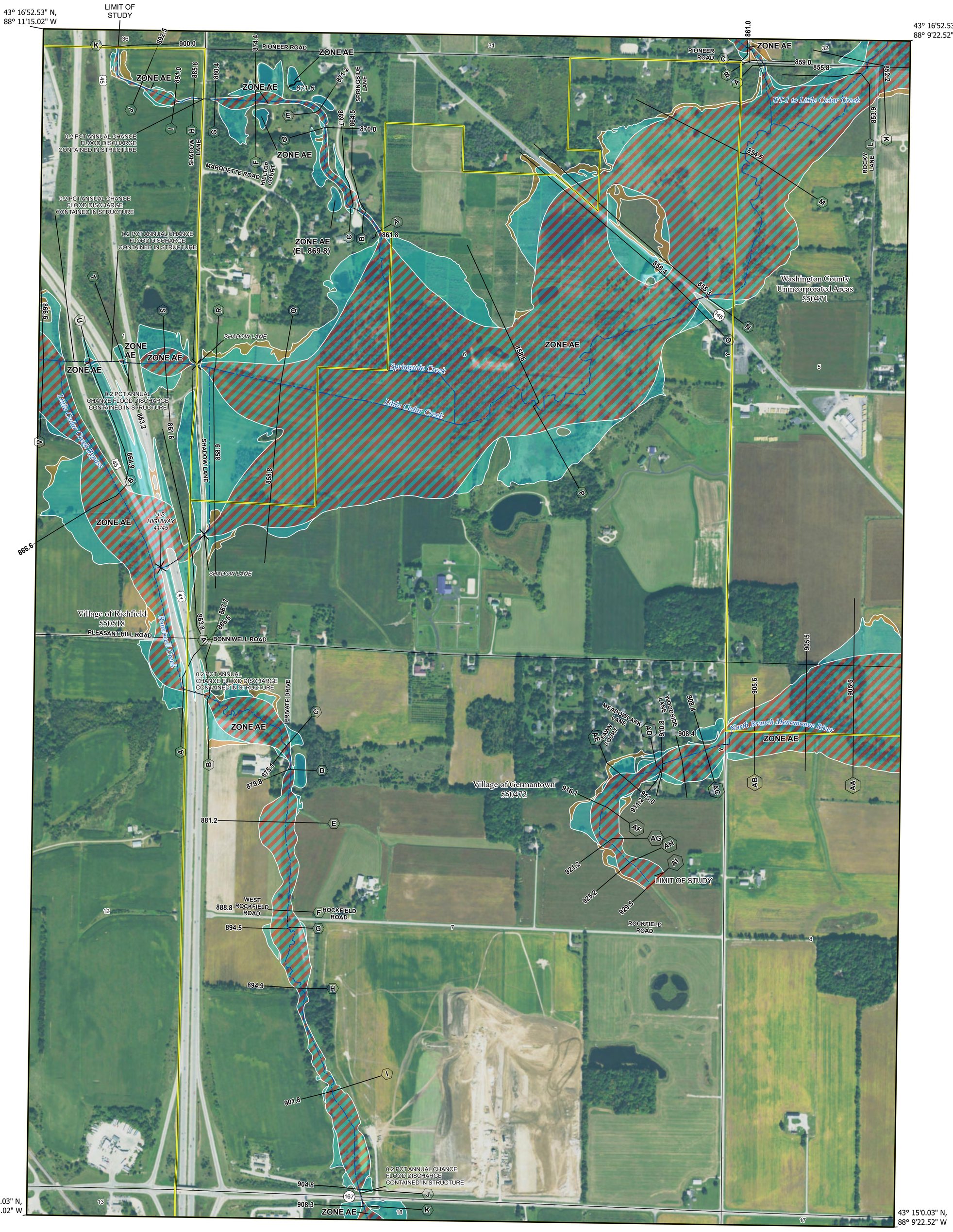
WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

FEMA

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
CITY OF MILWAUKEE	550278	0379	E
VILLAGE OF GERMANTOWN	550472	0379	E

MAP NUMBER
55131C0379E
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024



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- Coastal Transect
- Coastal Transect Baseline
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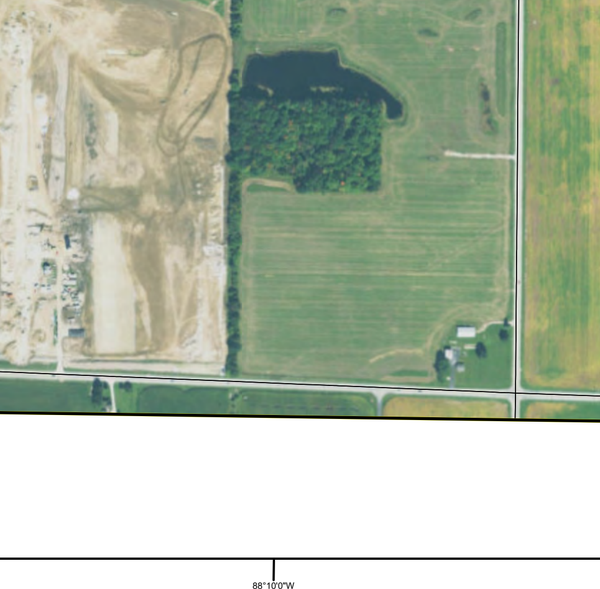
0 50 100 200 300 400 meters

Map Projection:
NAD 1983 HARN UTM Zone 16N
Vertical Datum: NAVD88

PANEL LOCATOR



NATIONAL FLOOD INSURANCE PROGRAM

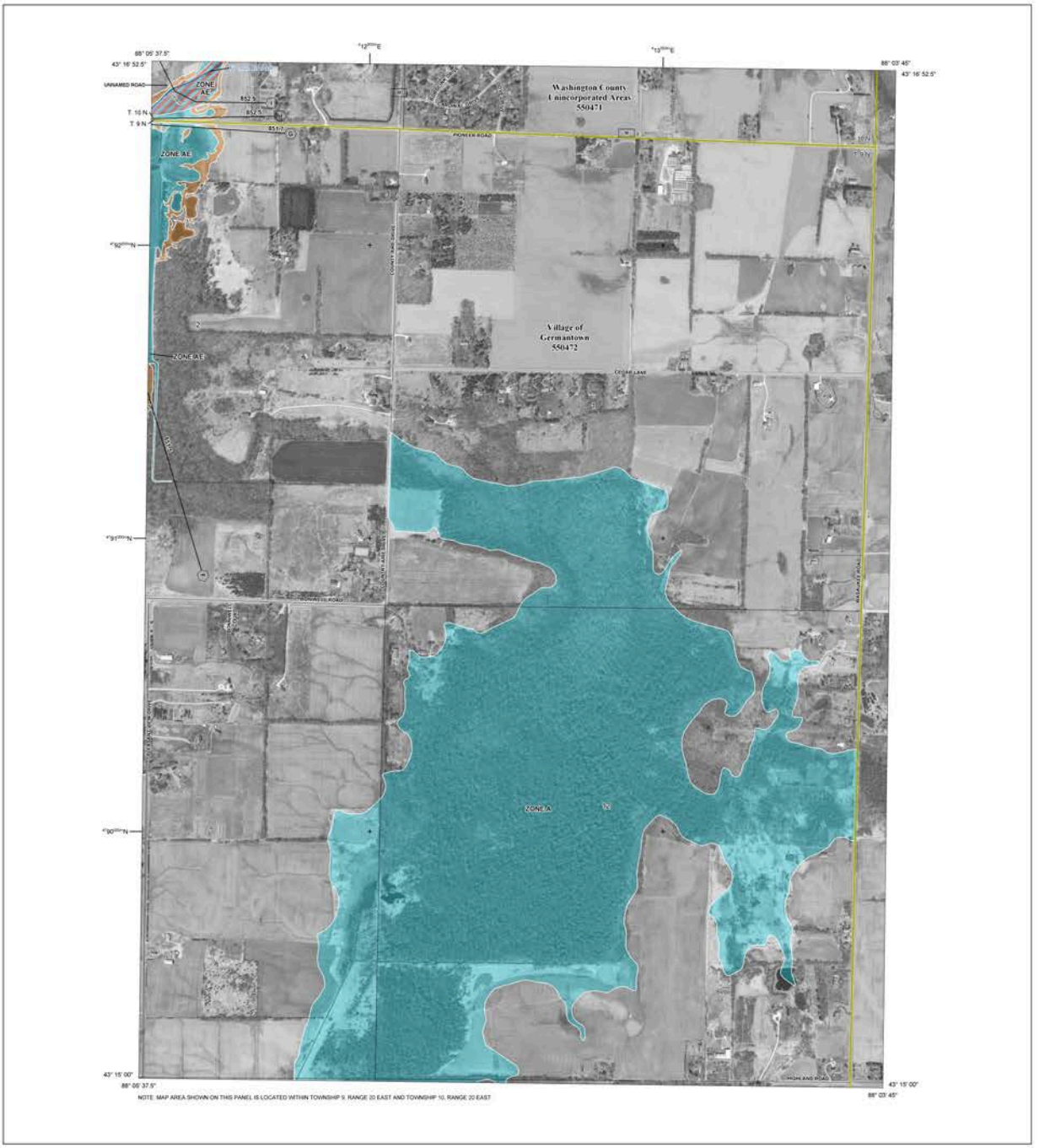
FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY WISCONSIN AND INCORPORATED AREAS

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
VILLAGE OF RICHFIELD	550518	0268	F
VILLAGE OF GERMANTOWN	550472	0268	F
WASHINGTON COUNTY UNINCORPORATED AREAS	550471	0268	F

MAP NUMBER
55131C0268F
EFFECTIVE DATE
Prelim Issue Date: 03/20/2024



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GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- Base Flood Elevation Line (BFE)
- Limit of Study
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For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided in digital format by the Wisconsin Regional Orthoimagery Consortium (WROC). This aerial photography was acquired in the Spring of 2015 to create 1":1000' scale digital orthophotos with 15 in. resolution.

SCALE

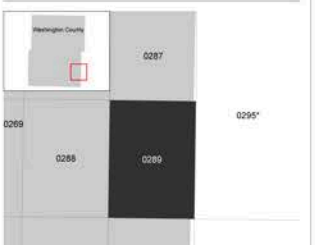
Map Projection:
NAD 1983 HARN UTM Zone 16N;
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet 1:6,000

0 500 1,000 2,000 Feet

0 125 250 500 Meters

PANEL LOCATOR



FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY, WISCONSIN
And Incorporated Areas

PANEL 289 OF 395

FEMA

Panel Contents

COMMUNITY	NUMBER	PANEL	SUFFIX
GERMANTOWN, VILLAGE OF	550472	0289	E
WASHINGTON COUNTY	550471	0289	E

VERSION NUMBER
2.5.3.0
MAP NUMBER
55131C0289E
EFFECTIVE DATE
JANUARY 20, 2022

SITE PLAN APPLICATION

12/08/25 Plan Commission Meeting

Dan Braatz / Burgers & Braatz Properties / Blackstone Creek, LLC

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

SUMMARY

Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District.

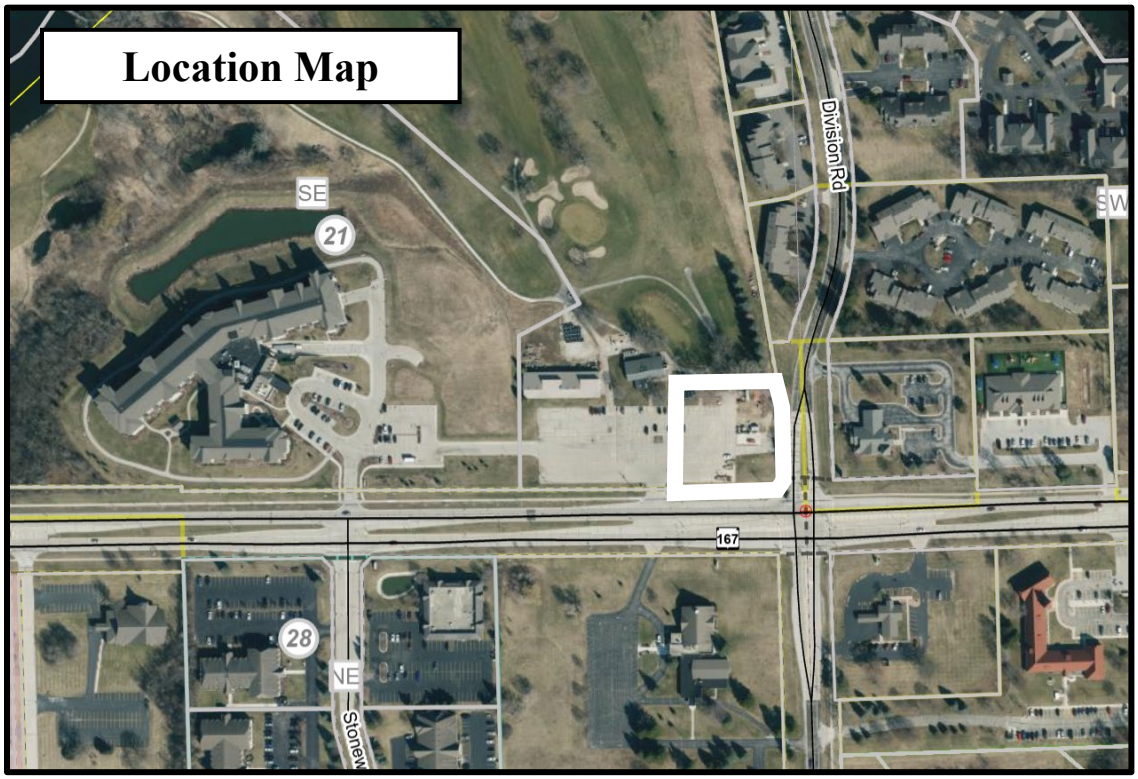
Location: N112 W17300 Mequon Road

Applicant/
Property Owner: Burgers & Braatz Properties, LLC
12455 Wrayburn Road
Elm Grove, WI 53122

Blackstone Creek, LLC
5150 N Port Wash. Road
Suite 115
Glendale, WI 53217

Zoning: B-1: Neighborhood Business District /
Planned Development District (PDD)

Adjacent Land Uses		Zoning
North	Recreational (Existing Golf Course)	PDD
South	Institutional (Church)	I
East	Commercial (Bank)	B-1
West	Residential (Fairway Knoll)	PDD



Background/Proposal

Recap/Update – 10/13/25 Plan Commission Meeting

This case was heard by the Plan Commission at its October 13 meeting. During the meeting most of the discussion pertained to the architecture of the building and the fact that the initial proposal did not meet the "Germanic Theme" character within the Mequon Road corridor. After Q&A with the applicant, the Plan Commission recommended the applicant to work with staff on the building design and submit revised renderings incorporating a pitched-roof (non-flat roof) and reducing the amount of metal materials used.

As this site plan application was also contingent on the Village passing a proposal to amend the Blackstone Creek Planned Development District (PDD) which was submitted at the same time, the Plan Commission decided to table/postpone the Culver's site plan review until the Village Board acted on the PDD amendment. While the Village Board initially denied the changes proposed to the PDD, the case was reconsidered and the Village Board recently decided to pass only those PDD changes that would allow the Culver's proposal to move on. For a full summary of the discussion, please refer to the meeting minutes from the 10/13 meeting that are attached.

Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District.

Culver's is proposing a new drive-through restaurant on property situated at the northwest corner of Mequon Road and Division Road. The restaurant is proposed on property slightly over an acre (1.27 acres) where the Blackstone Creek Golf Club currently sits. The restaurant is 4,403 square feet in size and will incorporate two (2) drive-through lanes and typical off-street parking areas to serve customers that opt to dine-in. This proposal was part of a larger redevelopment proposal of the Blackstone Creek golf course that included both multi-family residential and new commercial lots, with the subject lot being one of the commercial pads. To create the new lot for Culver's and allow a drive-through restaurant on the property, the golf course owner (Blackstone Creek, LLC) submitted an amendment to the existing Blackstone Creek Planned Development District (PDD) that governs uses at the subject location, and a Certified Survey Map (CSM) to create the new 1.27-acre parcel. While the Village Board did not grant approval for the multi-family residential component, the PDD amendment allowing the drive-through restaurant and CSM creating the lot have been approved.

Culver's is a Midwest based fast-casual restaurant chain. The company was founded in 1984 by George, Ruth, Craig, and Lea Culver. The first location opened in Sauk City, WI in 1984. The chain currently operates in 26 states totaling over 1,000 restaurants as of 2025. The applicant, Dan and Alicia Braatz, currently own and operate the Culver's of Menomonee Falls. Typical hours of operation for a Culver's are 10:00AM-10:00PM every day with a total of 50-60 employees, most being part-time. A link to the company website is provided here for more information (link).

Site Plan

As indicated in the applications and site/engineering plans, the proposed development includes a newly constructed building with double-lane (2 lanes) drive-through, drive-through passing lane and waiting stalls for customers, parking lot and landscaping improvements, lighting, dumpster enclosure, and business/wayfinding signage. More specifically the new Culver's site will include the following features:

- Building Plans
  - 4,403 sqft restaurant with 2-lane drive-through
  - Façade composed of EIFS and brick materials
  - Roof composed of shingles with aluminum cladding system (longboard)
  - Clear glazing windows around building
  - Drive-through and main entry "towers"
  - Building components to incorporate mainly gray, bronze, walnut, and blue trim to tie in with franchise colors
  - 29'2" maximum building height
- Parking Lot/Exterior Improvements
  - 60 total parking spaces
    - 49 standard spaces
    - 3 ADA spaces
    - 8 forward pickup spaces
  - Designated concrete patio and pedestrian connection path from Division Road to the restaurant
  - Dumpster enclosure
- Landscape Plan
  - New perimeter lot landscaping with trees, shrubs, and perennials
  - Interior lot landscaping including parking lot and island landscaping
- Storm Water Management Plan
  - Green Infrastructure (GI) provided beneath west side of proposed parking lot and sumped catch basin to be installed to treat runoff

Parking, Access, and Traffic Circulation

Two (2) main access points are proposed to accommodate the new restaurant development. A north driveway is proposed as a full access driveway to Division Road, directly across from the existing bank (Bank Five Nine) access driveway, which is located at the northeastern corner of Mequon Road and Division Road. A second full access driveway is proposed along Mequon Road near the center of the property, approximately 260-feet west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

A Traffic Impact Analysis (TIA) supplementing the application was submitted and is attached. Note that the TIA includes modifications to address "full build traffic", meaning the study considered the entire Blackstone Creek redevelopment proposal including the residential and commercial components, in addition to other off-site development. The recommended modifications are listed below:

- Mequon Road intersection with Blackstone Creek Driveway
  - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway

- Mequon Road intersection with Division Road
  - Using pavement marking, restripe the northbound left-turn lane to a length of 125 feet (this requires an extension of 50 feet)
- Division Road intersection with Bank Driveway/North Driveway
  - Provide a full access driveway on the west approach
  - Provide stop control on the west approach
- North Driveway Intersection with Residential Driveway
  - Construct internal roadways as shown on the site plan
  - Provide stop control on the north and south approaches

Storm Water Management Plan

Included in the submittals is a Storm Water Management Plan (SWMP). As noted in the plan, the author states the existing site is located on a portion of the former Blackstone Creek golf course and is currently developed with an existing parking lot, golf cart paths, and a foundation from a former building that was recently removed. The proposed development will disturb approximately 1.28 acres of area and will result in a net increase in impervious surface by approximately 0.15 acres. Per SWMP, Green infrastructure for the development will be provided by an ADS isolator row (IR) system beneath the west side of the proposed parking lot. Additionally, one sumped catch basin will be installed to treat runoff from the drive-through area on the southeast portion of the site. Please refer to the plan for details on proposed land cover, grading, drainage boundaries, and stormwater management improvements.

Utilities

Sanitary and water utilities will serve the new development. Each utility will be provided/connected within an easement from Mequon Road.

Landscaping and Buffering

New perimeter lot landscaping with trees, shrubs, and perennials is proposed per the landscape plan submitted. Interior lot landscaping is also proposed around parking lot areas and parking islands. The landscape plan shows existing vegetation to be removed, primarily along Division Road, to accommodate the new landscape plantings. Note that the applicant requested a reduction of the landscape "greenbelt" (i.e. buffer) requirement of 15 feet width between parking areas and property lines in certain locations around the property. This reduction request was approved by the Village Board as part of the Blackstone Creek Planned Development District (PDD) amendment application.

Lighting

A photometric lighting plan was submitted and is included in the packet. The site will include the following key lighting components:

- (9) light poles at a height of 25 feet providing LED lighting throughout the vehicular circulation areas and exterior parking lot areas
- (68) building mount LED light fixtures for illumination around immediate building area

Signage

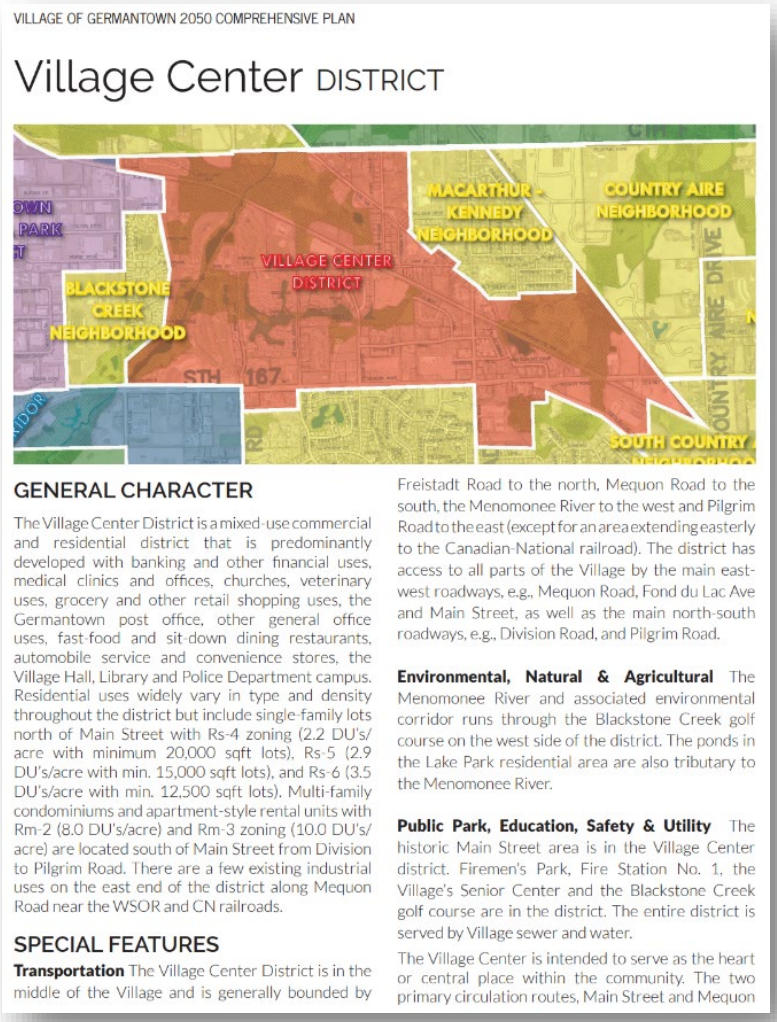
While building signage and wayfinding signage is proposed, no formal sign review application was submitted. Prior to installation of any signage, the applicant will be required to submit a formal sign permit application showing sign specifications,

materials, location, and quantities. The sign permit will be subject to review and approval by the Plan Commission at a later date.

Staff Comments

Community Development: Planning and Zoning

The project site is in the "Village Center District" under the Village's 2050 Comprehensive Plan and is currently zoned B-1: Neighborhood Business District as part of the overall Blackstone Creek Planned Development District (PDD). The Village Center District is a mixed-use commercial and residential district that is predominantly developed with banking and other financial uses, medical clinics and offices, churches, veterinary uses, grocery and other retail shopping uses, the Germantown post office, other general office uses, fast-food and sit-down dining restaurants, automobile service and convenience stores, the Village Hall, Library, and Police Department campus. The Village Center District is intended to continue as a mixed-use commercial and residential district but reinvigorated with more placed-based, pedestrian-friendly design elements. Additionally, the B-1 District is intended to provide for individual or small groups of retail and customer service retail establishments in a "shopping center" setting. This type of district is generally separated from the traditional "central business district," but near residential development and includes such amenities as increased open space and ample off-street parking and loading areas and architectural or landscape screening from adjacent nonbusiness uses, making such retail centers more compatible with the character of adjacent residential districts.



VILLAGE OF GERMANTOWN 2050 COMPREHENSIVE PLAN

Village Center DISTRICT

GENERAL CHARACTER

The Village Center District is a mixed-use commercial and residential district that is predominantly developed with banking and other financial uses, medical clinics and offices, churches, veterinary uses, grocery and other retail shopping uses, the Germantown post office, other general office uses, fast-food and sit-down dining restaurants, automobile service and convenience stores, the Village Hall, Library and Police Department campus. Residential uses widely vary in type and density throughout the district but include single-family lots north of Main Street with Rs-4 zoning (2.2 DU's/acre with minimum 20,000 sqft lots), Rs-5 (2.9 DU's/acre with min. 15,000 sqft lots), and Rs-6 (3.5 DU's/acre with min. 12,500 sqft lots). Multi-family condominiums and apartment-style rental units with Rm-2 (8.0 DU's/acre) and Rm-3 zoning (10.0 DU's/acre) are located south of Main Street from Division to Pilgrim Road. There are a few existing industrial uses on the east end of the district along Mequon Road near the WSOR and CN railroads.

SPECIAL FEATURES

Transportation The Village Center District is in the middle of the Village and is generally bounded by Freistadt Road to the north, Mequon Road to the south, the Menomonee River to the west and Pilgrim Road to the east (except for an area extending easterly to the Canadian National railroad). The district has access to all parts of the Village by the main east-west roadways, e.g., Mequon Road, Fond du Lac Ave and Main Street, as well as the main north-south roadways, e.g., Division Road, and Pilgrim Road.

Environmental, Natural & Agricultural The Menomonee River and associated environmental corridor runs through the Blackstone Creek golf course on the west side of the district. The ponds in the Lake Park residential area are also tributary to the Menomonee River.

Public Park, Education, Safety & Utility The historic Main Street area is in the Village Center district. Firemen's Park, Fire Station No. 1, the Village's Senior Center and the Blackstone Creek golf course are in the district. The entire district is served by Village sewer and water.

The Village Center is intended to serve as the heart or central place within the community. The two primary circulation routes, Main Street and Mequon

The proposed Culver's restaurant meets the intent of the Village Center District. The Village Center District specifies that multi-family residential, commercial, and mixed-use commercial/residential uses are "desirable" in the district. While it's arguable whether the Culver's restaurant with a 2-lane drive-through meets the intent of the B-1 District described above, the proposed use is allowed at the subject location based on recent

Village Board approval of the Blackstone Creek Planned Development District (PDD) amendment to allow a restaurant with drive-through facilities within the specific district.

Figure 1: Culver's Architectural Building Elevation

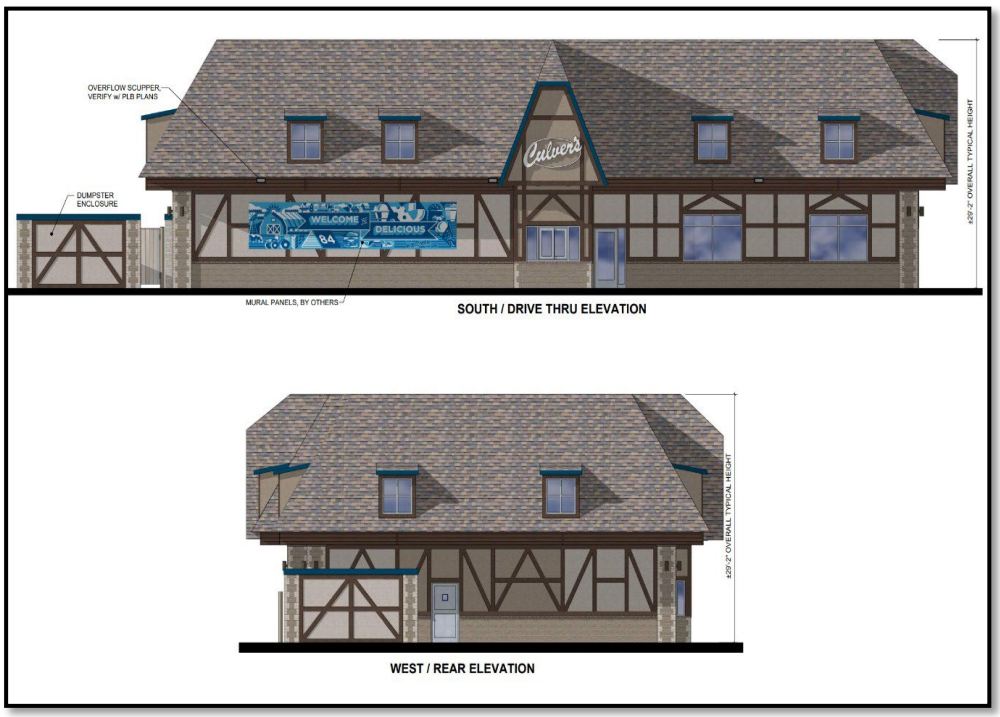


Figure 2: Culver's Architectural Building Elevation

In regards to the architecture and materials of the building, the applicant has worked with staff following the initial Plan Commission meeting and revised the architectural building elevations to be consistent with the Village's "Germanic Theme" corridor visible along Mequon Road. Based on the revised renderings (shown above), staff finds the architecture to be satisfactory as it has addressed the points made by the Plan Commission during the initial meeting. The applicant changed the roof to a pitched roof and eliminated a significant amount of the metal materials originally incorporated in the

design. The building, as proposed, is consistent with the "Germanic Theme" corridor. A condition has been added to ensure the dumpster enclosure is constructed with the same brick/stone as the building and have the same/similar architectural design.

As was discussed as part of the Blackstone Creek PDD amendment proposal, the relative location and connectivity of the internal pathways both through the Blackstone Creek area and to Mequon Road and Division Road will become critical if the remaining area of the golf course is redeveloped at some point in the future. While the detailed site development plan for the Culver's site has been developed with new sidewalk along Division Road connecting to Mequon Road and into the Culver's site, there is no planned pathway or sidewalk connection shown from the Culver's site to Mequon Road along the main driveway to Mequon Road or to/from the prospective residential area or to/from the other prospective retail site to the west. An overall pedestrian pathway or sidewalk plan connecting these areas should be prepared (or ideally incorporated into the GDP) and eventually constructed either all at once or incrementally as the residential area and commercial sites are developed. At a minimum, the Culver's site development plan needs to be revised to incorporate pathway or sidewalk connection to/from Mequon Road, the commercial site to the west, and to the residential area to the north (in addition to the sidewalk proposed along Division Road).

Finally, upon further review with the Public Works Department and Village Engineer, the proximity of the 20' wide sanitary and watermain easement on the north side of and abutting the Mequon Road right-of-way prohibits the installation of any significant signage or gateway structure(s) in the southeast corner of the parcel.

Community Development: Inspection Services
State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of Wisconsin and the Village of Germantown.

Public Works/Village Engineer
The Village Engineer has identified several 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 applications subject to all outstanding items and issues identified in the following review memo being resolved and reflected in additional information and/or revised plan submitted to staff for further review, comment, and approval prior to commencing any site construction:

- August 27, 2025 – Review Memo from Village Engineer

Village Forester
The Village Forester has reviewed the submitted landscape plan and confirms it meets the requirements of the Village. The tree/shrub species (short stature) selected along Mequon Road are appropriate for the site and will not cause future interference with the overhead utility. The small size of these trees/shrubs should not interfere with the existing sanitary/watermain that parallels Mequon Road.

Fire and Police Departments
No Comments.

VILLAGE STAFF RECOMMENDATION

APPROVE the site development and building plans as submitted, the following list of conditions are recommended by staff to be incorporated into the motion:

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 October 30, 2025.
    b. *Landscape plan* dated October 1, 2025.
    c. *Photometric lighting plan* dated October 3, 2025.
    d. *Architectural rendering set* dated October 30, 2025.

    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 Landscape Plan shall be subject to final acceptance by the Village Forester and Community Development staff prior to commencement of construction activities.
3. The dumpster enclosure shall be constructed with the same brick/stone as the building and have the same/similar architectural design.
4. Applicant shall modify the west elevation of the building to add a larger façade feature, similar to the east elevation, to complete a four-sided architecture look.
5. The technical issues and plan revisions identified in the August 27, 2025, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities (excluding site demolition, early start site preparation, and footing & foundation installation).
6. Applicant shall revise the Culver's site development plan to incorporate pathway or sidewalk connection to/from Mequon Road, the prospective commercial site to the west, and to the prospective residential area to the north (in addition to the sidewalk proposed along Division Road).
7. Approval of the Site Plan application is subject to final approval/acceptance of the submitted Traffic Impact Analysis and any recommendations/modifications contained therein, by the Village Engineer.
8. Driveway entrances shown on the site development plan but not technically on the subject parcel shall be constructed pursuant to this site development plan submittal and be constructed as part of site plan implementation.
9. State agency (DSPS) approved plans and a $20,000 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.
10. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations and requires a permit if/when allowed. New signage shall be subject to review and approval by the Plan Commission.

The proposed "mural" signage shall not be allowed unless the proper temporary and/or permanent sign permit(s) is granted by the Village.

11. 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).

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 Fee Department Plan Review

PAID [signature] DATE 07/07/25 CHK # 1768

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

Dan Braatz
Burgess & Braatz Properties, LLC
12455 Wrayburn Rd.
Elm Grove, WI 53122

Phone (262) 510-8057
E-Mail danbraatz23c.yahoo.com

Future PROPERTY OWNER

Dan Braatz
Burgess & Braatz Properties, LLC
12455 Wrayburn Rd.
Elm Grove, WI 53122

Phone (262) 510-8057
E-Mail danbraatz23@yahoo.com

2 PROPERTY ADDRESS

GTNV_211979

1 acre portion of real estate parcel with Current Address: N112 W17300 Megnan Rd. Germantown, WI 53022
-South east corner of property-

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
TBD	Church	Bank	TBD

4 READ AND INITIAL THE FOLLOWING:

DP I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

DP I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

DP 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.

RECEIVED JUL 07 2025 OFFICE OF THE PLANNER VILLAGE OF GERMANTOWN

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

[signature] 7/7/25
Applicant Date

[signature] 7/7/25
Owner Date

WELCOME TO DELICIOUS®

Culver's is a Midwest based fast-casual restaurant chain. The company was founded in 1984 by George, Ruth, Craig and Lea Culver. The first locaion opened in Sauk City, WI on July 18th, 1984. The chain currently operates in 26 states totaling over 1,000 restaurants as of July 2025.

Culver's menu includes ButterBurgers, chicken sandwiches, chicken tenders, fish, salads, soups, french fries, onion rings and cheese curds. Dessert menu includes fresh, frozen custard, shakes, malts and other seasonal items.

Culver's standard hours of operation are 10:00AM to 10:00PM, every day of the week. Restaurants are typically closed on Easter Sunday, Thanksgiving Day and Christmas Day. Seasonal hours may include 10:00AM to 11:00PM over the summer months. Culver's operates a dining room, drive through window service, curbside order delivery as well as off site delivery utilizing third party vendors. An average Culver's location has 50-60 Team Members, with most being part-time.

This proposed location will be owned and operated by Dan and Alicia Braatz. They have been working with Culver's in many different roles since 1998. They began as teenagers in a local Culver's restaurant, grew into overall operations around 2004 and became franchisees in 2012. They currently own and operate the Culver's of Menomonee Falls, WI.

The proposed site layout is for a newly divided property at the corner of Mequon Road and Division Road. The restaurant site is approximately 1 acre with access to Mequon Road on the south border and Division Road on the east border of the property. It is drawn with 52 parking spaces as well as additional drive through parking stalls after the vehicle leaves the service window.

Project goal is for construction to begin after final approval and permitting processes have been completed. Estimated time for completion will vary based on material availability and weather, but the average Culver's restaurant construction timeline is approximately six months from ground break to opening for business.

Partners working on this site plan are Trio Engineering, Ollmann Ernest Martin Architects, Springfield Sign and Campbell Construction.

Culver's Menomonee Falls
Braatz13, LLC
W186N9581 Bancroft Dr
Menomonee Falls, WI 53051
(262)225-7718
culvers.com

Culver's

CULVER'S - GERMANTOWN, WI

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 STANDARDS AND SPECIFICATIONS.

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.

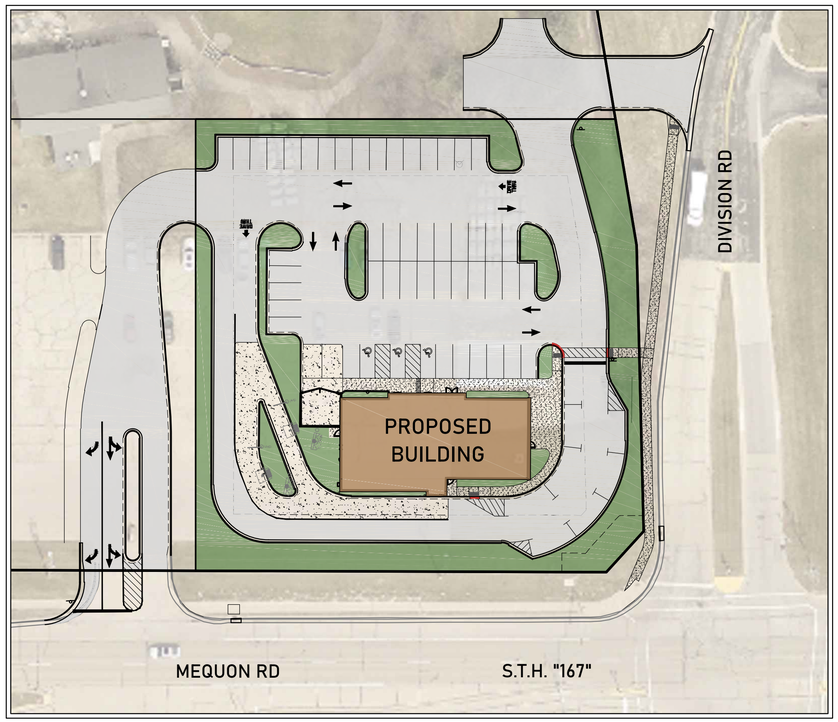
9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.

10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.

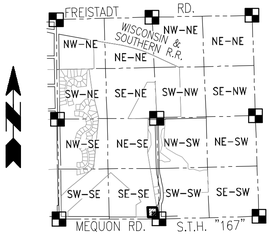
11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS BY SWEEPING BEFORE THE END OF THE WORKING DAY OR AS REQUIRED BY THE VILLAGE OF GERMANTOWN.

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.

LOCATION MAP
NOT TO SCALE



SITE PLAN
SCALE: 1" = 40'



LOCALITY MAP
SCALE: 1" = 2000'

DEVELOPER:
BURGERS & BRAATZ PROPERTIES, LLC.
12455 WRAYBURN RD.
ELM GROVE, WI 53122
PHONE: 262-510-8057

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUND ROAD, SUITE 300
BROOKFIELD, WISCONSIN 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481

SHEET INDEX

CIVIL		
T1	-	COVER SHEET
C1.0	-	EXISTING SITE PLAN
C1.1	-	PROPOSED SITE PLAN
C2.0	-	GRADING & DRAINAGE PLAN
C2.1	-	STORMWATER FACILITY DETAILS
C3.0	-	EROSION CONTROL PLAN
C4.0	-	UTILITY PLAN
C5.0	-	CONSTRUCTION DETAILS
C5.1	-	ADS DETAILS & SPECIFICATIONS

WISCONSIN MATTHEW A. MATTHEWS E-41533 OCONOMOWOC WI PROFESSIONAL ENGINEER

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PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION
10/30/2025	PC Submittal

DATE:
OCTOBER 30, 2025

JOB NUMBER:
25-28-1265

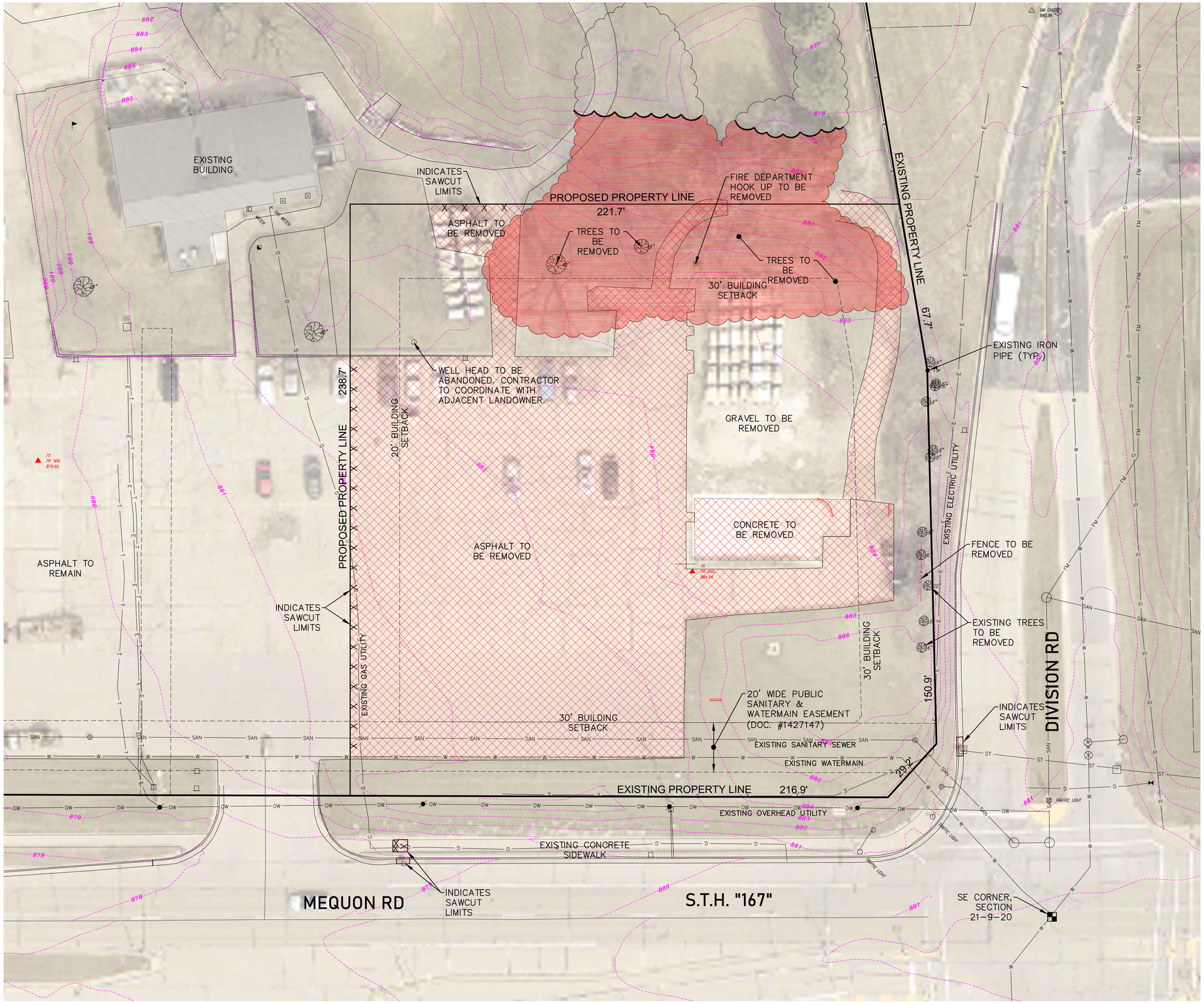
DESCRIPTION:
COVER SHEET

SHEET
T1

X:\2025\25-28-1265 CULVERS-GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

LEGEND:

- 850 - EXISTING CONTOUR
- SAN - EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- W - EXISTING WATER MAIN
- EXISTING HYDRANT
- ST - EXISTING STORM SEWER
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING TRANSFORMER
- EXISTING ELECTRIC PEDESTAL
- EXISTING TELEPHONE PEDESTAL
- EXISTING CATV PEDESTAL
- EXISTING POWER POLE



0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

811 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. KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
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WISCONSIN MATTHEW A. HAGEN E-41533 OCONOMOWOC WI PROFESSIONAL ENGINEER

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EMAIL: jpudelko@trioeng.com

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DESCRIPTION:
EXISTING SITE PLAN

SHEET
C1.0

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS\CIVIL PLAN SET_22X34.DWG
CIVIL PLAN SET_22X34.DWG

SITE DATA

ZONING:	PDD-27 (Blackstone Creek District)
BASE ZONING:	RD-2 & B-1 (One-Family/Two-Family Resident & Neighborhood Business)

SETBACKS:

FRONT YARD:	30 FEET
SIDE YARD:	20 FEET

PROPOSED LOT AREA DATA:

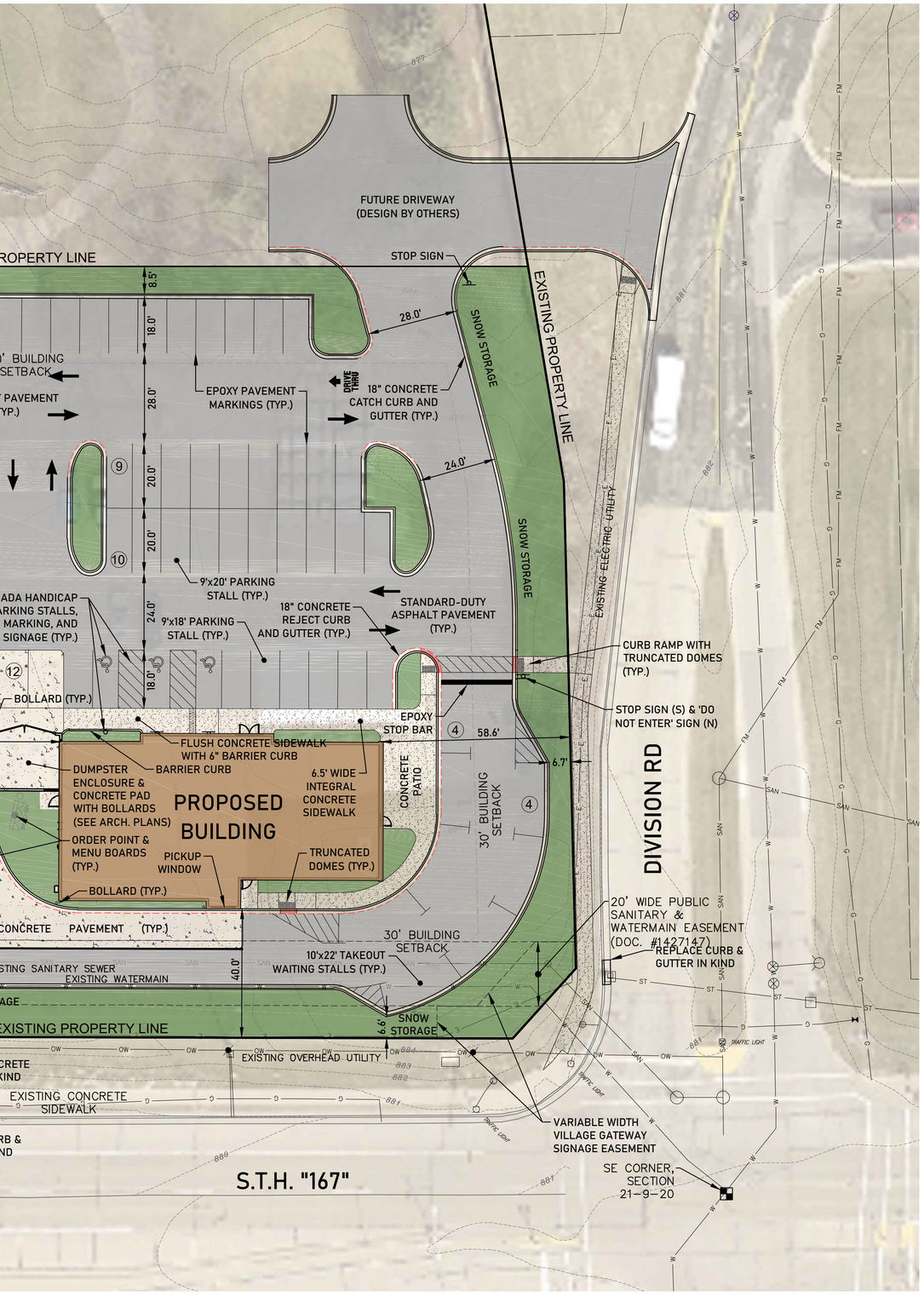
TOTAL LOT AREA:	55,432 S.F. (1.27 Acres)
LOT COVERAGE PERMITTED:	75.0% of Lot
LOT COVERAGE PROVIDED:	74.9% of Lot
BUILDING AREA:	4,403 S.F. (0.10 Acres) 8.0% of Lot
PAVEMENT AREA:	37,102 S.F. (0.85 Acres) 66.9% of Lot
OPEN SPACE AREA:	13,927 S.F. (0.32 Acres) 25.1% of Lot

~12 Concurrent Employees (at any given time)

PARKING DATA:

REQUIRED PARKING SPACES:	36 SPACES
(1 SPACE/150 SF FLOOR + 1 SPACE/2 EMPLOYEES)	
PROPOSED PARKING SPACES:	
STANDARD SPACES:	49 SPACES
HANDICAP SPACES:	3 SPACES
FORWARD PICKUP SPACES:	8 SPACES
TOTAL SPACES:	60 SPACES

PAVEMENT NOTE:
UNLESS OTHERWISE SPECIFIED, ALL PARKING STALLS SHALL BE STANDARD DUTY PAVEMENT AND ALL DRIVE AISLES SHALL BE HEAVY DUTY PAVEMENT



N

0 10 20 40

SCALE: 1" = 20' (22"X34")
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LEGEND:

- SAN – EXISTING SANITARY SEWER
- – EXISTING SANITARY MANHOLE
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- – EXISTING CATV PEDESTAL
- – EXISTING POWER POLE
- – PROPOSED SANITARY SEWER
- – PROPOSED SANITARY MANHOLE
- – PROPOSED WATER MAIN
- – PROPOSED HYDRANT
- – PROPOSED WATER VALVE
- – PROPOSED STORM SEWER
- – PROPOSED STORM MANHOLE
- – PROPOSED STORM INLET
- – PROPOSED STORM END SECTION
- – PROPOSED REJECT CURB & GUTTER

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X:\2025\25-28-1265 CULVERS - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

WISCONSIN MATTHEW A. MAUDEN E-41533 OCONOMOWOC WI PROFESSIONAL ENGINEER

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DESCRIPTION:
PROPOSED SITE PLAN

SHEET
C1.1

GRADING PLAN NOTES:

1. IN ALL LOCATIONS WHERE ELEVATIONS ARE SHOWN AS ±, THE ELEVATION HAS BEEN DETERMINED USING INTERPOLATED EXISTING SURVEY GRADES. CONTRACTOR SHALL VERIFY ALL EXISTING MATCH GRADES PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS WITHIN THE PROXIMITY OF THESE INTERPOLATED GRADES. IF DISCREPANCIES ARE PRESENT CONTRACTOR SHALL REPORT THEM TO THE DESIGN ENGINEER FOR VERIFICATION OF PROPOSED SLOPES PRIOR TO INSTALLATION OF PROPOSED IMPROVEMENTS. DESIGN ENGINEER IS NOT RESPONSIBLE FOR SLOPES OF PROPOSED IMPROVEMENTS BASED ON THESE ± GRADES WITHOUT CONFIRMATION OF EXISTING ELEVATIONS AT TIME OF CONSTRUCTION.
2. OVERALL SITE MUST BE GRADED TO WITHIN 4" OF FINAL GRADE PRIOR TO THE ELECTRICAL INSTALLATION.

"AMERICANS WITH DISABILITIES ACT" (ADA) MINIMAL REQUIRMENTS:

1. GENERAL CONTRACTOR TO BECOME FAMILIAR WITH AND APPLY THE ADA MINIMAL REQUIREMENTS AND REPORT TO ENGINEER ANY DISCREPANCIES BEFORE CONSTRUCTION.
2. THE MINIMUM CLEAR WIDTH OF AN ACCESSIBLE ROUTE PER CODE IS 36".
3. ALL PROPOSED SIDEWALKS SHALL HAVE A MAXIMUM OF 2.0% CROSS SLOPE AND A MAXIMUM OF 5.0% RUNNING SLOPE.
4. THE GENERAL CONTRACTOR/CONTRACTOR SHALL MEASURE THE SUBGRADE AND ACROSS FORMS PRIOR TO INSTALLATION OF ASPHALT OR CONCRETE IMPROVEMENTS TO ASSURE THE FINAL IMPROVEMENTS WILL MEET THESE MINIMAL ADA REQUIREMENTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE CIVIL ENGINEER PRIOR TO INSTALLATION OF THE IMPROVEMENTS.

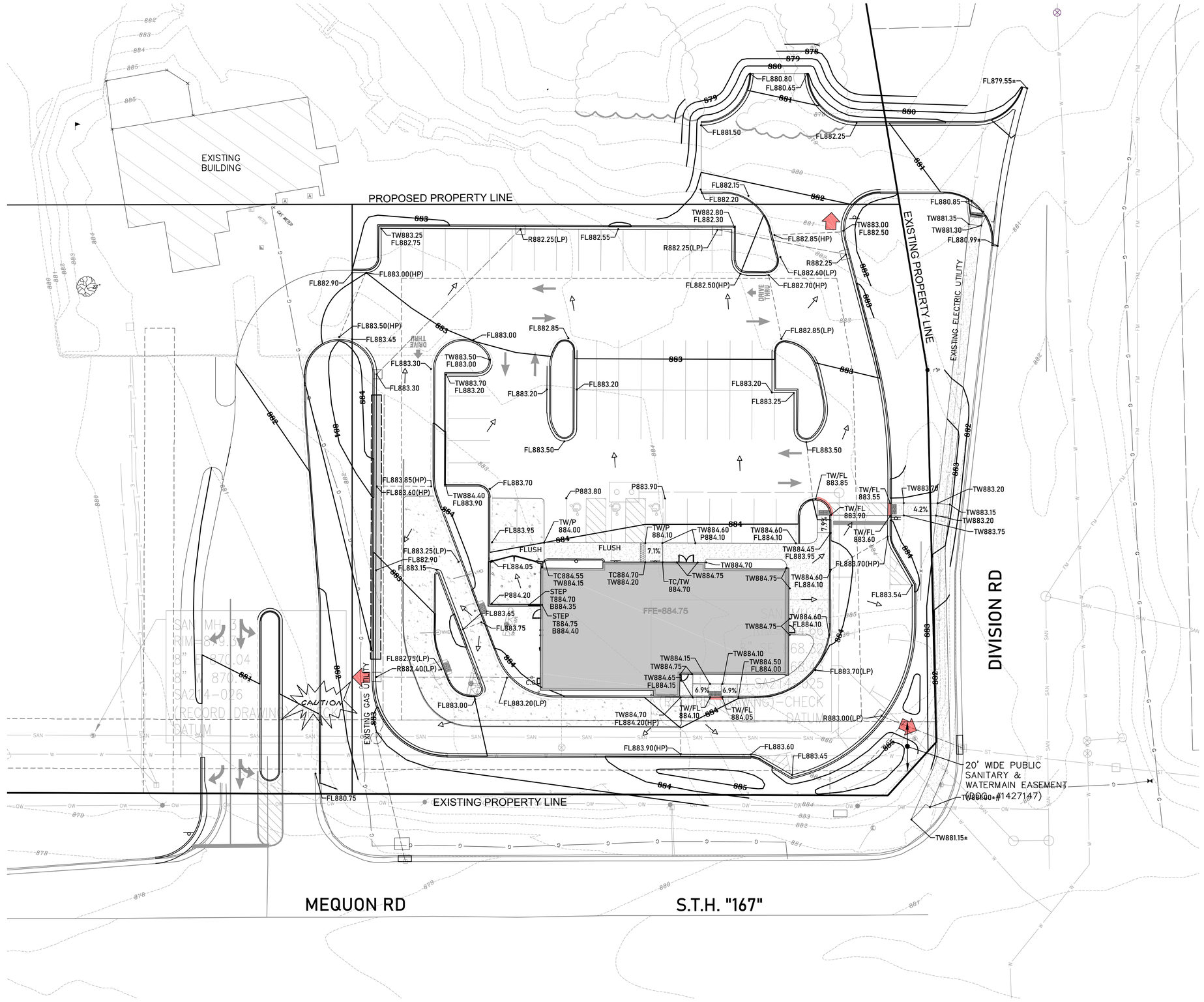
RAMPS

5. AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 1:20 (5.00%) IS A RAMP AND SHALL COMPLY WITH THE RAMP REQUIREMENTS.
6. AN ACCESSIBLE ROUTE MAY CROSS OPEN PAVEMENT OR FOLLOW A RAMP AS REQUIRED BY SITE-SPECIFIC CONDITIONS. THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE ACROSS OPEN PAVEMENT MUST NOT EXCEED 1:20 (5.00%), WITH A CROSS SLOPE NOT EXCEEDING 1:50 (2.00%). SLOPES EXCEEDING 1:20 (5.00%), BUT LESS THAN 1:12 (8.33%), CONSTITUTE RAMPS AND MUST CONFORM TO THE REQUIREMENTS FOR RAMP DESIGN (HANDRAILS, CURBS, LANDINGS, RISE AND RUN LIMITS, ETC.) AS DETAILED ON THE CIVIL AND ARCHITECTURAL PLANS. NO RAMP SHALL HAVE A RUNNING SLOPE EXCEEDING 1:12 (8.33%), NOR HAVE A CROSS SLOPE EXCEEDING 1:50 (2.00%).

CURB RAMPS

7. A CURB RAMP SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES A CURB.
8. CURB RAMPS HAVE A MAXIMUM RISE OF 6", MAXIMUM SLOPE OF 1:12 (8.33%) AND DO NOT REQUIRE HANDRAILS.
9. IF A CURB RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS, OR GUARDRAILS, IT SHALL HAVE FLARED SIDES; THE MAXIMUM SLOPE OF THE FLARE SHALL BE 1:10 (10.00%).

SPOT ELEVATION LABEL KEY:
TW = TOP OF WALK
FL = FLOW LINE
BC = BACK OF CURB
R = RIM
P = PAVEMENT
HP = HIGH POINT
LP = LOW POINT



SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

LEGEND:

- 850 - EXISTING CONTOUR
- 785 - PROPOSED CONTOUR
- P871.20 - PROPOSED SPOT ELEVATION
- PROPOSED FLOW ARROW
- PROPOSED SPLIT POINT
- FFE 842.0 - FINISHED FLOOR ELEVATION
- PROPOSED OVERLAND FLOW ROUTE

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WISCONSIN
MATTHEW A. JAUCH
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PROJECT:
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NWC OF MEQUON ROAD AND DIVISION ROAD
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JOB NUMBER:
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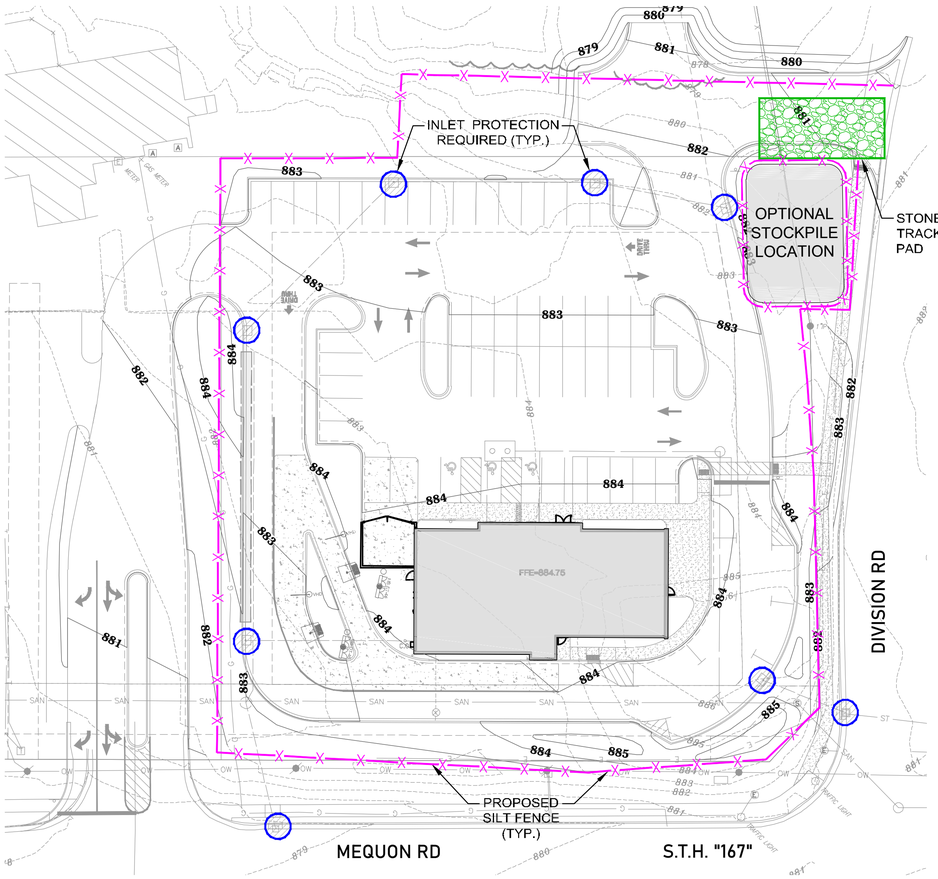
DESCRIPTION:
GRADING & DRAINAGE PLAN

SHEET
C2.0



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LEGEND:

- 850 - EXISTING CONTOUR
- 850 - PROPOSED CONTOUR
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED TRACKING PAD

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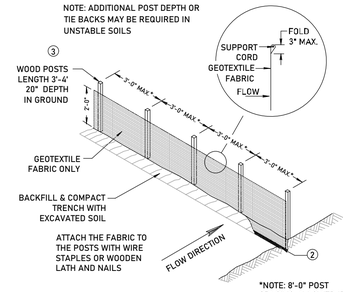
TEMPORARY DEWATERING GEOTEXTILE BAG

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDNR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LINQ, INC 275EX GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 70GPM

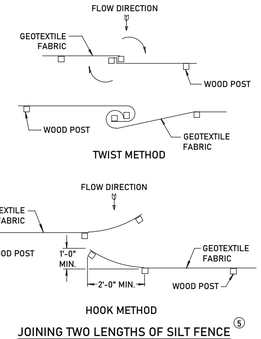
Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz

LATE SEASON STABILIZATION NOTES:
THE OBJECTIVE IS TO STABILIZE THE SITE WITH 70% VEGETATIVE COVERAGE OF ALL PERVIOUS DISTURBED AREAS BEFORE THE END OF THE GROWING SEASON. THIS WILL BE DONE BY SEEDING OF ALL DISTURBED AREAS WITH PERMANENT VEGETATION BY SEPTEMBER 15, 2022. IF THIS DEADLINE IS MISSED, THEN STABILIZATION WILL BE COMPLETED BY:

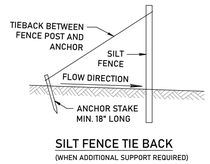
1. SEEDING OF ALL DISTURBED AREAS WITH TEMPORARY SEED MIX (OATS, WINTER WHEAT, ANNUAL RYE) BY OCTOBER 15. PERMANENT SEED MIX MUST THEN BE IMPLEMENTED BY JUNE 1 OF THE FOLLOWING YEAR.
2. IF THE OCTOBER 15 DEADLINE IS MISSED, COVERAGE OF ALL DISTURBED AREAS BY NOVEMBER 1 WITH:
   a. TOPSOIL, SEED, AND THE MATERIAL CALLED FOR ON THIS PLAN, WHERE TOPSOIL, SEED, AND EROSION CONTROL MATTING IS CALLED FOR.
   b. TOPSOIL, SEED, AND TYPE A SOIL STABILIZER FROM THE WDOT PRODUCT ACCEPTABILITY LIST OR OTHER METHOD APPROVED BY THE CITY ENGINEER FOR ALL AREAS WHERE SEED, TOPSOIL, AND MULCH IS CALLED FOR ON THIS PLAN.
3. IF THE NOVEMBER 1 DEADLINE HAS BEEN MISSED, AND THE CITY ENGINEER HAS DETERMINED THAT IT IS INFEASIBLE TO PLACE TOPSOIL, THE PERMIT APPLICANT SHALL:
   a. APPLY TYPE A SOIL STABILIZER FROM THE WDOT PRODUCT ACCEPTABILITY LIST TO ALL DISTURBED AREAS.
   b. INSTALL DITCH CHECKS IN ALL DITCHES WITH SLOPE GREATER THAN 0.5% AT INTERVALS SUCH THAT THE TOP OF THE DOWNHILL DITCH CHECK IS AT THE ELEVATION OF THE FOOT OF THE UPHILL DITCH CHECK. DITCH CHECKS SHALL BE EITHER:
      i. TRIANGULAR FOAM-CORE
      ii. STONE INSTALLED PER THE WDNR TECHNICAL STANDARD
      iii. COMPOST-FILLED TUBES, OR
      iv. A COMPARABLE PRODUCT AS APPROVED BY THE CITY ENGINEER.



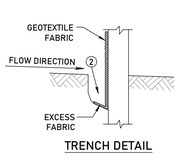
SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL

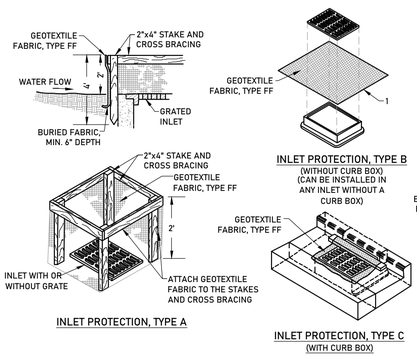
GENERAL NOTES

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.



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.

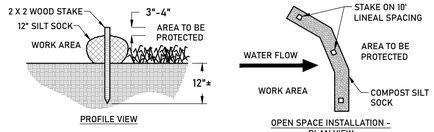
TYPE D
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

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

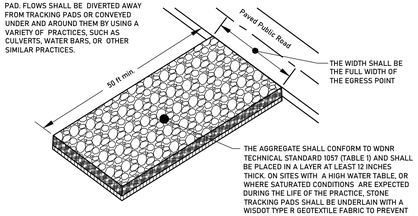


NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS
2. REFER TO MANUFACTURERS AND/OR SUPPLIERS SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
3. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.
4. INSTALL EVERY 200' OR 2' GRADE DROP IN SWALES.

STRAW WATTLE DITCH CHECK DETAIL

NO SCALE

NOTE:
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS, OR OTHER SIMILAR PRACTICES.



CONSTRUCTION ENTRANCE DETAIL

NO SCALE

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
2. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
3. IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
4. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

A. DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH CONSTRUCTION SITE.
B. PROTECT DOWNSTREAM/ADJACENT WATERWAYS/WETLANDS WITH SILT FENCE.
C. DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
D. PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
E. MAINTAIN EXISTING SEDIMENT BASIN AS DICTATED BY SITE CONDITIONS.
F. PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
G. PROMPT REMOVAL OF EXCAVATED MATERIAL.
H. PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
I. CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
J. PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
K. TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
L. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.

5. TEMPORARY EROSION CONTROL MEASURES.

A. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
B. IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.

6. ALL DISTURBANCE AREAS THAT REMAIN INACTIVE FOR SEVEN DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING.
7. TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
8. INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
9. ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
10. EROSION CONTROL INSPECTION AND MAINTENANCE

A. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
B. REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.

11. ALL AREAS TO BE SEEDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.
12. DIVERSION BERMS SHALL BE CONSTRUCTED TO BLOCK AND REDIRECT RUNOFF AS INDICATED ON THE PLAN. SIDE SLOPES SHALL NOT EXCEED 2:1; TOP WIDTH SHALL BE 2' MIN.; BERM HEIGHT SHALL BE 1.5' MIN. 13. DUST CONTROL - CONTRACTOR SHALL PREVENT EXCESSIVE DUST FROM LEAVING THE CONSTRUCTION SITE THROUGH CONSTRUCTION PHASING AND TIMELY STABILIZATION OR THE USE OF BMPS SUCH AS SITE WATERING AND MULCH - ESPECIALLY WITH VERY DRY OR FINE SANDY SOILS.
14. TO OBTAIN CITY STORM WATER PERMIT AND PERFORM WEEKLY EROSION CONTROL INSPECTIONS, AND SUBMIT INSPECTIONS TO CITY EROSION CONTROL INSPECTOR. AT THE END OF PROJECT, COORDINATE PERMIT TERMINATION WITH CITY EROSION CONTROL INSPECTOR.

CONSTRUCTION SEQUENCE PLAN

1. FALL 2025: INSTALL TRACKING PAD AND SILT FENCE AROUND THE PERIMETER OF THE SITE.
2. FALL 2025: CLEAR AND GRUB SITE.
3. FALL 2025: STRIP TOPSOIL AND STOCKPILE INITIAL TOPSOIL AT CENTER OF SITE. SEED AND STABILIZE STOCKPILES IMMEDIATELY UPON COMPLETION OF STOCKPILING.
   3.1. All EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN (7) DAYS MUST BE IMMEDIATELY RESTORED WITH SEED AND MULCH.
4. FALL 2025/SPRING 2026: ROUGH GRADE SITE.
4. FALL 2025/SPRING 2026: BEGIN BUILDING CONSTRUCTION.
5. FALL 2025/SPRING 2026: INSTALL SANITARY AND WATER SERVICES. COMPLETE ALL TESTING AND CONTACT CITY PRIOR TO CONNECTING TO EXISTING MAINS. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH ROUGH GRADING ONCE THE UTILITY AREAS HAVE BEEN GRADED TO SUBGRADE.
6. FALL 2025/SPRING 2026: INSTALL STORM SEWER AND ASSOCIATED EROSION CONTROL MEASURES PER EROSION CONTROL PLAN. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH SANITARY AND WATER SERVICE INSTALLATION.
7. SPRING/SUMMER 2026: FINISH GRADE THE SITE. NOTE THAT THIS STEP MAY OCCUR CONCURRENT WITH STORM SEWER INSTALLATION.
8. SPRING/SUMMER 2026: INSTALL STONE BASE COURSE, CONSTRUCT CURB , AND PLACE BINDER COURSE PAVEMENT. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING.
9. SUMMER 2026: RESPREAD TOPSOIL AND PLACE SEED, MULCH, MATTING AND OTHER SITE STABILIZERS AS NEEDED. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING AND PARKING LOT CONSTRUCTION. ALSO NOTE THAT ANY AREAS, SUCH AS POND SLOPES, THAT ARE FINISH GRADED AND TOPSOILED SHALL BE SEEDED, MULCHED AND/OR MATTED IMMEDIATELY AFTER TOPSOIL IS PLACED.
10. SUMMER/FALL 2026: REMOVE REMAINING CONSTRUCTION EROSION CONTROL MEASURES AFTER SITE IS STABILIZED (SUBSTANTIALLY VEGETATED) AND ALL CONSTRUCTION IS COMPLETE.

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PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION
10/30/2025	PC Submittal

DATE: OCTOBER 30, 2025

JOB NUMBER: 25-28-1265

DESCRIPTION: EROSION CONTROL PLAN

SHEET C3.0

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

UTILITY NOTES

SANITARY SEWER
- ALL PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWCW).
- ALL SANITARY SEWER LATERALS (OUTSIDE OF BUILDINGS) SHALL BE MADE OF GASKETED PVC FITTINGS MEETING ASTM D-3034, SDR 35.
- ALL SANITARY SEWER LATERALS TO CONNECT TO SANITARY MAIN VIA WYE OF 0.91° VERTICAL RISE.
- TRACER WIRE IS REQUIRED FOR ALL SANITARY LATERALS. (SEE NOTE BELOW).

WATERMAIN
- ALL PVC WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR18), UNLESS OTHERWISE NOTED. PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- HYDRANTS SHALL BE SET AT 2 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 2' ABOVE TOP OF CURB.
- HYDRANT NOZZLE TO BE 5" THREADED STEAMER CONNECTION.
- ALL WATERMAINS (AND SERVICES) CALLED FOR ON THESE PLANS ARE TO BE INSTALLED WITH CLASS "B" BEDDING AS SPECIFIED IN CH. 4.3.0, LAYING OF WATERMAIN, AND FILE NO. 36, PART VII (SSSWCW). ALL WATERMAIN INSTALLED WITHIN THE CITY OF WAUKESHA RIGHT OF WAY SHALL BE BEDDED IN SAND.
- TRACER WIRE IS REQUIRED FOR ALL WATERMAIN AND LATERALS. (SEE NOTE BELOW).

TRACER WIRE NOTE
- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER, OR COPPER COATED STEEL WIRE) PER COMM 382.30(11)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC DRAIN PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

TRENCH BACKFILL
- SPOIL BACKFILL MAY BE USED FOR UTILITY TRENCHES CONTINGENT ON TESTING AND APPROVAL BY THE VILLAGE OF GERMANTOWN. ALL SPOIL BACKFILL TO BE USED MUST MEET THE STATE OF WISCONSIN SPECIFICATIONS FOR UTILITY BACKFILL.
- BACKFILL WITHIN 5' OF PUBLIC RIGHT OF WAY SHALL BE SLURRY.

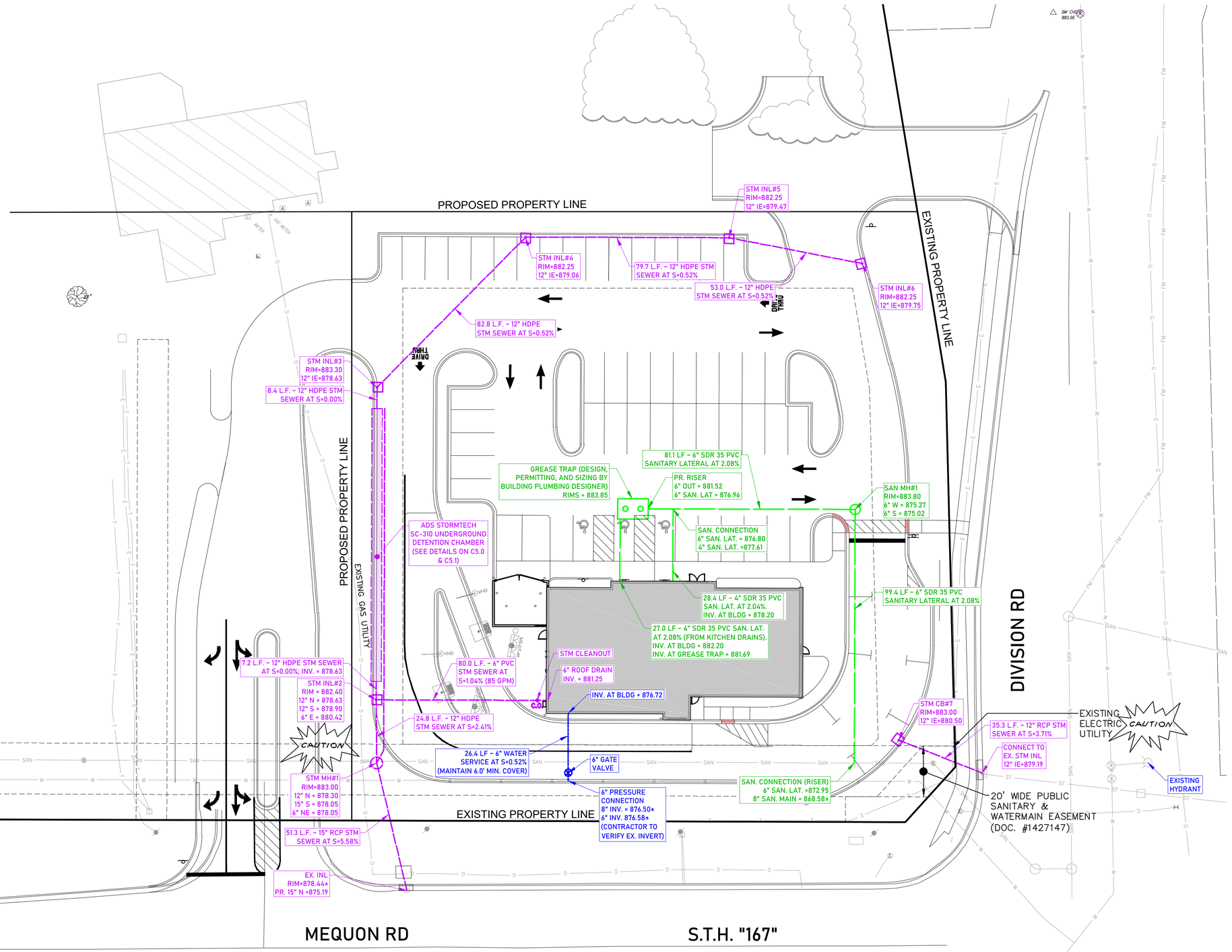
LEGEND:

- PROPOSED STORM SEWER
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM END SECTION
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER MAIN
- PROPOSED WATER VALVE
- PROPOSED WATER HYDRANT

UNDERGROUND DETENTION SYSTEM - POND 1ADS

SEE DETAIL ON SHEET C5.0

ADS STORMTECH MC-310 (15 CHAMBERS) WITH END CAPS
STONE ENCASEMENT = 6.00' x 110.00' x 2.33'
LOWEST PAVEMENT ELEVATION = 882.40
TOP OF STONE = 880.38
TOP OF CHAMBER = 879.88
BOTTOM OF CHAMBER = 878.55
BOTTOM OF STONE = 878.05
100-YEAR = 882.40
10-YEAR = 880.18
2-YEAR = 879.71
15" OUTLET PIPE = 878.05



0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

811 KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0175 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE EXCAVATION.

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.

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

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JOB NUMBER:
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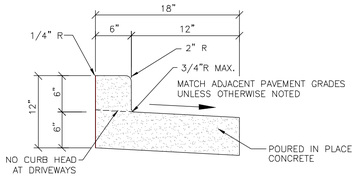
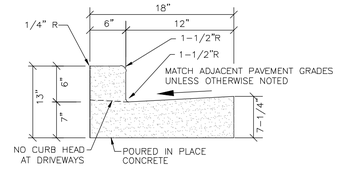
UTILITY PLAN

SHEET
C4.0



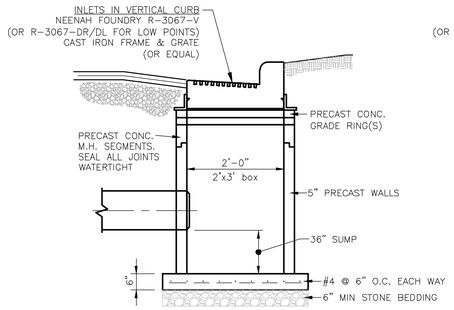
18" REJECT CURB & GUTTER DETAIL

NO SCALE



18" CONCRETE CATCH CURB & GUTTER

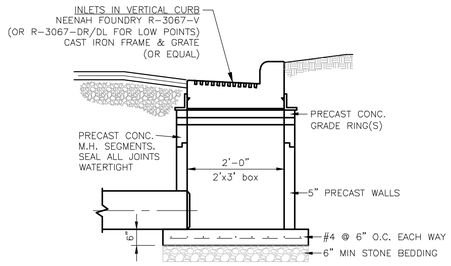
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 6" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

STORM SEWER CATCH BASIN DETAIL

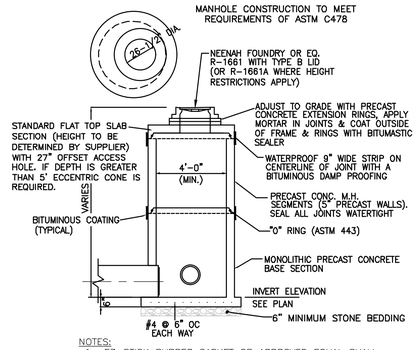
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 6" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

STORM SEWER CURB INLET DETAIL

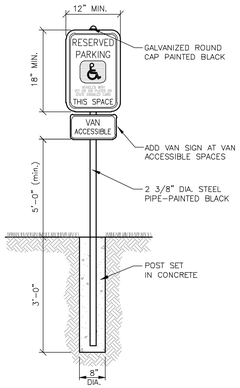
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 14" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

STORM MANHOLE DETAIL

NO SCALE



HANDICAP SIGNAGE DETAIL

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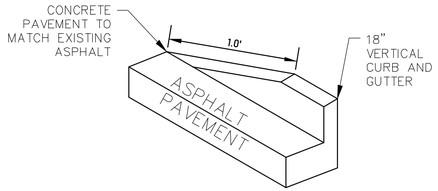
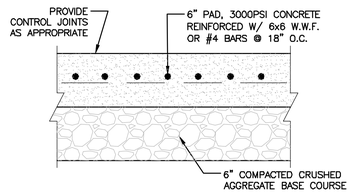


CURB TAPER DETAIL

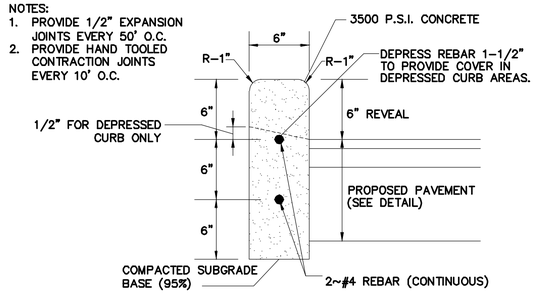
NO SCALE



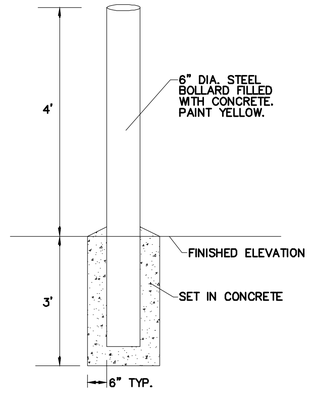
CONCRETE DUMPSTER PAD SECTION

NO SCALE

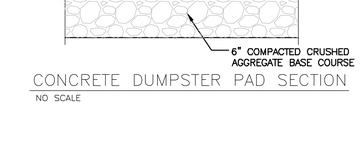
NOTES:
1. PROVIDE 1/2" EXPANSION JOINTS EVERY 50' O.C.
2. PROVIDE HAND TOOLED CONTRACTION JOINTS EVERY 10' O.C.



TYPE "C" BARRIER CURB



BOLLARD



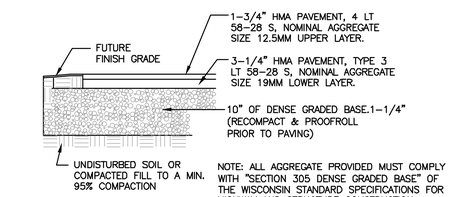
CONCRETE DRIVE-THROUGH SECTION

NO SCALE

STANDARD-DUTY ASPHALT PAVING DETAIL

NO SCALE

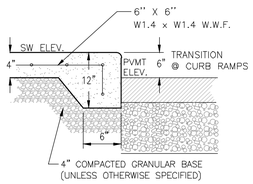
NOTE: STANDARD-DUTY ASPHALT TO BE INSTALLED IN PARKING STALLS



HEAVY DUTY ASPHALT PAVING DETAIL

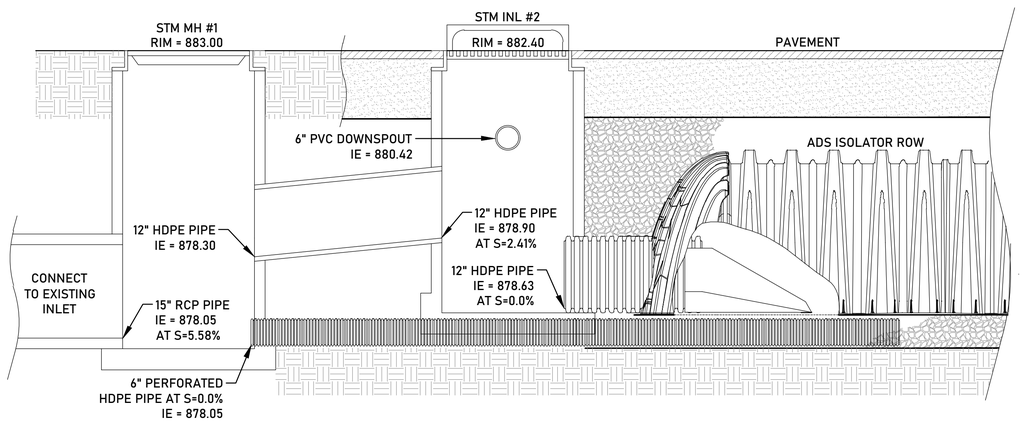
NO SCALE

NOTE: HEAVY-DUTY ASPHALT TO BE INSTALLED IN DRIVE AISLES



INTEGRAL SIDEWALK & BARRIER CURB

NO SCALE



UNDERGROUND DETENTION SYSTEM DETAIL

NO SCALE

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UNDERGROUND DETENTION SYSTEM NOTE:

- THIS DETAIL FOR REFERENCE ONLY. CONTRACTOR TO OBTAIN DESIGN DRAWING FROM MANUFACTURER THAT MEETS ESTABLISHED DESIGN REQUIREMENTS AS LAYED OUT IN THIS PLAN.

ADS
Advanced Drainage Systems, Inc.

SiteASSIST™
FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/% . THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

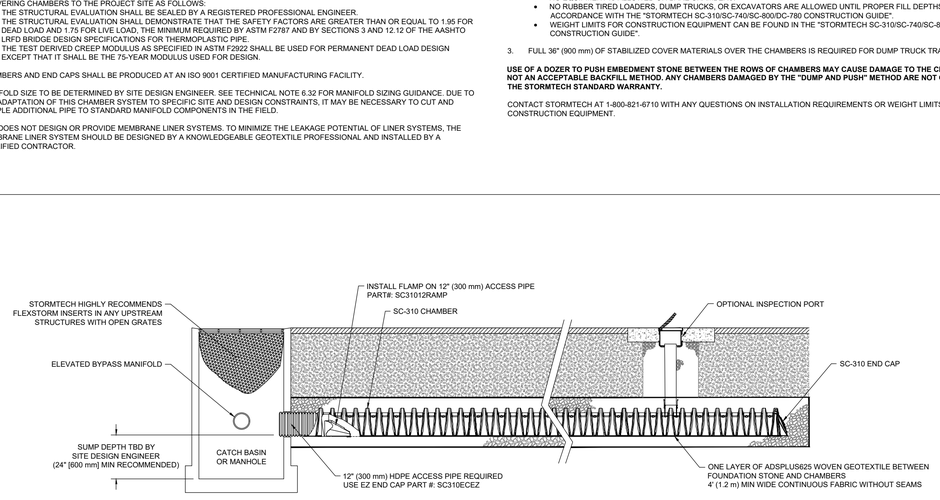
1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

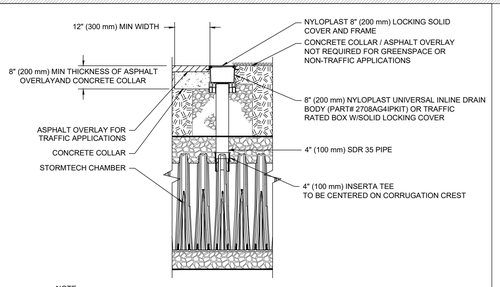
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-310 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

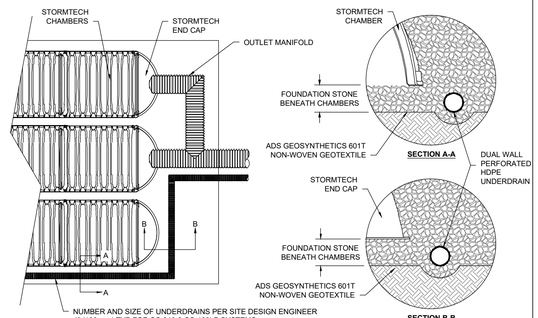
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

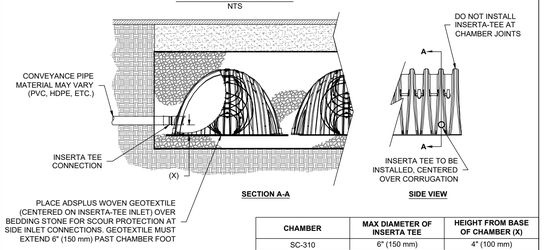
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



5 UNDERDRAIN DETAIL

INSERTA TEE DETAIL
NTS



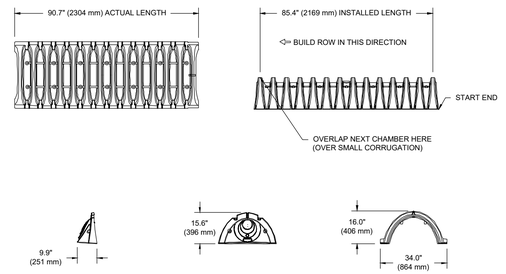
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS
GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

6 INSERTA-TEE SIDE INLET DETAIL

SC-310 TECHNICAL SPECIFICATION
NTS

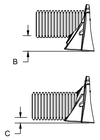


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

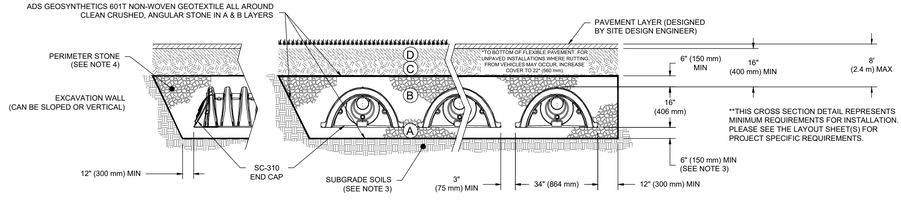
NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

2 SC-310 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-310 CROSS SECTION DETAIL

DRAWN: SMW | DATE: 01/15/25
REVIEWED: JLM | PROJECT NO: 721-390
REV: | NOT TO SCALE

SC-310 STANDARD DETAILS

StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

ADS® Advanced Drainage Systems, Inc.

SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER IS RESPONSIBLE TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

WISCONSIN — MATTHEW A. MATTHEWS — E-41533 — OCONOMOWOC, WI — PROFESSIONAL ENGINEER

TRIO — DESIGN • LAND SURVEYING • CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 793-1480
FAX: (262) 790-1481
EMAIL: jpudelko@trioeng.com

PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION
10/30/2025	PC Submittal

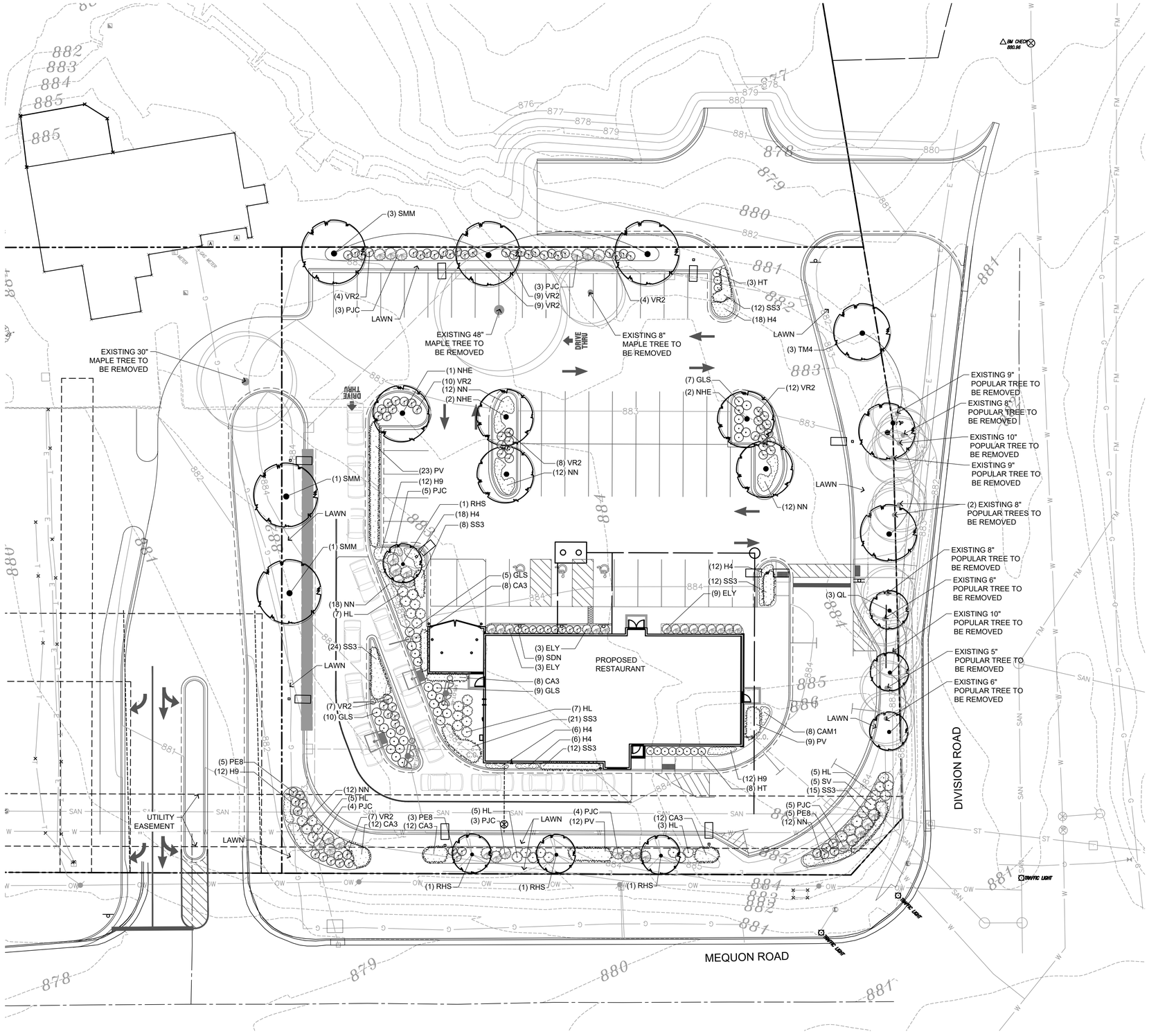
DATE: OCTOBER 30, 2025

JOB NUMBER: 25-28-1265

DESCRIPTION: ADS DETAILS & SPECIFICATIONS

SHEET
C5.1

M:\2025\25-28-1265 CULVERS - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG, 10/30/2025 2:11:16 PM, CIVIL PLAN SET_22X34



PLANT SCHEDULE SITE

CODE	QTY	COMMON NAME	BOTANICAL NAME	INSTALLED SIZE	ROOT	SPACING
SHADE TREES						
SMM	5	State Street Miyabe Maple	Acer miyabei `Morton` State Stree	2 1/2" CAL	B&B	Spacing as shown
QL	3	Regal Prince® Oak	Quercus robur x bicolor 'Long'	2 1/2" CAL	CONT	Spacing as shown
TM4	3	American Sentry® Linden	Tilia americana 'McKSentry'	2 1/2" CAL	B&B	Spacing as shown
NHE	5	New Horizon Elm	Ulmus x `New Horizon`	2 1/2" CAL	B&B	Spacing as shown
ORNAMENTAL TREES						
RHS	4	Robin Hill Serviceberry	Amelanchier x grandiflora `Robin Hill`	2" CAL	B&B	Spacing as shown
DECIDUOUS SHRUBS						
SDN	9	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	15" HT	CONT	Spacing as shown
VR2	70	Kodiak® Black Honeysuckle	Diervilla rivularis 'SMNDRSF'	15" HT	CONT	Spacing as shown
HT	11	Fire Light Tidbit® Hydrangea	Hydrangea paniculata 'SMNHPK'	15" HT	CONT	Spacing as shown
HL	32	Little Quick Fire® Hydrangea	Hydrangea paniculata `SMHPLQF`	18" HT	CONT	Spacing as shown
PE8	13	Little Joker® Ninebark	Physocarpus opulifolius 'Hoogi021'	18" HT	CONT	Spacing as shown
GLS	31	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	15" HT	CONT	Spacing as shown
SV	5	Violet Uprising™ Korean Lilac	Syringa patula 'JN Upright Select' TM	24" HT	CONT	Spacing as shown
EVERGREEN SHRUBS						
PJC	27	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18" SPD	CONT	Spacing as shown
ELY	15	Everlow Yew	Taxus x media `Everlow`	15" HT	B&B	Spacing as shown
ORNAMENTAL GRASSES						
CA3	52	Overdam Feather Reed Grass	Calamagrostis x acutiflora `Overdam`	1 GAL	CONT	24" Spacing
PV	44	Ruby Ribbons® Switch Grass	Panicum virgatum 'RR1'	1 GAL	CONT	30" Spacing
SS3	104	Carousel Little Bluestem Grass	Schizachyrium scoparium `Carousel`	1 GAL	CONT	24" Spacing
PERENNIALS						
CAM1	8	Montrose White Calamint	Calamintha nepeta `Montrose White`	1 GAL	POT	18" Spacing
H9	36	Apricot Sparkles Daylily	Hemerocallis x 'Apricot Sparkles'	1 GAL	POT	18" Spacing
H4	60	Happy Returns Daylily	Hemerocallis x `Happy Returns`	1 GAL	POT	18" Spacing
NN	78	Junior Walker™ Catmint	Nepeta x faassenii 'Novanepjun'	1 GAL	POT	24" Spacing

VILLAGE OF GERMANTOWN - 17.43 SITE PLAN APPROVAL -LANDSCAPING AND SCREENING - 17.45 TRAFFIC, PARKING, LOADING AND ACCESS

17.43 (5)(c)(2) Parking Lot Landscaping - requires 5% of interior parking to be landscaped and (1) tree for every 10 spaces - requires (6) trees for proposed 52 spaces.

17.43 (5)(c)(3) Parking Lot Landscaping - requires street frontage screening and perimeter screening to be minimum 5 feet wide..

17.45 (1)(c) Parking Lot Landscaping - requires parking areas to be bounded by minimum 15 feet landscaped greengbelt between parking and all property boundaries.

NORTH

0 10 20 40
GRAPHIC SCALE

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

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DESCRIPTION	DATE

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

CULVER'S
VILLAGE OF GERMANTOWN

SITE LANDSCAPE PLAN

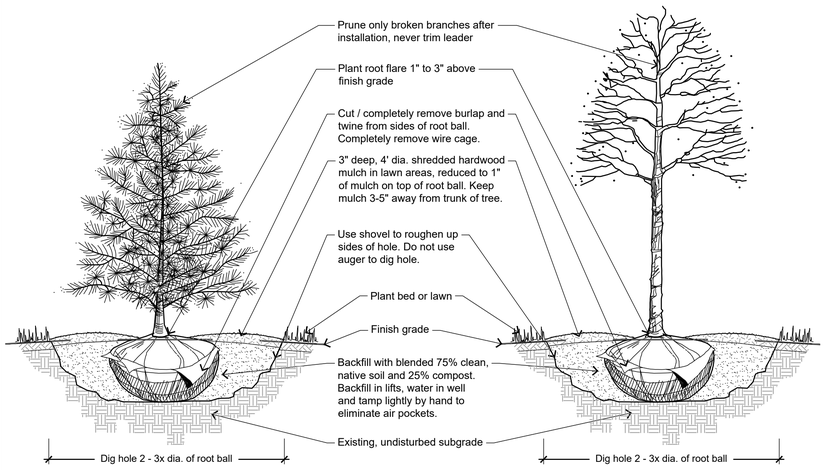
© COPYRIGHT 2025
R.A. Smith, Inc.

DATE: **10/01/25**
SCALE: **1" = 20'**
JOB NO. **3250150**
PROJECT MANAGER: **ROB WILLIAMS**
DESIGNED BY: **REW**
CHECKED BY: **REW**

SHEET NUMBER
L100

F:\3250150\Dwg\Sheets\3250150-LSP01.dwg, L100 34:22, 10/1/2025 3:16:16 PM, rew

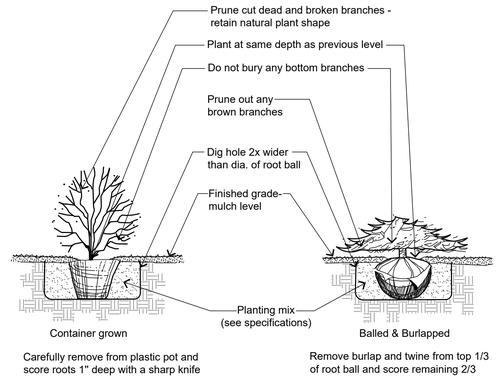
PLANTING DETAILS



1 TREE PLANTING DETAIL

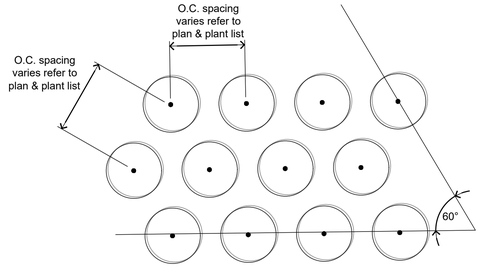
NOT TO SCALE

P-PL-TREE-07



2 SHRUB PLANTING DETAIL

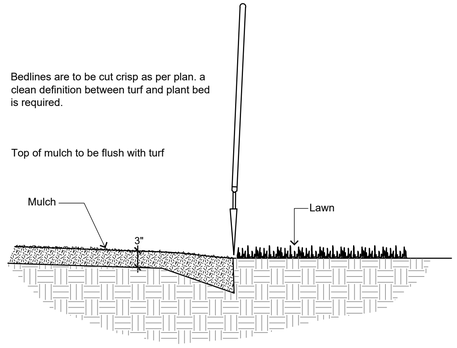
NOT TO SCALE



3 PLANTING LAYOUT

NOT TO SCALE

P-PL-PLO-01



4 SHOVEL CUT PLANT BED EDGING DETAIL

NOT TO SCALE

P-PL-BDEG-01

GENERAL LANDSCAPE NOTES

1. Contractor responsible for contacting public and private underground utility locating service to have site marked prior to any digging or earthwork.
2. Contractor to verify all plant quantities shown on plant list and verify with plan. Report any discrepancies immediately to general contractor.
3. All plantings shall comply with standards as described in American Standard of Nursery Stock - ANSI Z60.1 (latest version). General contractor or owner's representative reserves the right to inspect and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged.
4. Any potential plant substitutions must be submitted in writing to the general contractor and approved by the owner's representative or landscape architect prior to installation. All plants must be installed as per sizes and quantities shown on plant material schedule, unless approved by the owner's representative or landscape architect. Any potential changes to sizes shown on plan and appropriate cost credits / adjustments must be submitted in writing to the general contractor and approved by the owner's representative or landscape architect prior to installation.
5. The subsequent requirements regarding topsoil should be coordinated between the general contractor, grading contractor and landscape contractor.
6. Subgrade areas shall be graded to within 1", more or less, of proposed subgrade. Deviations shall not be consistent in one direction.
7. Topsoil shall be placed to meet proposed finished grade. Planting islands to be backfilled with clean topsoil free of debris (per note below) to a minimum depth of 18" by general / grading contractor to insure long term plant health. All other landscaped areas to receive a minimum depth of 6" of clean topsoil (per note below).
8. Topsoil shall be: screened existing stockpiled topsoil, existing in-place soil, or screened soil from an off-site source that will support plant growth, and meets the following requirements. Clean topsoil shall be free of rocks, coarse fragments, gravel, sticks, trash, roots, debris over 3/4" and any substances harmful to plant growth. It also must be free of plants or plant parts of any noxious weeds. Topsoil shall contain 3 to 5 percent decomposed organic matter and a pH between 5.5 and 7.0.
9. Planting beds and parking lot islands: Landscape contractor is responsible for ensuring that unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) has been removed from the topsoil and for the fine grading of all landscaped areas. The fine grading of planting beds and parking lot islands may require additional topsoil to bring to finish grade, allowing for mulch depth. Crown all planting islands and planting beds not adjacent to buildings, a minimum of 6" to provide proper drainage, unless otherwise specified. All other finished landscaped areas to be smooth, uniform and provide positive drainage away from structures and pavement.
10. Seeded areas: to receive a settled minimum depth of 6" of blended, prepared and non-compacted topsoil. Landscape contractor is responsible for excavation and removal of unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) to the specified depth, supplementing with additional topsoil (if necessary) and the fine grading of all seeded areas.
11. Tree planting (see planting detail): plant all trees slightly higher than finished grade at root flare. Remove excess soil from top of root ball, if needed. An auger is not an acceptable method of digging tree planting holes. Scarify side walls of tree pit prior to installation. Once tree has been placed into the hole, is at the correct depth and vertical alignment and will no longer be moved; brace root ball by tamping soil around the lower portion of the root ball. Remove and discard twine / rope, burlap and support wire from the sides of root ball. Backfill pit with 75% existing soil removed from excavation and 25% compost blended prior to backfilling holes, in six-inch lifts. Lightly tamp each lift using foot pressure or hand tools to settle backfill, support the tree and eliminate voids. Do not over compact or use mechanical or pneumatic tamping equipment. Discard any gravel, heavy clay or stones. When hole has been backfilled to three-quarters of its depth, pour water around the root ball and allow to soak into soil to settle the soil. Continue backfilling until soil is brought to grade level.

    Provide a 3" deep, 4 ft. diameter shredded hardwood bark mulch ring around all trees in lawn areas, reduced to 1" deep on top of root ball. Keep mulch 3"- 5" away from trunk of tree. Trees that are installed incorrectly will be replaced at the time and expense of the landscape contractor. Trees too large for two people to lift in and out of holes, shall be placed with sling. Do not rock the trees in holes to raise them.
12. Shrub planting (see planting detail): all shrubs to be pocket planted with a mix of 75% existing soil removed from excavation and 25% compost, blended prior to backfilling holes. When hole is two-thirds full, shrubs shall be watered thoroughly and water left to soak in before proceeding.
13. Mulching: all tree and shrub planting beds to receive a 3" deep layer of high-quality shredded hardwood bark mulch (not enviromulch or wood chips). Mulch shall be uniform in size, color, quality and overall appearance. Mulch shall be free of debris, large wood chunks, soil, rocks, weeds, invasive plant parts or seeds and any other material injurious to plant growth. All perennial and ornamental grass planting areas to receive a 2" layer and groundcover areas a 1-2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.
14. Edging: edge all planting beds with a 4" deep spaded edge (shovel cut or mechanical). Bedlines are to be cut crisp, as per plan. A clean definition between lawn area and plant bed is required.
15. Plant bed preparation: the soil in all perennial, ornamental grass, annual and groundcover areas shall be amended with compost prior to plant installation. Spread a 2" layer of compost (per note below) on top of clean topsoil and rototill to a depth of approximately 8".
16. Compost shall be stable, and weed-free organic matter. It shall be resistant to further decomposition and free of compounds, such as ammonia and organic acids, in concentrations toxic to plant growth. The compost shall contain no pathogens or other chemical contaminants and meet the requirements of WisDNR S100 Compost Specification.
17. Lawn installation for all seeded turfgrass areas: remove / kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil and seed bed by removing all surface stones 1" or larger and grading lawn areas to finish grade. Apply a starter fertilizer and specified seed, ensure good seed to soil contact, and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer mix information to general contractor prior to installation. Erosion control measures are to be used in swales and on steep grades, where applicable. Methods of installation may vary at the discretion of the landscape contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind damage. Marsh hay containing reed canary grass is not acceptable as a mulch covering.

    An acceptable quality turf is defined as having no more than 5% of the total area with bare spots larger than 1/2 square foot and uniform coverage throughout all turf areas.
18. Seed mix type 'A' for lawn areas - use only a premium quality seed mix. Premium blend seed mix (or equivalent): 50% blended bluegrass, 25% creeping red fescue, 25% perennial rye applied at 5 lbs per 1,000 SF or at recommended rates from supplier. Provide seed specifications to general contractor prior to installation.
19. Lawn installation for all sodded turfgrass areas(Optional): remove / kill off any existing unwanted vegetation prior to sodding. Prepare the topsoil and sod bed by removing all surface stones 1" or larger and grading lawn areas to finish grade, allowing for thickness of sod. Use only premium sod blend according to TPI (revised 1995) and ASPA standards. Install sod uniformly with staggered joints, laid tightly end to end and side to side. Roll sod with a walk behind roller and water immediately upon installation to a 3" depth. Stake any sod installed on steep slopes or in swales, etc. Landscape contractor is responsible to provide a smooth, uniform, healthy turf. Landscape contractor shall repair and re-sod any eroded, sunken or bare spots (larger than ½ square foot) until acceptance by owner.
20. The landscape contractor is responsible for the watering and maintenance of all landscape areas at time of planting and throughout construction until the substantial completion of the installation and acceptance by the owner. This includes all trees, shrubs, evergreens, perennials, ornamental grasses, and seeded slopes and turf grass areas. Maintenance includes mowing, weeding, watering, mulching, edging, pruning, deadheading, raking leaves / debris, sweeping up grass clippings, fertilizing and maintaining turf areas (including applying pre and post emergent herbicides), and any other needs that are required to keep the landscape healthy and well maintained.
21. Substantial Completion of Landscape: after the landscape has been installed, the landscape contractor is responsible to conduct a final review with the owner's representative and the general contractor to ensure that all plans and specifications have been met. After this review, the landscape will be considered to be installed in substantial completion unless otherwise noted by the owner's representative and/or general contractor. Any items missing or incomplete, shall be corrected within 30 days. The landscape contractor shall provide written watering and maintenance instructions for the new plantings and lawn to the owner.
22. Warranty and replacements: All plants (trees, evergreens, shrubs, perennials, ornamental grasses and groundcovers) shall be warranted by the landscape contractor to be in healthy and flourishing condition for a period of one year from the date of substantial completion. This assumes the owner performs required maintenance (i.e. regular watering) after substantial completion of the landscape. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements. Replacements shall be plants of the same variety specified on the plan and closely match adjacent specimens in size. The landscape contractor is responsible for keeping a documented record of which plants have been replaced during the warranty period.

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

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DATE	DESCRIPTION

raSmith
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16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

CULVER'S
VILLAGE OF GERMANTOWN

LANDSCAPE NOTES AND DETAILS

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R.A. Smith, Inc.

DATE: 10/01/25

SCALE: –

JOB NO. 3250150

PROJECT MANAGER: ROB WILLIAMS

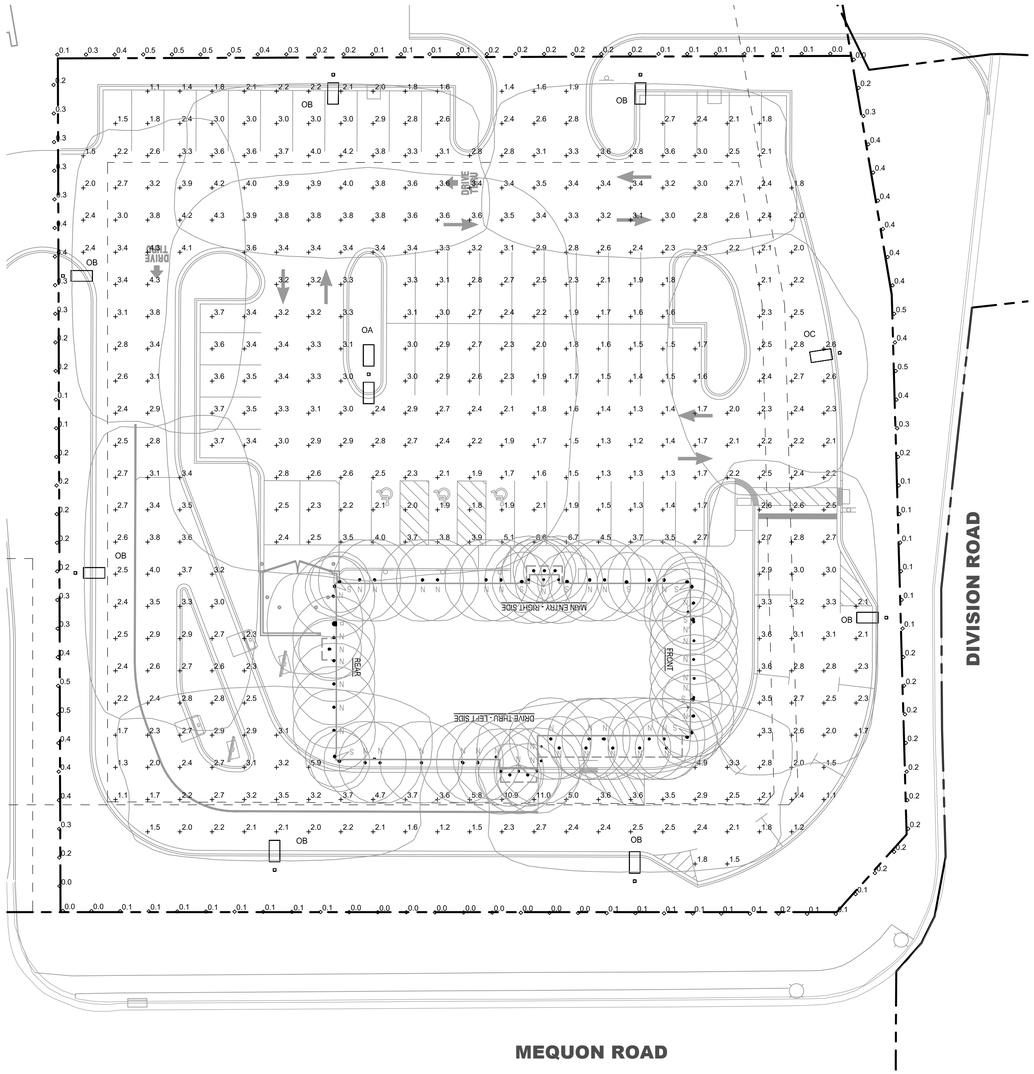
DESIGNED BY: REW

CHECKED BY: REW

SHEET NUMBER

L200

F:\3250150\Dwg\Sheets\3250150-LSP01.dwg, L200 34x22, 10/1/2025 3:16:22 PM, rew



H3 SITE PHOTOMETRIC PLAN

SCALE : 1" = 20'-0"

LUMINAIRE SCHEDULE - SITE LIGHTING

SYMBOL	LABEL	CATALOGUE NUMBER	LAMP	WATTS
▭▫▭	OA	(2) DSX1 LED P4 40K 80CRI T5M 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	247.9
▭▫	OB	DSX1 LED P4 40K 80CRI BLC3 (extreme backlight control) 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	123.9
▭▫	OC	DSX1 LED P4 40K 80CRI TFM HS (forward throw houseside shield) 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	123.9

LUMINAIRE SCHEDULE - BUILDING MOUNT

SYMBOL	LABEL	CATALOGUE NUMBER	LAMP	WATTS
●	N	LDN6 40/15 L06AR LS MVOLT GZ10 LITHONIA	LED	21
⧉	P	SLIM17FA15ADJ RAB LIGHTING	LED	17.5
◘	S	CD34-6WZ (down light only) RAB LIGHTING	LED	22

STATISTICS - LIGHT LOSS FACTOR 0.91

DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
PARKING	+	2.8 fc	11.0 fc	1.1 fc	10.0:1	2.5:1
PROPERTY LINE	◇	0.2 fc	0.5 fc	0.0 fc	N/A	N/A

FOR REVIEW

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NEW CULVER'S RESTAURANT
NWC Mequon Road & Division Road
Germantown, WI 530022
County of WASHINGTON

Culver Franchising System, Inc.
1240 Water Street
Prairie du Sac, WI 53578
608-643-7980

OWNER:
Burgers & Braatz Properties, LLC
12455 Wrayburn Rd
Elm Grove, WI 53122
Dan Braatz
(262) 510-8057

OLLMANN ASSOCIATES ARCHITECTS, P.C.
200 South State Street
Belvidere, Illinois 61008
815-544-7790 Phone
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SITE PHOTOMETRIC PLAN

Date: 10-3-2025 Revision:

2025-111

SE 101

CD34-6WZ

RAB

Color: Bronze

Weight: 6.3 lbs

Project:

Type:

Prepared By:

Date:

Driver Info		LED Info	
Type	Constant Current	Watts	36/28/22WW
120V	0.30A	Color Temp	3000/4000/5000K
208V	0.17A	Color Accuracy	90 CRI
240V	0.15A	L70 Lifespan	50,000 Hours
277V	0.13A	Lumens	3300/2750/2100 lm
Input Watts	36/28/22WW	Efficacy	95

Technical Specifications

Performance

Product Type:
Cylinder Wall Mount

Description :
Economical cylinders with field-adjustable color temperature, power and light distribution along with field-swappable optics to fit any indoor or outdoor application.

Wattage Equivalency:
200/180/140W

Input Wattage:
36/28/22W

Nominal Lumens:
3300/2750/2100lm

Efficacy:
95lm/W

Lifespan:
50,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Electrical

Driver:
Constant Current, 50-60 Hz, 120V-277V

THD:
≤20%

Power Factor:
≥0.9

Dimmable:
Yes, dimmable down to 5% on compatible 0-10V dimming systems. See Dimmer Compatibility List. Requires separate 0-10V DC dimming circuit.

Input Voltage:
120-277V

Operating Frequency:
50/60Hz

Input Current @ 120V (mA):
300mA

Input Current @ 208V (mA):
169mA

Input Current @ 240V (mA):
146mA

Input Current @ 277V (mA):
127mA

Operating Temperature:
-40°F to 120°F (-40°C to 45°C)

Flicker:
≤1%

Photocell:
Integrated photocell included with on/off switch

LED Characteristics

Beam Angle:
60° (installed)
Field swappable optics sold separately for 25°/40°/60° beam angle_

Light Distribution:
Selectable dip switch for up, down, or up/down light

Color Temperature:
3000/4000/5000K

Color Accuracy (CRI):
90 CRI

R9 Value:
High color performance with R9 greater than 0

Color Consistency:
<6-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

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LITHONIA LIGHTING®

Catalog Number

Notes

Type

LDN6 STATIC WHITE

6" Open and Wallwash LED
Non-IC
New Construction Downlight

Open Trim

Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.
Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.
Two combination ½"–3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.
Accommodates 12"–24" joist spacing.
Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.
Max ceiling thickness 1-1/2".

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse; 80 CRI minimum. 90 CRI optional.
LED light source concealed with diffusing optical lens.
General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.
Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.

A+ CAPABLE LUMINAIRE — This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates. To learn more about A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting.

ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.
0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.

LUMEN MAINTENANCE — 70% lumen maintenance at 60,000 hours. L70/60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product. Drivers are RoHS compliant

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

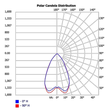
PERFORMANCE DATA

LDN6 3500K AR LSS 80CRI

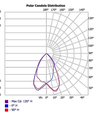
Nominal Lumens	Lumens	Wattage	Lm/W
500	527.9	5.8	90.5
750	758.1	8.9	85.1
1000	950.1	10.4	91.0
1500	1514	17.5	86.4
2000	2006	22.5	89.1
2500	2504	28.3	88.6
3000	3021	34.8	86.9
4000	4008	44.3	90.6
5000	4975	57.7	86.3

Notes
- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

DISTRIBUTIONS



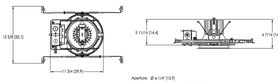
Open



Wallwash

DIMENSIONS

LDN6 500-3000 Lumens



See page 4 for other fixture dimensions

SLIM17FA15ADJ

RAB

Color: Bronze

Weight: 3.0 lbs

Project:

Type:

Prepared By:

Date:

Driver Info		LED Info	
Type	Constant Current	Watts	15W
120V	0.13A	Color Temp	3000K/4000K/5000K
208V	0.07A	Color Accuracy	70 CRI
240V	0.06A	L70 Lifespan	100,000 Hours
277V	0.05A	Lumens	1761/1904/1852 lm
Input Watts	14.2/14/14.2W	Efficacy	124/136.2/130.3 lm/W

Technical Specifications

Field Adjustability

Field Adjustable:
Color temperature selectable by 3000K, 4000K and 5000K

Compliance

UL Listed:
Suitable for wet locations

IESNA LM-79 & LM-80 Testing:
RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80

IP Rating:
Ingress protection rating of IP65 for dust and water

DLC Listed:
This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: PL0MVJOV62Q3

Performance

Lifespan:
100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Wattage Equivalency:
Equivalent to 70W Metal Halide

LED Characteristics

LEDs:
Long-life, high-efficiency, surface-mount LEDs

Electrical

Driver:
Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.13A, 208V: 0.07A, 240V: 0.06A, 277V: 0.05A

Dimming Driver:
Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

Photocell:
120-277V Integrated button photocell included.

Construction

Cold Weather Starting:
The minimum starting temperature is -40°C (-40°F)

Maximum Ambient Temperature:
Suitable for use in up to 50°C (122°F)

Housing:
Precision die-cast aluminum housing and door frame

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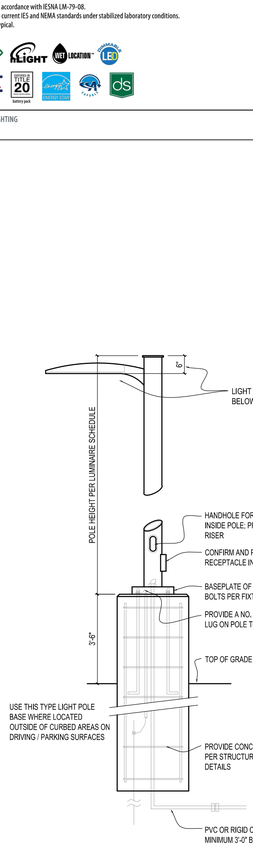


LIGHT POLE DETAIL

NO SCALE

D-Series Size 1
LED Area Luminaire

Catalog Number

Notes

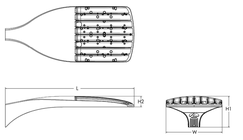
Type

Hit the Tab key or mouse over the page to see all interactive elements.

d#series

Specifications

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



Introduction

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

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

Ordering Information

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

DSX1 LED

Series	LEDs	Color temperature[1]	Color Rendering Index[1]	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P6 P2 P7 P3 P8 P4 P9 P5 **Rotated optics** P10[1] P12[1] P11[1] P13[1]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare[1] T4M Type IV medium T4LG Type IV low glare[1] TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control[1] BLC4 Type IV backlight control[1] LCCO Left corner cutoff[1] RCCO Right corner cutoff[1]	MVOLT (120V-277V)[2] HVOLT (347V-480V)[3,4] XVOLT (277V - 480V)[3,4]	**Shipped included** SPA Square pole mounting (#8 drilling) RPA Round pole mounting (#8 drilling) SPA5 Square pole mounting #5 drilling[5] RPA5 Round pole mounting #5 drilling[5] SPA8N Square narrow pole mounting #8 drilling WBA Wall bracket[6] MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc[7,8,20,21] PIR High/low, motion/ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc[7,8,20,21] PER NEMA twist-lock receptacle only (controls ordered separately)[9] PERS Five-pin receptacle only (controls ordered separate)[9,21]	PER7 Seven-pin receptacle only (controls ordered separate)[9,21] FAO Field adjustable output[15,21] BL30 Bi-level switched dimming, 30%[16,21] BL50 Bi-level switched dimming, 50%[16,21] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[21] DS Dual switching[16,19,21]	**Shipped installed** SPD20KV 20KV surge protection HS Houseside shield (black finish standard)[22] L90 Left rotated optics[1] R90 Right rotated optics[1] CCE Coastal Construction[23] HA 50°C ambient operation[24] **Shipped separately** EGSR External Glare Shield (reversible, field install required, matches housing finish) BSDB Bird Spikes (field install required)	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

FOR REVIEW

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NEW CULVER'S RESTAURANT
NWC Mequon Road & Division Road
Germantown, WI 530022
County of WASHINGTON

Culver Franchising System, Inc.
1240 Water Street
Prairie du Sac, WI 53578
608-643-7980

OWNER:
Burgers & Braatz Properties, LLC
12455 Wrayburn Rd
Elm Grove, WI 53122
Dan Braatz
(262) 510-8057

OLLMANN ASSOCIATES ARCHITECTS, P.C.
200 South State Street
Belvidere, Illinois 61008
815-544-7790 Phone
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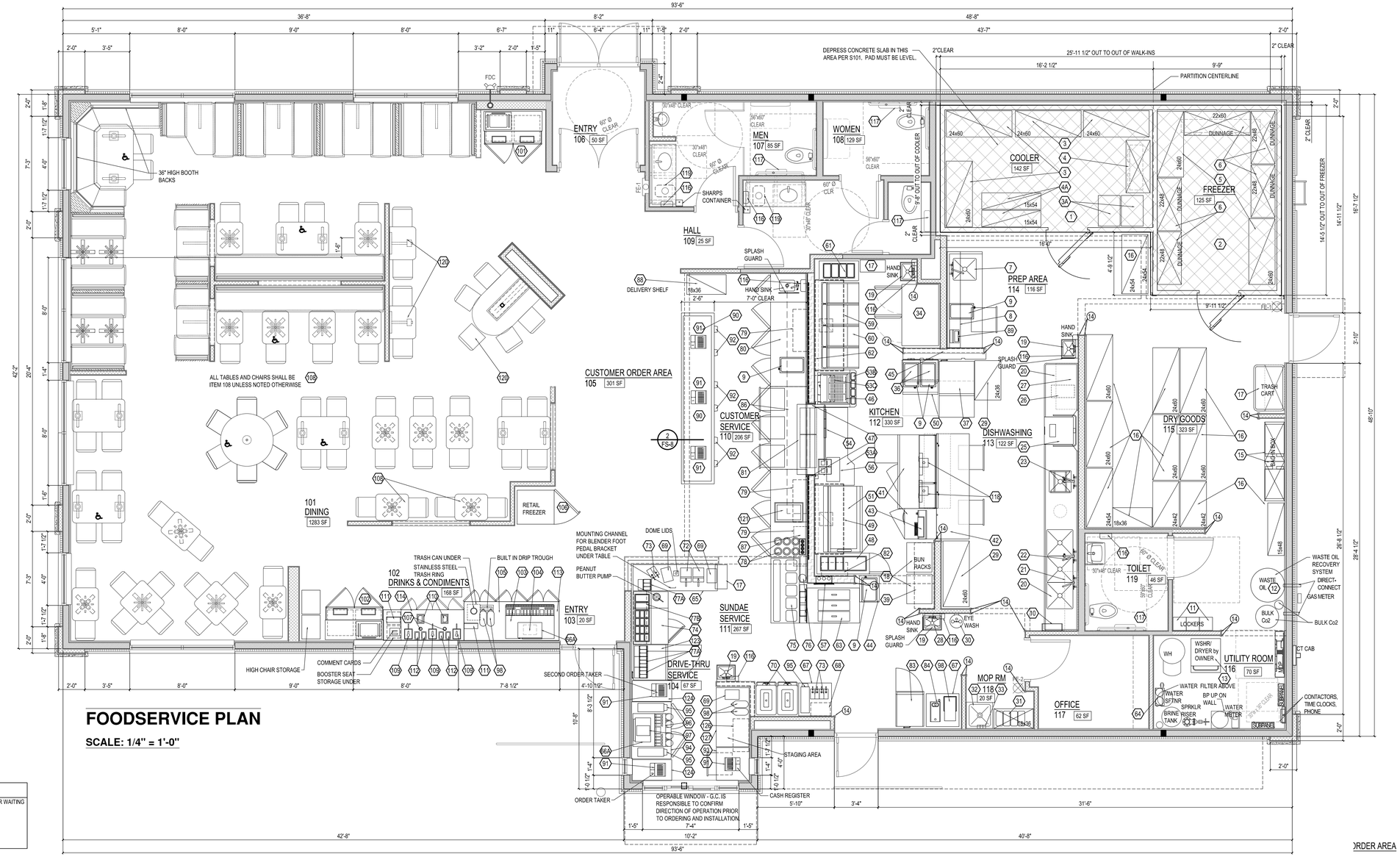
SITE FIXTURE DETAILS

Revision:

Date: 10-3-2025

2025-111

SE 201



MAIN ENTRY
LEFT SIDE
FRONT
SEE SITE PLAN FOR NORTH ORIENTATION
REAR
RIGHT SIDE
DRIVE-THRU

FOODSERVICE PLAN

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

SEATING SUMMARY

2	6-PERSON TABLES = 12	SEATS	5 TO-GO / ORDER WAITING
12	4-PERSON TABLES = 48	SEATS	
1	3-PERSON TABLES = 3	SEATS	
18	2-PERSON TABLES = 36	SEATS	
33	TOPS	99 SEATS	

OWNER FURNISHED, FOOD SERVICE EQUIPMENT CONTRACTOR (FSEC) INSTALLED

ITEM	EQUIPMENT SCHEDULE	ITEM	EQUIPMENT SCHEDULE	ITEM	EQUIPMENT SCHEDULE
1	WALK IN COOLER (BOX, LINE SETS, & COIL DRAIN PIPES)	45	STAINLESS STEEL WALLCAP / ELEC CHASE COVER	80	REFRIGERATED S/S BACKCOUNTER
2	WALK IN FREEZER (BOX, LINE SETS, & COIL DRAIN PIPES)	46	HEATED FRY BIN	81	HEATED PASS-THRU UNIT
3	WALK-IN COOLER RACKS	47	FRONT PASS-THRU STAINLESS STEEL CHANNEL TRIM	82	TOOL SHELF
3A	THAWING RACKS	48	REFRIGERATED MEAT CART	83	REACH IN REFRIGERATOR
4	WALK-IN COOLER DUNNAGE RACKS	50	MOBILE WORKTABLE	88	DELIVERY SHELF
4A	MOBILE CUSTARD MIX RACKS	51	GRILL AND STAND	90	FRONT SERVICE COUNTER
5	WALK-IN FREEZER SHELVING	52	TRANSFER STATION - ROUGH-IN ONLY	92	CUP DISPENSERS
6	WALK-IN FREEZER DUNNAGE RACKS	53A	SANDWICH WRAP STATION LEFT	93	STAINLESS STEEL DRIVE-THRU COUNTER
7	WORKTABLE / SINK	53B	SANDWICH WRAP STATION RIGHT	94	STAINLESS STEEL DRIVE-THRU COUNTER
8	WALL SHELF	53C	WALL SHELF	95	CUP DISPENSERS
11	LOCKERS	54	ORDER BARS	100	DISPLAY CABINET - NOT INCLUDED
14	STAINLESS STEEL WALL CORNER GUARDS, SHOWN: (14)	57	STAINLESS STEEL REFRIGERATION CHASE COVER	101	TRAY / TRASH / RECYCLE CABINETS
16	WIRE SHELVING	58	FRY STATION HEAT LAMP - ROUGH-IN ONLY	102	TRAY / TRASH CABINET - NOT INCLUDED
20	DISHTABLES AND UTENSIL SINKS	60	FRYERS	106	RETAIL FREEZER
21	WALL SHELF	61	CUSTOM FISH REFRIGERATOR	107	CONDIMENT CUP DISPENSERS
24	OPEN NUMBER	62	OPEN NUMBER	108	TABLES / CHAIRS / BOOTHS
27	SLANTING WALL SHELF	65	MOBILE STAINLESS STEEL WORKTABLE	109	CONDIMENT DISPENSERS
29	CLEAN PAN SHELVING	66	FUTURE ICE MACHINE - ROUGH-IN ONLY	110	NAPKIN DISPENSERS
31	JANITOR'S SHELVING	66A	REMOTE ICE MAKER	113	BEVERAGE COUNTER
34	REACH-IN FREEZER	67	WORK TABLE	114	CONDIMENT COUNTER
35	OPEN NUMBER	68	OPEN NUMBER	119	WASTE RECEPTACLES
37	REFRIGERATED DRAWER BASE	71	OPEN NUMBER	120	HIGH TOP TABLES AND CHAIRS
38	DUAL FRY DISPENSER - NOT INCLUDED	74	REFRIGERATED TOPPING TABLE	121	DROP IN CUSTARD COLD PAN
39	WALL MOUNTED BREAD SHELF	75	CUSTARD DIPPING CABINET	123	WORKTOP REFRIGERATOR
40	OPEN NUMBER	76	CAKE CONE DISPENSER	124	WORKTABLES
41	REFRIGERATED WORKTABLES	77A	SUNDAE TOPPING DISPENSER	125	MOBILE WORKTABLE
42	MOBILE WORKTABLE / OVERSHELF	77B	SUNDAE TOPPING WALL SHELF	126	SLANTING WALL SHELF
44	GRILL SIDE WARMER CART	78	DISH / CUP DISPENSERS	127	OPEN NUMBER
		79	WALL SHELVES	505	REFRIGERATION LINE SETS (SEE H6 / A105)

OWNER FURNISHED, VENDOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
9	COOKER / WARMERS
12	WASTE OIL RECOVERY SYSTEM
15	BAG-IN-BOX SYSTEM
17	TRASH CANS / CART
18	BUN RACKS
33	CHEMICAL DISPENSING SYSTEM
36	MICROWAVE OVEN
43	BUN TOASTER
55	OPEN NUMBER
56	HEATED BUN WARMER
63	TRIPLE CUSTARD MACHINE
69	ASTRO BLENDERS
70	MILKSHAKE MACHINE
72	HEATED SYRUP DISPENSERS
73	LIQUID TOPPING DISPENSERS
84	COFFEE MAKER
85	POWER WASHER - NOT INCLUDED
86	MENU BOARD / SIGNAGE PACKAGE
87	WAFFLE CONE DISPENSER
89	FOOD LABEL MARKER
91	CASH REGISTER / POS SYSTEM
96	ICE AND SODA DISPENSER
97	CARBONATOR

ITEM	EQUIPMENT SCHEDULE
98	ICED TEA BREWER / DISPENSER
103	ICE AND SODA DISPENSER
104	CARBONATOR
105	SELF SERVICE LID DISPENSER
111	STRAW DISPENSERS
112	CONDIMENT PANS
118	MONITOR BRACKETS

NOTE: G.G. TO COORDINATE SOME ITEMS PLACED BY OWNER & NOT BY VENDOR - CONFIRM

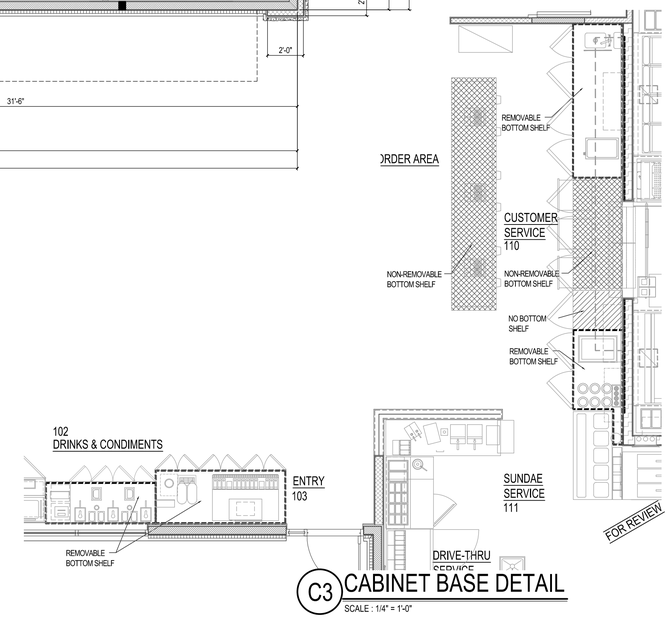
CONTRACTOR FURNISHED, CONTRACTOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
25A	DISHWASHER CONDENSATE HOOD - NOT INCLUDED
28	FIRE SUPPRESSION SYSTEMS
32	MOP SINK
49	EXHAUST HOOD - GRIDDLE
59	EXHAUST HOOD - FRYERS

OWNER FURNISHED, CONTRACTOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
10	KETCHUP VOL PAK DISPENSER
13	WASHER / DRYER
19	HAND SINK
22	PRE-RINSE SPRAY ASSEMBLY
23	PRE-RINSE SPRAY ASSEMBLY
25	DISHWASHER
26	BOOSTER HEATER
30	EYE WASH STATION (CONTRACTOR TO PROVIDE MIXING VALVE PER PLUMBING SCHEDULE)
64	WATER FILTER
116	HAND TOWEL DISPENSERS
117	TOILET PAPER DISPENSERS
300	TRIM PACKAGE (SEE H2 / A103)
	FOOD SERVICE EQUIP. COUNTER BASES (SEE FINISH PLAN)
	SHARPS CONTAINERS
	AED OPTIONAL - CONFIRM WITH OWNER
	MOP HANGER
	ARTWORK (SEE SHEET A103.1)

NOTE: SOME ITEMS INSTALLED BY OTHERS REQUIRE ROUGH-IN AND/OR WIRING BY CONTRACTOR AS NOTED IN PLUMBING AND ELECTRICAL SCHEDULES.



C3 CABINET BASE DETAIL

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

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NWC Mequon Road & Division Road
Germantown, WI 530022
County of WASHINGTON

Culver Franchising System, Inc.
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608-643-7980

OWNER:
Burgers & Bratz Properties, LLC
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Elm Grove, WI 53122
Dan Bratz
(262) 510-8057

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FOOD SERVICE PLAN

Revision:

Date: 7-7-2025

2025-111

FS-1

FOR REVIEW

FOOD SERVICE EQUIPMENT AND RELATED ITEMS IDENTIFIED ON THIS SHEET ARE SELECTED AND SPECIFIED BY CULVER FRANCHISING SYSTEM, LLC. THE ARCHITECT REPRESENTS SAID ITEMS FOR COORDINATION OF DESIGN, BUT IS NOT RESPONSIBLE FOR SPECIFICATIONS

NORTH / MAIN ENTRY ELEVATION

EAST / FRONT ELEVATION

MATERIAL	COLOR
ROOFING SHINGLES	MULTI
ROOF FASCIA	"REGAL BLUE" EXCEPTIONAL METALS
TOWER ACCENT EIFS	"TONY TAUPE" SW7038
MAIN FIELD EIFS	"POPULAR GRAY" SW6071
FAUX TRIM EIFS	"SABLE" SW6083
ALUM. CLADDING SYSTEM (LONGBOARD)	"TABLE WALNUT" 6" V-GROOVE
SCONCE FIXTURES	BRONZE
WINDOW & DOOR FRAMES	NATURAL ALUMINUM
MAIN BRICK	"RALEIGH" SUMMITVILLE
QUOIN BRICK	"SAVANNAH" SUMMITVILLE

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815-544-7790 Phone

2D ELEVATIONS

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A1.1

SOUTH / DRIVE THRU ELEVATION

WEST / REAR ELEVATION

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A1.2

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3D IMAGES

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A2

(ADDED MATERIAL)

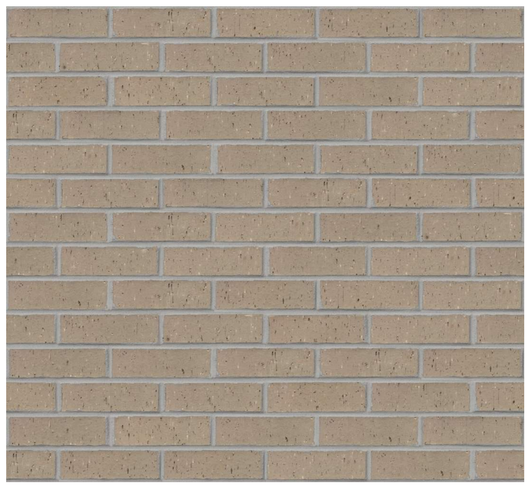
QUOIN BRICK
"SAVANNAH" SUMMITVILLE

ALUM. CLADDING SYSTEM
"TABLE WALNUT"

MAIN FIELD EIFS
"POPULAR GRAY" SW 6071

TOWERS & D/T. EIFS
"TONY TAUPE" SW 7038

(ADDED MATERIAL)

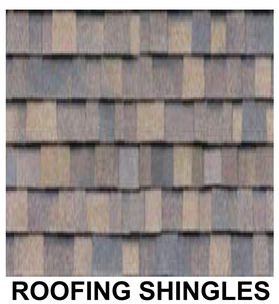


MAIN BRICK
"RALEIGH" SUMMITVILLE

(ADDED MATERIAL)

EIFS ACCENT FAUX TRIM
"SABLE SW6083"

(ADDED MATERIAL)



ROOFING SHINGLES
"MULTI"

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SAMPLE BOARD

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Date: 10-30-2025
Revision:

2025-111

A3

Culver's - Germantown

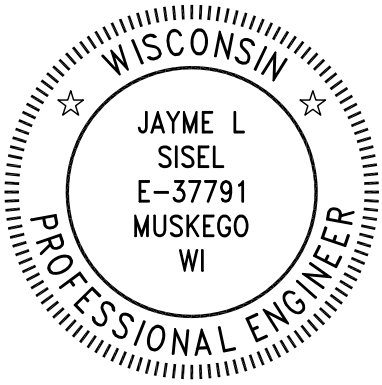
Mequon Road and Division Road
Germantown, Wisconsin

Storm Water Management Plan

Prepared by:

Trio Engineering LLC
4100 N. Calhoun Road
Brookfield, Wisconsin 53005
Contact: Josh Pudelko, P.E.
Telephone: (262) 790-1480
Email: info@trioeng.com

Sound Stormwater Design LLC
Contact: Jayme Sisel, P.E.
Telephone: (414) 286-4739
Email: jayme.sisel@soundstormwater.com



October 3, 2025

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Design Requirements 1

Project Site Description 2

Detention Volume Summary 2

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APPENDIX B Geotechnical Engineering Report

Introduction

Burgers & Braatz Properties, LLC is a proposing a new Culver's development on a parcel located on the northwest corner of Mequon Road and Division Road, 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:

Burgers & Braatz Properties, LLC
12455 Wrayburn Road
Elm Grove, Wisconsin 53122
Contact: Dan Braatz
Email: danbraatz23@yahoo.com
Phone: (262) 510-8057

Design Requirements

The following design standards have been used to develop the stormwater management plan for the Culver's development:

- 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:
    - Detention Volume: The Milwaukee Metropolitan Sewerage District's (MMSD) Chapter 13 Green Infrastructure requirements include developments that disturb less than 2 acres of area and increase the impervious surface area of a site by 5,000 sq-ft to 21,780 sq-ft. These sites are required to include green infrastructure with a detention volume equal to ½-inch multiplied by the area of the net new impervious surface.
    - Water Quality (Total Suspended Solids): Reduce to the maximum extent practicable the total suspended solids load from parking lots and roads by 40%, based on an average annual rainfall, as compared to no runoff management controls.

Project Site Description

The existing site is located on a portion of the former Blackstone Golf Club resort and is currently developed with an existing parking lot, golf cart paths, and a foundation from a former building that was recently removed. Refer to Figure 1, *Pre-Development Conditions Plan*, for the site location and existing land cover types.

The proposed development involves construction of a new Culver's restaurant, including a building, parking lot, drives, sidewalks and landscaping. The proposed development plan will disturb approximately 1.28 acres of area and will result in a net increase in impervious surface by approximately 0.15 acres.

Green infrastructure for the development will be provided by an ADS isolator row (IR) system beneath the west side of the proposed parking lot. Additionally, one sumped catch basin will be installed to treat runoff from the drive through area on the southeast portion of the site. Refer to Figure 2, *Post-Development Conditions Plan*, for details on proposed land cover, grading, drainage boundaries, and stormwater management improvements.

TABLE 1
Land Use Summary

Site Conditions	Impervious Area Breakdown (acres)				Total Impervious (acres)	Total Pervious (acres)	Total Area (acres)
	Roof	Parking	Drive	Sidewalk			
Pre-Development	0.15	0.51	0.05	0.09	0.80	0.48	1.28
Post-Development	0.11	0.44	0.36	0.04	0.95	0.33	1.28
				Impervious Surface Increase	**+ 0.15**		

Detention Volume Summary

Stormwater management for this development falls within the Milwaukee Metropolitan Sewerage District's (MMSD) Chapter 13 Green Infrastructure requirements which includes developments that disturb less than 2 acres of area and increase the impervious surface area of a site by 5,000 sq-ft to 21,780 sq-ft. These sites are required to include green infrastructure with a detention volume equal to ½-inch multiplied by the area of the net new impervious surface. The required detention volume for site is as follows.

TABLE 2
Detention Volume Summary

Impervious Surface Increase		GI Calculation		Detention Volume Required		Detention Volume Provided by ADS IR system
Acres	Sq-Ft					
0.15	6,534	$\frac{6{,}534 \text{ sq-ft} \times ½ \text{ in}}{12 \text{ ft/in}}$	=	**272 cu-ft**	<	**676 cu-ft**

Water Quality

The Village of Germantown requires redevelopment sites to be designed to remove 40 percent of TSS from parking lots and roads, based on an average annual rainfall as compared to no runoff management controls.

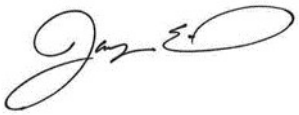
Stormwater quality was analyzed using SLAMM Version 10.5.0 software, developed by Robert Pitt and John Voorhees. The total TSS loading generated from the proposed parking areas and drives is approximately 548.8 lbs. Applying the 40 percent reduction to this loading requires at least 219.5 lbs be removed from the site. The results of the SLAMM analysis indicate that approximately 228.6 lbs of TSS will be removed from stormwater as a result of the proposed ADS isolator row system and the sumped catch basin. This meets the minimum 40 percent TSS removal requirement applied to the proposed parking areas and roads. Detailed computations are provided in Appendix A.

Conclusion

The proposed development will maintain compliance with the Village of Germantown, MMSD, and the WDNR's requirements for control of stormwater detention volume and quality. We request, on behalf of the owner, approval of this Stormwater Management Plan to allow for construction of the Culver's development.

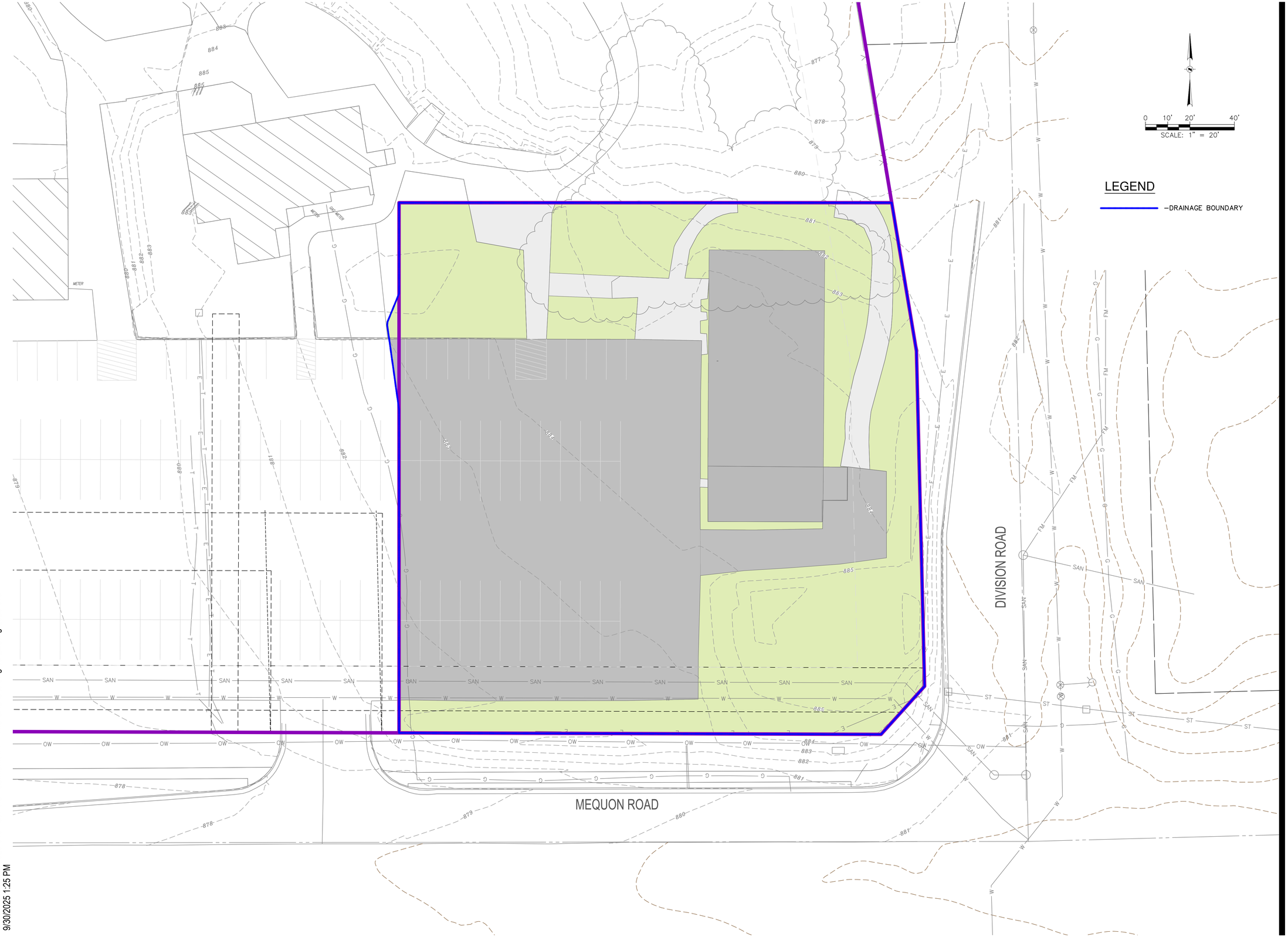
Prepared by:

SOUND STORMWATER DESIGN LLC



Jayme Sisel, P.E.

FIGURES



SOUND STORMWATER DESIGN

Copper Oaks Ct.
Muskego, WI 53150
414.286.4739
jayme.sisel@soundstormwater.com

CLIENT:

PROJECT TITLE:

CULVER'S - GERMANTOWN

MEQUON ROAD AND DIVISION ROAD
GERMANTOWN, WISCONSIN

DATE: 10-03-25

JOB NO: 2025-016

SHEET TITLE:

PRE-DEVELOPMENT CONDITIONS PLAN

FIGURE:

1

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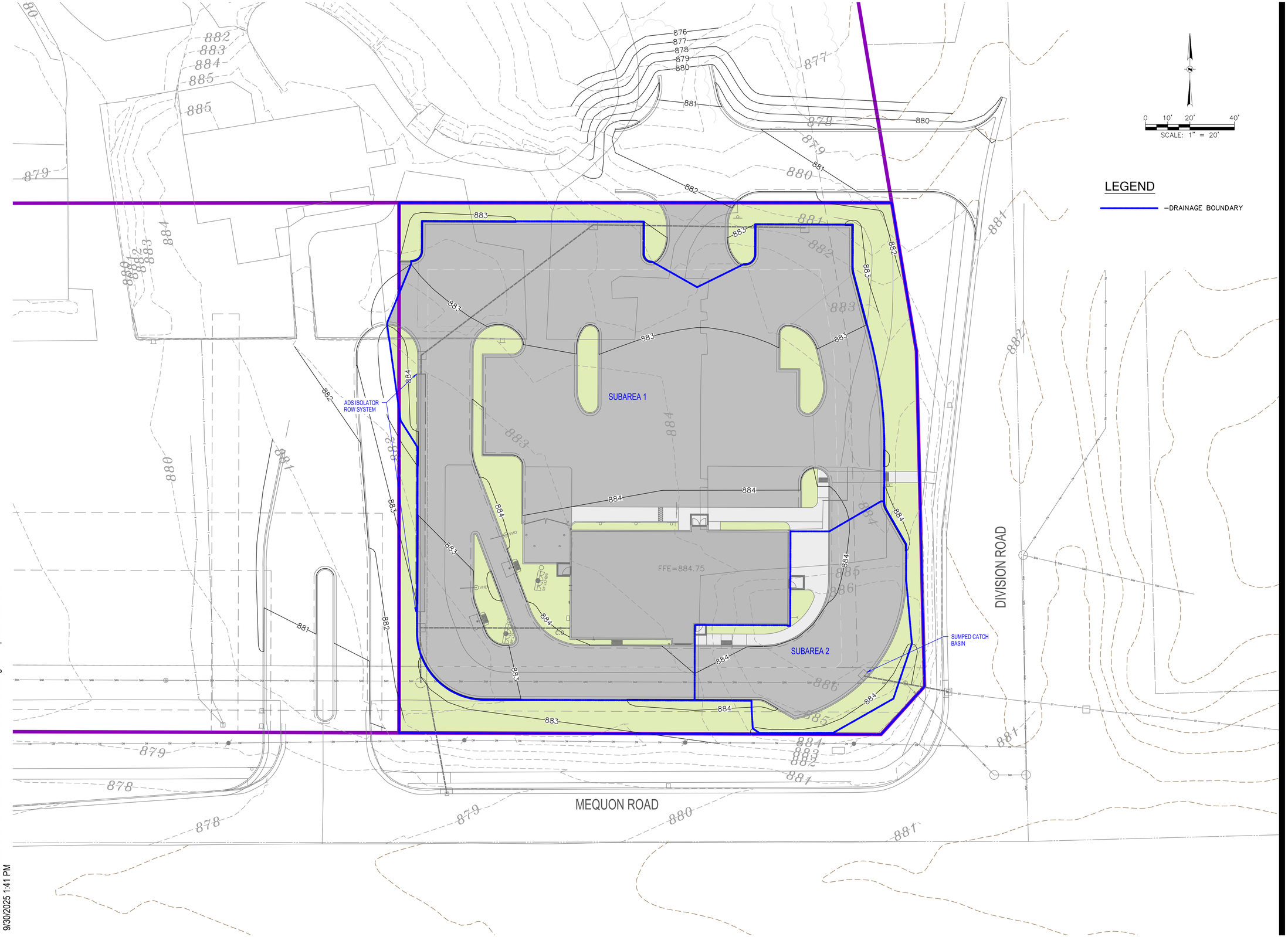

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SOUND STORMWATER DESIGN

Copper Oaks Ct.
Muskego, WI 53150
414.286.4739
jayme.sisel@soundstormwater.com

CLIENT:

PROJECT TITLE:

CULVER'S - GERMANTOWN

MEQUON ROAD AND DIVISION ROAD
GERMANTOWN, WISCONSIN

DATE: 10-03-25

JOB NO: 2025-016

SHEET TITLE:

POST-DEVELOPMENT CONDITIONS PLAN

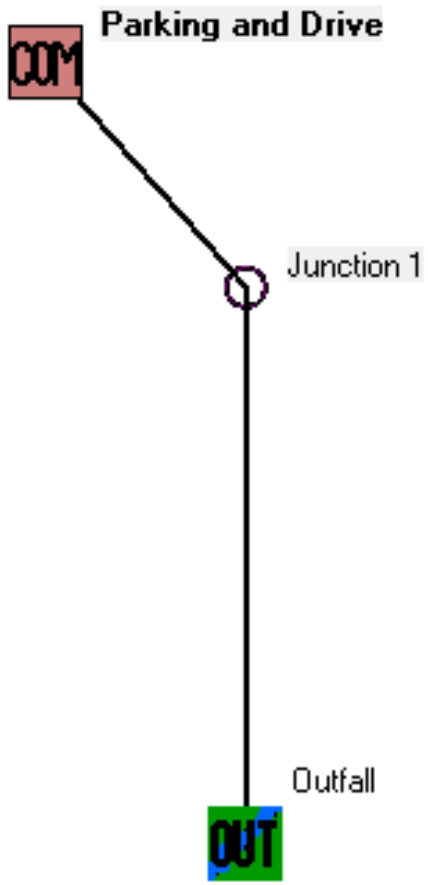
FIGURE:

2

APPENDIX A

Treatment Analysis

Parking and Drive Analysis



SLAMM for Windows Version 10.5.0
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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
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Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
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Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
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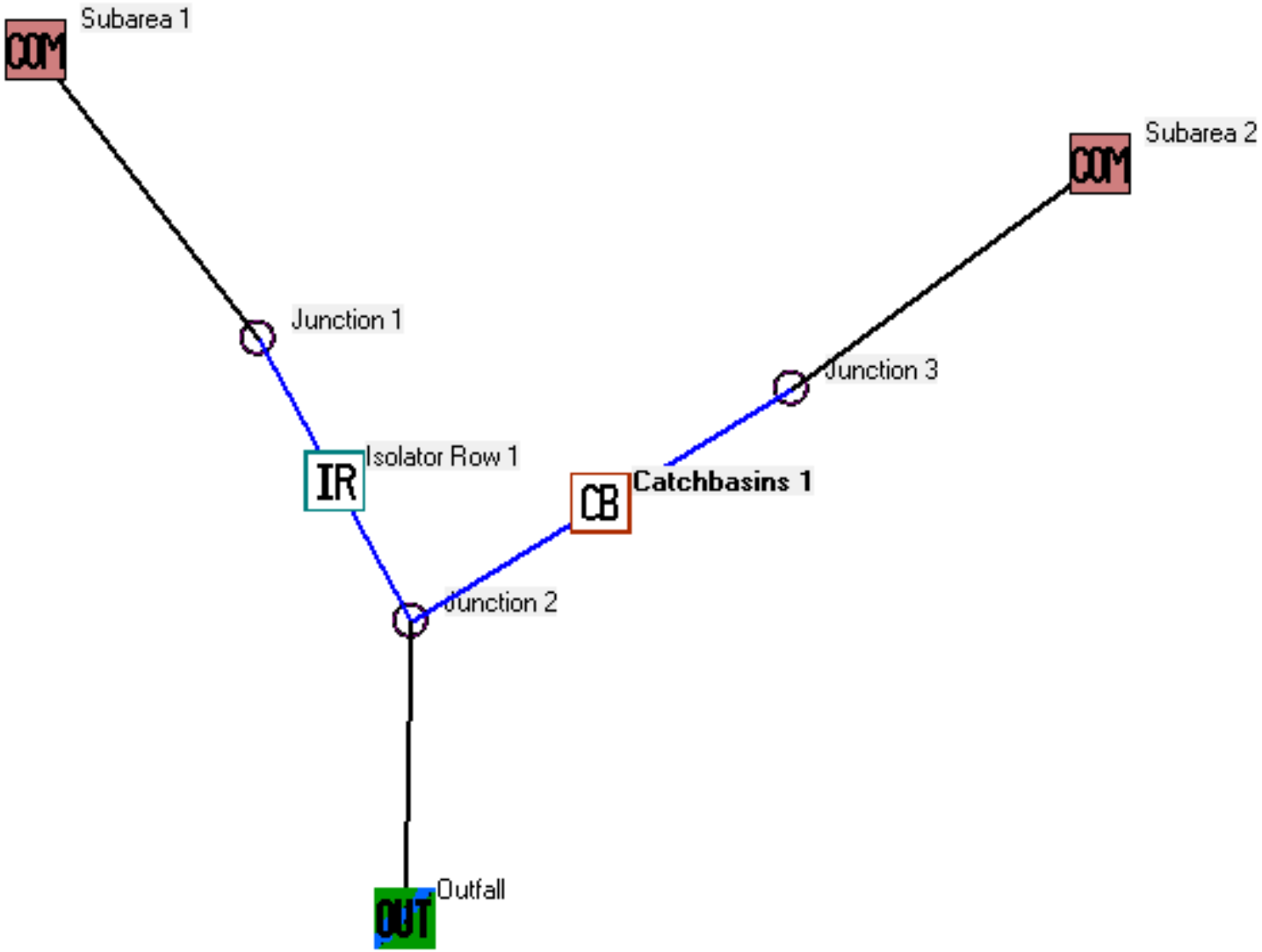
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Start 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: 09-29-2025 Time of run: 17:43:52
Total Area Modeled (acres): 0.800
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:	61460	-	140.8	540.2	-
Outfall Total with Controls:	61461	0.00%	140.8	540.2	0.00%
Annualized Total After Outfall Controls:	62314			547.7	

Data file name: C:\Data\Jobs\2025\2025-016 - Culvers - Germantown - TRIO\Project_Information\Calcs\SLAMM\Parking and Drive.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: 09-29-2025 Time: 17:44:04
Site information:

LU# 1 - Commercial: Parking and Drive Total area (ac): 0.800
     13 - Paved Parking 1: 0.440 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     25 - Driveways 1: 0.360 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Treatment Analysis



SLAMM for Windows Version 10.5.0
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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
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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: 10-02-2025 Time of run: 12:54:11
Total Area Modeled (acres): 1.070
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:	74396	-	126.4	587.0	-
Outfall Total with Controls:	74172	0.30%	77.41	358.4	38.94%
Annualized Total After Outfall Controls:	75202			363.4	

Data file name: C:\Data\Jobs\2025\2025-016 - Culvers - Germantown - TRIO\Project_Information\Calcs\SLAMM\Proposed_Culvers.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: 10-02-2025 Time: 12:54:19
Site information:

LU# 1 - Commercial: Subarea 1 Total area (ac): 0.920
  1 - Roofs 1: 0.110 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  13 - Paved Parking 1: 0.430 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  25 - Driveways 1: 0.270 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  31 - Sidewalks 1: 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  51 - Small Landscaped Areas 1: 0.090 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Subarea 2 Total area (ac): 0.150
  25 - Driveways 1: 0.100 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  31 - Sidewalks 1: 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  51 - Small Landscaped Areas 1: 0.030 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

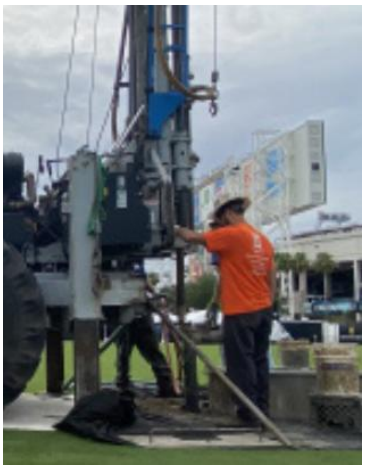
Control Practice 1: Isolator Row CP# 1 (DS) - Isolator Row 1
  Total available system length (ft) = 107
  Total available system width (ft) = 6
  Available height from chamber base to surface (ft) = 3.85
  Number of isolator rows = 1
  Native soil infiltration rate (in/hr) = 0.07
  Assumed stone porosity () = 0.40
  Sizing option: Number of rows and row length
    Number of rows = 1
    Row length ftf) = 107
  Selected Chamber Information
    Chamber type: SC-310
    Chamber height (in): 16.00
    Chamber width (in): 34.00
    Chamber segment length (in): 85.40
    Final storage volume (cf): 675.9333
    Number of rows: 1
    Row length (ft): 107.0
    Total system length (ft): 107.0
    Total system width (ft): 2.8
    Number of chambers: 15

```
   Overflow weir invert elevation (ft) = 2.35
   Orifice 1 invert elevation (ft) = 0.35
   Orifice 1 diameter (ft) = 1.00
   Drain Tile Present

Control Practice 2:  Catchbasin Cleaning CP# 1 (DS) - Catchbasins 1
   1.  Fraction of area served by catchbasins = 1.00
   2.  Number of catchbasins =  1
   3.  Average sump depth below catchbasin outlet invert (feet) =  3
   4.  Depth of sediment in catchbasin sump at beginning of study period (ft) =  0
   5.  Typical outlet pipe diameter (ft) =  1
   6.  Typical outlet pipe Mannings n =  0.013
   7.  Typical outlet pipe slope (ft/ft) =  0.02
   8.  Typical catchbasin sump surface area (square feet) =  6
   9.  Total catchbasin depth (feet) =  8
   10.  Inflow hydrograph peak to average flow ratio =  3.8
   11.  Leakage rate through sump bottom (in/hr) =  0
   12.  Catchbasin Critical Particle Size File Name:  Not needed - calculated by program
```

APPENDIX B

Geotechnical Engineering Report



ECS Midwest, LLC

Geotechnical Engineering Report

Culver's

NWC Mequon Road and Division Road
Germantown, Washington County, Wisconsin

ECS Project Number 42:2762

September 5, 2025

September 5, 2025

Mr. Joseph Dedick
Campbell Construction JC, Inc.
461 River Crest Court
Mukwonago, Wisconsin 53149

ECS Project No. 42:2762

Reference: Geotechnical Engineering Report
Culver's
NWC Mequon Road and Division Road
Germantown, Washington County, Wisconsin

Dear Mr. Dedick:

ECS Midwest, LLC (ECS) has completed the subsurface exploration, field and laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed scope of services. This report presents our understanding of the geotechnical aspects of the project, the results of the field exploration and laboratory testing conducted, and our design and construction recommendations.

It has been our pleasure to be of service to you on this project. ECS would like to continue its services during design and provide our services during construction to check the assumptions of subsurface conditions made for this report. Please contact us should you have questions about the information contained in this report, or if ECS can be of further assistance to you.

Respectfully submitted,

ECS Midwest, LLC

Lauren McGovern
Geotechnical Staff Project Manager
LMcGovern@ecslimited.com

Darin Maciolek, P.E.
Principal, Geotechnical Dept. Manager
DMaciolek@ecslimited.com

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Appendix A – Drawings & Reports

- Site Location Diagram
- Boring Location Diagram
- Subsurface Cross Section(s)
- Soil Survey Map

Appendix B – Field Operations

- USDA Classification System
- Exploration Procedures for Test Pits
- Reference Notes for Boring Logs
- Subsurface Exploration Procedures: SPT
- Boring Logs
- Test Pit Logs

Appendix C – Laboratory Testing

- Laboratory Testing Procedures: Index Testing

Appendix D – Supplemental Report Documents

- Soil Evaluation – Storm Form (SBD10793)
- Well Map
- Well Construction Record

Appendix E – Other Information

- Important Information about This Geotechnical-Engineering Report

EXECUTIVE SUMMARY

This Executive Summary is intended as a very brief overview of the primary geotechnical conditions expected to affect design and construction. Information gleaned from this Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- The main site development challenges are expected to include moisture control of the site soils, and excavation difficulties due to cobbles/boulders and shallow rock. The depth of rock should be considered in establishing site grades to help reduce excavation difficulties.
- A shallow foundation system bearing in competent native soils or bearing on engineered fill placed from a competent bearing native soil subgrade may be designed for a maximum, net, allowable bearing pressure of 3,000 psf. Undercut may be needed in areas. A higher 6,000 psf bearing pressure may be used for foundations bearing on rock.
- In our opinion the site soils can be characterized as Site Class C for seismic design considerations.
- The building floor slab thicknesses may be determined based on an estimated modulus of subgrade reaction of 125 psi/in. Undercut may be needed in areas due to the presence of existing fill.
- ECS recommends retaining walls be designed to withstand the lateral earth pressures exerted by the backfill, water, and surface or other surcharges. For rigid walls, restrained from rotation, the "at-rest" (k_o) soil condition should be used in the wall design and evaluation. For walls that are free to deflect at their tops, the "Active" (k_a) soil condition should be used in the wall design and evaluation. ECS recommends the walls be backfilled with a free-draining granular material.
- The site soils encountered at the boring and test pit located within the proposed stormwater management (SWM) area are anticipated to have low infiltration rates. Shallow bedrock is expected to be a limitation.
- It is recommended ECS review the design documents to evaluate consistency with our recommendations.
- We recommended ECS be retained for the construction materials testing to help facilitate proper implementation of our recommendations.

1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design of foundations, floor slabs, retaining walls, pavements, and stormwater management basins for the proposed Culver's. The recommendations developed for this report are based on project information supplied by Campbell Construction.

Our services were provided in accordance with ECS Proposal No. 42:4241-GP, dated July 16,2025, as authorized by Joseph Dedick of Campbell Construction via email on July 23, 2025, and includes the Terms and Conditions of Service included therein.

This report contains the procedures and results of the subsurface exploration and laboratory testing programs, a description of existing site conditions, engineering analyses, and geotechnical recommendations for the design and construction.

The report includes the following items:

- A brief description of the field and laboratory test procedures and results.
- A description of the observed surface topographical features and site conditions.
- A description of area and site geologic conditions.
- A description of the interpreted subsurface soil stratigraphy with pertinent available physical properties.
- Records of the subsurface explorations (test boring/test pit logs).
- Foundation recommendations.
- General ground-supported floor slab design recommendations, including a recommended design subgrade modulus value.
- Recommended seismic Site Class.
- Recommendations for design of site retaining walls.
- General recommendations for pavement design, including a recommended design CBR value.
- Evaluation and recommendations for wet detention pond design in accordance with the Wisconsin Department of Natural Resources Conservation Practice Standard 1001 and NRCS.
- Evaluation of infiltration in accordance with the Wisconsin Department of Natural Resources Conservation Practice Standard 1002 and NRCS.
- Recommendations for site preparation and construction of engineered fills, including an evaluation of on-site soils for use as engineered fills, and delineation of potentially unsuitable soils and/or soils exhibiting excessive moisture at the time of sampling.
- General considerations relative to groundwater.

The scope of services for this project did not include an environmental assessment for determining the presence or absence of wetlands, or corrosive, hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE/PAST SITE USE

The project site is located at NWC Mequon Road and Division Road in Germantown, Washington County, Wisconsin. The subject property is bounded to the north and west by golf course development, to the south by Mequon Road, and to the east by Division Road. The site location is shown in Figure 2.1.1 below, and on the Site Location Diagram in Appendix A.

Figure 2.1.1 Site Location (approximate site outlined in red)

The site is currently paved parking lot and grass-covered lawn of the existing golf course development. A gravel-surfaced area is present in the northern and eastern portions of the site. Based on the Proposed Soil Boring & Test Pit Exhibit prepared by TRIO dated July 10, 2025, the site descends slightly to the west, and the approximate site surface elevations range from EL. 879 to EL. 886 feet.

ECS performed a cursory review of aerial photographs of the subject site, dated 1941, 1950, 1963, 1970, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2013, 2015, 2017, 2020. 2022, and 2024 available on the Washington County GIS website. The site appeared to be occupied by a previous farmstead development on the 1941 to 1963 aerials (refer to the 1950 aerial below). Some structures appeared to have been removed on the 1970 aerial and new structures constructed on the 1980 aerial. The site appeared relatively unchanged since the 1990 aerial except for a building at the east end of the site, which appears to have been recently removed.

Figure 2.1.2 1950 Aerial Photograph

2.2 PROPOSED CONSTRUCTION

We understand the proposed project will include the construction of a building, pavement, and a stormwater management area. The information in the table below summarizes our understanding and estimates of the project.

DESIGN INFORMATION			
Subject		**Expectation**	
Building	Construction	Wood frame and masonry	B
	Dimensions	4,150± SF	B
	Usage	Restaurant	R
	Levels	Single-story, slab-on-grade	R
	Column Loads	40 kips maximum	B
	Wall Loads	2 kips per lineal foot (klf) maximum	B
	Slab-on-Grade Live Load	125 psf	B
	Finished Floor Elevation	885±	B
	Foundation Type	Conventional shallow spread footing foundation system	B
	Settlement Tolerance	1 inch total and ½ inch differential	B
Pavement	Type	Hot mix asphalt (concrete in high stress areas)	B
	Traffic	Unknown – Expected to be relatively light	B
	Design Service Life	20 years	B
SWM Device	Type	Linear chamber system	R
	Bottom Depth	4 to 6 feet below site grades	B
Site Grading	Cut	Less than 2 feet	B
	Fill	Less than 2 feet	B

R: Reported by client and/or design team
B: Based on ECS estimates in absence of information from client and/or design team

Estimates and presumptions were made in the formation of our scope of services. If different information becomes available and/or the design criteria are changed, we would be pleased to revise our scope of services.

If ECS' understanding of the project is not correct or the design changes, especially if the structural loads or elevations are different, please contact ECS so that we may review these changes and revise our recommendations, as appropriate.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

3.1 FIELD EXPLORATION

The exploration procedures are described in greater detail in Appendix B in the insert titled Subsurface Exploration Procedures: SPT.

ECS used a handheld GPS unit to field locate the borings prior to mobilization of the drilling equipment and excavator. The approximate as-drilled boring and test pit locations are shown on the Boring Location Diagram in Appendix A. Ground surface elevations at the boring locations estimated from the topographic information on the Proposed Soil Boring & Test Pit Exhibit prepared by TRIO dated July 10, 2025. Ground surface elevations and boring locations determined without professional survey are approximate and may not be appropriate for final design and construction.

3.1.1 Borings

The scope of services included drilling six borings at the site on August 19, 2025, by a subcontracted driller. Each boring was proposed to extend to an approximate depth of 15 feet below existing site grade, but each refused at depth of approximately 3½ to 6¾ feet. The drill crew utilized a 7822DT Geoprobe track-mounted rotary drilling rig equipped with continuous flight, hollow stem augers.

The drill crew backfilled the boreholes at completion of drilling. The pavement surface was patched with cold mix asphalt. Settlement of borehole backfill can occur over time resulting in a hazard. Monitoring the boreholes after initial drilling activities is not within our scope but should be done by the client or property owner.

3.1.2 Test Pits

Two test pits were dug by ECS on August 25, 2025. The test pits were dug with a Bobcat E35 excavator to approximate depths of 3 and 3½ feet below existing site grade where refusal occurred. The approximate test pit locations are indicated on the Boring Location Diagram in Appendix A.

3.2 SUBSURFACE CHARACTERIZATION

The observed subsurface conditions were generally consistent with published geological mapping. Information regarding the site geology (Soil Survey Mapping) is included in Appendix A. Below is a generalized characterization of the subsurface materials observed at the boring locations. Please refer to the Boring Logs in Appendix B. A graphical presentation of the subsurface conditions is shown on the Subsurface Cross Section Diagram(s) included in Appendix A.

GENERALIZED SUBSURFACE STRATIGRAPHY					
Approx. Depth to Stratum Bottom (feet)	**Strata**	**Description**	**SPT [1] N-value Range (bpf)**	**Calibrated Penetrometer Resistance (tsf)**	**Moisture Content (%)**
Surface	--	Asphalt (½ to 1½ inches ±), Base (4½ to 11 inches ±) Gravel (1 to 10 inches ±) Topsoil (5 inches ±)	--	--	--
1 to 1¾	I	FILL: (CL) LEAN CLAY and (CL-ML) SANDY SILTY CLAY, very stiff *[B-02, B-06]*	--	2.75	--
¾ to 3	II	(CL) LEAN CLAY with variable sand and gravel content, very stiff to hard	6 - 9	3 - 4.5	13 - 24
3 to 3½	III	(GC) CLAYEY GRAVEL *[TP-01, TP-02]*	--	--	--
3½ to 6¾	IV	(WR) Weathered Limestone	50+	--	--

1. Standard Penetration Test.

A well construction record for a well installed at the property indicates limestone bedrock at a depth of 1 foot. A copy of the well record and a map depicting the approximate location is included in Appendix D.

The soil stratification shown on the boring logs represents the interpreted soil conditions at the boring locations. Variations in the stratification can occur between sample intervals and between boring locations. The subsurface conditions at other times and locations on the site may differ from those found at the boring locations. If different site conditions are encountered during construction, ECS should be contacted to review our recommendations relative to the new information.

Because the split-spoon sampler has a 1⅜-inch inside diameter, the soil classifications noted on the boring logs may not be representative of the entire soil matrix. Material larger than the 1⅜-inch inside diameter of the split-spoon sampler cannot be collected and observed directly.

3.3 GROUNDWATER OBSERVATIONS

The drillers observed the boreholes and test pits for the presence of measurable free water during drilling and at the completion of drilling. The approximate depths and elevations of measurable water observed at the boring locations are listed on the boring logs in Appendix B.

Because mostly poor draining soils were encountered at the boring locations, the static groundwater level may take days or weeks to stabilize. Therefore, the observed groundwater levels or lack of observed water may not provide a reasonable indication of the static groundwater conditions at the time of drilling.

Based on the boring data, ECS estimates the static groundwater level to be deeper than the depths explored of approximately 3½ to 6¾ feet below the site surface at the boring locations.

Variations in the long-term water table elevation may result because of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors. Perched water conditions may also develop and/or exist at shallower or variable depths seasonally, particularly within more permeable soil underlain by less permeable soil, within existing fill, within existing utility and structure backfill, and within fissured soil.

3.4 LABORATORY TESTING

The laboratory services performed by ECS for this project included classification and index property tests on select representative soil samples.

Each soil sample was visually classified based on texture and plasticity using ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) as a general guideline. After classification, the samples were grouped into the major zones noted on the boring logs in Appendix B. The USCS group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the boring logs are approximate; in-situ, the transitions may be gradual.

The soils retained from the infiltration basin borings were also classified using the U.S. Department of Agriculture (USDA) Soil Classification System. The USDA classification system is briefly described in Appendix C. The USDA classifications can be found on the "Soil and Site Evaluation – Storm" form (SBD10793) included in Appendix D of this report.

The results of the laboratory tests are included on the boring logs in Appendix B or separate test sheets in Appendix C. These tests included:

- Moisture content (ASTM D2216)
- Calibrated Penetrometer Resistance

The laboratory procedures are described in greater detail in Appendix C including the insert titled Laboratory Procedures.

The soil samples will be retained in our laboratory for a period of 60 days, after which, the samples will be discarded, unless other instructions are received as to their disposal.

4.0 DESIGN RECOMMENDATIONS

The following sections contain geotechnical design recommendations for foundations, soil supported slabs, retaining walls, pavement, and stormwater management devices.

4.1 FOUNDATIONS

Provided subgrades and engineered fills are prepared recommended in this report, the proposed structure may be supported by a shallow conventional individual column (spread) footing and continuous wall (strip) footing foundation system. The existing undocumented fill should not be used for foundation support. The parameters in the table below are recommended for foundation design.

FOUNDATION DESIGN [1]			
Design Parameter		**Column Footings**	**Wall Footings**
Net Allowable Bearing Pressure [2]		3,000 psf	3,000 psf
Acceptable Bearing Soil Material		Stratum II, III or IV [5] [6]	Stratum II, III or IV [5] [6]
Minimum Foundation Width		24 inches	16 inches
Minimum Footing Embedment Depth (below slab or finished grade) [3]		24 inches	18 inches
Minimum Exterior Frost Depth (below final exterior grade)		48 inches	48 inches
Post-Construction Estimated Settlement [4]	Total	1 inch or less	1 inch or less
	Differential	½ inch or less between columns	½ inch or less

1. ECS recommends a structural engineer provide specific foundation details including footing dimensions, reinforcing, and other details.
2. Applied pressure in excess of the surrounding overburden soils above the base of the foundation and includes a factor of safety of 3.
3. For bearing considerations. Deeper frost embedment should be utilized for interior foundations not in continuously heated areas.
4. Based on estimated structural loads and anticipated bearing elevation(s). If final loads or bearing elevations are different, ECS must be contacted to update foundation recommendations and settlement estimates.
5. With an Unconfined compressive strength of 1½ tsf or more.
6. With corrected SPT N-values of 10 blows per foot or more.

Potential Undercuts: Most of the soils at the foundation bearing elevation(s) are anticipated to be adequate for support of the proposed structure. Where soft or otherwise unsuitable soils are observed at the footing bearing elevations, the unsuitable soils should be undercut and removed. Existing fill soils are recommended to be removed from below foundations. We recommend ECS be retained to observe and test the foundation bearing grade as recommended in the **Foundation and Slab Observations** section. It is also recommended backfill of foundation undercuts be done as recommended in the **Earthwork Operations** section.

Foundations on Rock: Depending on the final site grades, it is likely at least a portion of the building foundations will bear on rock, in which case, a higher bearing pressure is feasible. Foundations bearing on rock may be preliminarily designed for a 6,000 psf bearing capacity. Where the foundations would be supported on a combination of soil and bedrock, abrupt differential settlement is expected at transitions between soil and bedrock support. Where wall footings bear on a combination of bedrock and soil, undercut the bedrock at least 1 foot below the planned footing grade and replace with a compacted granular engineered backfill yield cushion to help reduce abrupt transitions. Individual column foundations that would be supported on a combination of soil and bedrock are recommended to bear completely on bedrock. Some foundation preparation may be required on the rock to help facilitate a relatively flat and smooth bearing surface, and to remove loose rock. A leveling course of lean concrete or granular material may be required to create an adequate working surface for structural work.

Foundation Lateral Loading: Lateral load resistance will be developed by friction or cohesion acting at the base of foundations, and the passive earth pressure developed by the footings below-grade. Passive pressure and sliding resistance (friction or cohesion) may be used in combination in estimating the lateral resistance. The parameters in the following table are recommended for lateral foundation loading.

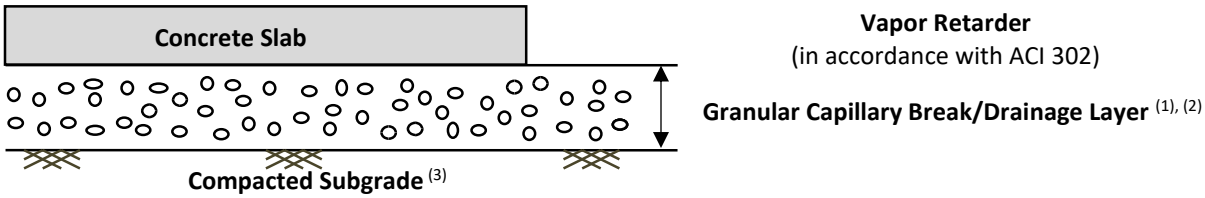
FOUNDATION LATERAL LOADING RESISTANCE PARAMETERS	
Soil Parameter	**Estimated Value**
Coefficient of Passive Earth Pressure (K_p)	2.0
Soil Moist Unit Weight (γ)	125 pcf
Cohesion [Concrete *on clay*] (C) [1]	1,000 psf
Interface Friction Angle [*Concrete on granular soil*] (ϕ_f)	21°
Sliding Friction Coefficient [*Concrete on granular soil*] (μ)	0.38
Sliding Friction Coefficient [*Concrete on rock*] (μ)	0.5
Passive Equivalent Fluid Pressure [2]	250H (psf/ft)

1. Cohesion may be used for lateral sliding resistance on the clay soil, but in no case should the lateral sliding resistance exceed half the dead load.
2. Neglect the passive resistance in the frost zone due to loss of strength seasonally and strain required to mobilize.

Design of the foundation for lateral loads should include a minimum factor of safety against sliding of 1.5 and overturning of 2. If the resultant force of the maximum vertical force does not act within the middle one-third (kern) of the footing, a smaller effective bearing area will occur and thereby result in a higher effective bearing pressure. If the soil to provide passive resistance against the side of the foundation may not be present during the life of the structure (e.g., the soil could be excavated or be subject to erosion) then passive pressure should be ignored. Anchored foundations could also be used to help resist overturning.

4.2 SLABS-ON-GRADE

Provided subgrades and engineered fills are prepared as discussed herein, the proposed floor slabs can be constructed as ground-supported slabs (or slabs-on-grade). Based on a lowest finished floor elevation of EL. 885 feet, it appears that the slabs will bear on newly placed engineered fill and/or Stratum I and II soil. Some areas of undercut should be expected due to existing fill. The following graphic depicts our soil-supported slab recommendations:



1. **Drainage Layer:** Minimum 6 inches thick
2. **Drainage Layer Material:** Gravel (GP, GW) having a maximum aggregate size of 1 inch, no more than 10 percent passing the No. 200 sieve, and follow the recommendations of ACI 302.
3. **Compacted Subgrade:** Compacted to at least 95 percent of the maximum dry density per Modified Proctor (ASTM D1557).

The structural engineer should determine the slab thickness and other requirements. The design should include adequate construction joints, contraction joints and isolation joints in the slab to reduce the impacts of cracking and shrinkage. Refer to the ACI 302.1R04 *Guide for Concrete Floor and Slab Construction* for additional information regarding concrete slab joint design. Inclusion of welded wire fabric or an appropriate fiber mesh admixture is recommended to help control shrinkage cracking.

Slabs-on-grade are recommended to be underlain by a granular drainage layer placed on a properly prepared subgrade as recommended in the **Site Construction Considerations** section. The granular material will serve as a capillary break, which if properly designed and installed can assist in more uniform curing of concrete.

Modulus of Subgrade Reaction: Provided the subgrade is prepared, and engineered fill and the granular drainage layer are placed as recommended in this report, design the slabs assuming an un-factored modulus of subgrade reaction, k_{v1}, of 125 psi/in (pounds per square inch per inch). This estimated modulus of subgrade reaction value is based on the recommended minimum drainage base thickness and correlation of index properties and soil type to historical 1 foot by 1 foot plate load tests.

Vapor Retarder: Inclusion of a vapor retarder should be considered if the building will contain moisture-sensitive floor coverings, equipment or materials. The vapor retarder will help reduce the potential of upward migration of water vapor from the soil into and through the concrete slab, which can contribute to excess humidity and microbial growth in the building. Where a vapor retarder is considered, special attention should be given to the surface curing of the slabs to reduce uneven drying of the slabs and associated cracking and/or slab curling. The designer should consider the moisture sensitivity of floor coverings and finishes, and the potential effects of slab curling and cracking when determining if the vapor retarder will be in direct contact with the slab or beneath a layer of granular fill. The use of a blotter or cushion layer above the vapor retarder may be considered for project specific reasons. Refer to ACI 302.1R04 *Guide for Concrete Floor and Slab Construction* and ASTM E 1643 *Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs* for additional guidance on these issues.

Positive drainage around the perimeter of the proposed structures should be used to reduce the potential for water accumulation under the structure elements. Slope exterior grades such that runoff is directed away from the structure. Direct downspouts away from the structure. Direct surface runoff to appropriate stormwater infrastructure.

Slab Isolation: Ground-supported slabs are recommended to be isolated from the foundations and foundation-supported elements of the structure to help reduce shear and bending stresses in the floor caused by differential movement between the foundations and slab. Where the structural configuration prevents the use of a free-floating slab, ECS recommends the slab be designed with suitable reinforcement and load transfer devices to preclude overstressing of the slab.

Frost Susceptible Areas: Frost susceptible soils were encountered. Exterior slabs and slabs in poorly or unheated areas, particularly around coolers and freezers, may be subject to frost heave. To help reduce frost heave potential, consider additional insulation, installation of subgrade drainage, and/or replacement to the frost depth with non-frost-susceptible backfill. Slope pavement and ground surface grades away from the building and flatwork, to help reduce water infiltration and potential frost heave problems.

4.3 RETAINING WALLS

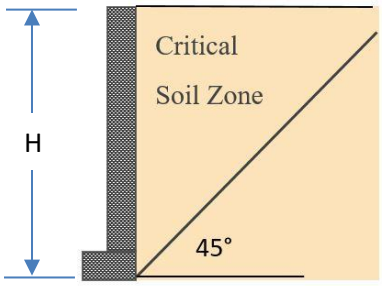
Retaining walls may be needed at the site for grade separation. Retaining walls are often constructed "bottom-up" and therefore the type of soil used to backfill the wall is chosen or specified by contract. The lateral earth pressures developed behind site retaining walls are commonly a function of the backfill and retained soil type, the zone of backfill behind the walls, and presence of water and surcharge loads.

Lateral Earth Pressures: The walls are recommended to be designed to withstand the lateral earth pressures exerted by the backfill, water, and surface or other surcharges. The pressure diagram is triangular. It is anticipated that retaining walls associated with the building structure, such as for the unloading/loading dock situation, will be rigid walls restrained from rotation by the floor slab. For rigid walls, the "at-rest" (k_o) soil condition should be used in the wall design and evaluation. For walls that are free to deflect at their tops, the "Active" (k_a) soil condition should be used in the wall design and evaluation. The parameters below are recommended for retaining wall design.

RECOMMENDED LATERAL EARTH PRESSURE PARAMETERS		
Zone	**Soil Parameter**	**Estimated value**
Aggregate Backfill (in Critical Zone)	Unit Weight (γ)	120 pcf
	Angle of Internal Friction (ϕ)	32°
	Cohesion (C)	0 psf
	Coefficient of Earth Pressure at Rest (K_o)	0.47
	At-rest Equivalent Fluid Pressure	57H (psf/ft)
	Coefficient of Active Earth Pressure (K_a)	0.31
	Active Equivalent Fluid Pressure	37H (psf/ft)
	Backslope	0° (flat)
	Surcharge Pressures	0 psf (none)

The lateral pressure design parameters indicated above are based upon drained conditions for the backfill materials behind the walls. If submerged or not drained higher nominal equivalent fluid pressures will result.

These parameters are based on free-draining granular aggregate meeting the recommendations herein for retaining wall backfill will be placed throughout the "critical zone" and the backfill will be properly drained. The critical zone is defined as the area between the back of the retaining wall structure and an imaginary line projected upward and rearward from the bottom back edge of the wall footing at a 45-degree angle. The parameters provided are based on the grade behind the wall and the grade in front of the wall being level. If the grade behind or in front of the wall will be sloped, contact us for revised parameters.



Refer to the **Foundations** section for lateral resistance due to cohesion/friction and passive pressure. Avoid the operation of heavy equipment to compact the wall backfill since it may overload and damage the wall. Such loads are often not considered in the design of retaining walls and are not considered for in our recommendations.

Wall Backfill: The backfill within the critical zone behind retaining walls is recommended to consist of crushed stone aggregate with a maximum of 15 percent fines (i.e., percentage of material passing a No. 200 Sieve), and minimum angle of internal friction of 32 degrees when compacted to a minimum of 95 percent of its maximum dry density per Modified Proctor (ASTM D1557). Remove material within the Critical Zone not meeting these criteria.

Wall Drainage: Retaining walls should be drained so that hydrostatic pressures do not build up behind the walls. Wall drains may consist of a 12-inch-wide zone of free draining gravel, such as AASHTO No. 57 Stone, placed directly behind the wall and separated from the soils beyond with a non-woven filter geotextile. Alternatively, the wall drain may consist of an appropriate geocomposite drainage board material. The wall drain should be hydraulically connected to the foundation drain discussed below. Note recycled concrete often has cement dust and other fines content that will be higher than typical crushed limestone or other natural aggregates, which could clog drains and geotextile fabrics, therefore recycled materials are NOT recommended as backfill in drainage layer/media applications.

A foundation drainage system is recommended to be included to help relieve hydrostatic pressures which may develop in the wall backfill. This system should consist of weep holes through the wall and/or a 4-inch perforated, closed joint drain line located along the backside of the walls above the top of the footing. The drain lines are recommended to be surrounded with a minimum of 8 inches of drainage aggregate, such AASHTO Size No. 57 Stone, wrapped with an appropriate non-woven geotextile that meets the requirements of AASHTO M288, Class 3, nonwoven, separation geotextile.

4.4 SEISMIC DESIGN CONSIDERATIONS

Seismic Site Class: The International Building Code (IBC) requires the site be classified as Site Class A, B, C, D, E or F in accordance with Chapter 20 of ASCE 7 based on the site soil properties. The three parameters used to classify sites are shear wave velocity (v_s); undrained shear strength (s_u); and Standard Penetration Test (SPT) resistance (N-value). The seismic Site Class definitions for the weighted average of shear wave velocity, shear strength or SPT N-value in the upper 100 feet of the soil profile are listed below.

SEISMIC SITE CLASS				
Site Class	**Soil Profile Name**	**Shear Wave Velocity, Vs, (ft./s)**	**N-Value (bpf)**	**S_u Value (psf)**
A	Hard Rock	Vs > 5,000 fps	N/A	N/A
B	Rock	2,500 < Vs ≤ 5,000 fps	N/A	N/A
C	Very dense soil and soft rock	1,200 < Vs ≤ 2,500 fps	>50	≥ 2,000
D	Stiff Soil Profile	600 ≤ Vs ≤ 1,200 fps	15 to 50	1,000 to 2,000
E	Soft Soil Profile	Vs < 600 fps	<15	≤ 1,000

It is our opinion, based on the subsurface conditions encountered and our knowledge of the area geology, the site soils can be characterized as Site Class C. If a more favorable Site Class is beneficial to the project, ECS would be pleased to discuss our ReMi testing capabilities.

4.5 PAVEMENT DESIGN CONSIDERATIONS

The following sections provide recommendations for pavements.

Subgrade Characteristics: A California Bearing Ratio (CBR) test is commonly used to determine soil support parameters for pavement design. A CBR test or other appropriate test was not part of the scope for this project, so it was necessary to estimate the CBR design value. Based on the subsurface conditions encountered, it appears the pavement subgrade soils will mainly consist of lean clay existing fill. The clay soil at the borings was found to have a very stiff to hard consistency at the anticipated subgrade, but because it is frost susceptible and does not drain well, it is generally considered a poor subgrade material. ECS estimated a preliminary design CBR value of 3 for the flexible pavement and a preliminary design modulus of subgrade reaction, k_{v1}, of 125 psi/in for the rigid pavement. The pavement design recommendations are based on the subgrade soil materials being evaluated by ECS, and the subgrade being prepared as recommended in the **Subgrade Preparation** and **Earthwork Operations** sections of this report.

The subgrade soils are considered moderately to highly susceptible to frost heave. A reduced service life, increased pavement maintenance and associated costs should be expected where the frost susceptible soil is present. The risk associated with frost susceptible soils can be reduced by removal of frost susceptible soils and replacement with properly drained low frost susceptible engineered fill. The greater the depth of frost susceptible material removed the lower the risk of frost heave up to the commonly used area frost depth of 4 feet. It has been our experience that removal depths in the range of 2 to 3 feet with appropriate drainage have often been successful in reducing frost-related issues. In areas where the pavement grade will be raised, low frost susceptible fill should be used.

Additionally, undocumented existing fill is present in areas. Undocumented fill presents a risk of reduced service life, increased pavement maintenance and associated costs. The risk associated with undocumented fill could be reduced by complete removal or partial removal of the undocumented fill and replacement with engineered fill and/or incorporation of a geogrid.

Pavement Sections: The recommended minimum pavement sections listed in the table below are based on the anticipated usage of the project site and a 20-year design service life, but were not developed based on specific traffic patterns, loading and resiliency factors, as those parameters were not provided by the design team. ***ECS should be contacted for potential revision of the pavement design recommendations once the traffic is known; otherwise, increased pavement maintenance and a shortened pavement life could result.*** The preliminary pavement sections below are guidelines that may or may not comply with local jurisdictional minimums.

RECOMMENDED MINIMUM PAVEMENT SECTIONS				
Pavement Material	**Compacted Material Thicknesses (Inches)**			
	Flexible Pavement		**Rigid Pavement**	
	Light Duty	**Heavy Duty**	**Light Duty**	**Heavy Duty**
Portland Cement Concrete [1]	--	--	5	6
Hot Mix Asphalt [2] **Surface Course**	1¾	1¾	--	--
Hot Mix Asphalt [2] **Binder Course**	1¾	2¼	--	--
Dense Graded Crushed Stone Base [3]	8	10	6	6

1. Section 415 of WisDOT Standard Specification for Highway and Structure Construction (WisDOT Standard Specs).
2. Section 460 of WisDOT Standard Specs.
3. Section 305 of WisDOT Standard Specs. ECS recommends dense graded crushed stone base. If crushed gravel or some other material is used in lieu of crushed stone, the material may have a lower structural coefficient and a thicker base may be required.

In frequent and higher stress traffic areas, such as where trucks frequently turn, drive through lanes, delivery areas, loading dock aprons, trash enclosure pads, and points of ingress or egress, heavy duty rigid (concrete) pavement is recommended and is recommended to be 7 inches thick.

Pavement materials and construction should be in accordance with the AASHTO Guide for Design of Pavement Structures, and the WisDOT Standard Specifications for Highway and Structure Construction.

If the pavements will be constructed early during site development to accommodate construction traffic, consideration should be given to the construction of designated haul roads, where thickened pavement sections are provided to accommodate the construction traffic, as well as the future in-service traffic.

Rigid Pavements: ECS recommends an air-entrained concrete mix (compressive strength of at least 4,000 pounds per square inch at 28 days) for rigid pavement. Adequate construction joints, contraction joints and isolation joints should be provided in the areas of rigid pavement to reduce the impacts of cracking and shrinkage. Please refer to ACI 330R-92 *Guide for Design of Concrete Parking Lots*. The ACI Guide recommends an appropriate spacing strategy for the anticipated loads and pavement thickness. It has been our experience that joint spacing closer to the recommended values in ACI results in a pavement with less cracks outside the joints and better long-term performance. Control joint spacing should be determined in accordance with the current ACI code. Separation joints should be provided where the pavement abuts fixed objects, such as the buildings and light poles.

Drainage: An important consideration with the design and construction of pavements is surface and subsurface drainage. Water which infiltrates the pavement and remains trapped within the pavement components during traffic loading is one of the leading causes of premature pavement failure. Based on the estimated groundwater level, surface water infiltration and seasonal perched water are expected to be the main sources of water for pavement design.

The permeability of the clay subgrade is expected to be low, which can cause water to remain within the base material for longer periods and reduce the base material support characteristics. The pavement surface is recommended to be shaped or crowned to properly direct surface water to suitable on or off-site stormwater drainage infrastructure. The pavement subgrade should be properly sloped or crowned to avoid dips or pockets where water may become trapped. Dips in the subgrade can result in a "bathtub" effect, which may trap water. This trapped water can soften the subgrade and potentially heave the pavement during freezing weather. The subgrade in areas requiring undercut and backfill with granular soils are recommended to be graded to drain toward a drainpipe. The drainpipe should be sloped a minimum of ½ to 1 percent to discharge to nearby storm sewers, drainage ditches or other appropriate drainage facilities. Edge drains should be installed where site grades slope toward the pavement edge to reduce the potential for water to enter the base course layer. Edge drains should be sloped to the nearest appropriate drainage facility. Water that ponds on the subgrade surface can lead to deterioration of the subgrade soils, reduction of the base course support characteristics, and result in pavement heave during freezing conditions. Good drainage should help reduce the possibility of the subgrade materials being wet over a long period of time.

Installation of "stub" or "finger" drains around catch basins and in other low-lying pavement areas should be considered to help reduce the accumulation of water above and within the subgrade soils and aggregate base. As an alternative to stub or finger drains, existing manholes and storm sewer inlets could be perforated with 1-inch diameter holes at 2-foot centers at the subgrade level. The holes are recommended to be covered with a wire mesh and the manhole/inlet wrapped with a non-woven

geotextile to reduce migration of material into the manhole/inlet. The excavation around the manhole is recommended to be backfilled with free draining granular materials. Consider installation of pavement edge drains or trench drains to reduce the accumulation of water within the base course and on the subgrade soils.

Water should not be allowed to pond behind curbs and saturate the pavement base course and subgrade. In downgrade areas, the base course should extend through the slope face to allow water to drain from the base course layer.

Maintenance: A sound maintenance program should be implemented to help maintain and enhance pavement performance and help attain the design service life. A preventative maintenance program should be started early in the pavement life to be effective. The "standard in the industry" supported by research indicates that preventative maintenance should typically begin within 2 to 5 years of the placement of pavement. However, maintenance of pavement on undocumented fill sites may require more maintenance and sooner. Failure to perform preventative maintenance will reduce the service life of the pavement and increase the costs for corrective maintenance and full pavement rehabilitation. Seal joints and cracks with elastomeric caulk in a timely manner to help reduce water infiltration through the pavement section into the base course layer, which may result in softening of the subgrade and deterioration of the pavement. Pavements should be observed for distresses, such as cracks, depressions and poor drainage, at least twice a year, typically once in the spring and once in the fall.

Shrinkage cracking is common with asphalt and occurs with age. Development of cracks should be expected with normal exposure to weather, wear and age. These cracks may become larger when exposed to such things as weather and vegetation growth and should be treated promptly.

4.6 INFILTRATION CONSIDERATIONS

The recommendations presented in this section are limited to stormwater infiltration considerations, which follows the general guidelines of WDNR Conservation Practice Standard 1002, Site Evaluation for Stormwater Infiltration. The recommendations in this section are based on the soil and groundwater conditions observed at Boring B-06 and Test Pit TP-01 anticipated to be located in the area of the proposed stormwater management (SWM) device.

Specific details of the proposed infiltration device and its location were not available at the time of this report preparation; it is recommended ECS be provided the infiltration device plans, when available, to check that the recommendations provided herein are applicable. ECS should be retained to provide observation and testing during infiltration device construction.

Our scope of services is not inclusive of each step involved in the initial site screening (Part A) of the WDNR Technical Standard 1002. Therefore, other conditions may exist at, or near the site that could exclude or exempt the site, or portions of the site from the infiltration requirements.

Infiltration Rates: Estimated soil infiltration rates based on the textural classification of the soils encountered and the guidelines provided in the WDNR Conservation Practice Standard 1002 no greater than 0.07 inches/hour and are listed on the Soil and Site Evaluation - Storm form (SBD10793) included in Appendix D. Infiltration rates based on soil textural classification and the guidelines provided in Table 2 of the WDNR Conservation Practice Standard 1002 should be adjusted for the least permeable soil layer within 5 feet of each of the listed intervals. These infiltration rates are estimates only. If better estimates of infiltration are required, ECS recommends field double ring infiltrometer tests be conducted.

Estimation of the final design infiltration rate should consider the effects of engineered fill placed, surface vegetation, erosion control devices, and potential groundwater mounding. Prior to and during construction, the design infiltration rate of the soil at the SWM device bottom should be verified. Compaction of the basin bottom subgrade during and following construction should be prevented as this may reduce the infiltration rate of the soil. This may require exclusion of construction traffic from the infiltration bottom, or loosening of the subgrade soil, such as by raking or discing. Sediment allowed to accumulate at the basin bottom will reduce infiltration. Measures should be taken to reduce accumulation of sediment. Periodic removal of sediment should be expected.

Seasonal High Water Table: Intermittent wet and dry periods may lead to soil mottling. The NRCS considers soil matrix or mottle colors of chroma 2 or lower (gray colors) as a potential indication of horizons that may be saturated for at least part of the year. The upper limits of this matrix or mottle coloration have been used to estimate the seasonal high water table. The presence of low chroma or gray soil colors or mottles in the observed soils suggest the estimated seasonal high water level may be at the approximate depths/elevations noted in the table below.

ESTIMATED SEASONAL HIGH WATER LEVEL		
Boring/Test Pit	**Approximate Depth (feet)**	**Approximate Elevation**
TP-01	Below 10.9	Below 910.1
B-06	3⅓±	911.7±

Estimation of the seasonal high water level based on colors (redoximorphic features) may not be reliable. Redox features can be difficult to distinguish in sandy soils. Also, we often don't know how often or long the soil is saturated at a given depth from color alone. A better estimate of the seasonal high groundwater table would require installation of groundwater observation wells along with observing the wells over a long time period.

Clayey soil was encountered at the boring locations. Areas where clayey soils are present within 5 feet of the bottom of infiltration basins can be considered to have an infiltration rate of less than 0.6 inches per hour. These areas would be exempt from infiltration because of the WDNR Conservation Practice Standard 1002 and the Wisconsin Administrative Code. That said, we anticipate the explored areas would be exempt from infiltration. Shallow bedrock is also expected to be a limitation.

Bedrock: Bedrock is estimated to be at approximate depths explored of 3 and 3½ feet at the SWM area Boring B-06 and Test Pit TP-01.

5.0 SITE CONSTRUCTION CONSIDERATIONS

5.1 SUBGRADE PREPARATION

The method of site preparation will be influenced by factors unknown at the time this report was prepared, which may include weather before and during construction, the possibility of subsurface conditions not revealed by the boring(s), and the final project details.

5.1.1 Stripping and Grubbing

The subgrade preparation should include stripping pavement, vegetation, rootmat, topsoil, and other soft or otherwise unsuitable materials from the 10-foot expanded building limits, 5-foot expanded pavement limits, and 5 feet beyond the toe of engineered fills, where feasible. The project team should

be prepared to remove unsuitable material in its entirety within the limits noted above. Because topsoil depths can vary greatly across a site the contractor should verify topsoil depths as part of their bidding process. ECS should be retained to observe and document that topsoil and other unsuitable surficial materials have been removed prior to the placement of engineered fill or construction of structures.

The subgrade should not be left exposed to the elements or construction traffic for a prolonged time as the subgrade may become disturbed and/or softened. If pavement or other protective coverings are not placed within a few days after exposing the final design subgrade, consideration should be given to leaving the subgrade approximately 1 foot above the final design subgrade, where feasible, to help reduce softening of the design subgrade soil.

5.1.2 Proofrolling

Prior to fill placement or other construction on subgrades, the subgrades should be evaluated by ECS. The exposed subgrade is recommended to be thoroughly proofrolled with construction equipment having a minimum axle load of 10 tons (e.g., fully loaded tandem-axle dump truck for clayey soils or a large vibratory smooth drum roller for sandy soils). The subgrade should be traversed with the proofroll equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle. This procedure is intended to assist identification of yielding subgrade materials.

Unstable or pumping subgrade areas identified during the proofroll should be repaired prior to the placement of subsequent engineered fill or other construction materials. Unstable subgrade repair methods, such as undercutting, or moisture conditioning and recompaction, or chemical stabilization, should be discussed with ECS to evaluate appropriate procedures to repair the existing conditions causing the instability. Test pits may be excavated in unstable areas to explore the shallow subsurface materials and to help determine the appropriate remedial action to stabilize the subgrade.

Seasonal reduction of the near surface soil strength can occur during wet times of the year (such as during the spring and fall months) or immediately following extended periods of rain. This may result in additional unstable or pumping subgrade areas. The high moisture content/low blow count clay materials, present near surface at some of the boring locations, may not pass a proofroll, and may need to be undercut or repaired. Some undercutting or repair of unstable subgrade soils should be anticipated during subgrade preparation. Dependent on the results of proofroll observations, undercuts of as much as 2 feet may be necessary to develop a stable subgrade. The method of subgrade repair or improvement chosen may be influenced by several factors such as weather and schedule, area, depth, and nature of the unstable subgrade soils. Depending on these and other factors the actual depth of subgrade undercut and/or stabilization method should be determined at the time of construction. Some common subgrade repair methods include the following or a combination of the following:

- Scarification, aeration, and recompaction;
- Undercut and replacement with engineered fill;
- Placement of a geogrid on the subgrade along with granular engineered fill; or,
- Chemical stabilization/modification techniques. Alterations to the pavement sections to include additional drainage, such as an open-graded aggregate subdrainage layer, may be needed if a chemically modified subgrade is used.

5.1.3 Site Temporary Dewatering

The contractor shall make their own assessment of temporary dewatering needs based upon the limited subsurface groundwater information presented in this report. Soil and groundwater conditions may vary

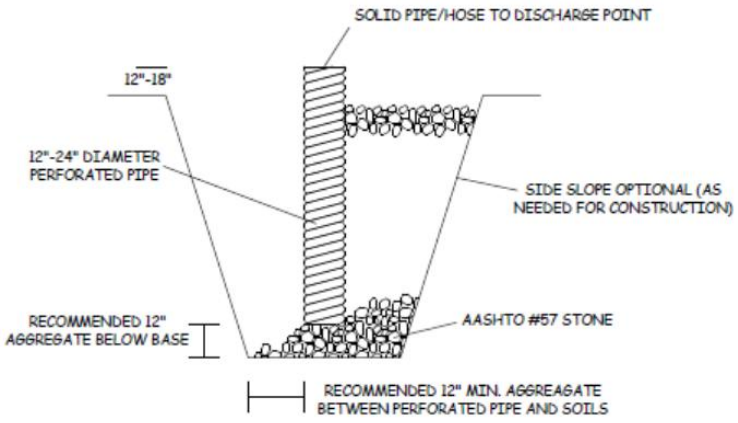
between sampling intervals. If the contractor believes additional subsurface information is needed to assess dewatering needs, the contractor should obtain such information at their own expense. ECS makes no warranties or guarantees regarding the adequacy of the provided information to determine dewatering requirements; such recommendations are beyond our scope of services.

Dewatering systems are a critical component of many construction projects. Dewatering systems must be selected, designed, and maintained by a qualified and experienced (specialty or other) contractor familiar with the geotechnical and other aspects of the project. The failure to properly design and maintain a dewatering system for a given project can result in delayed construction, unnecessary undercuts, detrimental phenomena such as 'running sand' conditions, heaved subgrades, internal erosion (i.e., 'piping'), the migration of 'fines' down-gradient towards the dewatering system, localized settlement of nearby infrastructure, foundations, slabs-on-grade and pavements, etc. Water discharged from site dewatering systems are recommended to be discharged in accordance with local, state and federal requirements.

Surface Water: The surface of the site should be kept properly graded to enhance drainage of the surface water to appropriate discharge or storage areas during construction. Effort should be made to enhance the natural drainage without interrupting its pattern.

Subsurface Water: Groundwater observations are described in the **Groundwater Observations** section of this report. Excavations for new conventional shallow foundations are not expected to extend below the groundwater level encountered at the boring locations. Based upon the results of the subsurface exploration and proposed construction, ECS' opinion is that construction dewatering at this site will be mainly to remove accumulated runoff water and perched water. Strategies for addressing groundwater are discussed below.

Strategies for Addressing Perched Groundwater: The typical strategy for addressing perched groundwater seepage into excavations and where excavations extend typically less than 1 to 2 feet below the water level, especially in areas containing primarily clay soils, is pumping from trench (or French) drains and sump pits with sump pumps which are backfilled with drainage aggregate such as AASHTO Size No. 57 Stone or open-graded bedding material. A typical sump pump drain (found in a sump pit or along a French drain) is depicted below. The inlet of the sump pump is placed at the bottom of the corrugated pipe and the discharge end of the sump is directed to an appropriate stormwater drain.



Sump Pit/Pump Conceptual Sketch

A typical French drain consists of an 18 to 24-inch wide by 18- to 24-inch-deep bed of AASHTO No. 57 aggregate (or similar open graded aggregate) wrapped in a medium duty, non-woven geotextile and (sometimes) containing a 6-inch diameter, Schedule 40 PVC perforated or slotted pipe. Actual dimensions should be determined during construction. After installation, the geotextile should be wrapped over the top of the aggregate and pipe followed by placement of backfill. The top of the drain should be positioned at least 3½ feet below the design subgrade elevation. Drains should not be routed within the expanded building limits.

Pumping wells or a vacuum system could also be used to address perched groundwater. These techniques often are only effective during the initial depletion of the perched water quantity and may quickly be ineffective at addressing accumulation of water from rain, snow, etc.

5.2 EARTHWORK OPERATIONS

The following sections describe existing fill, soil reusability, and recommendations for engineered fill.

5.2.1 Engineered Fill

Product Submittals: Prior to placement of engineered fill, representative bulk samples (typically at least 50 to 100 pounds) of on-site and off-site borrow per material type should be submitted to ECS for laboratory testing, which may include natural moisture content, organic content, grain-size distribution, Atterberg limits, and moisture-density relationships for compaction. Import material should be tested prior to being hauled to the site to determine if it complies with project specifications. Alternatively, Proctor data from other accredited laboratories can be submitted if the test results are within the last 90 days.

Satisfactory Engineered Fill Materials: Engineered fills should consist of materials free of debris with the following engineering properties.

ENGINEERED FILL INDEX PROPERTIES		
Subject		**Property**
Plasticity	Upper 4 feet in Building Areas and Upper 2 feet in Pavement Areas	LL ≤ 40, PI ≤ 15
	Below 4 feet in Building Areas and Below 2 feet in Pavement Areas	LL ≤ 50, PI ≤ 20
Max. Particle Size		3 inches
Max. Organic Content (by dry weight)		5 percent

Open-graded materials, such as coarser sands, and gravels (SP and GP), which contain increased void space in their mass may need to be encapsulated within a filter geotextile. If the engineered fill is to provide low-frost susceptible characteristics, the engineered fill must be classified as a clean GP or GW (or clean coarser SW or SP) per Unified Soil Classification System (ASTM D-2487) and must be properly drained.

Satisfactory Retaining Wall Backfill: Materials used as backfill within the critical zone behind retaining walls should have USCS classifications of sand or gravel with a maximum of 15 percent fines, and minimum angle of internal friction of 32 degrees when compacted to a minimum of 95 percent of its maximum dry density per Modified Proctor (ASTM D 1557). Material not meeting these criteria should be removed from the Critical Zone behind the walls.

Unsatisfactory Materials: Unsatisfactory fill materials, which do not satisfy the requirements for suitable materials, include topsoil and organic materials (PT, OH, OL), silt (ML) within the frost zone, and high plasticity soils elastic silt (MH) and fat clay (CH).

Pea gravel is not recommended to be used as engineered fill. Pea gravel has round/smooth characteristics, no fines and does not interlock when compacted, which makes it more susceptible to future movement and instability resulting in excessive and variable settlement.

On-Site Borrow Suitability: Soil deposits that meet the definition of Satisfactory Engineered Fill Materials are expected to be present at the site. Site soil used as engineered fill must not contain more than 5 percent organic matter as determined by ASTM D2974, and must be free of frozen matter, deleterious materials, over-sized material (maximum 3-inch particle diameter), or chemicals that may result in the material being classified as "contaminated." The on-site soil may be feasible to use as engineered fill with proper moisture conditioning during favorable conditions. Site soil considered for use as engineered fill should be further evaluated by ECS prior to its use.

Some soil samples had relatively high moisture contents so some drying of site soil prior to reuse as engineered fill is expected to be needed. This may involve spreading and discing to aerate, chemical modification or other methods to reduce the soil moisture to within a narrow range of the soil's optimum moisture content to facilitate placement and compaction. Reuse of soils having elevated moisture content is often a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum can be reused provided the moisture is properly adjusted to within a workable range of the material optimum moisture content. From a practical standpoint, wet soils can be difficult to dry, particularly within small or congested areas or during unfavorable weather, and such difficulties should be considered during planning and budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to reduce delays and unexpected cost overruns. It is important to establish as part of the contract whether soils having elevated moisture content will be considered suitable for reuse. Some conditions at the time of construction, such as wet or freezing weather, may preclude the use of on-site soil, and use of an imported less moisture sensitive and/or less frost susceptible granular material may be needed. Some sorting to remove over-sized material (i.e., cobbles and/or boulders, blocks of rock) is expected to be needed prior to re-use of on-site soil as engineered fill.

It may be feasible to reuse the existing base course material as base course or subbase for the new pavement but should be checked by ECS after the material is exposed and prior to its use. The existing granular base material that is planned to be reused as fill should be stripped clean (e.g., not mixed with bituminous material, subgrade soils and other foreign materials) and stockpiled separately. Prior to its reuse, the material is recommended to be tested, such as with grain-size distribution tests. Depending on the base course properties a reduced structural coefficient may be needed for design, which would require additional base course or a thicker hot mix asphalt section.

5.2.2 Compaction

Subgrade Benching: Fill material should be placed in horizontal lifts. Where fill materials will be placed to widen existing embankment fills, or placed up against sloping ground, the soil subgrade should be scarified, and the new fill benched and keyed into the existing material. Placement and compaction of fill is recommended to be on a 5 (H):1 (V) or flatter slope, or stepped or benched as required to flatten.

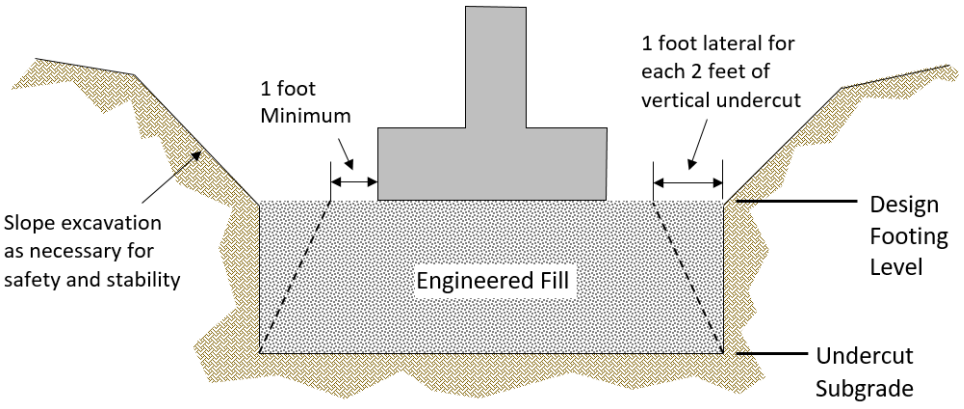
Engineered Fill Compaction: Engineered fill is recommended to be placed and compacted in appropriate thickness loose lifts as recommended below. Give as much importance to the moisture content requirements of the material as the density requirements during placement and compaction considering the moisture sensitivity of the soil.

ENGINEERED FILL COMPACTION RECOMMENDATIONS			
Subject			**Recommendation**
Compaction Standard			Modified Proctor, ASTM D1557
Recommended Compaction	Structural Areas		≥ 95 percent of Maximum Dry Density
	Landscape/Greenspace Areas		≥ 88 percent of Maximum Dry Density
Moisture Content		Fine-grained	-1 to +3 % points of the material's optimum value
		Coarse-grained	-3 to +3 % points of the material's optimum value
Maximum Loose Thickness			8 inches prior to compaction (1)

1. The maximum loose lift thickness depends upon the type of compaction equipment used and material being compacted. Density testing during fill placement is important to check and document that the specified compaction is being achieved. In some cases, thinner lifts than noted above and/or more compaction energy may be needed to achieve the required degree of compaction.

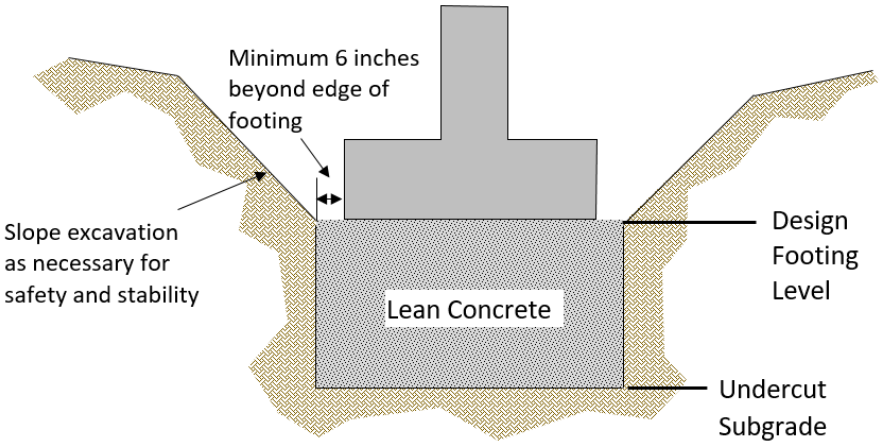
Compaction equipment appropriate for the material type being compacted should be used. Sheepsfoot compaction equipment is typically used for the fine-grained soils (clays). A vibratory steel drum roller is typically used for compaction of coarse-grained soils (sands and gravels) as well as to help seal compacted surfaces. Vibratory compaction methods should be done with caution near the water table because an unstable subgrade condition could develop. Static compaction and thinner lifts may be needed near the water table.

Engineered Fill Below Foundations: Unsuitable bearing material such as soft and very loose soils encountered at the proposed foundation bearing grade or within the foundation influence zone are recommended to be recompacted, if feasible, or removed to a competent bearing subgrade and to a lateral extent, as conceptually illustrated below and replaced with engineered fill. The zone of the engineered fill placed below the foundations is recommended to extend 1 foot beyond the outside edges of the footings and from that point, outward laterally 1 foot for every 2 feet of fill thickness below the footing.



Alternatively, undercuts could be backfilled with lean concrete ($f'_c \geq 1{,}000$ psi at 28 days) up to the original design bottom of footing elevation. The original footing should be constructed on top of the hardened lean concrete. If lean concrete is utilized the excavation is recommended to be 1 foot wider

than the footing (6 inches on each side), as conceptually illustrated below, and the lean concrete should be allowed to sufficiently harden prior to placement of the foundation concrete.



5.3 GENERAL CONSIDERATIONS

Fill Placement Considerations: Fill materials should not be placed on frozen soils, on frost-heaved soils, on excessively wet soils, or soils that are otherwise unstable. Borrow fill materials should not contain frozen materials at the time of placement, and frozen or frost-heaved soils should be removed prior to placement of engineered fill or other fill soils and aggregates. Excessively wet soils or aggregates should be scarified, aerated, and moisture conditioned.

Excavation Safety: Excavations and slopes should be maintained in accordance with OSHA excavation safety standards. The Contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The Contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. In some cases, the use of shoring, bracing, or trench boxes may be required. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Undocumented Fill Considerations: Existing undocumented fill was encountered at a few of the boring locations. Additionally, aerial photographs indicate previous development at the site. Unsuitable materials may be buried beneath the site surface not identified by the borings. Questionable material encountered is recommended to be evaluated by ECS to determine if removal and replacement with engineered fill is necessary. Alteration to the recommendations of this report may be needed, if conditions different than those noted on the boring logs are revealed.

Test Pit Considerations: The test pit excavations were backfilled with the excavated soils using nominal compaction effort. Complete removal of the test pit backfill material and replacement with engineered fill is recommended during site preparation activities. If the materials are not removed and backfilled properly, settlement of the test pit backfill should be expected, along with the resultant movement, and potential distress to structures and pavements resting upon this material.

Bidding/Estimating Considerations: Contractors bidding or undertaking work at the site should examine the results of the subsurface exploration, satisfy themselves as to the adequacy of the information for bidding and construction, make their own interpretation of the data, and consider the effect it may have on their cost proposal, construction techniques, schedule, and equipment capabilities. Furthermore, it is recommended contractors complete additional fieldwork and exploration they deem necessary to properly prepare a cost proposal for the site work. Soil borings do not provide the same wide-scale view of the subsurface conditions that is obtained during site grading, excavation or other aspects of earthwork construction. Additional scope may be required to obtain more detailed subsurface information needed for earthwork bid preparation, which could include test pits to better understand the lateral and vertical extents of subsurface materials of concern, particularly topsoil and existing undocumented fill, which may not be as easily identifiable from disturbed auguring and/or with spilt-spoon samples. Even with this additional information, budget contingencies should be carried in construction to help cover potential variations in subsurface conditions.

5.4 DIFFICULT EXCAVATION

Excavation and site grading difficulties are expected to occur due to cobbles, boulders and shallow bedrock, but will depend on the final site grades.

The degree of excavation difficulty generally depends upon the depth of excavation and capabilities of the excavation equipment. The rip-ability of extremely dense material and bedrock depends on several factors, including the nature of the soils/rock, moisture content, strength, degree of weathering, and the type of excavation equipment. Based on historical data and conversations with excavation contractors, it is our opinion that standard penetration test (SPT) N-values provide only a preliminary general indicator of the rip-ability of extremely dense soil/weathered rock. Soils having SPT N-values less than 50 bpf can usually be excavated with standard construction techniques. Soils with N-values above 50 bpf, and where auger refusal has not yet been met, can usually be excavated with larger machinery equipped for ripping rock. Some of the likely attachments would include heavy shanks (ripping teeth), shank protectors, and narrow track shoes. Extremely dense soils and rock where auger refusal has been met will likely need blasting to remove the rock. Excavatability of bedrock material will be greatly controlled by in-situ jointing and bedding and may vary from location to location.

In our opinion, excavation contractors should expect special excavation equipment to be necessary and excavation rates will be slow. The boundary between soil and rock may not be sharply defined due to variations in weathering and potential presence of cobbles and/or boulders in the till above the bedrock. ***Consider additional test pits to better evaluate the most cost-effective excavation methods, and to further confirm the material types and depth of bedrock.*** Test pits performed are recommended to be backfilled with engineered fill properly benched out into the surrounding soil.

The approximate depth and elevation of difficult excavation anticipated at the test boring locations is indicated in the table below. The depth is expected to be variable based on the test borings. Therefore, the depth and elevation of difficult excavation outside the test boring locations may be shallower or deeper than interpolated from the table. These depths and elevations should be considered when establishing site grades to help reduce excavation difficulties.

APPROXIMATE DEPTH/ELEVATION OF DIFFICULT EXCAVATION		
Test Boring	**Depth Below Ground Surface (Feet)**	**Elevation**
B-01	3½	881
B-02	2½	882
B-03	3	881.5
B-04	1	883.5
B-05	1	881.5
B-06	3	879.5
TP-01	3½	880.5
TP-02	3	881.5

Excavation and removal problems may occur and should be expected and budgeted for this project. Geophysical testing could be done to help estimate the ripability of the bedrock for a given piece of equipment. The anticipated depths and elevations of difficult excavation should be taken into consideration when establishing site grades. To help reduce excavation difficulties, site grades should be kept as high as practical.

If blasting is performed, it should be done so carefully by a qualified specialty contractor so that nearby construction is not damaged. Pre- and post-blast video surveys of the surrounding properties are recommended to be performed in the presence of the adjacent property owners or representatives to help reduce the potential for fraudulent post-blast liability claims. A maximum peak particle velocity of less than 2 inches per second is typically considered the threshold for building damage, but the human annoyance threshold is less. Therefore, control of blasting vibrations and vibration monitoring is recommended. Additionally, blasting of bedrock has a potential to cause carbon monoxide gas to develop and migrate through utility trenches or fractures in the bedrock. Appropriate precautions should be taken to prevent migration of gases and nearby property owners should be notified.

Blasting frequently results in over-break (rock breakage exceeding that required for excavation to design grade), or fractures and disturbance to a greater depth than desired. If it is necessary to blast, over-break should be removed and replaced with structural compacted fill. Disturbed or loosened rock that is left in-place could cause excessive structural settlement. The distinction between soil and rock excavation should be clearly delineated in the construction documents; otherwise, costly contract disputes and change orders could result.

The specifications should call out excavation as being either classified or unclassified. Unclassified excavation means it is left up to the contractor to determine his own means and methods to excavate material and one unit price is used for excavation regardless of the material that is present on the site. Classified excavation is typically used on sites where excavation problems are expected either due to difficult excavation from shallow bedrock or granular (caving) soil. On sites with shallow bedrock, such as this site, specifications typically read that material that can be excavated with a given piece of equipment with a given amount of torque (foot-pounds) will be considered "normal" excavation and excavation requiring equipment with a greater amount of torque (foot-pounds) will be considered "special" excavation. Contractors are then required to provide unit rates for "normal" excavation and a separate rate for "special" excavation.

5.5 FOUNDATION AND SLAB OBSERVATIONS

Protection of Foundation Excavations: Exposure to the environment may weaken the soils at the footing bearing level if the foundation excavations remain open for too long a time. Foundation concrete should be placed the same day that excavations are made. If the bearing soils are softened by

surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete. If the foundation concrete will not be placed soon after excavation and observation and testing of bearing grade, or if rainfall becomes imminent while the bearing soils are exposed, consider placement of a 2 to 3-inch thick "mud mat" of "lean" concrete on the bearing soils before the placement of reinforcing steel to help protect the bearing material otherwise a recheck of the bearing grade may be needed.

Footing Subgrade Observations: The recommendations of this report are predicated upon ECS checking the suitability of the in-situ foundation support soils during construction. The suitability of the actual bearing grade is recommended to be observed and tested to check that the soils are as indicated by the borings and are capable of supporting the recommended maximum net allowable bearing pressure.

Slab Subgrade Observation and Testing: ECS should be retained to observe and test the exposed subgrade within the expanded building limits prior to engineered fill placement and slab construction to check that adequate subgrade preparation has been achieved as recommended in the **Subgrade Preparation** section.

5.6 UTILITY INSTALLATIONS

Utility construction should follow *The Standard Specifications for Sewer and Water Line Construction in Wisconsin*.

Utility Subgrades: The soils encountered at the boring locations are expected to generally be adequate for support of utility pipes. It is recommended ECS be retained to observed and test the subgrade materials encountered at the time of construction for stability. Existing fill, soft, very loose or otherwise unsuitable materials encountered at the subgrade should be removed and replace with appropriate engineered fill or pipe bedding material.

Utility Backfilling: The granular bedding material (often AASHTO No. 57 stone) should be at least 4 inches thick, but not less than that specified by the civil engineer's project drawings and specifications. We recommend that the bedding materials be placed up to the springline of the pipe. Fill placed for support of the utilities, as well as backfill over the utilities, should satisfy the recommendations for engineered fill and fill placement.

6.0 CLOSING

ECS has prepared this report to guide geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation, express or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS. If this information is inaccurate, either because of our interpretation of the documents provided, or site or design changes that may occur later, ECS should be contacted so that we can review our recommendations and provide additional or alternate recommendations as may be required to reflect the proposed construction.

We recommend ECS review the project's plans and specifications so that we may evaluate consistency of those plans/specifications with the intent of the geotechnical report recommendations.

Field observations and quality assurance testing during earthwork and foundation installation are an extension of, and integral to, the geotechnical design recommendations. We recommend that ECS be retained to apply our expertise throughout the geotechnical phases of construction, and to provide consultation and recommendations should issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

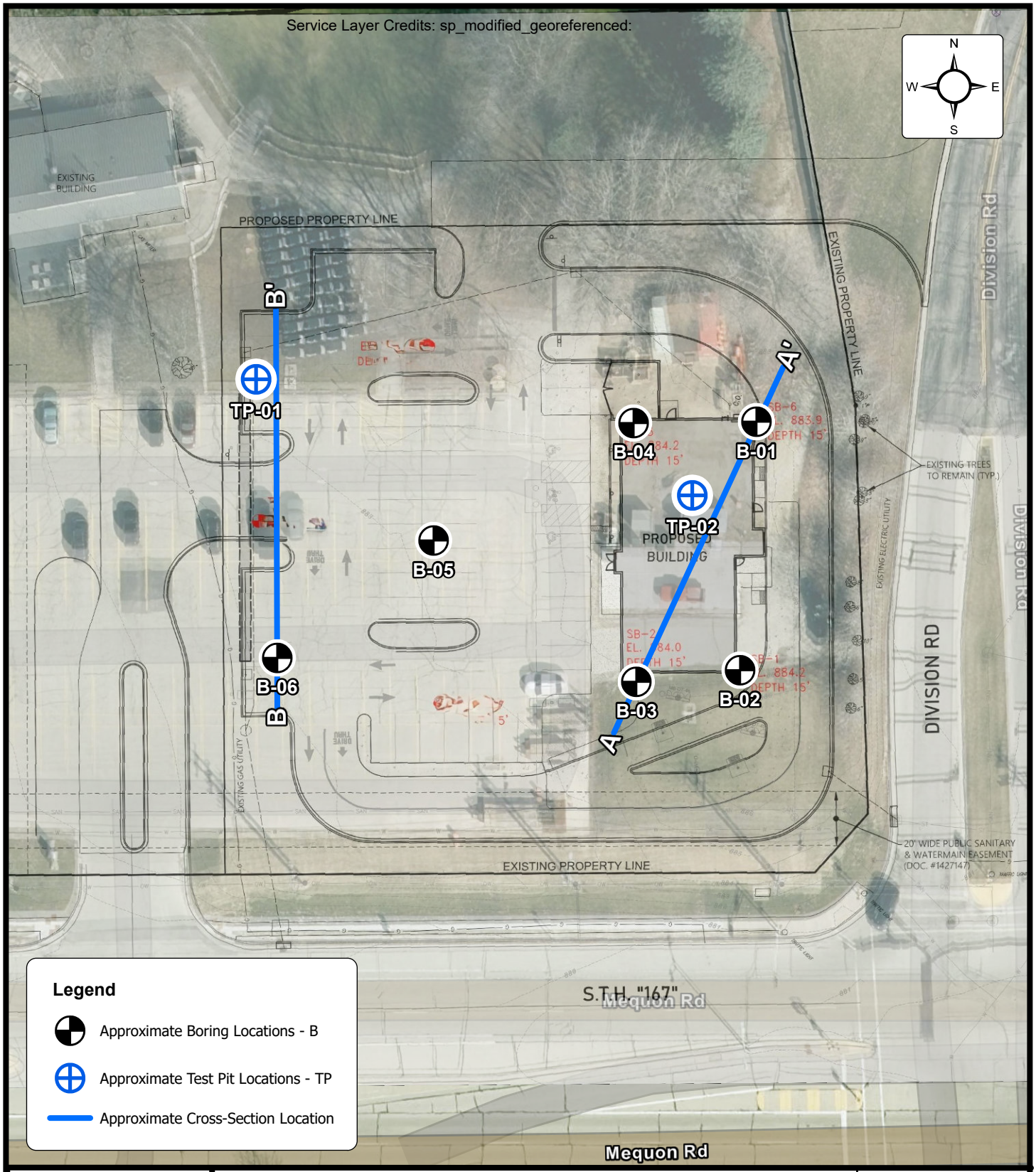
Appendix A - Drawings and Reports

Site Location Diagram
Boring Location Diagram(s)
Subsurface Cross-Section(s)
Soil Survey Map

SITE LOCATION DIAGRAM
Culver's, Germantown

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

ENGINEER	DM1
SCALE	1" = 500'
PROJECT NO.	42:2762
SHEET	SLD
DATE	8/27/2025

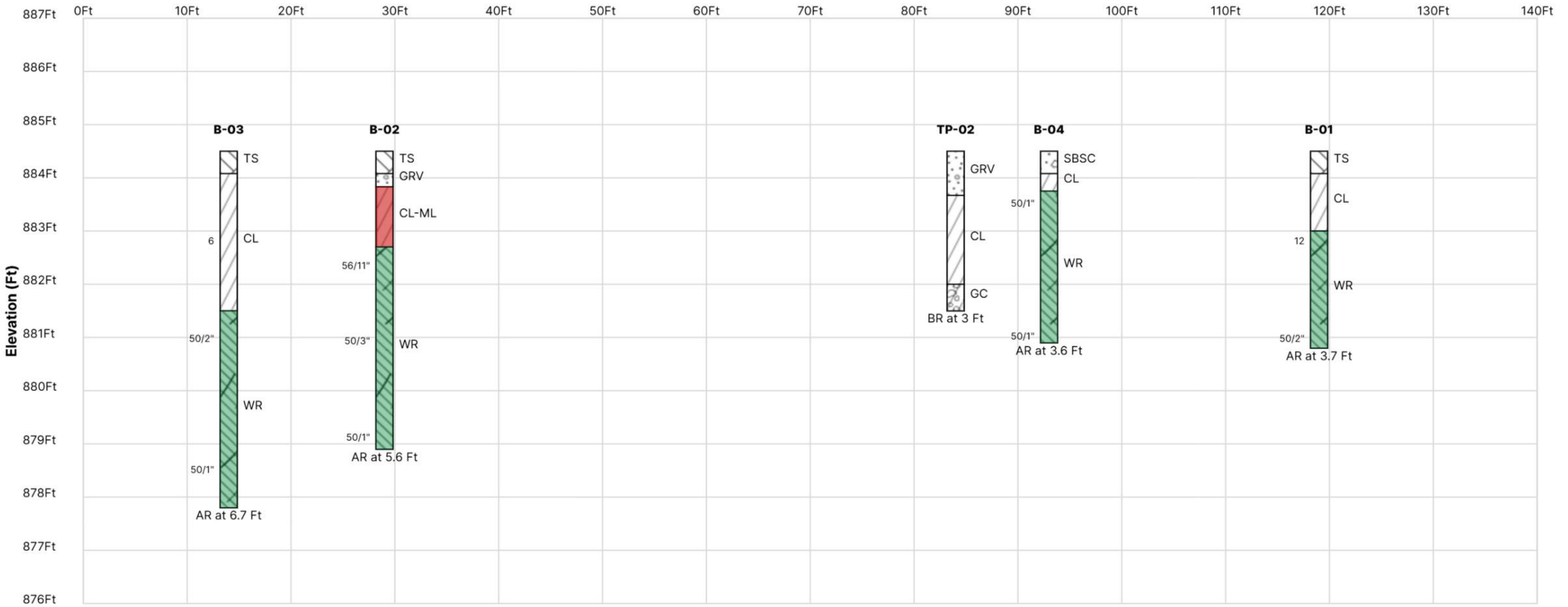


BORING LOCATION DIAGRAM
Culver's, Germantown

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

ENGINEER	DM1
SCALE	1" = 50'
PROJECT NO.	42:2762
SHEET	SLD
DATE	8/27/2025

Generalized Subsurface Cross Section Line A



CLIENT:	Campbell Construction JC, Inc.	PROJECT:	Culver's, Germantown
DRAWN DATE:	9/5/2025	PROJECT NO.:	42:2762
CHECKED DATE:	9/5/2025	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
3-STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).
4- TOPOGRAPHIC INFORMATION IS BASED ON PUBLICLY AVAILABLE DATA (GOOGLE OR CESIUM).THE TOPOGRAPHIC LINE SHOWN BETWEEN BORINGS IS FOR VISUAL REFERENCE ONLY.PLEASE REFER TO THE REFERENCE NOTES FOR BORING LOGS FOR SYMBOLOGY MEANING AND ADDITIONAL INFORMATION.

Plastic Limit Water Content Liquid Limit X—●—△		▽	WL (First Encountered)		Fill
[FINES CONTENT %]		▼	WL (Completion)		Possible Fill
▰	BOTTOM OF CASING	▼	WL (Estimated Seasonal High Water)		Probable Fill
100%	LOSS OF CIRCULATION	▽	WL (Stabilized)		WR/Rock
○	CALIBRATED PENETROMETER				

Generalized Subsurface Cross Section Line B

CLIENT:	Campbell Construction JC, Inc.	PROJECT:	Culver's, Germantown
DRAWN DATE:	9/5/2025	PROJECT NO.:	42:2762
CHECKED DATE:	9/5/2025	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
3-STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).
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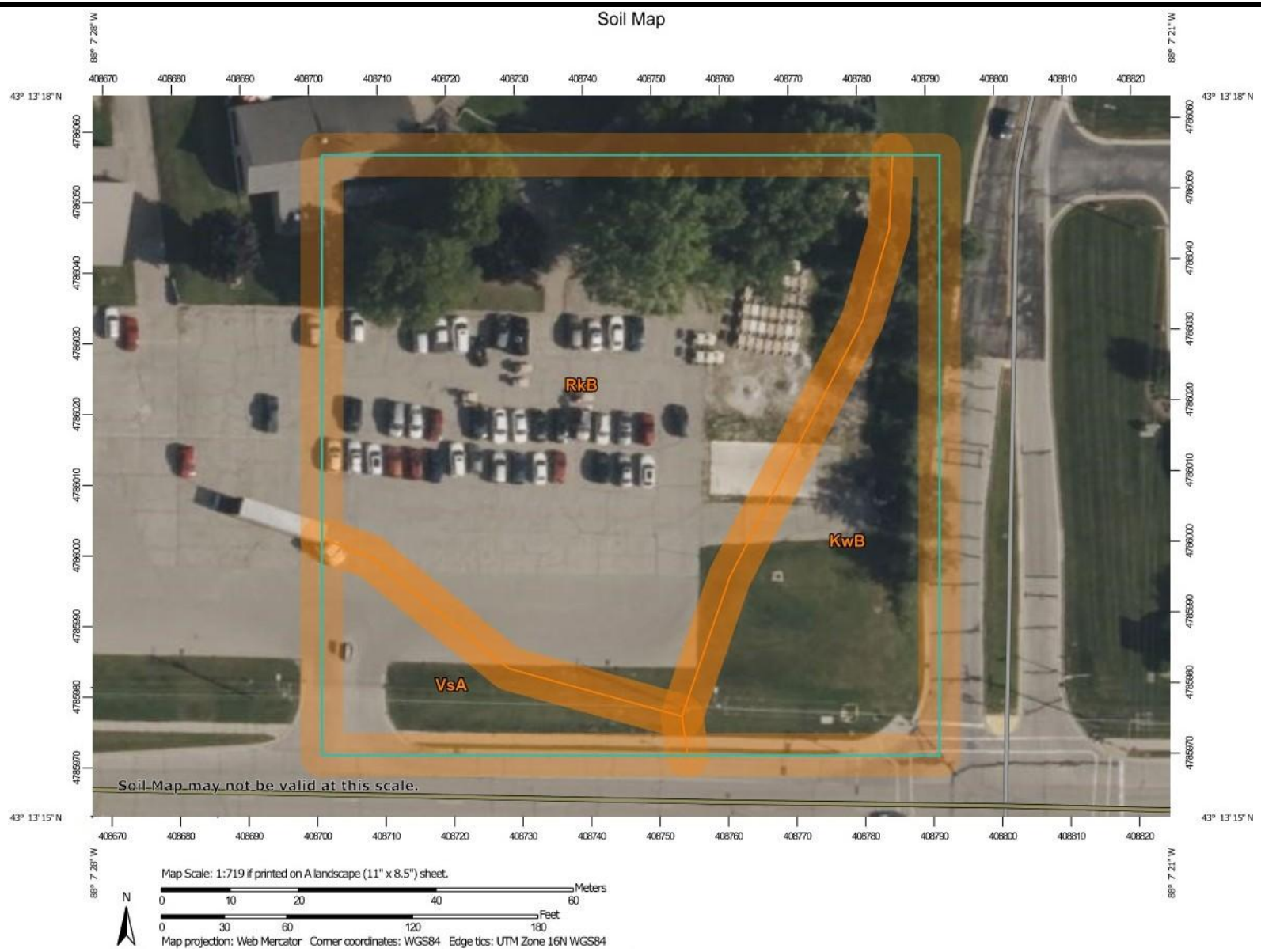
Plastic Limit Water Content Liquid Limit X—●—△		WL (First Encountered)	Fill
[FINES CONTENT %]		WL (Completion)	Possible Fill
BOTTOM OF CASING		WL (Estimated Seasonal High Water)	Probable Fill
LOSS OF CIRCULATION		WL (Stabilized)	WR/Rock
CALIBRATED PENETROMETER			



SOIL SURVEY MAPPING

Culver's

NWC Mequon Road and Division Road, Germantown, Wisconsin

Campbell Construction JC, Inc.

Engineer	DM
Scale	AS SHOWN
Project No.	42:2762
Figure	SSM
Date	9/2/2025

SUMMARY OF SOIL SURVEY MAP UNIT CHARACTERISTICS			
Item	**Map Unit**		
Symbol	KwB	RkB	VsA
Name	Knowles silt loam	Ritchey silt loam	Virgil silt loam, gravelly substratum
Landforms	Ground moraines	Bluffs	Drainageways on outwash plains
Parent Material	Loess over loamy till over dolomite	Fine-loamy loess over till over dolomite	Loess over calcareous, stratified sandy and gravelly outwash
Typical Soil Profile	silt loam, silty clay loam, clay loam, bedrock	silt loam, clay loam, bedrock	silt loam, silty clay loam, sandy loam, stratified gravel to sand
Shrink-Swell Potential	Moderate	Moderate	Moderate
Potential for Frost Action	High	Moderate	High
Corrosion Risk– Uncoated Steel	Low	Low	High
Corrosion Risk – Concrete	Moderate	Low	Low
Drainage	Well drained	Well drained	Somewhat poorly drained
Hydrologic Group	C	D	B/D
Hydric Soil	No	No	No
Ksat (in/hr)	0.20 to 0.60	0.20 to 1.98	0.60 to 2.00
Depth to Water Table (inches)	More than 80	About 60 to 80	About 0 to 24

Appendix B – Field Operations

Reference Notes
Exploration Procedures
Boring Logs
Test Pit Logs

REFERENCE NOTES FOR BORING LOGS

MATERIAL[1,2]

	ASPHALT
	CONCRETE
	GRAVEL
	TOPSOIL
	VOID
	BRICK
	AGGREGATE BASE COURSE
	GW **WELL-GRADED GRAVEL** gravel-sand mixtures, little or no fines
	GP **POORLY-GRADED GRAVEL** gravel-sand mixtures, little or no fines
	GM **SILTY GRAVEL** gravel-sand-silt mixtures
	GC **CLAYEY GRAVEL** gravel-sand-clay mixtures
	SW **WELL-GRADED SAND** gravelly sand, little or no fines
	SP **POORLY-GRADED SAND** gravelly sand, little or no fines
	SM **SILTY SAND** sand-silt mixtures
	SC **CLAYEY SAND** sand-clay mixtures
	ML **SILT** non-plastic to medium plasticity
	MH **ELASTIC SILT** high plasticity
	CL **LEAN CLAY** low to medium plasticity
	CH **FAT CLAY** high plasticity
	OL **ORGANIC SILT or CLAY** non-plastic to low plasticity
	OH **ORGANIC SILT or CLAY** high plasticity
	PT **PEAT** highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]

- WL (First Encountered)
- WL (Completion)
- WL (Seasonal High Water)
- WL (Stabilized)

FILL AND ROCK

FILL | POSSIBLE FILL | PROBABLE FILL | ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

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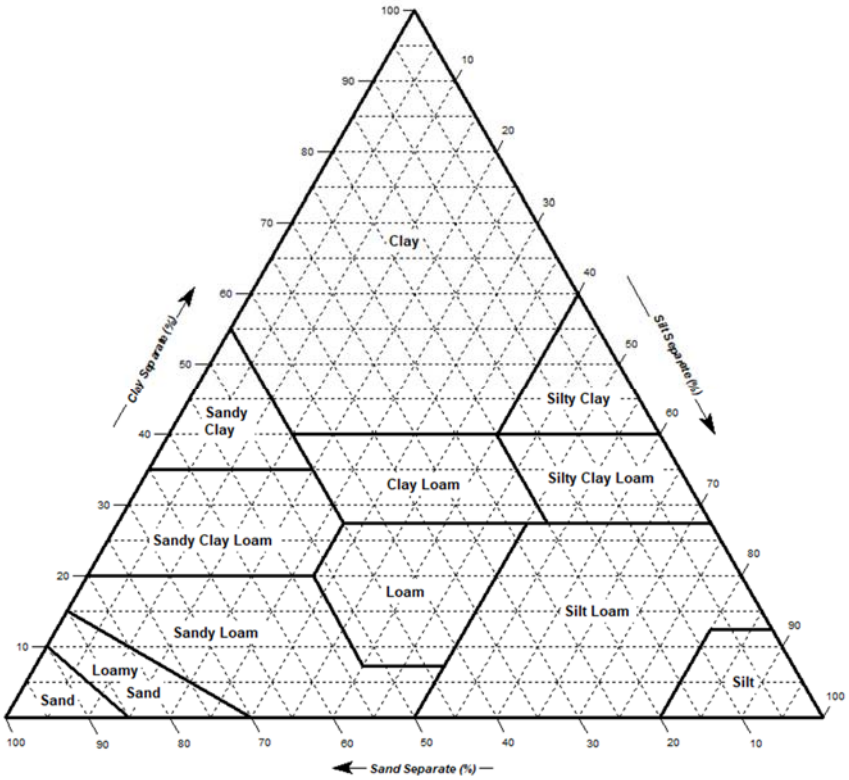
U.S. Department of Agriculture (USDA) Soil Classification System

Texture Triangle

Fine Earth Texture Classes (▬)



Texture Class

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

Texture Modifiers – Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for **Rock Fragments – Size and Quantity.**

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., *loam*).
15 to < 35	Use adjective for appropriate size; e.g., *gravelly*.
35 to < 60	Use "very" with the appropriate size adjective; e.g., *very gravelly.*
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., *extremely gravelly.*
≥ 90	No adjective modifier. If ≤ 10% fine earth, use the appropriate noun for the dominant size class; e.g., *gravel.* **Use terms in lieu of texture.**

Texture Modifiers – (Adjectives)

Rock Fragments: Size and Quantity	Code		Criteria: Percent (by volume) of total rock fragments and dominated by (*name size*):
	Conv.	PDP/ NASIS	
Rock Fragments (> 2mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥ 15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥ 15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but <35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Boudlery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones

SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth
- Recording the number of hammer blows required to drive split-spoon a distance of 18-24 inches (in 3 or 4 Increments of 6 inches each)

- Auger is advanced* and an additional SPT is performed
- One SPT typically performed for every two to five feet. An approximate 1.5 inch diameter soil sample is recovered.

**Drilling Methods May Vary*— The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

SUBSURFACE EXPLORATION PROCEDURE: TEST PIT EXCAVATION

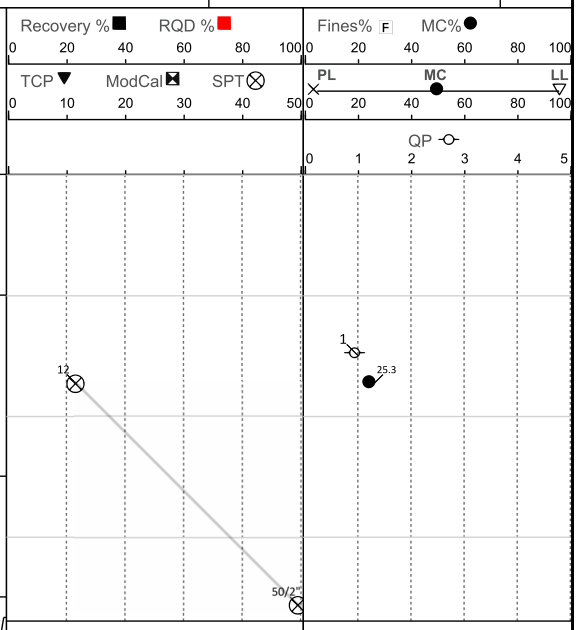
A test pit is an excavation of subsurface materials to characterize the composition and rippability/excavation efforts. Test pit exploration allows observation of the boundary relationships within a soil and rock profile and is useful to identify existing fill composition, disturbed material or the depth of soft sediments. Both track mounted excavators and backhoes are used in a variety of ground conditions allowing for difficult terrain to be accessed. The excavation process also provides access for in-situ and field testing and acquisition of samples for laboratory testing.

TEST PIT Procedure:

- Involves excavation subsurface material to observe composition and physical characteristics
- Recording the approximate depth of subsurface strata
- Excavation is continued as prescribed or to limits of equipment and subsurface conditions
- The exploration is typically carried out with an excavator or backhoe, with the depth dependent on machine size and ground

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-01**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22153**	LONGITUDE: **-88.1232**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					(CL) LEAN CLAY - trace sand, dark brown, contains slight roots, moist, stiff.				
	S-1	SS	18	8	(WR) WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown, moist, [Weathered LIMESTONE] Sampled auger cuttings.				3-3-9 (12)
	S-2	SS	2	0	**AUGER REFUSAL AT 3.7 Ft**				50/2" (50/2")



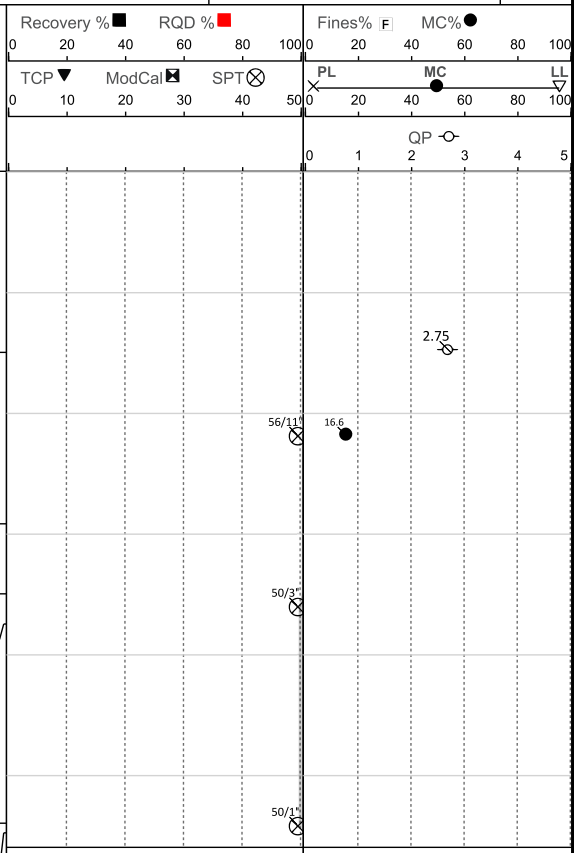
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	1.9FT
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-3.7')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-02**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22128**	LONGITUDE: **-88.1233**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					Gravel [Thickness=3"].				
					FILL -(CL - ML) SANDY SILTY CLAY WITH GRAVEL - brown, moist, very stiff, contains light brown SILTY SAND lenses.				
	S-1	SS	17	14	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown to very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.				3-6-50/5" (56/11")
	S-2	SS	3	0					50/3" (50/3")
5	S-3	SS	1	0				880	50/1" (50/1")
					AUGER REFUSAL AT 5.6 Ft				



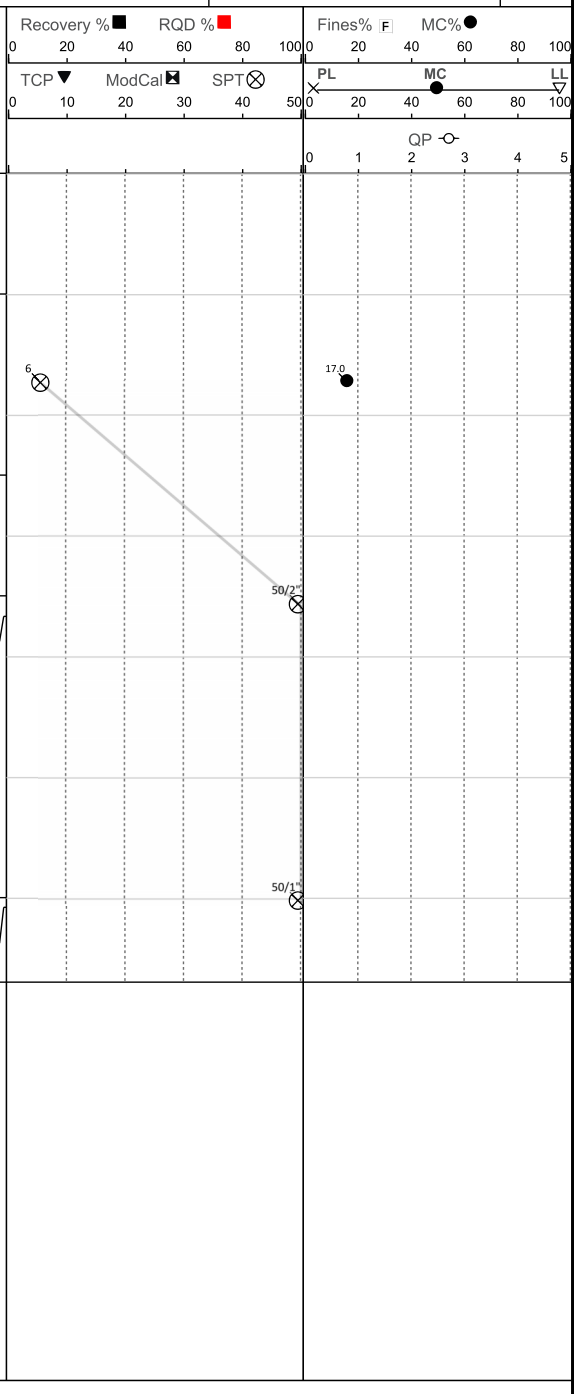
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Dry	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	3.5FT
WL (Completion):		BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-5.6')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-03**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22128**	LONGITUDE: **-88.1234**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					(CL) SANDY LEAN CLAY - trace gravel, brown, moist, very stiff.				
	S-1	SS	18	12					2-2-4 (6)
					(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown to very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.				
	S-2	SS	2	2					50/2" (50/2")
5								880	
	S-3	SS	1	1					50/1" (50/1")
					AUGER REFUSAL AT 6.7 Ft				



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-6.7')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-04**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22154**	LONGITUDE: **-88.1234**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Sand Gravel Base [Thickness=5"].				
					(CL) LEAN CLAY - brown, moist.				
	S-1	SS	1	0	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.				50/1" (50/1")
	S-2	SS	1	0	**AUGER REFUSAL AT 3.6 Ft**				50/1" (50/1")

Recovery % ■ RQD % ■ (0 20 40 60 80 100)
TCP ▼ ModCal ▣ SPT ⊗ (0 10 20 30 40 50)
Fines% F MC% ● (0 20 40 60 80 100)
PL MC LL (0 20 40 60 80 100)
QP ⊸ (0 1 2 3 4 5)

50/1"
50/1"

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	1.6FT
▼ WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-3.6')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-05**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22142**	LONGITUDE: **-88.1237**	STRUCTURE:	SURFACE ELEVATION: **882.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Asphalt [Thickness=0.5"].				
					Gravel [Thickness=6"].				
					Sand Gravel Base [Thickness=5"].				
	S-1	SS	6	5	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND - trace gravel, very pale brown to very pale yellow, moist, [Weathered LIMESTONE] contains very few residual clay lenses, sampled auger cuttings.			880	50/6" (50/6")
	S-2	SS	2	2					50/2" (50/2")
5	S-3	SS	1	0					50/1" (50/1")
					AUGER REFUSAL AT 5.5 Ft				

Recovery % ■ RQD % ■ (0 20 40 60 80 100)
TCP ▼ ModCal ▣ SPT ⊗ (0 10 20 30 40 50)
Fines% F (0 20 40 60 80 100)
MC% ● (0 20 40 60 80 100)
PL MC LL (0 20 40 60 80 100)
QP ⊸ (0 1 2 3 4 5)

50/6" 50/2" 50/1"

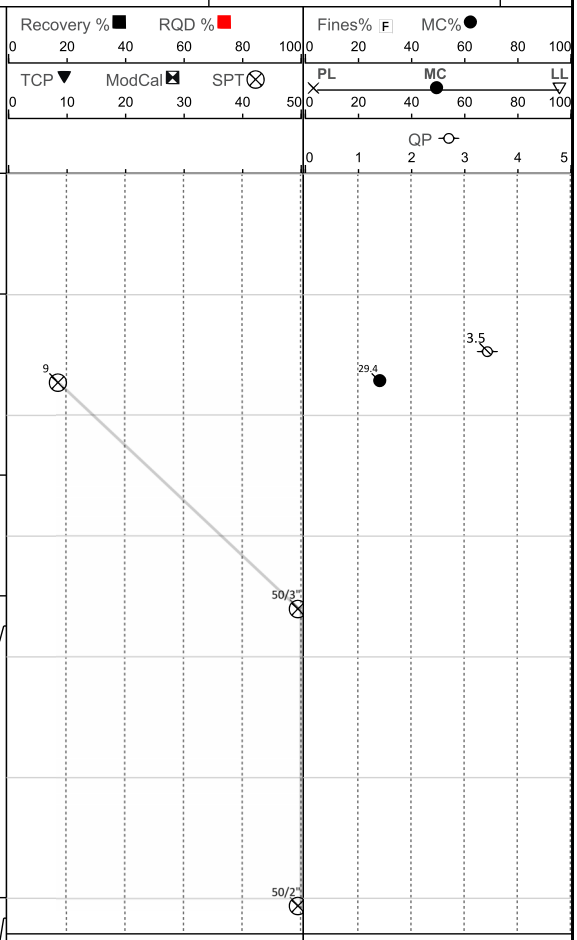
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	4.1FT
▼ WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-5.5')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-06**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22131**	LONGITUDE: **-88.1239**	STRUCTURE:	SURFACE ELEVATION: **882.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Asphalt [Thickness=1.5"].				
					Gravel [Thickness=4.5"].				
					FILL -(CL) LEAN CLAY WITH SAND - trace gravel, very dark gray, moist, very stiff.				
	S-1	SS	18	13	(CL) LEAN CLAY WITH SAND - trace gravel, very dark gray, moist, very stiff.			880	3-4-5 (9)
					(WR) HIGHLY WEATHERED ROCK, very pale brown, moist, [Weathered LIMESTONE].				
	S-2	SS	3	2					50/3" (50/3")
5									
	S-3	SS	2	2					50/2" (50/2")
					AUGER REFUSAL AT 6.3 Ft				



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-6.3')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	TEST PIT NO.: **TP-01**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**		
LATITUDE: **43.221590**	LONGITUDE: **-88.123900**	STATION:	SURFACE ELEVATION: **884**

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DECRIPTION OF MATERIAL	STRATIGRAPHY	DCP	EXCAVATION EFFORT	QP(TSF)	SAMPLE NUMBER	Moisture Content %
			Gravel [Thickness=1"] crushed asphalt.						
			(CL) LEAN CLAY - trace gravel and sand, dark brown, contains slight roots and organics, hard.				4.5	BS-01	15.5
			(CL) LEAN CLAY WITH GRAVEL - trace sand, dark yellowish brown, contains slight roots, moist, very stiff, Contains sandy lenses.				3	BS-02	19.5
			(GC) CLAYEY GRAVEL WITH SAND - dark yellowish brown, moist, contains many cobbles.					BS-03	
			BUCKET REFUSAL AT 3.5 Ft						

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E-EASY M-MEDIUM D-DIFFICULT VD-VERY DIFFICULT

WL (First Encountered): None	WL (Seasonal High Water):	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
WL (Completion): Dry		ECS	LM	BobcatE35
ECS REP.:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:	
LM	08/25/2025	English	Not Observed	

TEST PIT LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	TEST PIT NO.: **TP-02**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**		
LATITUDE: **43.221460**	LONGITUDE: **-88.123300**	STATION:	SURFACE ELEVATION: **884.5**

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DECRIPTION OF MATERIAL	STRATIGRAPHY	DCP	EXCAVATION EFFORT	QP(TSF)	SAMPLE NUMBER	Moisture Content %
			Gravel [Thickness=10"].						
			(CL) SANDY LEAN CLAY - trace gravel, dark brown, moist, hard.				4.25	BS-01	16.5
			(GC) CLAYEY GRAVEL WITH SAND - dark yellowish brown, moist, contains brown SILTY CLAY lenses, contains many cobbles/boulders, encountered probable bedrock.					BS-02	
			BUCKET REFUSAL AT 3 Ft						

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E-EASY M-MEDIUM D-DIFFICULT VD-VERY DIFFICULT

WL (First Encountered): None	WL (Seasonal High Water):	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
WL (Completion): Dry		ECS	LM	BobcatE35
ECS REP.:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:	
LM	08/25/2025	English	Not Observed	

TEST PIT LOG

Appendix C – Laboratory Testing

Other Laboratory Test Results

LABORATORY PROCEDURES:

Index Testing

Moisture content determination was performed on select fine-grained soil samples in accordance with ASTM D 2216.

Calibrated hand penetrometer tests (Qp) were performed on select cohesive soil samples. In the hand penetrometer test, the unconfined compressive strength of a soil sample is estimated, to a maximum of 4.5 or 6 tons per square foot (tsf), depending on the penetrometer model, by measuring the resistance of a soil sample to penetration by a small, calibrated, spring-loaded cylinder.

Atterberg limits determination was performed on select fine-grained soil samples in accordance with ASTM D 4319. The Atterberg limits are a basic measure of the critical water contents of a fine-grained soil: its **liquid limit**, **plastic limit**, and s**hrinkage limit**. Depending on its water content, a soil may appear in one of four states: solid, semi-solid, plastic and liquid. In each state, the consistency and behavior of a soil is different and consequently so are its engineering properties. Atterberg limits can also be used to help distinguish between silt and clay, and to distinguish between different types of silts and clays.

Particle size distribution, also referred to as gradation or sieve analysis, refers to the proportions by dry mass of a soil particles distributed over specified particle-size ranges. The particle size distribution is used to help classify soils for engineering purposes. Particle size distribution determination was performed on select fine-grained soil samples in accordance with ASTM D 421, D 422 and/or D 1140.

A **loss on ignition (LOI)** test is used to estimate the organic content of the soil. In the LOI test a dry sample is heated to 440^{o} C to burn off organic matter within the sample. The lost weight is compared to the initial dry weight to estimate the percentage of organics in the material. LOI determination was performed in accordance with ASTM D 2974.

Appendix D – Supplemental Documents

Other Supplemental Documents

Wisconsin Department of Safety and Professional Services
Division of Industry Services
4822 Madison Yards Way
PO Box 7302
Madison, WI 53707

Phone: 608-266-2112
Web: http://dsps.wi.gov
Email: dsps@wisconsin.gov

Program: Plumbing
Web: https://dsps.wi.gov/Pages/Programs/Plumbing

Soil and Site Evaluation – Stormwater Infiltration

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]

Attach a complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include, but is not limited to: vertical and horizontal reference point (BM); direction and percent of slope; scale or dimensions; north arrow; and BM referenced to nearest road.

PLEASE PRINT ALL INFORMATION

COUNTY: Washington

PARCEL ID: GTNV_211979

PROPERTY OWNER: Blackstone Creek, LLC

PROPERTY OWNER'S MAILING ADDRESS: 5150 N Port Washington Rd, Suite 115

CITY, STATE, ZIP CODE: Glendale, WI 53217

PHONE:

PROPERTY LOCATION

Govt. Lot ____, NE ¼, SE ¼, S 21, T 9 N, R 20 E

Lot #, Block #, Subd. Name or CSM #: CSM 6749

Municipality: Germantown

☐ City ☒ Village ☐ Town

Nearest Road: Mequon Road

Drainage area _____ ☐sq. ft. ☐acres

Test site suitable for (check all that apply):

☐Site not suitable ☐Bioretention

☐Reuse ☐Subsurface Dispersal System

☐Irrigation ☐Other _____

HYDRAULIC APPLICATION TEST METHOD

☒ Morphological Evaluation

☐ Double Ring Infiltrometer

☐ Other: (specify)

SOIL MOISTURE

Date of soil borings: August 2025

USDA-NRCS WETS VALUE:

☐ Dry = 1

☒ Normal = 2

☐ Wet = 3

TP-01 #OBS. ☒ Pit ☐ Boring Ground Surface Elevation 884 ft. Elevation of Limiting Factor 880.5 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-1	--	--	--	--	--	--	--	--	--
B	1-30	10YR 3/3	no redox features	c	1, vf-f, sbk	mvfi	g, s	0-5	80-90	0.07
B	30-36	10YR 3/4	no redox features	c	1, vf-m, sbk	mvfi	g, w	5-10	65-75	0.07
C	36-42	10YR 3/6	no redox features	cb-vgr-c	2, f-vc, sbk	mfi	c, w	45-50	25-35	0.07

Comments:

Refusal at 42 inches, probable bedrock.

B-06 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 882.5 ft. Elevation of Limiting Factor 879.5 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
Pavement	0-6	--	--	--	--	--	--	--	--	--
FILL	6-12	10YR 3/1	no redox features	c	1, vf-m, sbk	mvfi	g	0-5	65-75	0.07
C	12-36	7.5YR 3/1	no redox features	c	1, vf-m, sbk	mvfi	g	0-5	65-75	0.07
R	36-76	10YR 8/4	no redox features	wb	3 vc m	ew	c	100	--	--

Comments:
Refusal at 76 inches.

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

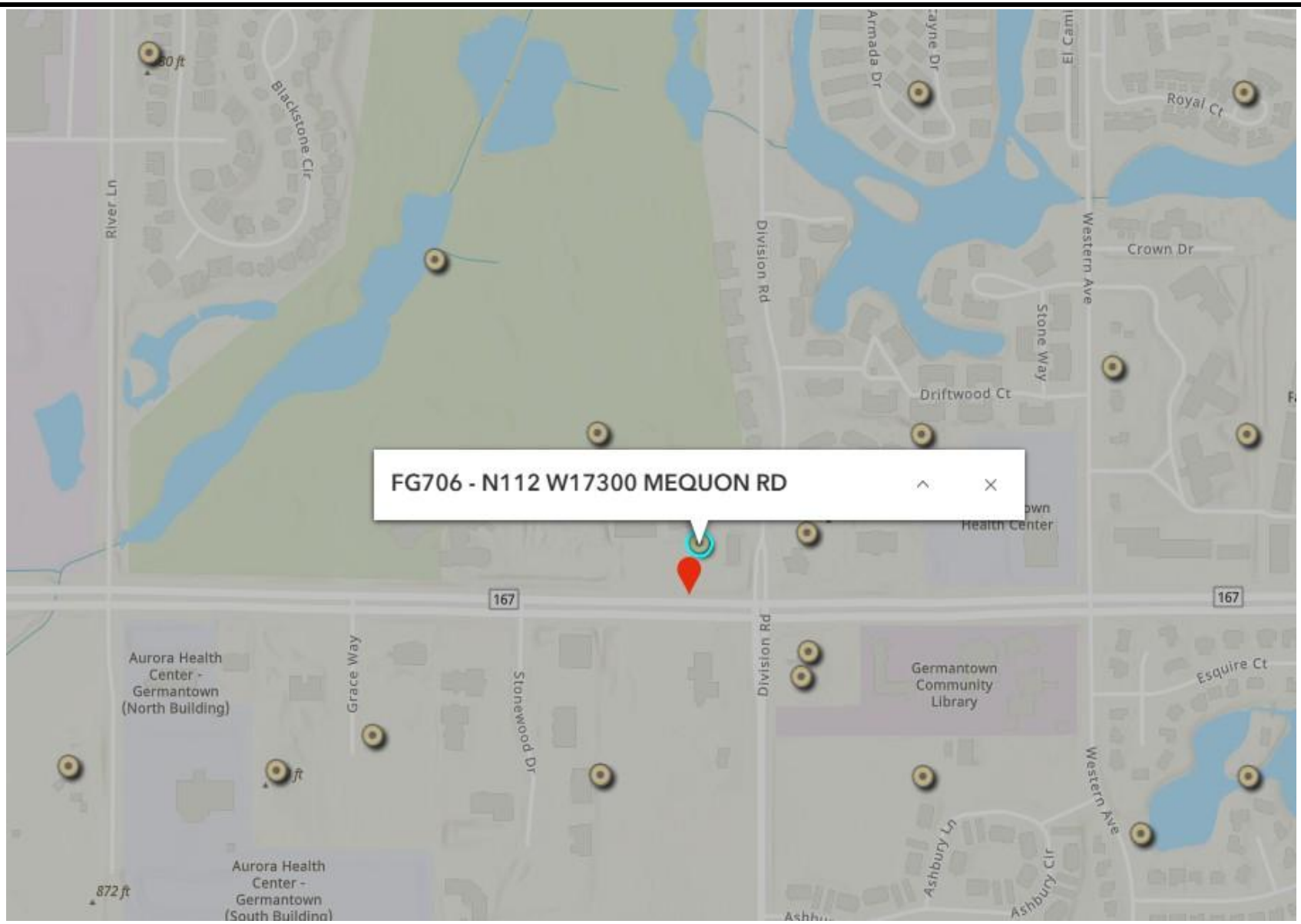
____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

Overall Site Comments:

Matthew Meyer		1053414 (SP-110700001)
Name (Please Print)	Signature	Credential Number
3315 French Road, DePere, WI 54115	09/05/2025	920.347.9040
Address	Date Evaluation Conducted	Phone Number



WELL LOG MAP
Culver's

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

Engineer	DM
Scale	AS SHOWN
Project No.	42:2762
Figure	WLM
Date	9/2/2025

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER FG706

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707

Form 3300-077A

Property Owner: LLOYD B. ROBINSON			Phone #: (262)255-4200
Mailing Address: N112 W17300 MEQUON RD			
City: GERMANTOWN	State: WI	Zip Code: 53022	
County: Washington	Co. Permit #:	Notification #:	Completed: 07-22-1977

Well Constructor (Business Name): CHAS RODSUG	Lic. #:	Facility ID # (Public Wells): 267042710	
Address: 12007 W. BURLEIGH APT. 1023 WAUWATOSA WI 53222		Well Plan Approval #:	
		Approval Date (mm-dd-yyyy):	
Hicap Permanent Well #:	Common Well #:	Specific Capacity: 15	

3. Well serves 1 # of CLUB HOUSE GOLF COURSE

Non-community

Heat Exchange____# of drillholes

Hicap Well ? No

Hicap Property ? No

Hicap Potable ?

1. Well Location

Town of GERMANTOWN

Fire # (if avail.):

Street Address or Road Name and Number: N112 W17300 MEQUON RD

Subdivision Name	Lot #	Block #

Latitude / Longitude in Decimal Degree (DD)			Method Code
43.2216 °N	-88.1252 °W		GCD013

SE SE or Govt Lot #	Section: 21	Township: 9 N	Range: 20 E

2. Well Type New Well

of previous unique well # constructed in

Reason for replaced or reconstructed well ?

Construction Type: Drilled

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
10	Surface	20
8	20	41
6	41	220

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
No	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
	Dual Rotary	
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

8. Geology

Geology Codes	Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
I	TOP SOIL	Surface	1
L	LIMESTONE	1	220

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	19.4 LBS-FT SUTNITTOM 2 ASTM-A53 PLAIN-END	Surface	41
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
CEMENT	Surface	41	

9. Static Water Level	11. Well Is
16 ft. below ground surface	18 in. above grade
10. Pump Test	Developed ? No
Pumping level 18 ft. below surface	Disinfected ? Yes
Pumping at 30 GP for 8 Hrs.	Capped ? Yes
Pumping Method ?	

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No

13. Constructor / Supervisory Driller	Lic #	Date Signed
Drill Rig Operator	**Lic or Reg #**	**Date Signed**

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		65

Type	Qualifier	Distance
Building Overhang		35
Septic or Holding, or POWTS Tank		55

Comment:

Created On: 04-09-2002 Created by: MCCAIC Updated On: 07-11-2023 Updated by: W23583

Appendix E – Other Information

GBA - Geotechnical Engineering Report Information Sheet

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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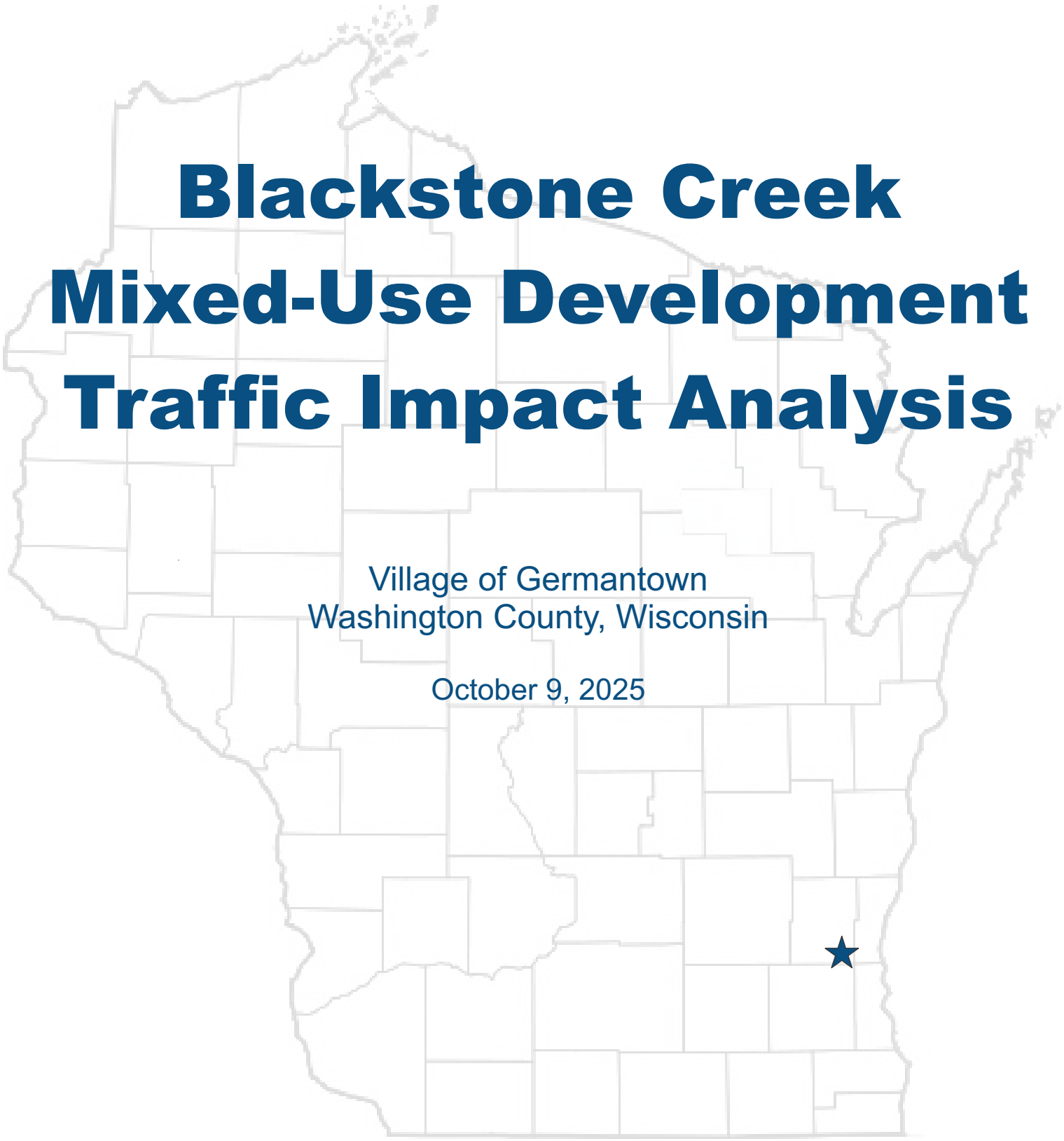
TRAFFIC ANALYSIS & DESIGN, INC.

P.O. Box 128
Cedarburg, WI 53012
800.605.3091
www.tadi-us.com

Blackstone Creek Mixed-Use Development Traffic Impact Analysis

Village of Germantown
Washington County, Wisconsin

October 9, 2025



REVISED AND EXPANDED TRAFFIC IMPACT STUDY FOR:

BLACKSTONE CREEK DEVELOPMENT
MEQUON ROAD

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

DATE SUBMITTED: October 9, 2025

PREPARED FOR:
The Heimat Group
12075 Corporate Parkway, Suite 250
Mequon, WI 53092
Phone: (262) 439-4200
Contact Persons: Jim Sedgwick

PREPARED BY:
TADI
PO Box 128
Cedarburg, WI 53012
Phone: (800) 605-3091
Contact Persons: Don Lee, P.E. (WisDOT TIA Certification # SE05-804-046)
John Bieberitz, P.E., PTOE (WisDOT TIA Certification # SE05-804-044)

"I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

_____
Donald J. Lee, P.E.
Wisconsin Registration #35214-006
Traffic Analysis & Design, Inc.

Blackstone Creek Development
Traffic Impact Analysis
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Traffic Signal Warrants - Year 2030 Full Build Traffic

CHAPTER I – INTRODUCTION & EXECUTIVE SUMMARY

PART A – PURPOSE OF REPORT AND STUDY OBJECTIVES

A residential/mixed-use development is being proposed on the north side of Mequon Road/State Trunk Highway (STH) 167, west of Division Road in the Village of Germantown, Washington County, Wisconsin. The development is proposed to replace the existing Blackstone Creek Golf Course. As part of the development, the Village of Germantown has requested a traffic impact analysis be conducted to determine the additional traffic expected to be generated by the proposed development under the full build out traffic conditions and to identify roadway modifications, if any, attributed to the new development for the Year 2030 full build traffic scenario. Several off-site developments were also included in the analysis.

This report documents the procedures, findings, and conclusions of the traffic impact analysis. The analysis identifies recommended modifications based on existing intersection geometrics, background traffic volumes, and additional traffic expected to be generated by the proposed on-site and off-site developments within the limits of the study area.

PART B – EXECUTIVE SUMMARY

The executive summary includes a description of the study area, description of the proposed on-site development, identified off-site developments, and conclusions based on the findings of the TIA.

B1. Location of Study Site with Respect to Area Roadway Network

The residential/mixed-use development is proposed to be located on the north side of Mequon Road (STH 167) at Division Road in the Village of Germantown, as shown in Exhibit 1-1. The study area for the proposed development includes the following intersections:

- Node 100: STH 167 with Stonewood Drive/Fairway Knoll driveway (two-way stop control)
- Node 200: STH 167 with Blackstone Creek Golf Club driveway (two-way stop control)
- Node 300: STH 167 with Division Road (traffic signal control)
- Node 400: Division Road with Bank Driveway/North Driveway (proposed two-way stop control)
- Node 450: North Driveway with Residential Driveway (proposed one-way stop control)

B2. On-Site Development Description

A conceptual site plan for the proposed residential/mixed-use development is shown on Exhibit 1-2A. The conceptual site plan for the fast food restaurant parcel only is shown on Exhibit 1-2B. The on-site residential/mixed-use development is expected to include a mix of retail/restaurant and office space over seven buildings. According to the development team the following land uses are assumed for the proposed residential/mixed-use development site:

- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 135 units
- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 70 units
- Strip Retail Plaza (<40k) – 9,250 square feet (sf)
- Fast-Food Restaurant with Drive-Through – 4,400 sf

It is anticipated that the full build out will occur over the next few years with construction of the northern residential buildings and the fast food restaurant anticipated to begin in year 2026; however, tenants for the southern retail lot is not known at this time and will move forward as market conditions allow. For traffic study purposes, the full build out is expected to be complete by the Year 2030.

B3. Off-Site Development Description

According to the Village of Germantown, four off-site developments are expected within the limits of the study area.

- The previously approved Kwik Trip development located to the west of the on-site development, specifically on the south side of Mequon Road, immediately east of Maple Road.
- The previously approved STH 167/Pilgrim Road mixed-use development, located in the southeast quadrant of Mequon Road at Pilgrim Road.
- The recently submitted Cirrus multi-family development, located about ¼-mile south of the proposed development, along the west side of Division Road.
- The full build out (phase II) of the previously approved Fairway Knoll senior living development, located immediately west of the proposed development.

All data from the west development was taken from the previously approved Kwik Trip TIA dated October 14, 2024. All data from the east development was taken from the previously approved STH 167/Pilgrim Road mixed-use development TIA dated July 29, 2024. All data from the south development was taken from the previously submitted residential development TIA dated September 29, 2025. Trip generation and distribution for the build out (phase II) of the previously approved Fairway Knoll senior living development have been included in this study.

B4. Site Generated Traffic

The traffic volumes expected to be generated by the proposed development are based on the size and type of the proposed uses, and on trip rates and fitted curve equations (FCE) as published in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. A combination of trip rates and FCE's were utilized to determine the expected new trips based on current ITE practices.

The residential/mixed-use development site is expected to include both linked trips and pass-by trips. A linked trip occurs when a patron of one tenant visits another tenant prior to exiting the site (e.g., a retail patron visits the restaurant prior to entering the highway system). It is estimated that approximately 10 percent of the retail new trips will be linked trips. Pass-by trips occur when motorists already on the highway system stop at a development site prior to continuing on their intended route (e.g., an existing motorist westbound on STH 167 stops at the restaurant prior to continuing westbound on STH 167). Approximately 20 percent of the proposed retail and 25 percent of the proposed restaurant driveway trips are expected to be pass-by trips.

Full build of the residential/mixed-use development site is expected to generate 325 new trips (135 entering/190 exiting) during a typical weekday morning peak hour. Of the 325 new trips, none are expected to be linked trips and about 50 are expected to be pass-by trips resulting in 275 new trips (110 entering/165 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of the development is expected to generate 350 new trips (195 entering/155 exiting). Of the 350 new trips, approximately 10 are expected to be linked trips and another 50 are expected to be pass-by trips resulting 290 new trips (165 entering/125 exiting). On a typical weekday, full build of the residential/mixed-use development site is expected to generate 4,020 new trips of which approximately 50 are expected to be linked

trips and another 610 are expected to be pass-by trips resulting in approximately 3,360 new trips (1,680 entering/1,680 exiting) under full build conditions.

B5. Proposed Access

Two main access points are proposed to accommodate the new development. The north driveway is proposed as a full access driveway along Division Road, directly across from the existing Bank access driveway, located in the northeast quadrant of the STH 167/Division Road signalized intersection. A second full access driveway is proposed along STH 167 near the center of the property, approximately 260-feet (stop bar to center of driveway) west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

B6. Recommended Modifications

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) 7th *Edition*. 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 purpose of this study, LOS D or better was used to define acceptable peak hour operating conditions.

Modifications to address traffic impacts are shown in Exhibit 1-3 for the Year 2030 traffic conditions and have been shown for the following scenarios:

- "Existing Traffic" – These modifications are expected to be necessary to accommodate Year 2025 Existing traffic volumes without the proposed residential/mixed-use development.
- "Background Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 background traffic volumes, which includes only the off-site development but no on-site development.
- "Full Build Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 full build traffic volumes, which includes full build out of the proposed on-site development as well as the off-site development.

The analysis was conducted using existing intersection geometrics and traffic control. The following modifications, as shown in Exhibit 1-3, are recommended to accommodate the Year 2025 Existing, Year 2030 background and Year 2030 full build traffic volumes, respectively. *Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.*

Node 100: STH 167 intersection with Stonewood Drive/Fairway Knoll Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:* No modifications.

Node 200: STH 167 intersection with Blackstone Creek Golf Club Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.

- *Full Build Traffic:*
    - Provide a full access driveway on the north approach.
    - Provide stop control on the north approach.
    - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway.

Node 300: STH 167 intersection with Division Road

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Using pavement marking, restripe the northbound left-turn lane to a length of 125-feet (this requires an extension of 50-feet).

Node 400: Division Road intersection with Bank Driveway/North Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Provide a full access driveway on the west approach.
    - Provide stop control on the west approach.

Node 450: North Driveway intersection with Residential Driveway

- *Existing traffic:* Not applicable.
- *Background Traffic:* Not applicable.
- *Full Build Traffic:*
    - Construct internal roadways as shown on the site plan.
    - Provide stop control on the north and south approaches.

It is noted that consideration was given to providing additional turn lanes at the Division Road intersection with the bank driveway/proposed north driveway under full build conditions. However, since the expected northbound/southbound through volumes are currently very low (less than 100 vehicles in any peak hour) and are expected to remain low, and the conflicting turning volumes expected at the intersection are relatively low, turn lanes are not expected to be necessary nor warranted. As shown in this report, all movements at this intersection are expected to operate at LOS B (less than 12 seconds of delay) or better with minimal queueing (1 vehicle or less) during all peak periods with the existing intersection configuration.

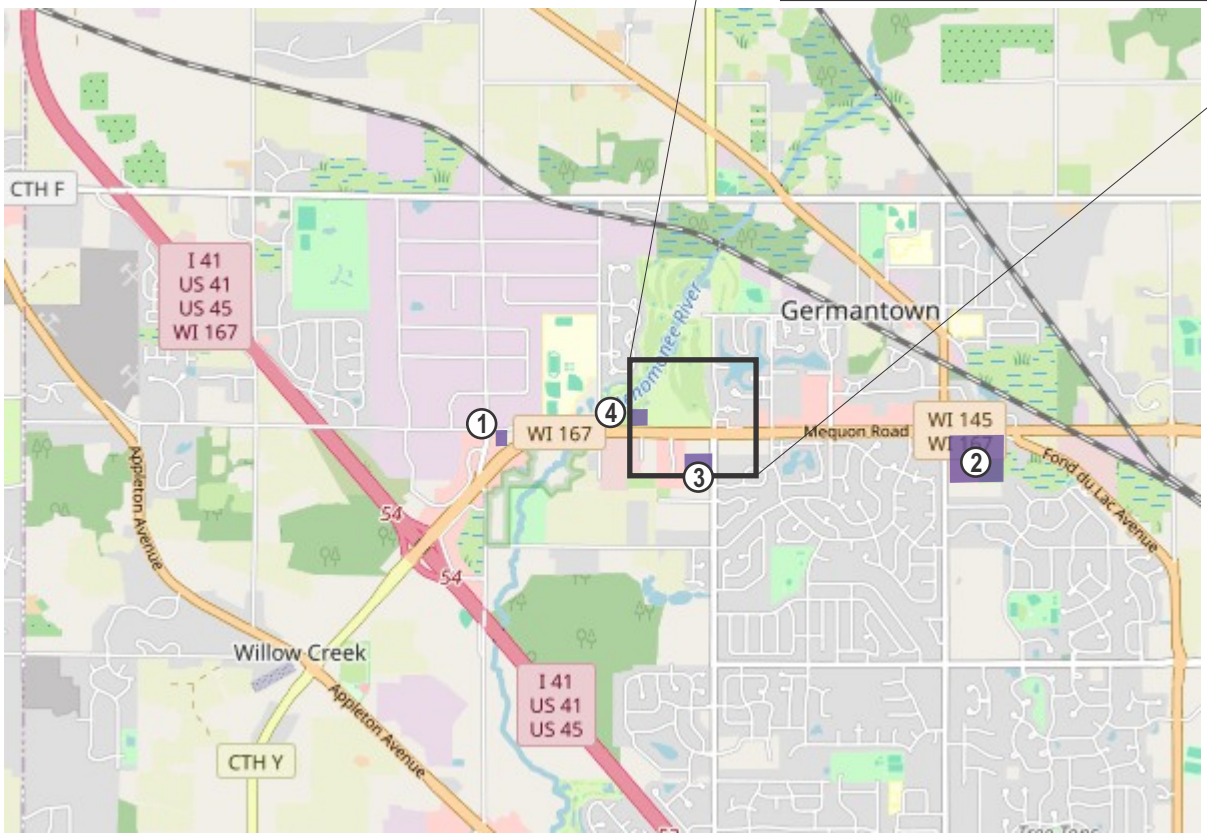
Dedicated turn lanes are recommended on the north approach at the STH 167 intersection with the Blackstone Creek Golf Club driveway under full build conditions. No other modifications are recommended at this intersection. This intersection is expected to operate acceptably at LOS D or better with minimal queueing (1 vehicle or less) during all peak periods. Even though not expected, if significant adjacent development in the future requires the restriction of left-turn exiting vehicles at the intersection (left-in/right-in/right-out access driveway), an example of the median modifications that could be considered at that time is shown on Exhibit 1-3. It is noted

that this type of modification may be considered in the future as part of a future large TIA which generates a significant amount of traffic.

Modifications to the lane configuration on the north and south approaches of the signalized STH 167 intersection with Division Road are not recommended. The intersection is expected to operate acceptably under the current lane configuration whereas, significantly higher delays (LOS E/F) are expected with a shared through/left-turn lane and a dedicated right-turn lane on the south approach.

B7. Conclusion

All movements at the study area intersections are expected to operate safely and efficiently with the development assumptions outlined in this TIA and with the identified recommended modifications if properly designed and implemented through the full built out of the development (expected year 2030).



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LEGEND

- Study Area Intersection
- On-Site Development
- Off-Site Development

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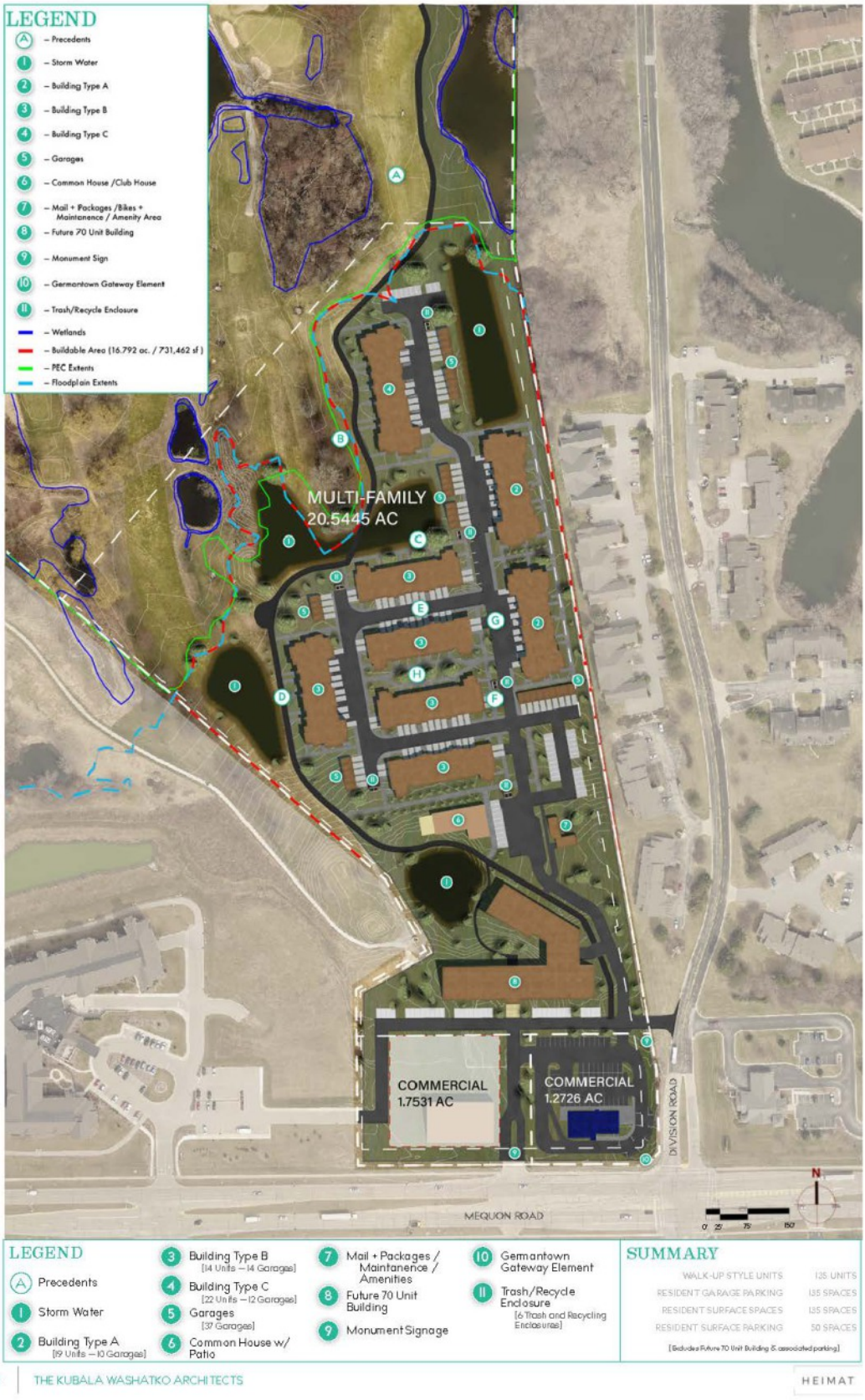
N

EXHIBIT 1-1
PROJECT OVERVIEW MAP

GERMANTOWN, WISCONSIN



TRAFFIC ANALYSIS & DESIGN, INC.

3511: 10-8-25

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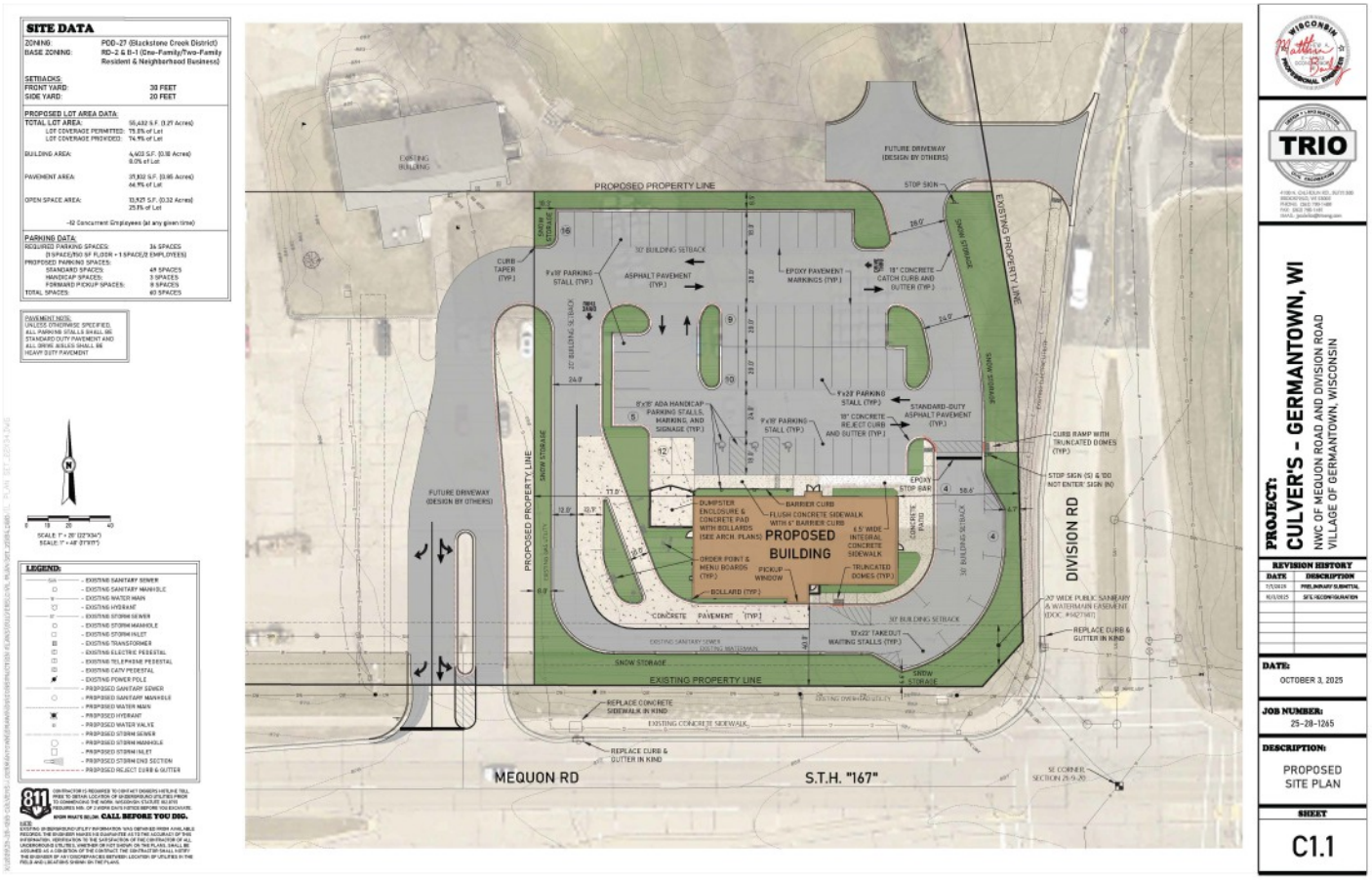
EXHIBIT 1-2A
CONCEPTUAL SITE PLAN
FULL SITE

GERMANTOWN, WISCONSIN

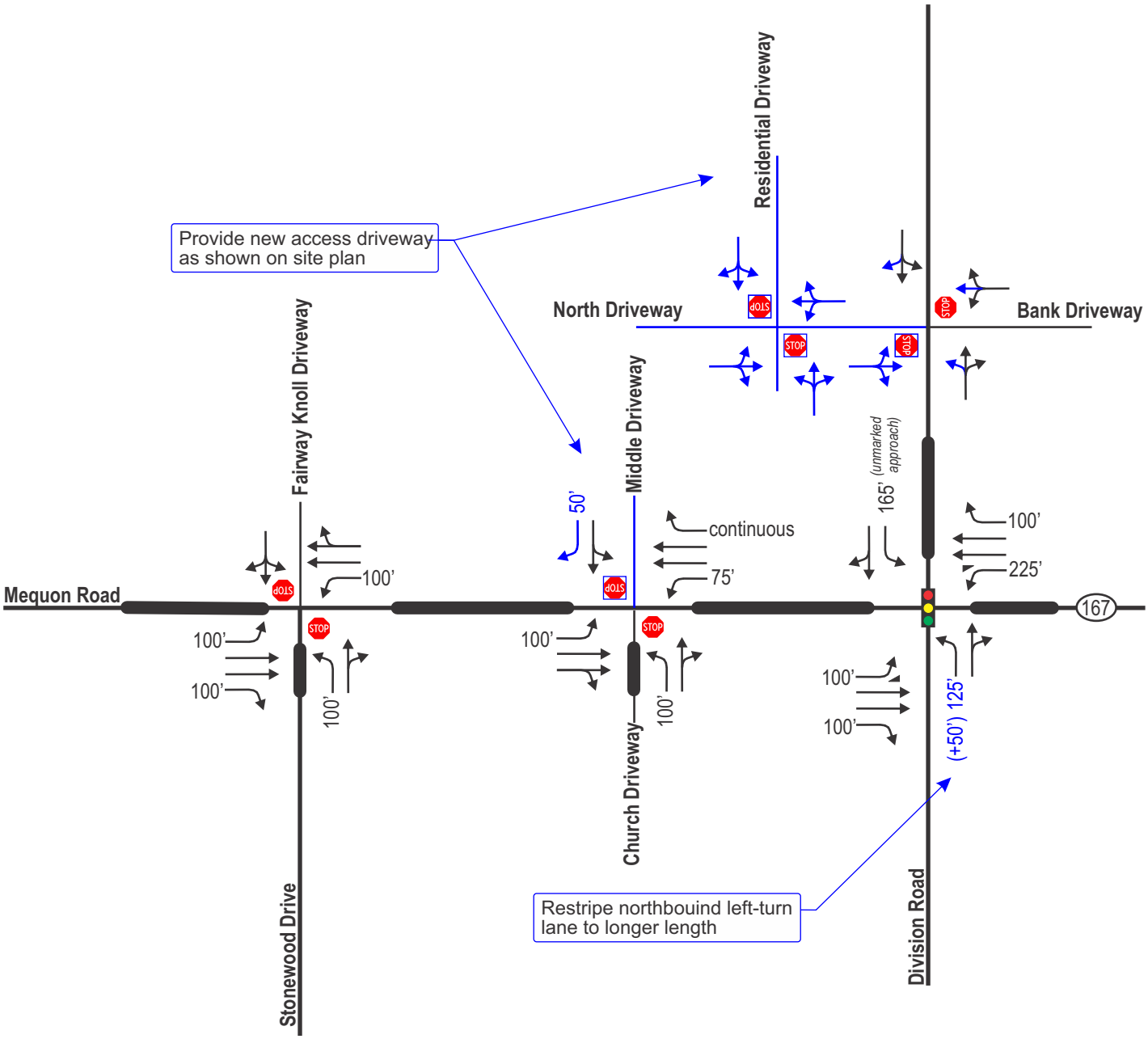


TADI
TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N

EXHIBIT 1-2B
CONCEPTUAL SITE PLAN
RESTAURANT SITE ONLY

GERMANTOWN, WISCONSIN



LEGEND

- Traffic Signal Control
- Stop Control
- XX' Storage Length (In Feet)
- Existing Lane Configuration
- Divided Roadway Median
- **BLUE** Full Build Recommended Modifications

Left-in/Right-in/Right-out Access Example

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3511: 10-8-25

N

NOT TO SCALE

EXHIBIT 1-3
RECOMMENDED MODIFICATIONS

GERMANTOWN, WISCONSIN

CHAPTER II – PROPOSED DEVELOPMENT

PART A – ON-SITE DEVELOPMENT

A1. Development Description and Site Location

A residential/mixed-use development is being proposed on the north side of Mequon Road/STH 167, west of Division Road in the Village of Germantown, Washington County, Wisconsin. A project overview map illustrating the location of the proposed development site is shown in Exhibit 2-1.

A2. Land Use and Intensity

The site is currently operating as a private golf club. Residential land uses are located directly to the east and west of the site. A wooded area is located to the north. A bank is located directly to the east in the northeast corner of the STH 167 intersection with Division Road. A senior living facility is located directly to the west of the site, and a church is located immediately to the south of the site, on the south side of STH 167. A corporate center is located immediately west of this church and additional commercial land uses exist further to the east and west of the proposed site on the north and south sides of STH 167.

A3. Site Plan

A conceptual site plan for the proposed residential/mixed-use development is shown on Exhibit 2-2A. The conceptual site plan for the fast food restaurant parcel only is shown on Exhibit 2-2B. The on-site residential/mixed-use development is expected to include a mix of apartments on the north portion of the site as well as a retail building and a restaurant on the southern portion of the site. The residential component is expected to include eight (8) two-story walkup apartments and a larger two-story building with underground and ground level indoor parking. Surface parking is proposed for the walkup apartments. A club house is also proposed near the center of the site.

A4. Development Phasing

According to the development team the following land uses are assumed for the proposed residential/mixed-use development site:

- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 135 units
- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 70 units
- Strip Retail Plaza (<40k) – 9,250 square feet (sf)
- Fast-Food Restaurant with Drive-Through – 4,400 sf

It is anticipated that the full build out will occur over the next few years with construction of the northern residential buildings and the fast food restaurant anticipated to begin in year 2026; however, tenants for the southern retail lot is not known at this time and will move forward as market conditions allow. For traffic study purposes, the full build out is expected to be complete by the Year 2030. The staging detail is shown in Exhibit 2-3 and the Village of Germantown year 2050 comprehensive land use map is shown in Exhibit 2-4. The comprehensive plan shows the proposed site located within the Village Center District which identifies multi-family residential and mixed-use commercial land uses as desirable land uses for this area.

PART B – STUDY AREA

B1. Influence Area

Based on the type of proposed land uses and the location of the site, the proposed development is expected to draw from a local and regional customer base. Therefore, the areas of significant

influence include the Village of Germantown and other surrounding cities, villages, and towns in southeast Wisconsin.

B2. Area of Significant Traffic Impact

The study area for the proposed development includes the following intersections:

- Node 100: STH 167 with Stonewood Drive/Fairway Knoll driveway (two-way stop control)
- Node 200: STH 167 with Blackstone Creek Golf Club driveway (two-way stop control)
- Node 300: STH 167 with Division Road (traffic signal control)
- Node 400: Division Road with Bank Driveway/North Driveway (proposed two-way stop control)
- Node 450: North Driveway with Residential Driveway (proposed one-way stop control)

PART C – OFF-SITE LAND USE AND DEVELOPMENT

According to the Village of Germantown, four off-site developments are expected within the limits of the study area.

- The previously approved Kwik Trip development located to the west of the on-site development, specifically on the south side of Mequon Road, immediately east of Maple Road.
- The previously approved STH 167/Pilgrim Road mixed-use development, located in the southeast quadrant of Mequon Road at Pilgrim Road.
- The recently submitted Cirrus multi-family development, located about ¼-mile south of the proposed development, along the west side of Division Road.
- The full build out (phase II) of the previously approved Fairway Knoll senior living development, located immediately west of the proposed development.

All data from the west development was taken from the previously approved Kwik Trip TIA dated October 14, 2024. All data from the east development was taken from the previously approved STH 167/Pilgrim Road mixed-use development TIA dated July 29, 2024. All data from the south development was taken from the previously submitted residential development TIA dated September 29, 2025. Trip generation and distribution for the build out (phase II) of the previously approved Fairway Knoll senior living development have been included in this study.

PART D – SITE ACCESSIBILITY

D1. Study Area Roadways

The study area corridors include:

Mequon Road (also designated as STH 167) is a four-lane divided east/west principal arterial highway with a posted speed limit of 35 miles per hour (mph) within the limits of the study area. It is part of the state trunk highway network as a connecting highway under the jurisdiction of the Village of Germantown. According to the Wisconsin Department of Transportation (WisDOT), the Year 2023 average annual daily traffic volumes (AADT's) on STH 167 were approximately 16,700 vehicles per day (vpd) west of the project limits and 16,600-vpd east of the project limits. Sidewalks are provided along both sides of STH 167.

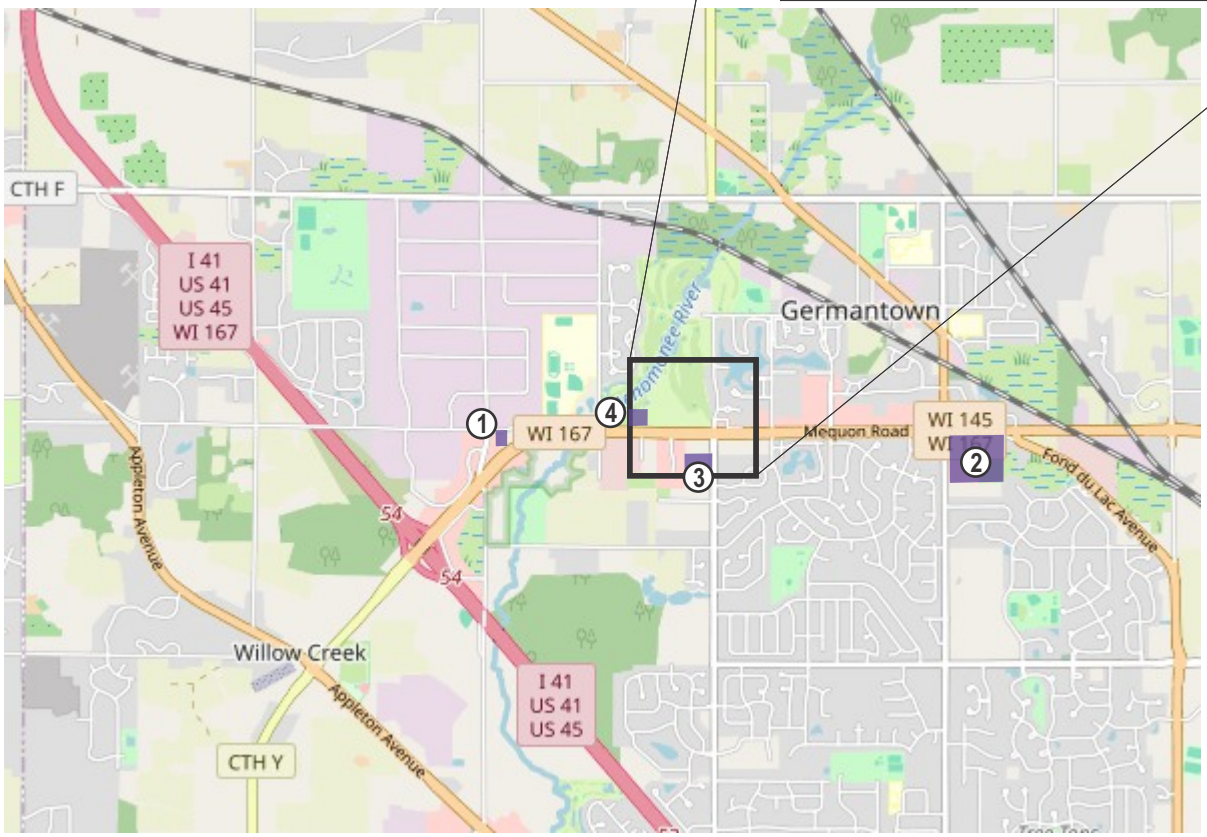
Division Road is a two-lane undivided north/south minor arterial to the south of STH 167 and a two-lane undivided local street to the north. The posted speed limit on Division Road is 35-mph

to the south of STH 167 and 25-mph to the north. The WisDOT Year 2023 AADT's on Division Road were approximately 4,200-vpd south of STH 167 and 1,100-vpd to the north. A multi-use trail is provided along the east side of Division Road, from STH 167 to the south; however, no other sidewalks exist to the north.

Stonewood Drive is a two-lane undivided north/south local dead-end street to the south of STH 167 with a posted speed limit of 25-mph. Sidewalks are not provided along either side of Stonewood Drive.

D2. Alternative Modes of Transportation

Pedestrian sidewalks or multi-use trails are provided along both sides of STH 167 and along the east side of Division Road to the south of STH 167; however, no other bicycle accommodations exist within the study area. Transit is not present within the area.



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LEGEND

- Study Area Intersection
- On-Site Development
- Off-Site Development

TRAFFIC ANALYSIS & DESIGN, INC.

3511: 10-8-25

N

EXHIBIT 2-1
PROJECT OVERVIEW MAP

GERMANTOWN, WISCONSIN

TRAFFIC ANALYSIS & DESIGN, INC.

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N

EXHIBIT 2-2A
CONCEPTUAL SITE PLAN
FULL SITE

GERMANTOWN, WISCONSIN

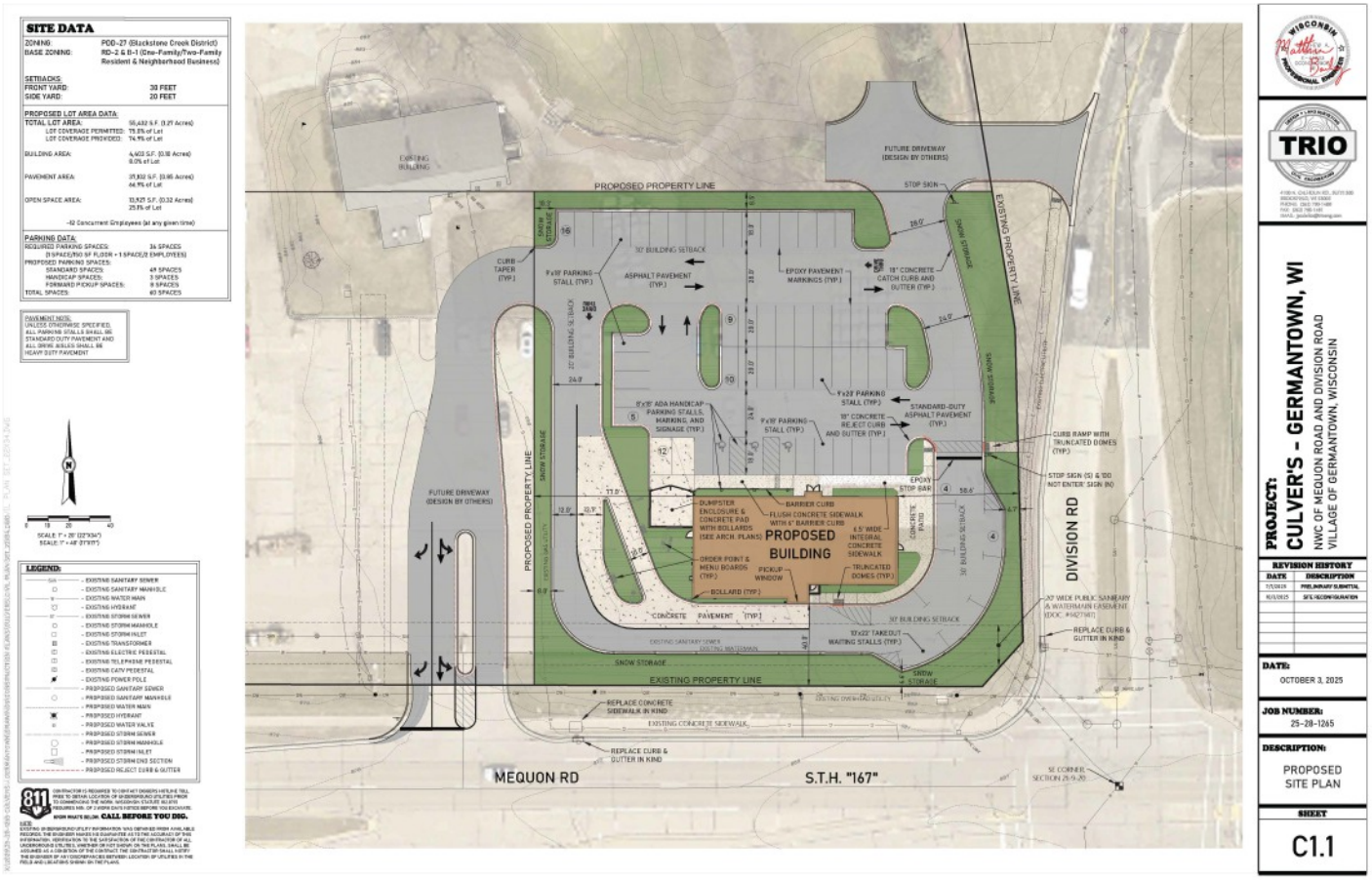

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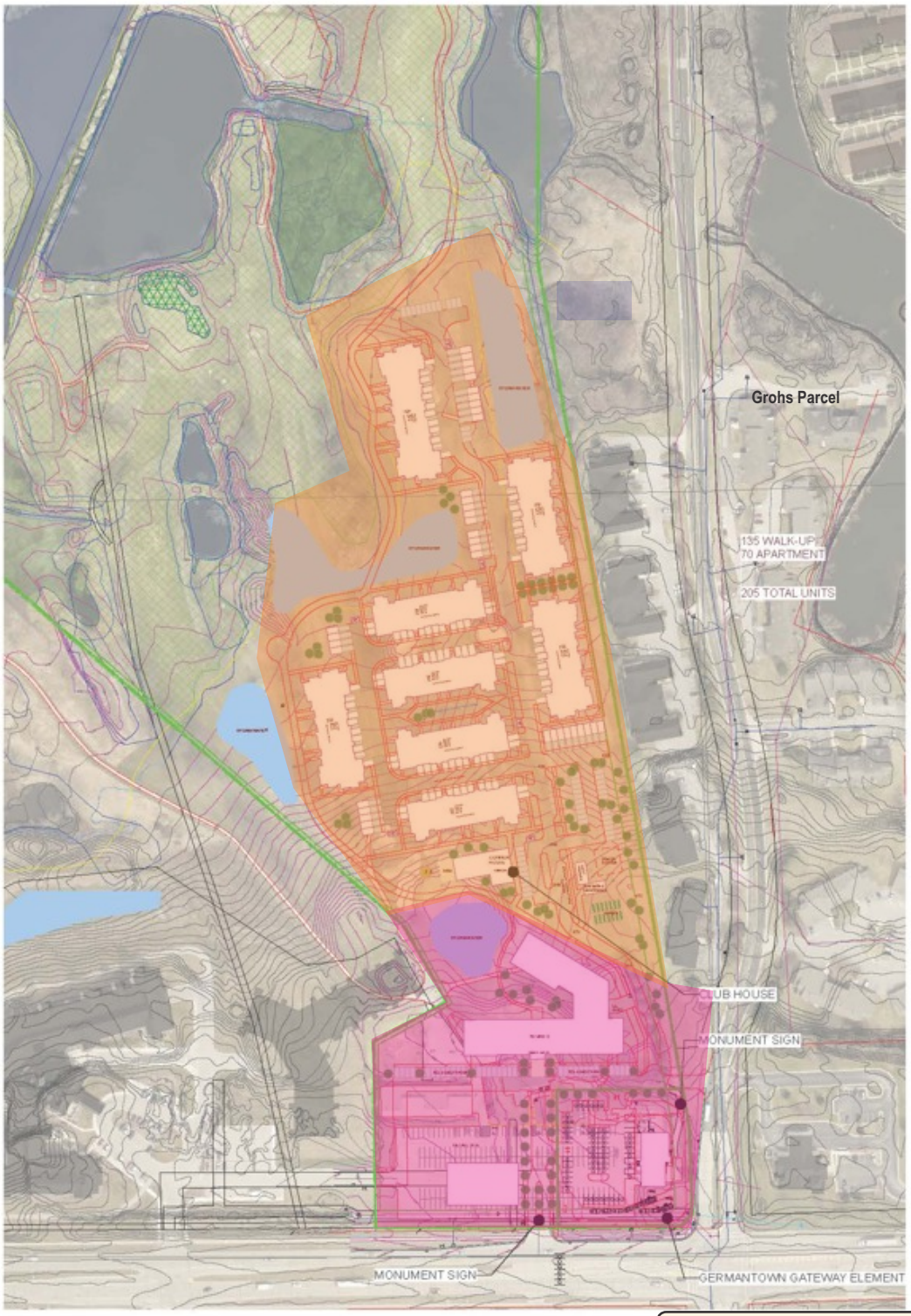
EXHIBIT 2-2B
CONCEPTUAL SITE PLAN
RESTAURANT SITE ONLY

GERMANTOWN, WISCONSIN



TkWA
The Kubala Washatko Architects, Inc.
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Cedarburg, WI 53012
p: 262.377.6039 | f: 262.377.2954

BLACKSTONE CREEK
SCALE: 1" = 150'-0"
237120
June 17, 2025

LEGEND
- Phase I
- Subsequent Phases

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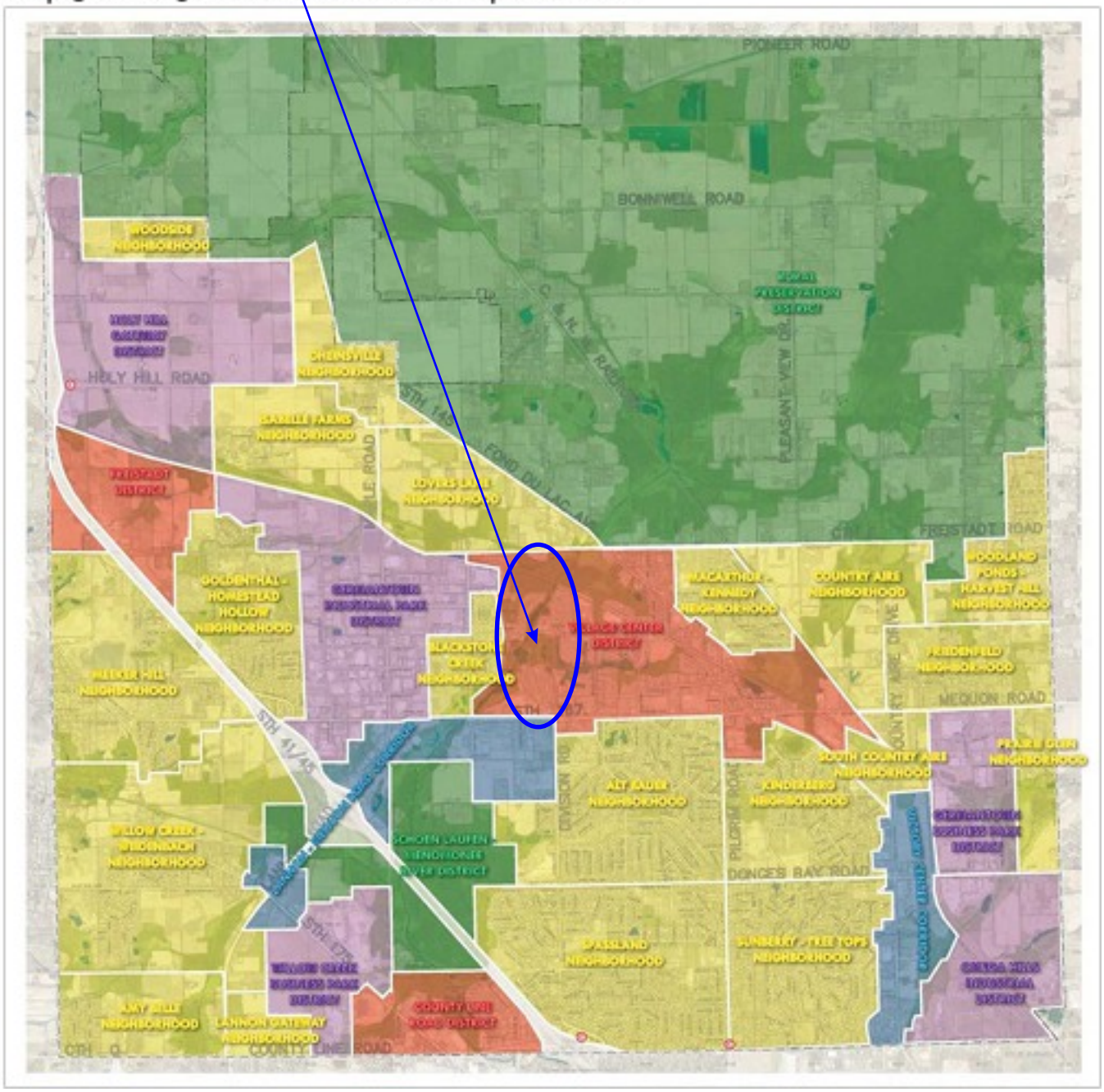
EXHIBIT 2-3
ANTICIPATED STAGING DETAIL

GERMANTOWN, WISCONSIN

Proposed Development Site

Map 5.2 – 2050 Future Land Use Map Overview



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N

EXHIBIT 2-4
VILLAGE OF GERMANTOWN 2050 COMPREHENSIVE PLAN
FUTURE LAND USE MAP

GERMANTOWN, WISCONSIN

CHAPTER III – ANALYSIS OF EXISTING CONDITIONS

PART A – PHYSICAL CHARACTERISTICS

Exhibit 3-1 shows the existing transportation detail for the study area intersections. More specifically, the exhibit illustrates intersection lane configurations, intersection traffic controls, distances between intersections, and posted speed limits.

PART B – TRAFFIC VOLUMES

The weekday morning and weekday evening peak hours are expected to drive the improvements needed to adequately accommodate the residential/mixed-use development, as they represent the highest trip generation for the site and the highest volumes along STH 167. TADI conducted weekday morning (6:00 – 9:00am) and weekday evening (3:00 – 6:00pm) peak hour turning movement traffic counts at the STH 167 intersections with Division Road and the Blackstone Creek Golf Course driveway in late-July of 2025. Thirteen hour turning movement counts were also conducted over this same period for the STH 167 intersection with Stonewood Drive/Fairway Knoll driveway. All counts were conducted during the three days of July 29th through July 31st of 2025, noting that a large storm event in the area occurred two weeks after the data collection for this study. A supplemental traffic turning movement count was conducted in late September of 2025 at the Division Road intersection with the Bank Five Nine/KinderCare driveway on a weekday morning (6:00 – 9:00am) and weekday evening (3:00 – 6:00pm).

Based on the turning movement counts and utilizing the main signalized STH 167 intersection with Division Road count as the controlling intersection count; the weekday morning and weekday evening peak hours were identified as being from 7:30 to 8:30am and 4:15 to 5:15pm, respectively. The existing traffic volumes, balanced along the highway corridors, are shown in Exhibit 3-2B. Exhibit 3-2A shows the existing raw, unbalanced traffic volumes. The traffic counts used to determine peak hour factors and truck percentages have been included in the Appendix of this study.

PART C – CAPACITY LEVEL OF SERVICE

C1. Level of Service Definitions

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) *6th Edition*. 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 purpose of this study, LOS D was used to define acceptable peak hour operating conditions. Descriptions of the various levels of service are shown in the table below.

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

C2. Existing Traffic Operations – No Modifications

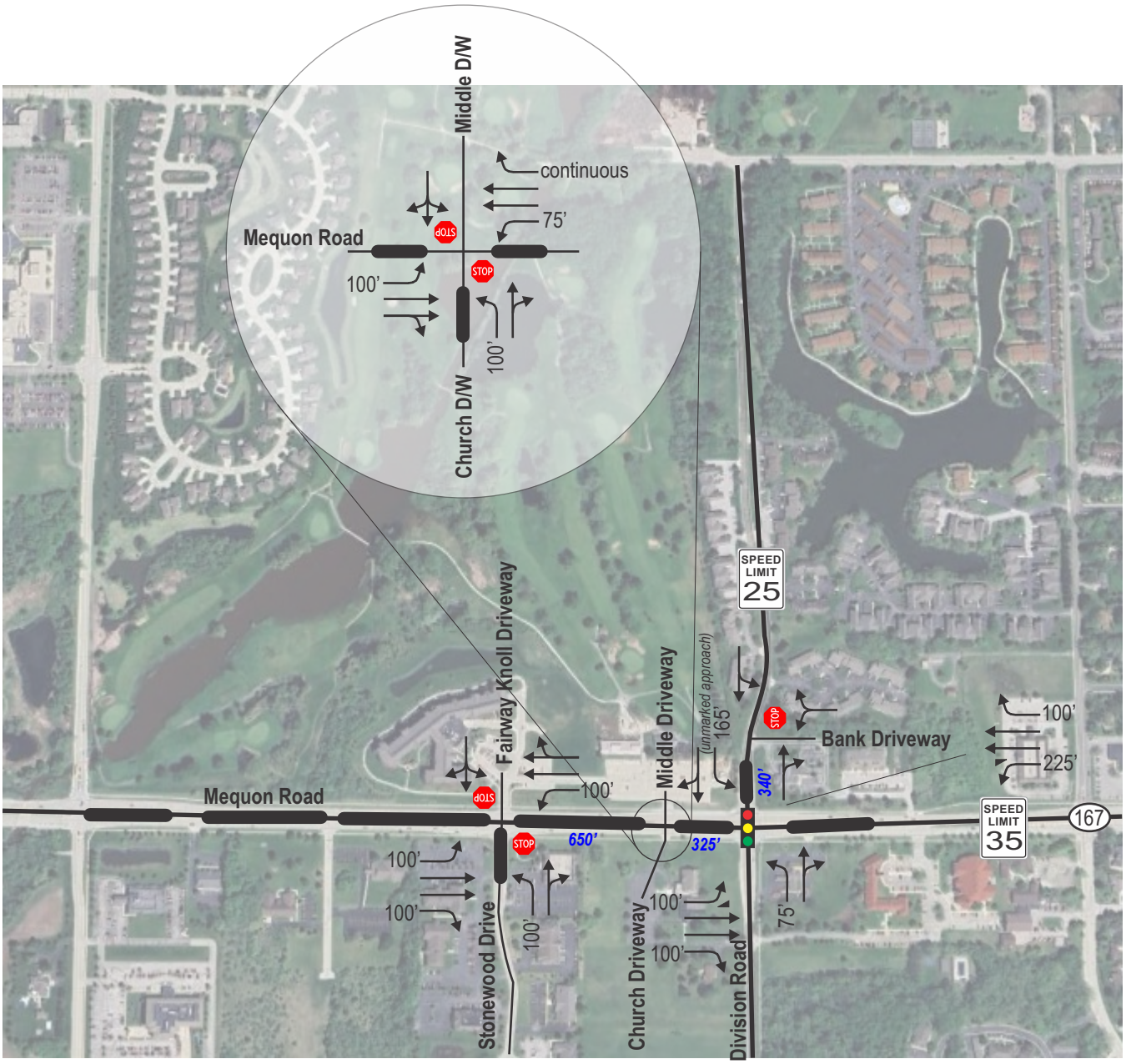
Exhibit 3-3 shows the Existing traffic peak hour operating conditions at the study area intersections. The existing traffic analysis was conducted using the existing lane configurations shown in Exhibit 3-1, the existing traffic signal timings included in the appendix, and the Existing traffic volumes shown in Exhibit 3-2B.

As shown in Exhibit 3-3, all movements are currently operating acceptably at LOS D or better at the study area intersections during the typical weekday morning and weekday evening peak periods under the Existing traffic volume conditions.

PART D – SOURCES OF DATA

The following sources of data were obtained for use in conducting this traffic study:

- Turning movement traffic counts – TADI
- Existing traffic signal plans – Village of Germantown
- Existing transportation detail – TADI along with Google Earth
- On-site development information – Heimat Group
- Off-site development information – Village of Germantown



LEGEND

- Traffic Signal Control
- Stop Sign Control
- Existing Lane Configuration
- XX' Distance Between Roadways (in Feet)
- Divided Roadway Median

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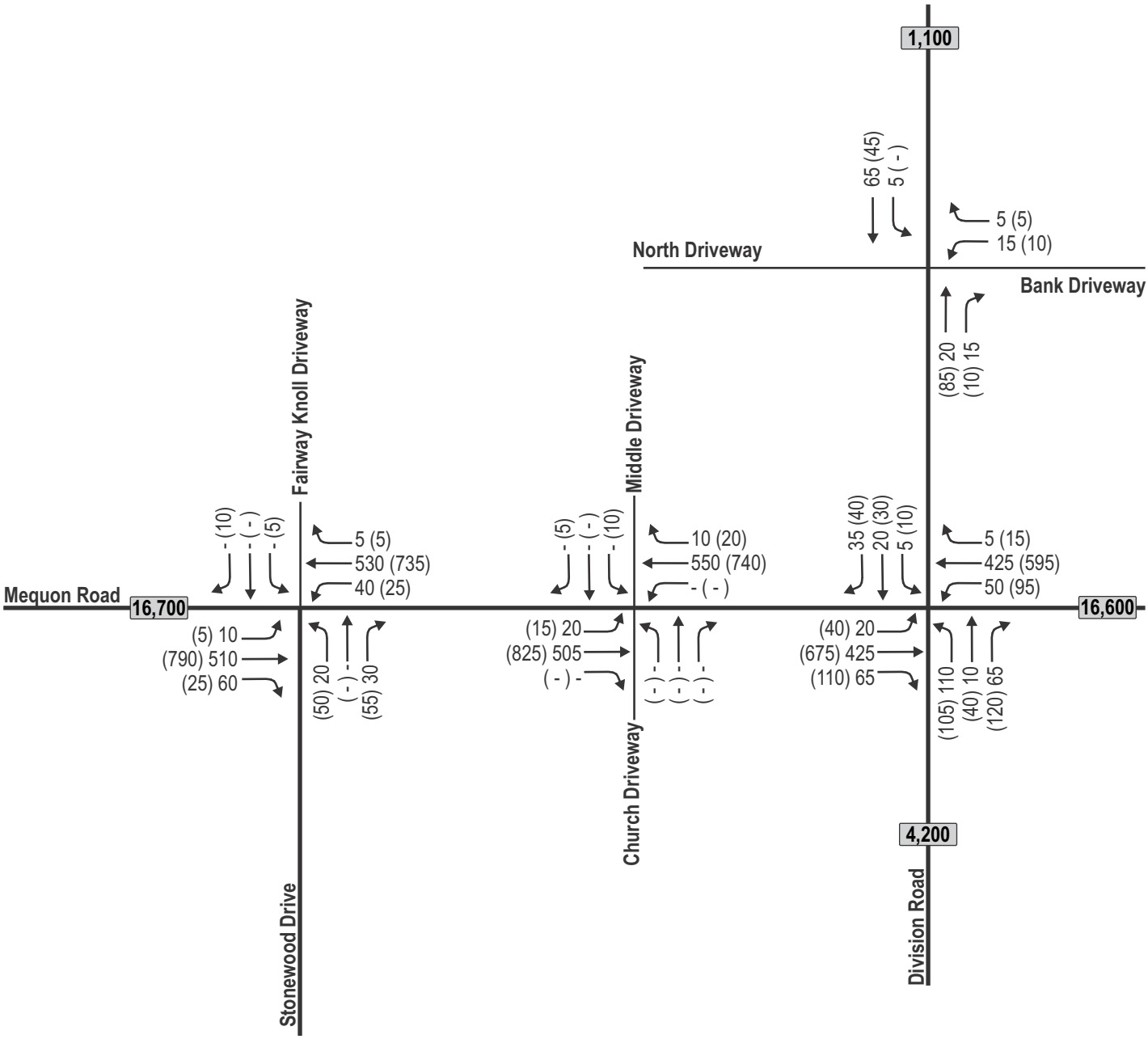
N

NOT TO SCALE

EXHIBIT 3-1
EXISTING TRANSPORTATION DETAIL

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)
X,XXX	2023 Annual Average Daily Traffic (AADT)

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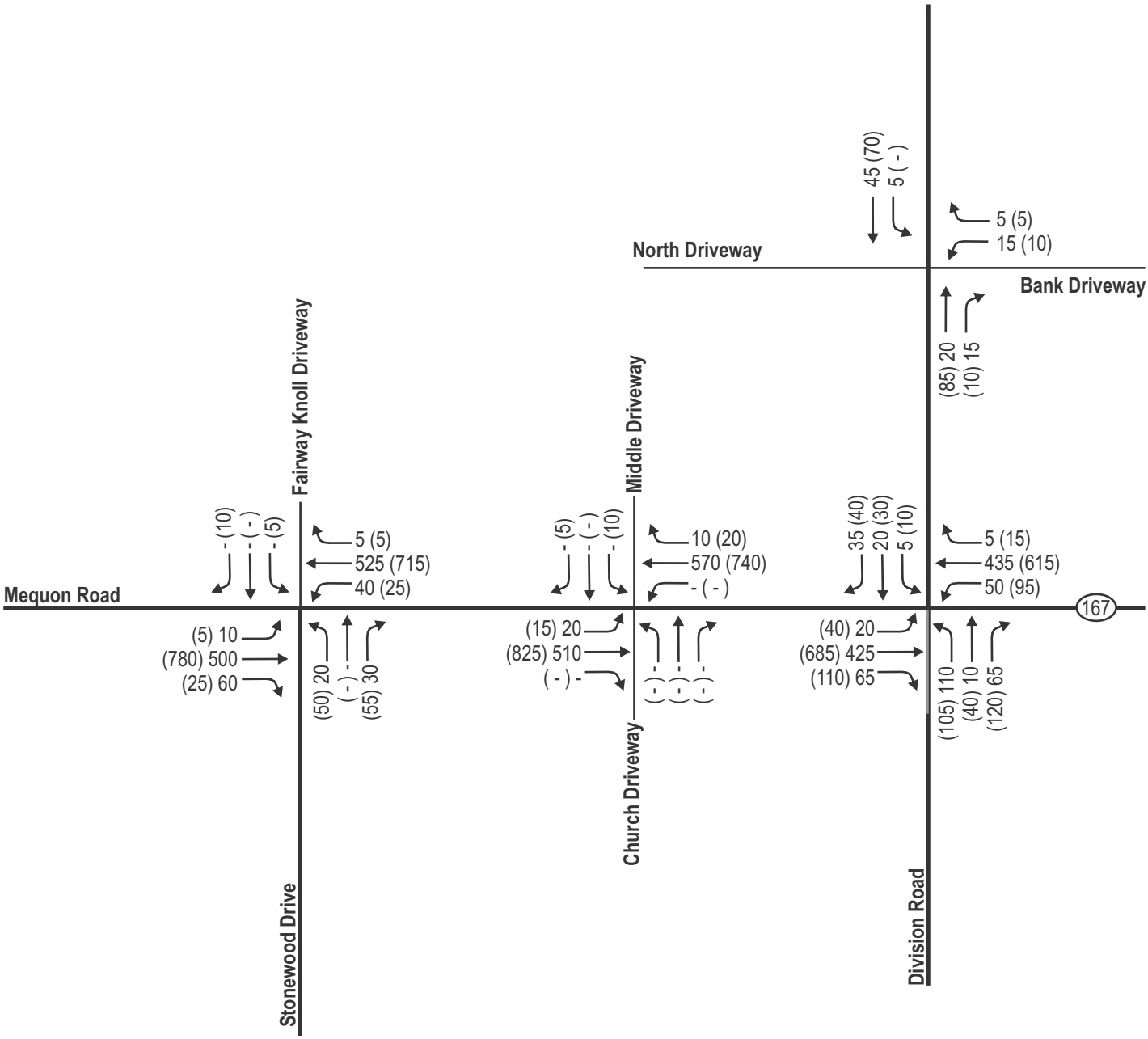
N
NOT TO SCALE

EXHIBIT 3-2A
YEAR 2025 EXISTING TRAFFIC VOLUMES
UNBALANCED

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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N
NOT TO SCALE

EXHIBIT 3-2B
YEAR 2025 EXISTING TRAFFIC VOLUMES
BALANCED

GERMANTOWN, WISCONSIN

Exhibit 3-3
Year 2025 Existing Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
	AM	LOS	A	*	*	A	*		C	B		C			
		Delay	8.5	*	*	9.4	*		16.9	11.0		15.0			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	A	*		C	B		B			
		Delay	8.5	*	*	9.8	*		21.4	12.0		12.4			
		Queue	25'	*	*	25'	*		25'	25'		25'			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
	AM	LOS	A	*		A	*	*	C			B			
		Delay	8.9	*		9.1	*	*	15.3			14.3			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		A	*	*	C			B			
		Delay	8.6	*		9.7	*	*	16.9			14.2			
		Queue	25'	*		25'	*	*	25'			25'			
Node 300: Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
		Delay	6.5	5.4	4.6	7.0	5.4	4.4	38.9	33.7		35.7	32.9		11.6
		Queue	25'	75'	25'	25'	75'	25'	110'	75'		25'	60'		
	PM	LOS	A	A	A	A	A	A	D	D		D	C		B
		Delay	6.5	5.3	4.3	8.2	5.1	4.0	39.4	37.6		40.9	34.3		11.4
		Queue	25'	115'	30'	45'	105'	25'	105'	145'		25'	70'		
Node 400: Division Road & Bank Driveway *One-Way Stop Control*		*Lanes->*	-			*1*			-	*1*		*1*		-	
	AM	LOS	-			A			-	*		A		-	
		Delay	-			9.0			-	*		7.3		-	
		Queue	-			25'			-	*		25'		-	
	PM	LOS	-			A			-	*		A		-	
		Delay	-			9.3			-	*		7.5		-	
		Queue	-			25'			-	*		25'		-	

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

CHAPTER IV – FORECASTED TRAFFIC

PART A – EXISTING TRAFFIC FORECASTING

As described in the previously approved Kwik Trip TIA dated October 14, 2024, background growth along the Mequon Road corridor is expected to be flat (traffic volumes have consistently declined over time); therefore, no growth rate was applied to the existing traffic volumes to determine the Year 2030 projected traffic volumes. However, four identified off-site developments, as described previously in this report, were added to the existing traffic volumes along Mequon Road to determine the background traffic volume conditions, as further described in *Part C* below. The Year 2030 background traffic volumes, which include the four identified off-site developments, are shown in Exhibit 4-1.

PART B – SITE TRAFFIC FORECASTING

To address any potential future traffic impacts along the study area roadways and at the intersections adjacent to the on-site and off-site development sites, it is necessary to identify the hourly and daily volume of traffic generated by the proposed and anticipated developments. The traffic volumes expected to be generated by the proposed development are based on the size and type of the proposed uses, and on trip rates and fitted curve equations (FCE) as published in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. A combination of trip rates and FCE's were utilized to determine the expected new trips based on current ITE practices. The trip generation tables for the anticipated land uses for the on-site and off-site development sites are shown in Exhibit 4-3A&B.

B1. Trip Generation

As shown in Exhibit 4-3A, full build of the on-site residential/mixed-use development site is expected to generate 325 new trips (135 entering/190 exiting) during a typical weekday morning peak hour. Of the 325 new trips, none are expected to be linked trips and about 50 are expected to be pass-by trips resulting in 275 new trips (110 entering/165 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of the development is expected to generate 350 new trips (195 entering/155 exiting). Of the 350 new trips, approximately 10 are expected to be linked trips and another 50 are expected to be pass-by trips resulting 290 new trips (165 entering/125 exiting). On a typical weekday, full build of the residential/mixed-use development site is expected to generate 4,020 new trips of which approximately 50 are expected to be linked trips and another 610 are expected to be pass-by trips resulting in approximately 3,360 new trips (1,680 entering/1,680 exiting) under full build conditions.

As shown in Exhibit 4-3B, full build (phase II) of the off-site (Fairway Knoll) senior living development site is expected to generate an additional 10 new trips (5 entering/5 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of phase II of the off-site development is expected to generate an additional 10 new trips (5 entering/5 exiting). On a typical weekday, full build of phase II of the off-site (Fairway Knoll) senior living development site is expected to generate an additional 120 new trips (60 entering/60 exiting).

B2. Mode Split

Pedestrians, bicyclists, and potential future bus users may use their respective modes to access the proposed development, though these alternative modes are expected to make up a very small portion of the overall trips to/from the study area. Therefore, for the purpose of this TIA, all trips to/from the proposed on-site and off-site developments were assumed to occur via motor vehicle.

B3. Determination of Linked and Pass-by Trip Traffic

The residential/mixed-use development site is expected to include both linked trips and pass-by trips. A linked trip occurs when a patron of one tenant visits another tenant prior to exiting the site (e.g., a retail patron visits the restaurant prior to entering the highway system). It is estimated that approximately 10 percent of the retail new trips will be linked trips. Pass-by trips occur when motorists already on the highway system stop at a development site prior to continuing on their intended route (e.g., an existing motorist westbound on STH 167 stops at the restaurant prior to continuing westbound on STH 167). Approximately 20 percent of the proposed retail and 25 percent of the proposed restaurant driveway trips are expected to be pass-by trips.

B4. Trip Distribution

The trip distribution for the on-site residential/mixed-use development and the Fairway Knoll (Phase II) senior living development, which is listed below and shown in table format in Exhibits 4-3A&B and graphically in Exhibit 4-4, was determined based on the existing traffic counts, the type of proposed land uses and the location of existing populations.

- 42 percent to/from the east on STH 167
- 43 percent to/from the west on STH 167
- 3 percent to/from the north on Division Road
- 12 percent to/from the south on Division Road

B5. Trip Assignment

The new trips, pass-by trips and driveway trips for the proposed on-site development are shown as follows:

- On-Site (Commercial/Retail) New Trips – Exhibit 4-5A.1
- On- Site (Commercial/Fast Food) New Trips – Exhibit 4-5A.2
- On- Site (Residential) New Trips – Exhibit 4-5A.3
- On- Site (All Land Uses on Site) New Trips – Exhibit 4-5A.4
- On-Site Pass-by Trips – Exhibit 4-5B
- On-Site Driveway Trips – Exhibit 4-5C

The on-site driveway trips (Exhibit 4-5C) were calculated by adding the on-site (All Land Uses on Site) new trips (Exhibit 4-5A.4) to the on-site pass-by trips (Exhibit 4-5B).

The off-site development new trips, taken from the previously approved west off-site development (Kwik Trip) TIA, are shown in Exhibit 4-8A. The off-site new trips, taken from the previously approved east off-site development (STH 167/Pilgrim Road mixed-use development) TIA, are shown in Exhibit 4-8B. The off-site development new trips, taken from the recently submitted Cirrus multi-family development TIA, are shown in Exhibit 4-8C. The off-site new trips for the full build out (phase II) of the previously approved Fairway Knoll senior living development, are shown in Exhibit 4-8D. Exhibit 4-8E shows the summation of all four off-site developments (Exhibits 4-8A thru 4-8D).

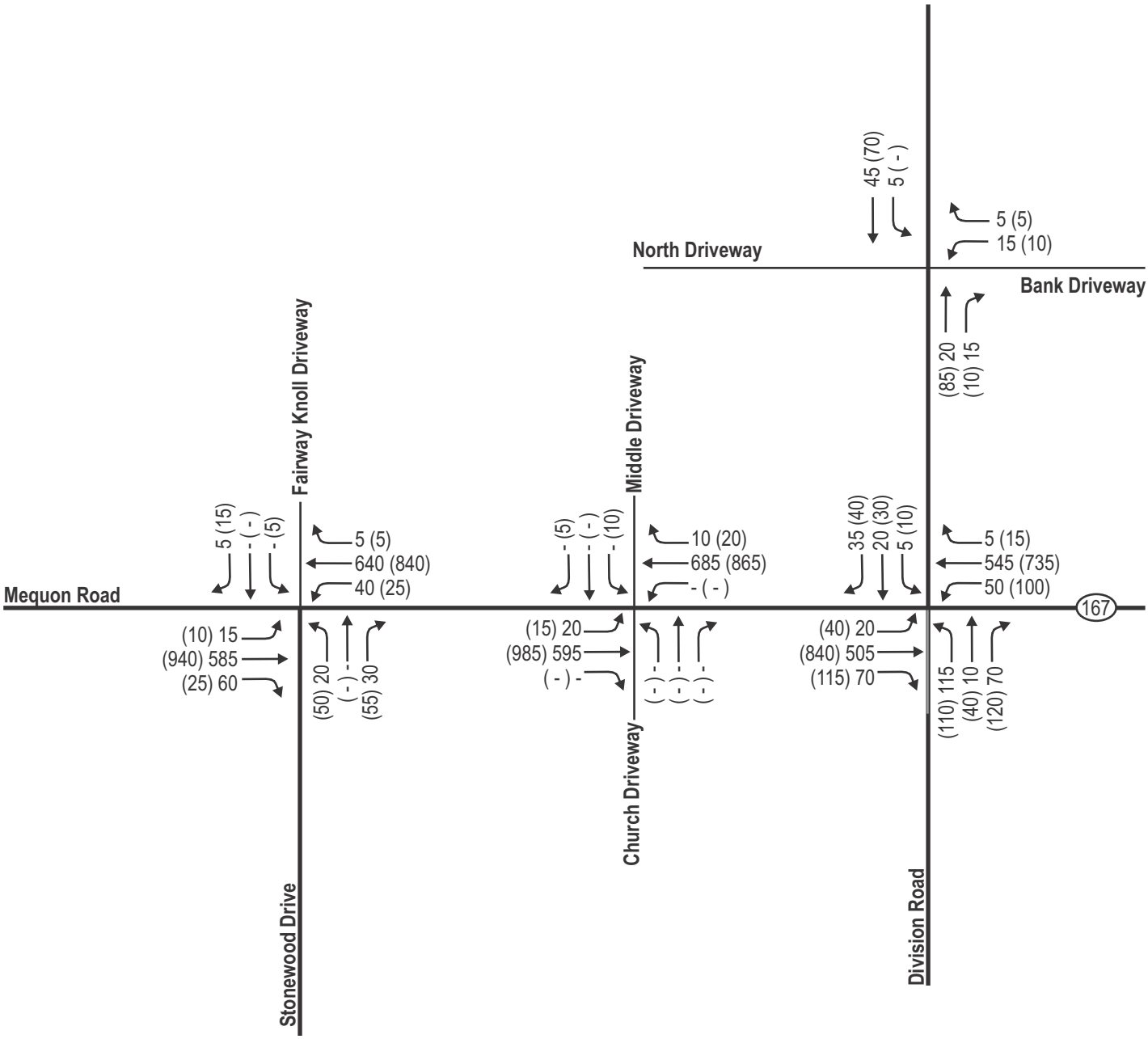
PART C – BACKGROUND AND FULL BUILD TRAFFIC

C1. Year 2030 Background Traffic

The Year 2025 existing traffic volumes, Exhibit 3-2B, were added to off-site development (all developments) new trips, Exhibit 4-8E, to determine the Year 2030 background traffic volumes (Exhibit 4-1).

C2. Year 2030 Background Traffic

The Year 2030 background traffic volumes, Exhibit 4-1, were added to the on-site driveway trips, Exhibit 4-5C, to determine the Year 2030 full build traffic volumes (Exhibit 4-11).



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-1
YEAR 2030 BACKGROUND TRAFFIC VOLUMES
INCLUDES ALL OFF-SITE DEVELOPMENT

GERMANTOWN, WISCONSIN

Exhibit 4-3A

On-Site Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	135 Units	940 FCE	15 (24%)	50 (76%)	65 FCE	50 (63%)	30 (37%)	80 FCE
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	70 Units	520 FCE	10 (24%)	35 (76%)	45 FCE	30 (63%)	20 (37%)	50 FCE
Strip Retail Plaza (<40k)	822	9.250 x 1,000 SF	500 (54.45)	10 (60%)	10 (40%)	20 (2.36)	40 (50%)	35 (50%)	75 FCE
Fast-Food Restaurant with Drive-Through Window	934	4.400 x 1,000 SF	2,060 (467.48)	100 (51%)	95 (49%)	195 (44.61)	75 (52%)	70 (48%)	145 (33.03)
Total Trips			**4,020**	**135**	**190**	**325**	**195**	**155**	**350**
Minus Linked Trips	*(220)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minus Linked Trips	*(220)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minus Linked Trips	*(822)*	*10%*	*-50*	*0*	*0*	*0*	*-5*	*-5*	*-10*
Minus Linked Trips	*(934)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Linked Trip Reduction			**-50**	**0**	**0**	**0**	**-5**	**-5**	**-10**
Total Driveway Trips			**3,970**	**135**	**190**	**325**	**190**	**150**	**340**
Wkday: AM (PM) Pass-by Trips	*(220)*	*0%: 0% (0%)*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Wkday: AM (PM) Pass-by Trips	*(220)*	*0%: 0% (0%)*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Wkday: AM (PM) Pass-by Trips	*(822)*	*20%: 20% (20%)*	*-90*	*0*	*0*	*0*	*-5*	*-5*	*-10*
Wkday: AM (PM) Pass-by Trips	*(934)*	*25%: 25% (25%)*	*-520*	*-25*	*-25*	*-50*	*-20*	*-20*	*-40*
Total Pass-by Trip Reduction			**-610**	**-25**	**-25**	**-50**	**-25**	**-25**	**-50**
Total New Trips			**3,360**	**110**	**165**	**275**	**165**	**125**	**290**

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

TRIP DISTRIBUTION (New Trips)

East on Mequon Road	42%	1410	45	70		70	50
West on Mequon Road	43%	1445	45	70		70	55
North on Division Road	3%	105	5	5		5	5
South on Division Road	12%	400	15	20		20	15
	100%	***3360***	***110***	***165***		***165***	***125***

TRIP DISTRIBUTION (Pass-by Trips)

East on Mequon Road	52% (47%)	15	15		10	10
West on Mequon Road	48% (53%)	10	10		15	15
		25	***25***		***25***	***25***

Exhibit 4-3B

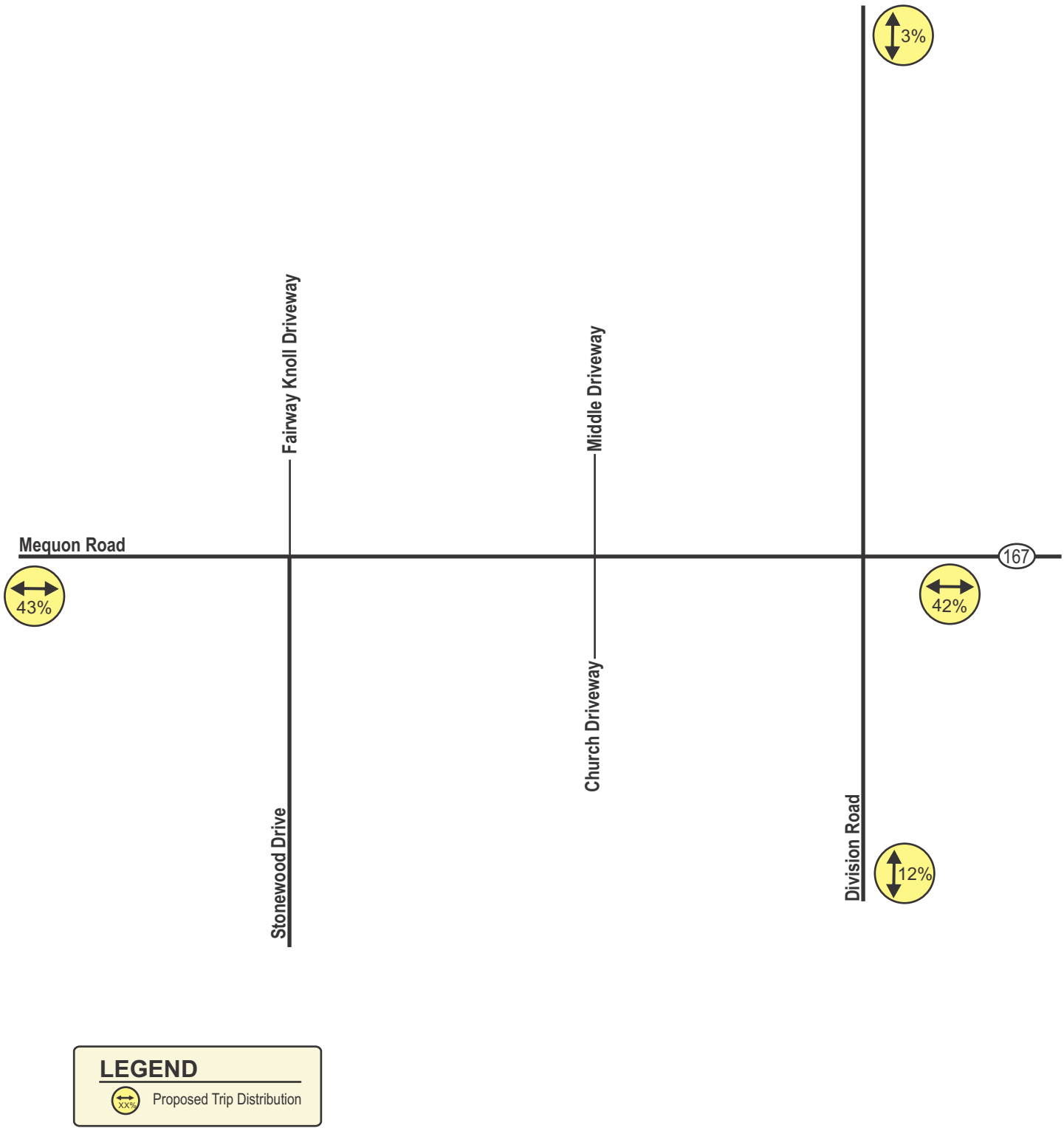
Off-Site (Fairway Knoll Phase II) Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Senior Adult Housing - Multifamily	252	38 Units	120 (3.24)	5 (34%)	5 (66%)	10 (0.20)	5 (56%)	5 (44%)	10 (0.25)
Total New Trips			**120**	**5**	**5**	**10**	**5**	**5**	**10**

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

TRIP DISTRIBUTION (New Trips)

East on Mequon Road	42%	50	0	0		0	0
West on Mequon Road	43%	55	5	5		5	5
North on Division Road	3%	5	0	0		0	0
South on Division Road	12%	10	0	0		0	0
	100%	***120***	***5***	***5***		***5***	***5***

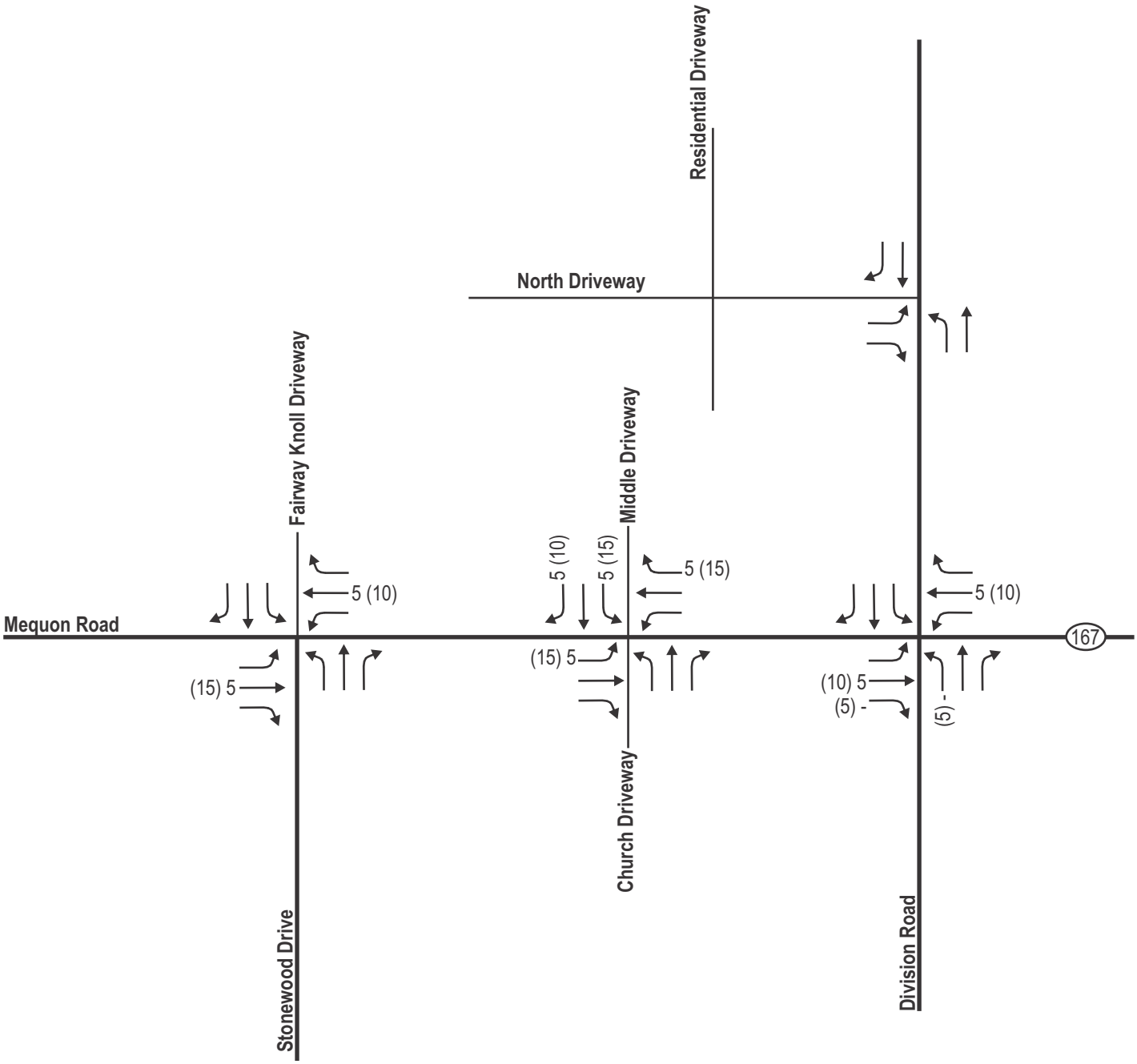


TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-4
TRIP DISTRIBUTION DIAGRAM

GERMANTOWN, WISCONSIN



LEGEND

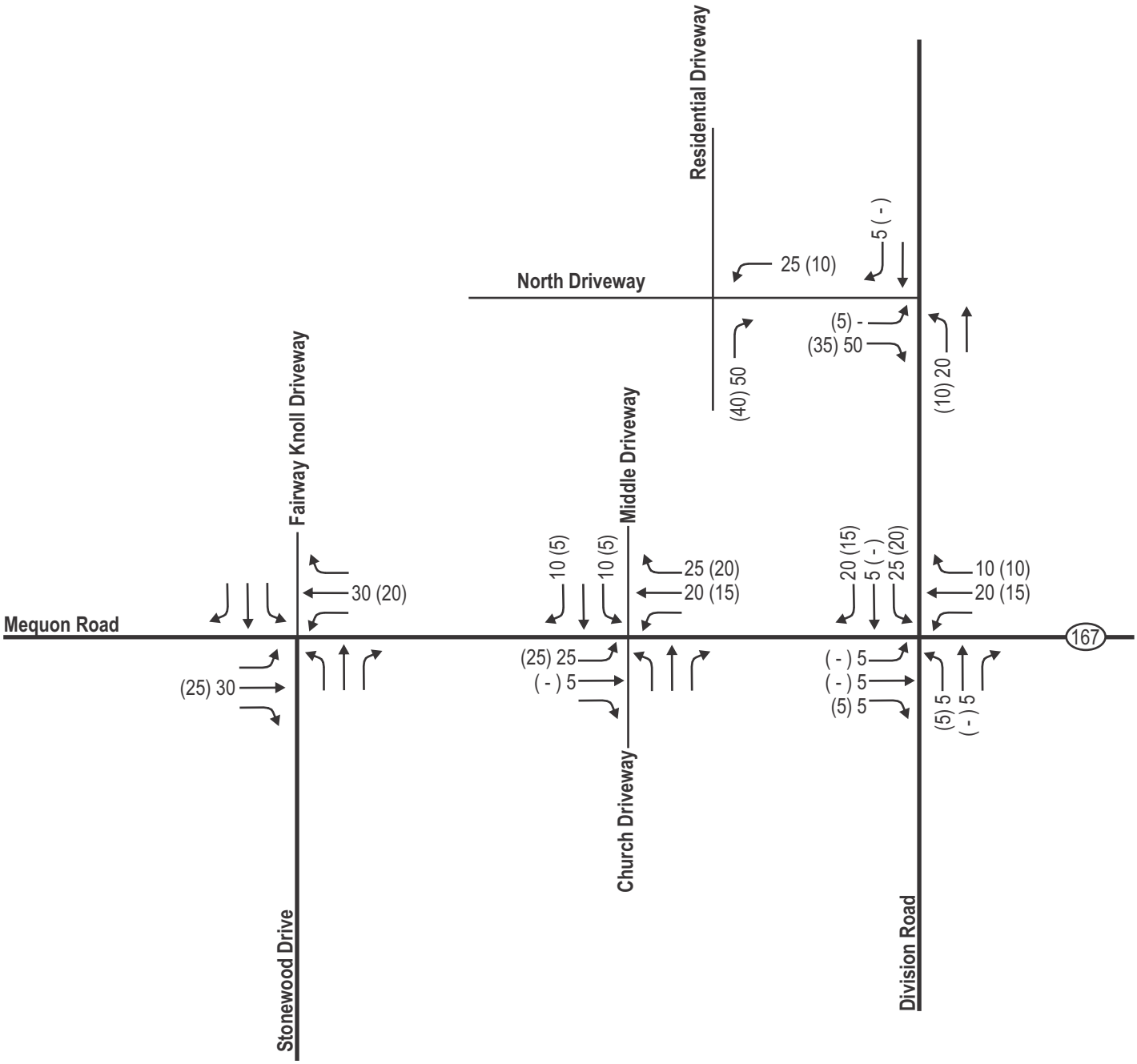
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5A.1
ON-SITE NEW TRIPS
COMMERCIAL/RETAIL

GERMANTOWN, WISCONSIN



LEGEND

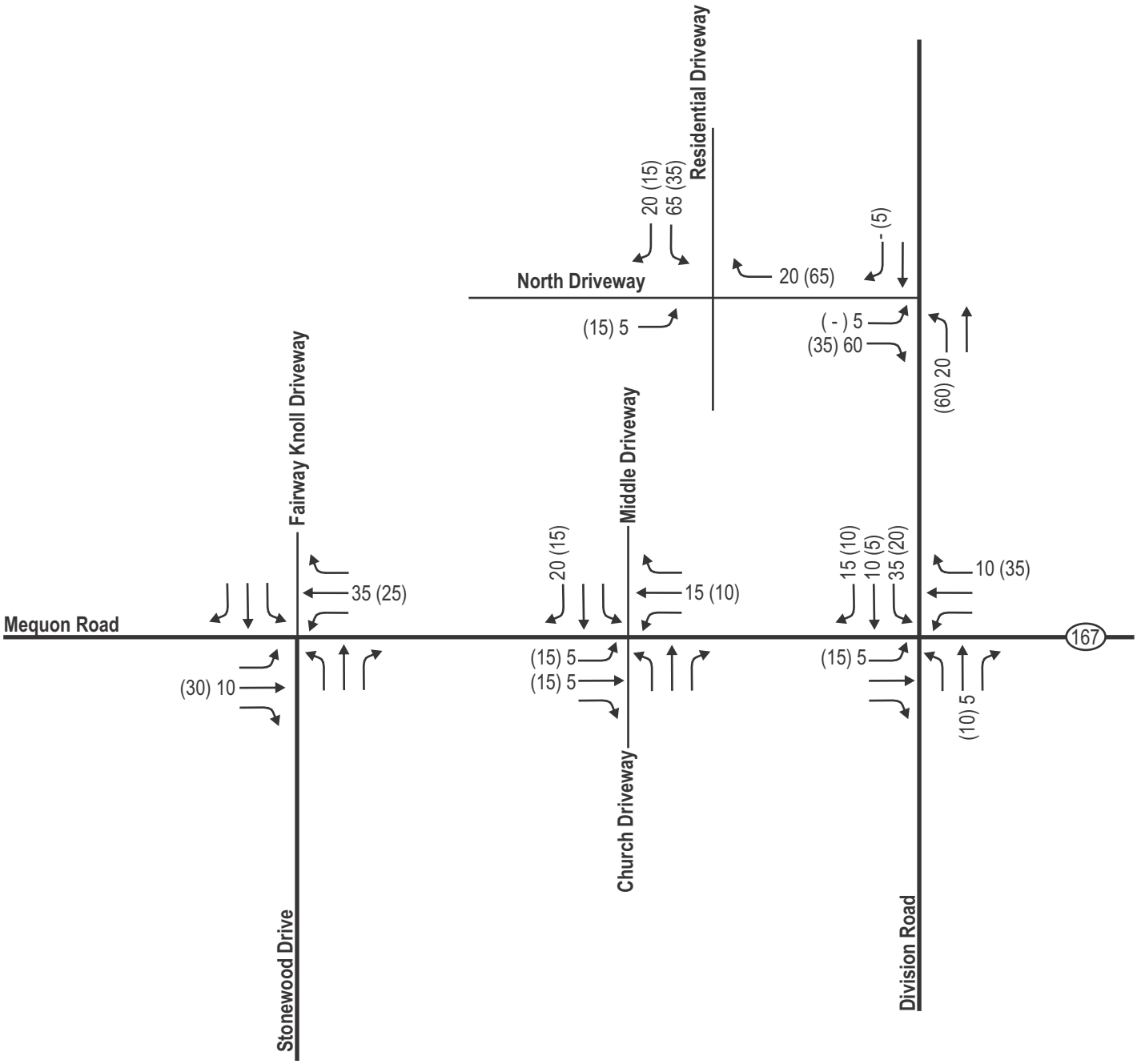
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5A.2
ON-SITE NEW TRIPS
COMMERCIAL/FAST FOOD

GERMANTOWN, WISCONSIN



LEGEND

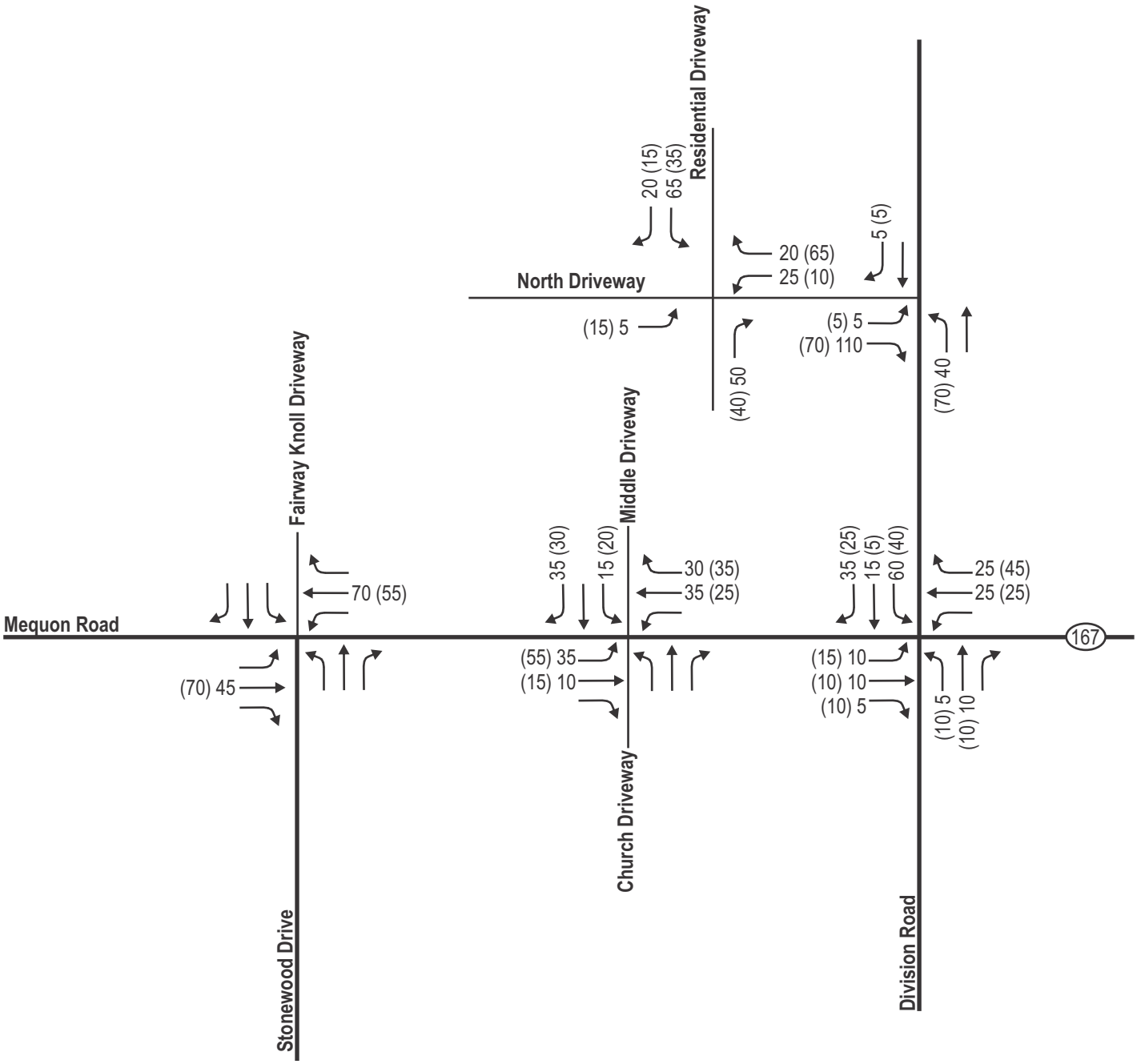
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5A.3
ON-SITE NEW TRIPS
RESIDENTIAL

GERMANTOWN, WISCONSIN



LEGEND

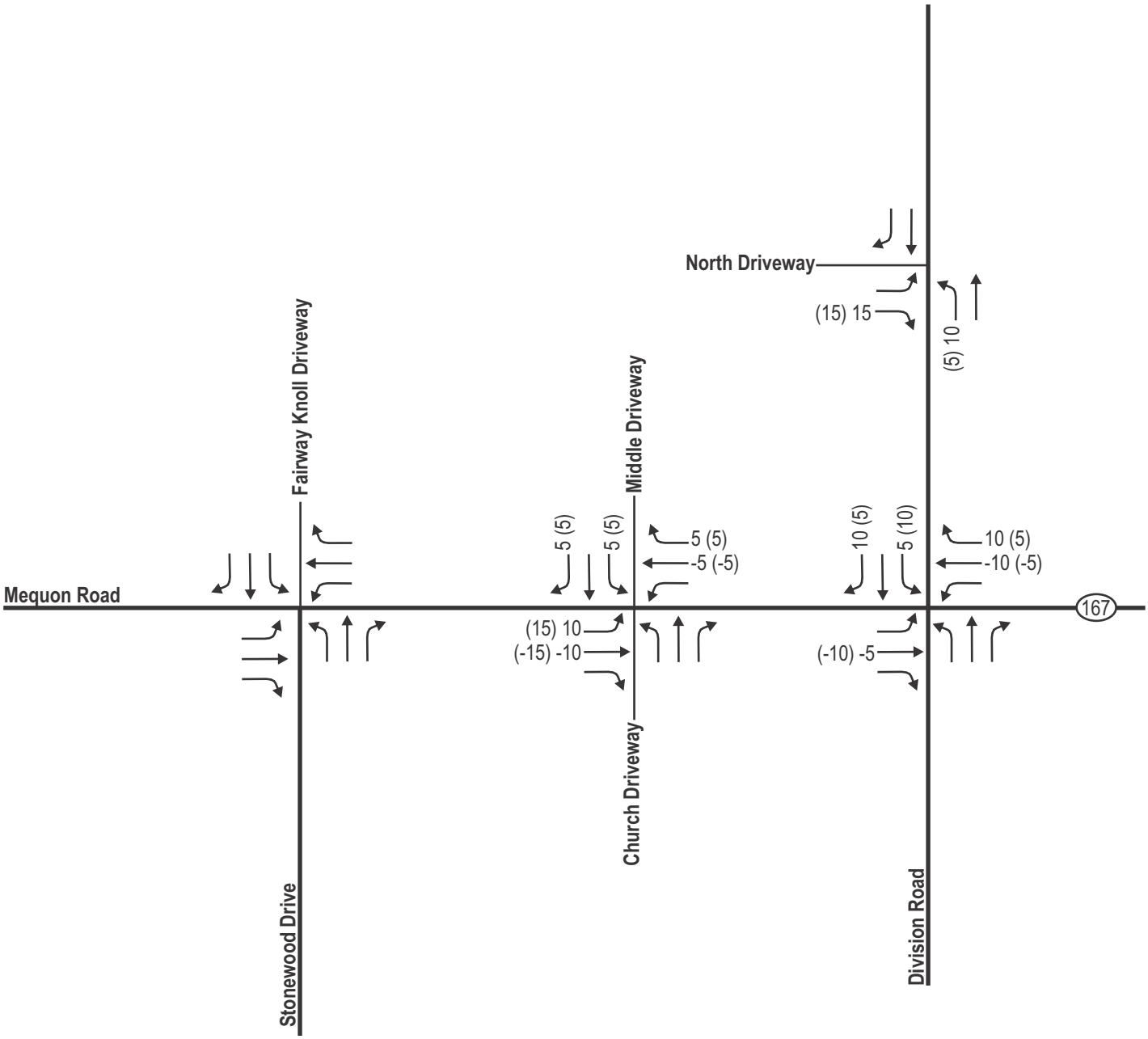
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5A.4
ON-SITE NEW TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

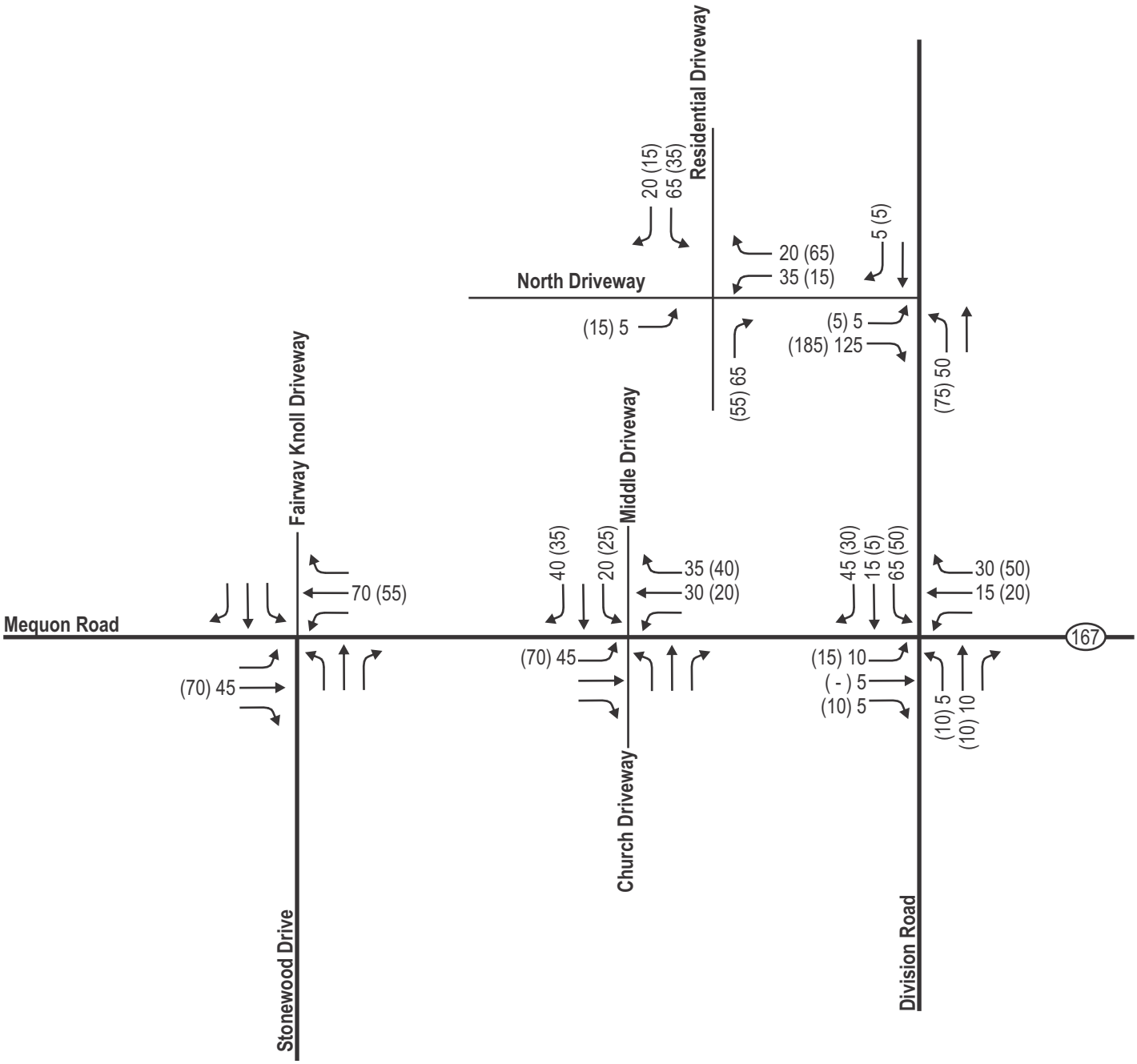
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5B
ON-SITE PASS-BY TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

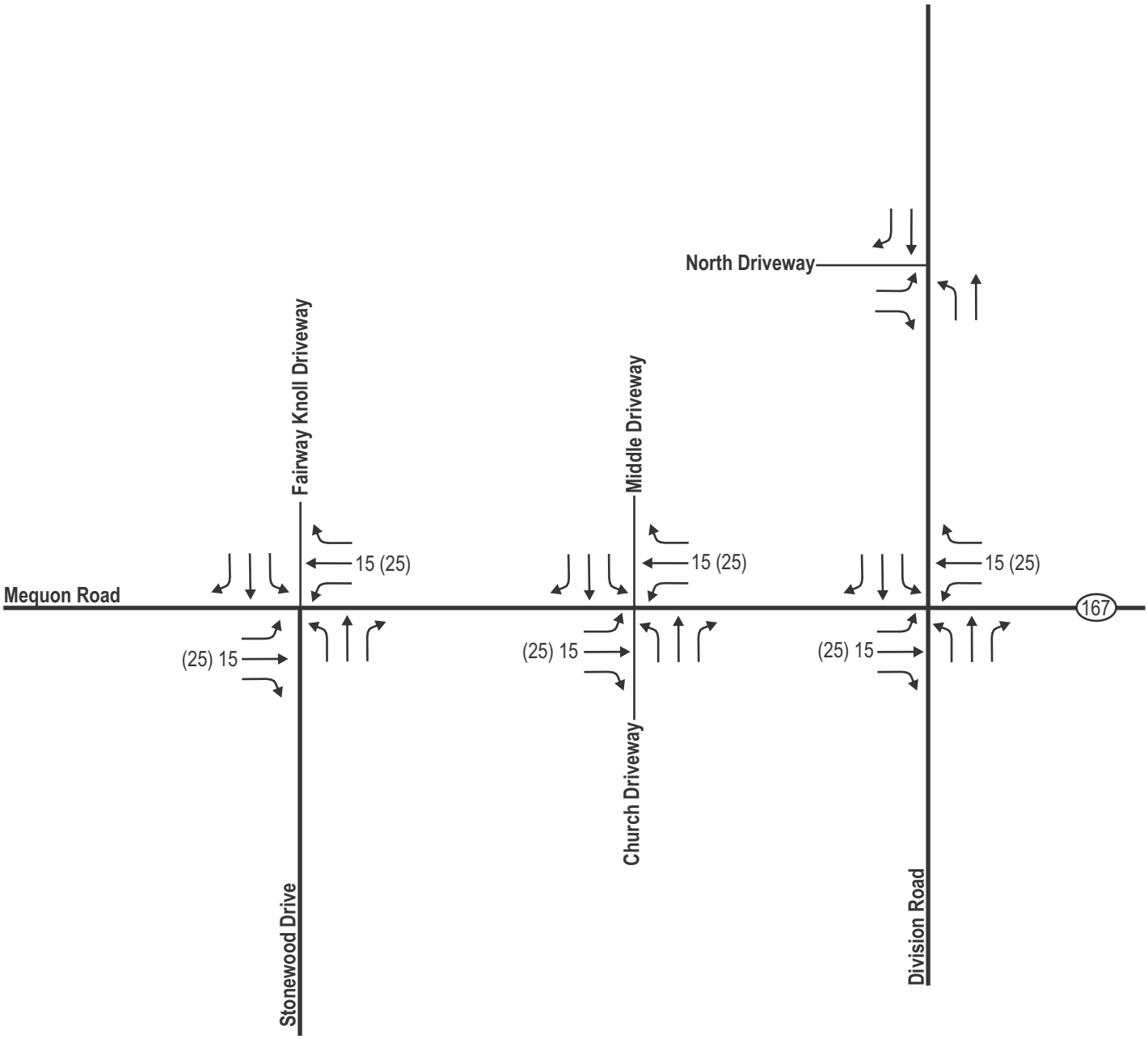
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-5C
ON-SITE DRIVEWAY TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

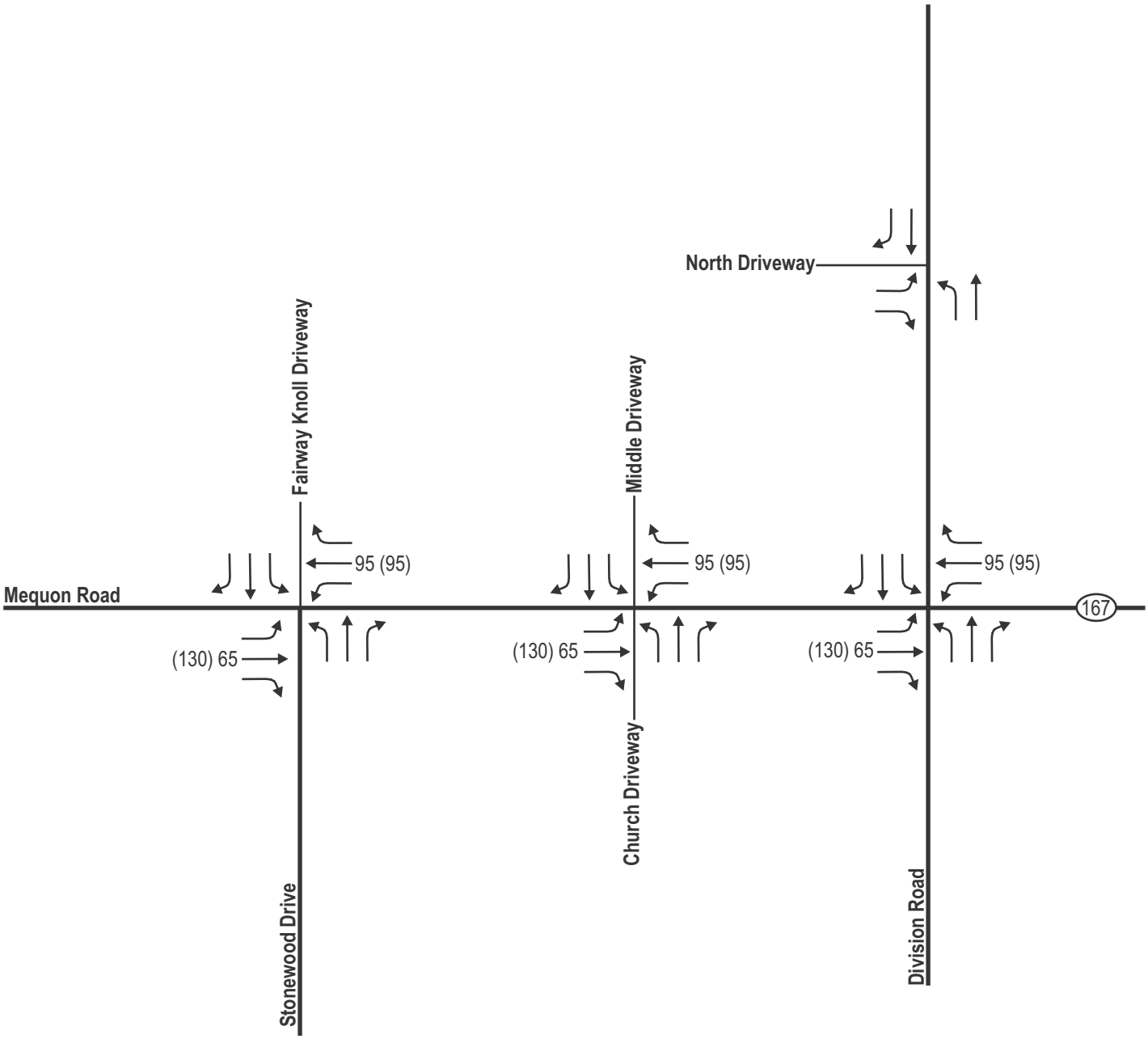
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8A
OFF-SITE DRIVEWAY TRIPS
KWIK TRIP (WEST)

GERMANTOWN, WISCONSIN



LEGEND

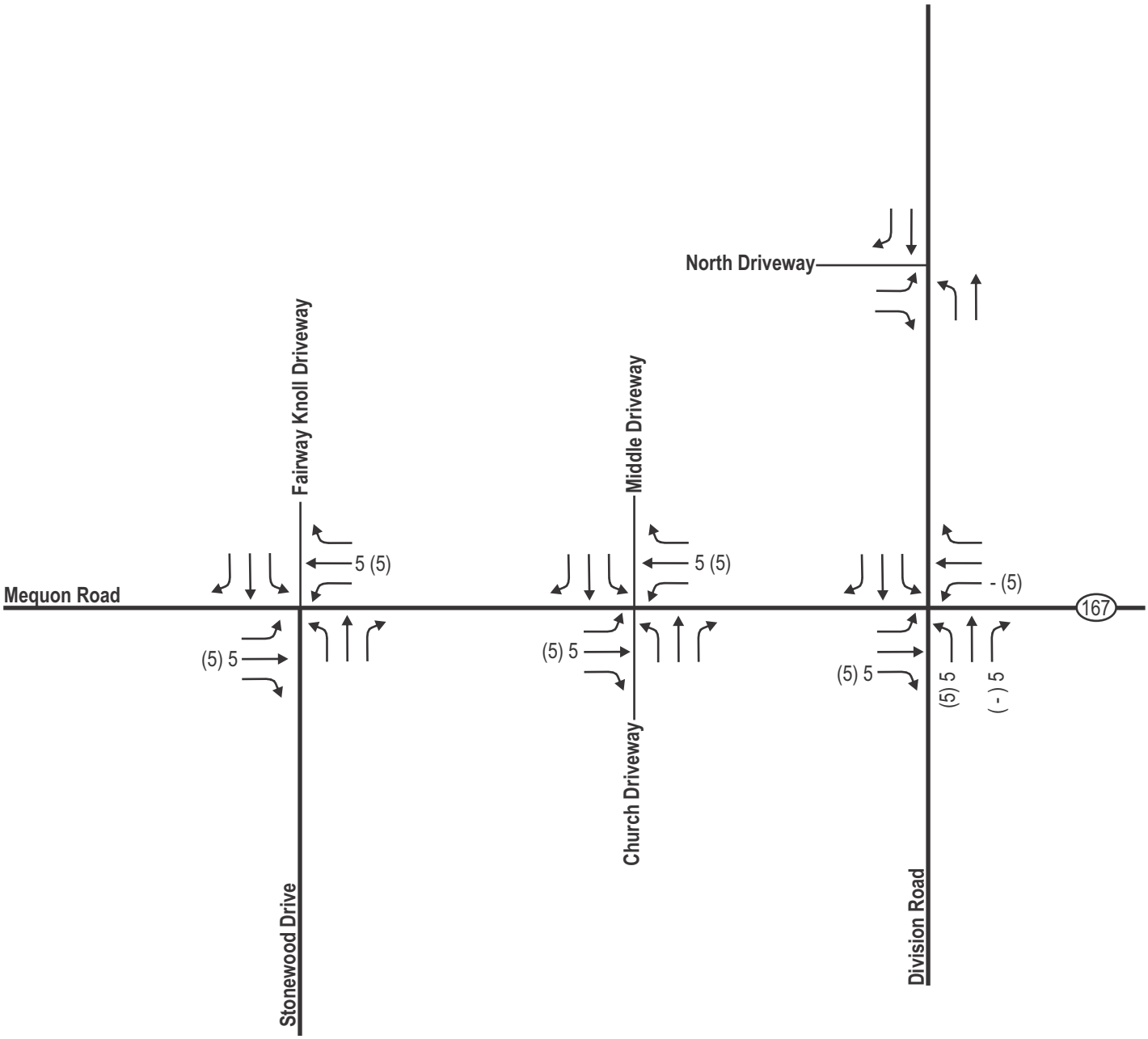
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8B
OFF-SITE DRIVEWAY TRIPS
PILGRIM MIXED-USE (EAST)

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8C
OFF-SITE DRIVEWAY TRIPS
CIRRUS MULTI-FAMILY (SOUTH)

GERMANTOWN, WISCONSIN

LEGEND

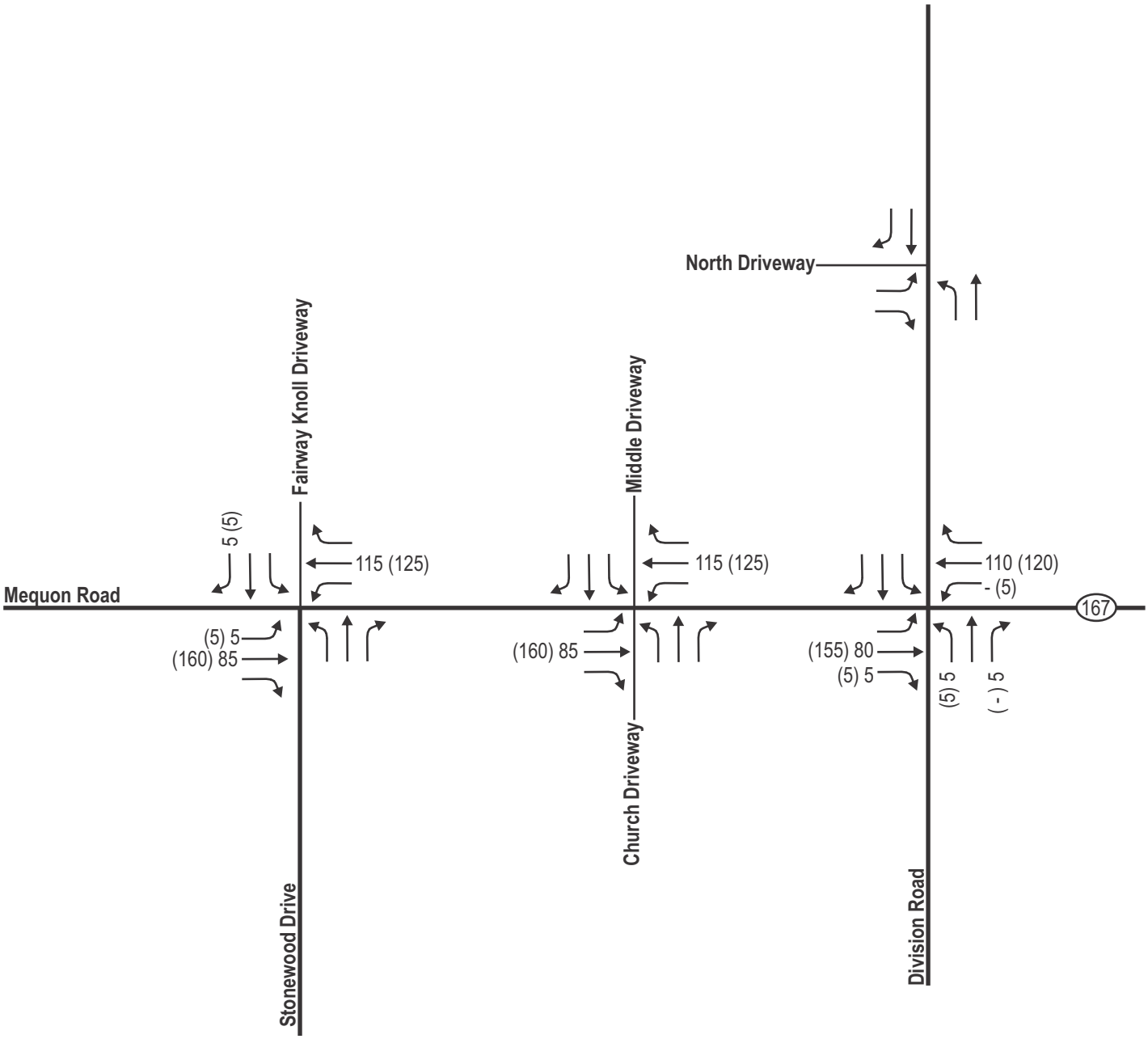
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8D
OFF-SITE DRIVEWAY TRIPS
FAIRWAY KNOLL PHASE II

GERMANTOWN, WISCONSIN



LEGEND

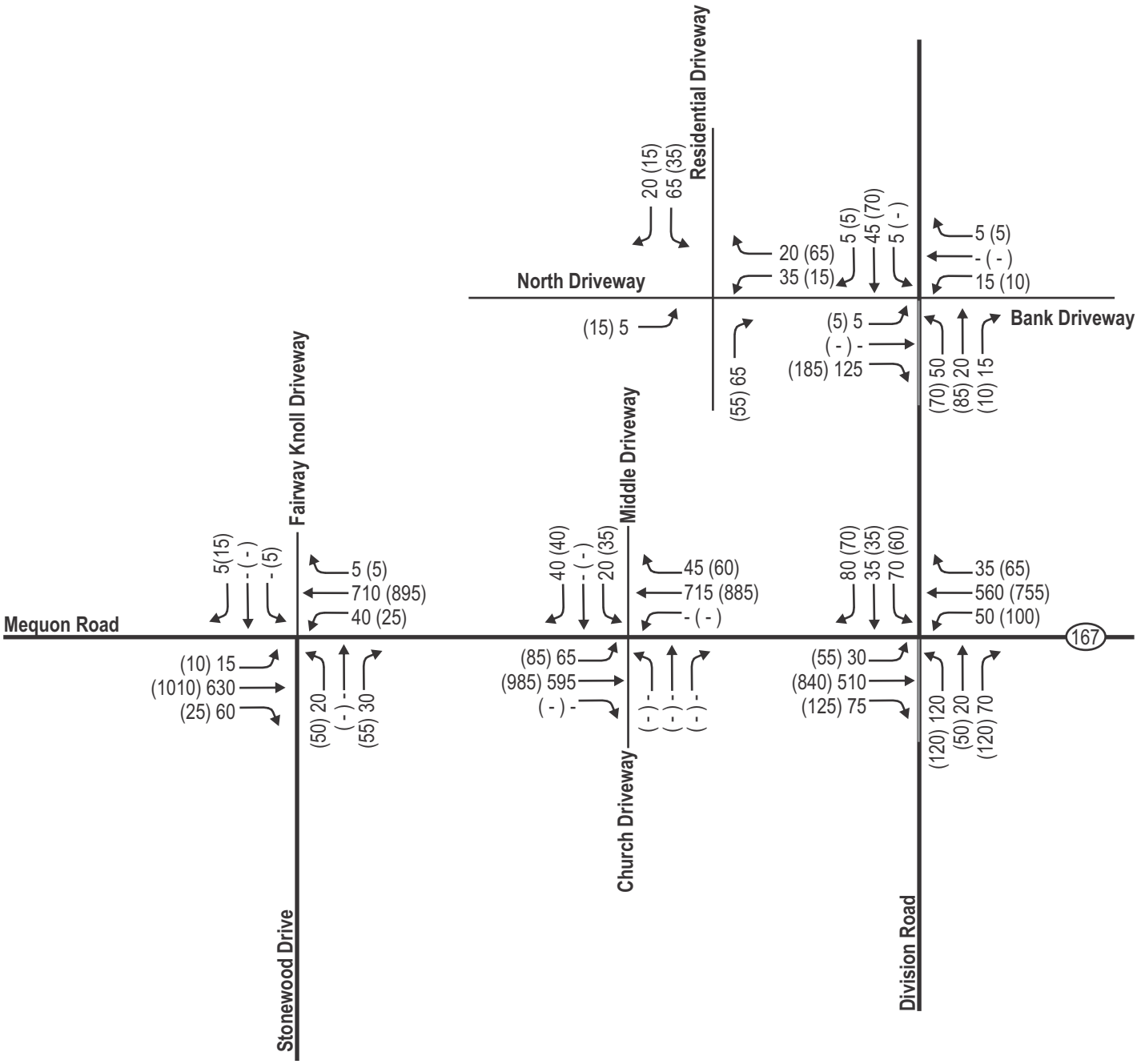
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8E
OFF-SITE DRIVEWAY TRIPS
ALL DEVELOPMENTS

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N

NOT TO SCALE

EXHIBIT 4-11
YEAR 2030 FULL BUILD TRAFFIC VOLUMES

GERMANTOWN, WISCONSIN

CHAPTER V – TRAFFIC AND IMPROVEMENT ANALYSIS

PART A – SITE ACCESS

Two main access points are proposed to accommodate the new development. The north driveway is proposed as a full access driveway along Division Road, directly across from the existing Bank access driveway, located in the northeast quadrant of the STH 167/Division Road signalized intersection. A second full access driveway is proposed along STH 167 near the center of the property, approximately 260-feet (stop bar to center of driveway) west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

PART B – CAPACITY LEVEL OF SERVICE ANALYSIS

B1. Year 2030 Background Operating Conditions – No Modifications

Exhibit 5-1 shows the Year 2030 background (with off-site development) traffic peak hour operating conditions at the study area intersections. The Year 2030 background traffic includes the full build out of the proposed development site. The Year 2030 background traffic analysis was conducted using existing intersection configurations, traffic control, and traffic signal timings.

As shown, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under the Year 2030 background traffic volume conditions.

B2. Year 2030 Full Build Operating Conditions – No Modifications

Exhibit 5-3 shows the Year 2030 full build traffic peak hour operating conditions at the study area intersections. The Year 2030 full build traffic includes the full build out of the proposed development site. The Year 2030 full build traffic analysis was conducted using existing intersection configurations, traffic control, and traffic signal timings.

As shown, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under the Year 2030 full build traffic volume conditions.

B3. Year 2030 Full Build Traffic Operating Conditions – *With Modifications*

Modifications to the existing transportation system to accommodate any of the Year 2030 full build traffic conditions are not recommended at the existing study area intersections. However, dedicated turn lanes exiting the site at the proposed main driveway are recommended. Recommended modifications at the proposed driveway are summarized in *Chapter VI – Recommendations and Conclusion*.

As shown in Exhibit 5-12A, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under any of the Year 2030 full build traffic volume conditions with the recommended modifications.

Per the request of the Village of Germantown, an additional scenario, looking at reconfiguring the lane designation on the south approach of the STH 167 intersection with Division Road to a shared through-left turn lane and a separate exclusive right turn lane was analyzed. Using this reconfigured lane designation and as shown in Exhibit 5-12B, the northbound and southbound through/left-turn movements at the STH 167 intersection with Division Road are expected to operate at LOS F during the typical weekday morning and evening peak hours, while all other movements are expected to operate at LOS D or better. Due to the expected higher over capacity

delays, it is recommended to not change the lane designation on the south approach of the STH 167 intersection with Division Road.

PART C – QUEUEING ANALYSIS

To estimate storage length requirements for turn bays at the study area intersections with modifications, a queuing analysis has been conducted. Note that the 95th percentile probable queue lengths were used for the design of turn bay storage at stop sign and traffic signal-controlled intersections. The following is a list of where the results of the queuing analysis can be found.

- Year 2030 Background Traffic – Exhibit 5-1 & 5-18
- Year 2030 Full Build Traffic – Exhibit 5-12A & 5-21

As shown on Exhibit 5-21 the eastbound maximum queues at the Mequon Road intersection with Division Road are not expected to encroach into or block the median opening serving the development and church driveway. Likewise, the southbound maximum queues at the Mequon Road intersection with Division Road are not expected to encroach or block the development/bank driveway located to the north on Division Road.

PART D – PEDESTRIAN, BICYCLE, BUS SERVICE AND MULTI-USE TRAIL CONSIDERATIONS

Pedestrian sidewalks or multi-use trails are provided along both sides of STH 167 and along the east side of Division Road to the south of STH 167; however, no other bicycle accommodations exist within the study area. Transit is not present within the area.

PART E – TRAFFIC CONTROL NEEDS

Modifications to the existing traffic control are recommended at several of the study area intersections as follows.

As recommended to accommodate Year 2030 full build traffic:

- Install a stop sign on the north approach at the STH 167 intersection with the proposed access driveway.
- Install a stop sign on the west approach at the Division Road intersection with the bank driveway/proposed north access driveway.

Exhibit 5-1
Year 2030 Background Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
	AM	LOS	A	*	*	A	*		C	B		B			
		Delay	8.9	*	*	9.9	*		19.8	11.6		12.5			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	8.8	*	*	10.6	*		28.1	13.1		12.7			
		Queue	25'	*	*	25'	*		25'	25'		25'			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
	AM	LOS	A	*		A	*	*	C			C			
		Delay	9.3	*		9.5	*	*	17.0			15.8			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		B	*	*	C			C			
		Delay	8.9	*		10.4	*	*	19.6			15.7			
		Queue	25'	*		25'	*	*	25'			25'			
Node 300: Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
		Delay	7.4	5.8	4.8	7.9	5.9	4.5	38.6	33.5		35.6	32.5		11.3
		Queue	25'	90'	25'	25'	100'	25'	115'	80'		25'	60'		
	PM	LOS	A	A	A	B	A	A	D	D		D	C		B
		Delay	7.4	5.8	4.4	10.2	5.5	4.1	39.3	37.2		40.6	34.0		11.0
		Queue	25'	150'	30'	55'	130'	25'	110'	145'		25'	70'		
Node 400: Division Road & Bank Driveway *One-Way Stop Control*		*Lanes->*	-			*1*			-	*1*		*1*		-	
	AM	LOS	-			A			-	*		A		-	
		Delay	-			9.0			-	*		7.3		-	
		Queue	-			25'			-	*		25'		-	
	PM	LOS	-			A			-	*		A		-	
		Delay	-			9.3			-	*		7.5		-	
		Queue	-			25'			-	*		25'		-	

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

Exhibit 5-3
Year 2030 Build Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
		Lanes->	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*	AM	LOS	B	*		A	*	*	C			B			
		Delay	10.1	*		9.5	*	*	20.2			14.6			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		B	*	*	C			C			
		Delay	9.6	*		10.4	*	*	23.9			17.4			
		Queue	25'	*		25'	*	*	25'			25'			
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
Node 300: Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	B	A	A	B	A	A	D	C		C	C		B
		Delay	10.5	7.8	6.4	10.6	8.0	6.2	38.2	29.6		34.2	30.2		14.2
		Queue	25'	100'	25'	30'	110'	25'	115'	85'		70'	105'		
	PM	LOS	A	A	A	B	A	A	D	C		D	C		B
		Delay	9.5	7.0	5.3	12.2	6.7	5.1	38.9	34.4		40.3	32.4		12.8
		Queue	30'	155'	35'	55'	135'	25'	120'	155'		65'	100'		
		Lanes->	*1*			*1*			*1*			*1*			
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*	AM	LOS	A			B			A			A			
		Delay	9.3			10.5			7.4			7.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			B			A			A			
		Delay	9.4			11.2			7.5			7.5			
		Queue	25'			25'			25'			25'			
		Lanes->	*1*			*1*			*1*			*1*			
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*	AM	LOS	A			A			A			A			
		Delay	7.3			7.3			8.6			9.9			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			A			
		Delay	7.4			7.2			8.6			9.5			
		Queue	25'			25'			25'			25'			

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

Exhibit 5-12A
Year 2030 Build Traffic Peak Hour Operating Conditions
With Modified Geometrics and Traffic Control

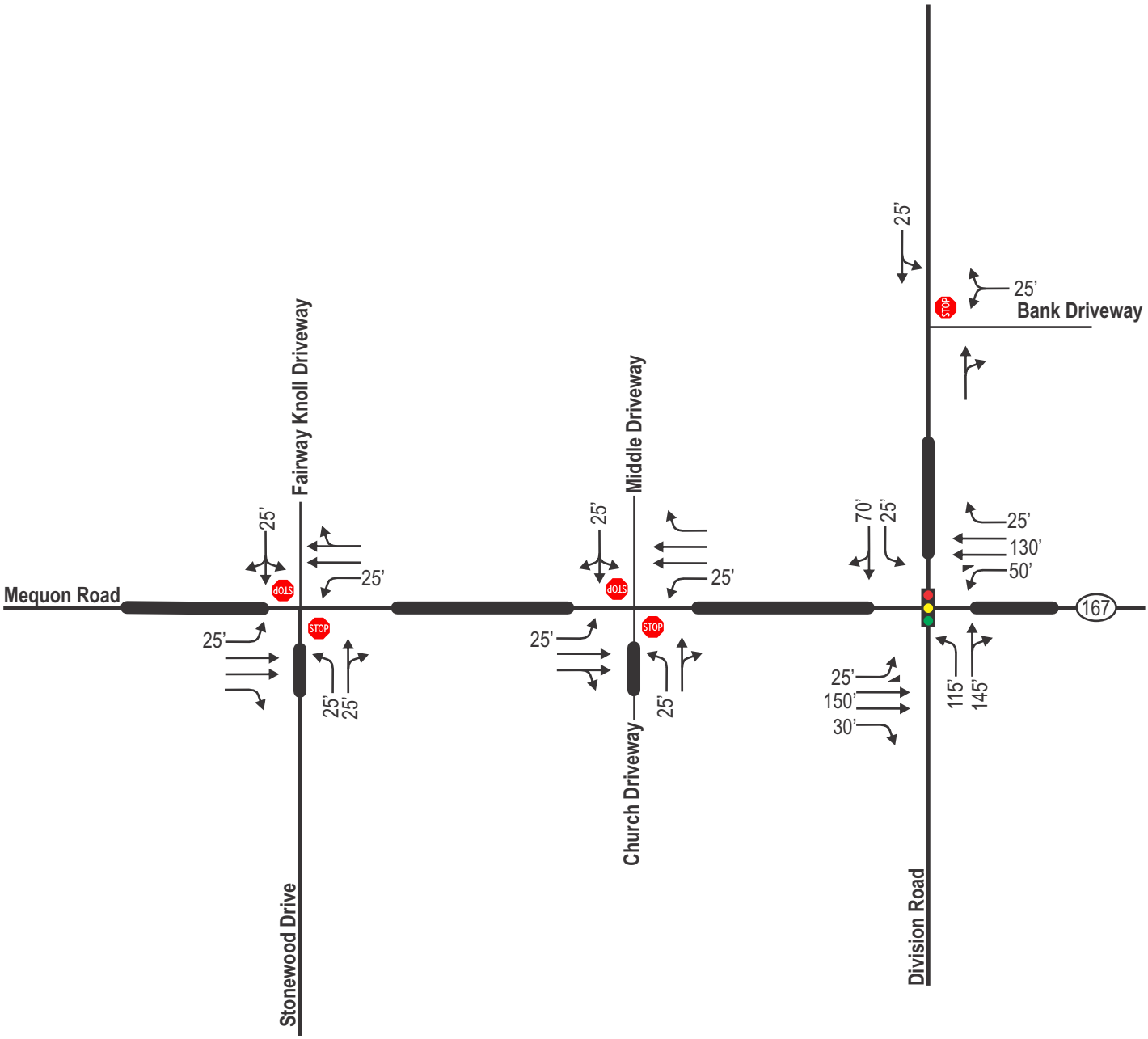
Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*		*1*	*2*	*1*	*1*			*1*		*1*	
	AM	LOS	B	*		A	*	*	C			C		A	
		Delay	10.0	*		9.5	*	*	20.2			22.3		9.2	
		Queue	25'	*		25'	*	*	25'			25'		25'	
	PM	LOS	A	*		B	*	*	C			C		A	
		Delay	9.6	*		10.4	*	*	23.9			24.1		9.4	
		Queue	25'	*		25'	*	*	25'			25'		25'	
Node 300: Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
	AM	LOS	B	A	A	B	A	A	D	C		C	C		B
		Delay	10.5	7.8	6.4	10.6	8.0	6.2	38.2	29.6		34.2	30.2		14.2
		Queue	25'	100'	25'	30'	110'	25'	115'	85'		70'	105'		
	PM	LOS	A	A	A	B	A	A	D	C		D	C		B
		Delay	9.5	7.0	5.3	12.2	6.7	5.1	38.9	34.4		40.3	32.4		12.8
		Queue	30'	155'	35'	55'	135'	25'	120'	155'		65'	100'		
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*		*Lanes->*	*1*			*1*			*1*			*1*			
	AM	LOS	A			B			A			A			
		Delay	9.3			10.5			7.4			7.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			B			A			A			
		Delay	9.4			11.2			7.5			7.5			
		Queue	25'			25'			25'			25'			
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*		*Lanes->*	*1*			*1*			*1*			*1*			
	AM	LOS	A			A			A			A			
		Delay	7.3			7.3			8.6			9.9			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			A			
		Delay	7.4			7.2			8.6			9.5			
		Queue	25'			25'			25'			25'			

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

Exhibit 5-12B
Year 2030 Build Traffic Peak Hour Operating Conditions
With Modified Geometrics and Traffic Control - Revised Lane Geometry on NB/SB Approaches at Signalized Intersection

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
		Lanes->	*1*	*2*		*1*	*2*	*1*	*1*			*1*		*1*	
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*	AM	LOS	B	*		A	*	*	C			C		A	
		Delay	10.0	*		9.5	*	*	20.1			23.8		9.4	
		Queue	25'	*		25'	*	*	25'			25'		25'	
	PM	LOS	A	*		B	*	*	C			D		A	
		Delay	9.5	*		10.4	*	*	23.8			25.7		9.5	
		Queue	25'	*		25'	*	*	25'			25'		25'	
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*		*1*	*1*		*1*	
Node 300: Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	C	B	B	C	B	B	F		B	F		B	F
		Delay	22.3	16.5	13.6	22.5	17.0	13.2	611.4		18.0	320.6		18.1	88.2
		Queue	25'	110'	25'	30'	120'	25'	125'		70'	95'		75'	
	PM	LOS	B	B	A	C	B	A	F		C	F		C	E
		Delay	16.5	12.1	9.2	21.2	11.6	8.8	567.8		25.1	167.0		24.0	60.2
		Queue	35'	175'	35'	60'	150'	25'	155'		110'	90'		70'	
		Lanes->	*1*			*1*			*1*			*1*			
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*	AM	LOS	A			B			A			A			
		Delay	9.3			10.5			7.4			7.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			B			A			A			
		Delay	9.4			11.2			7.5			7.5			
		Queue	25'			25'			25'			25'			
		Lanes->	*1*			*1*			*1*			*1*			
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*	AM	LOS	A			A			A			A			
		Delay	7.3			7.3			8.6			9.9			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			A			
		Delay	7.4			7.2			8.6			9.5			
		Queue	25'			25'			25'			25'			

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



LEGEND

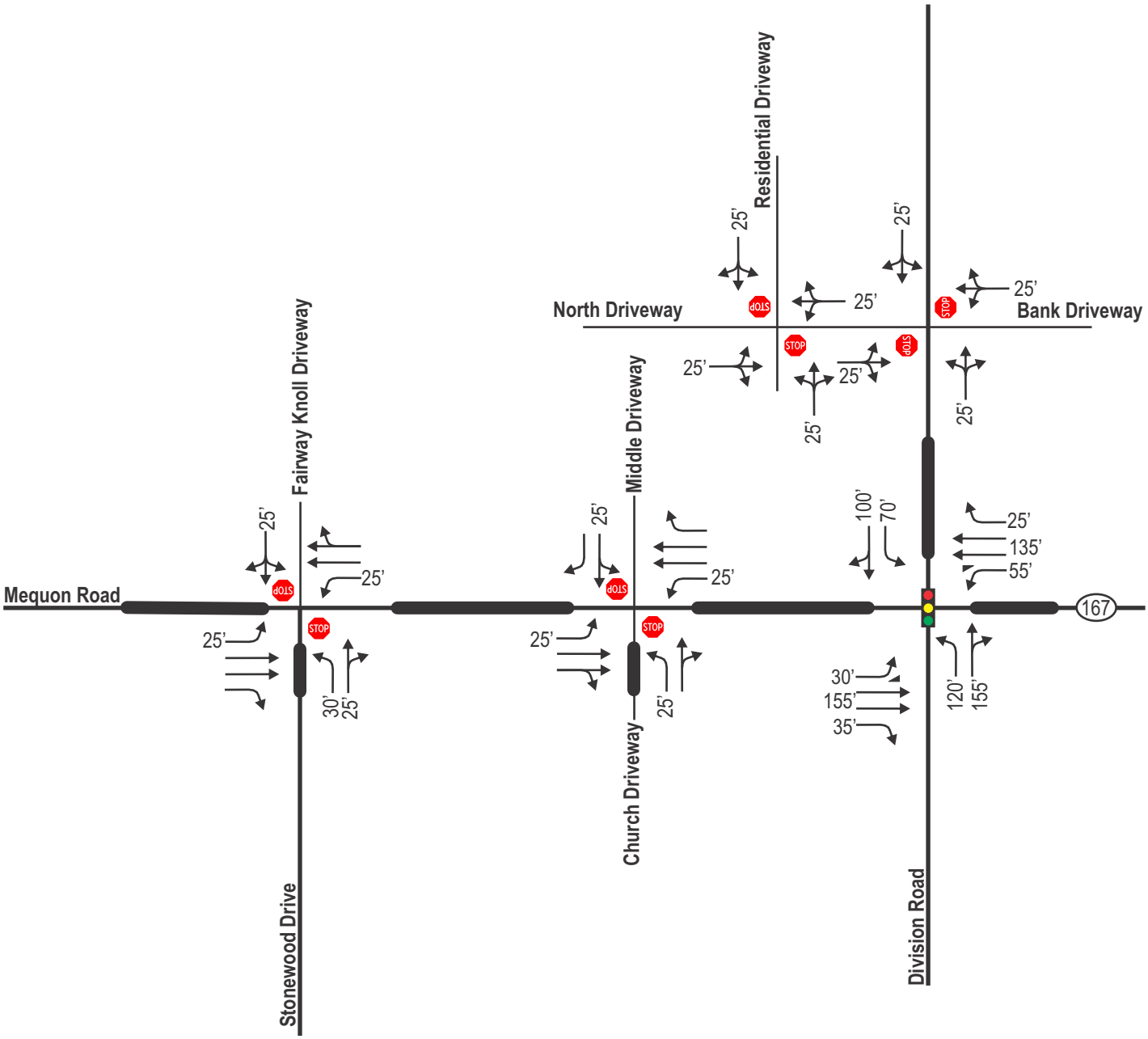
- Traffic Signal Control
- STOP Stop Control
- → Existing or Proposed Lane Configuration
- XX' Expected Maximum Peak Hour Queue Length (in feet)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 5-18
YEAR 2030 BACKGROUND TRAFFIC
MAXIMUM QUEUE LENGTHS

GERMANTOWN, WISCONSIN



LEGEND

- Traffic Signal Control
- STOP Stop Control
- → Existing or Proposed Lane Configuration
- XX' Expected Maximum Peak Hour Queue Length (in feet)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 5-21
YEAR 2030 FULL BUILD TRAFFIC MAXIMUM QUEUE LENGTHS

GERMANTOWN, WISCONSIN

CHAPTER VI – RECOMMENDATIONS AND CONCLUSION

PART A – RECOMMENDATIONS

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) *6th Edition*. 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 purpose of this study, LOS D or better was used to define acceptable peak hour operating conditions.

Modifications to address traffic impacts are shown in Exhibit 1-3 for the Year 2030 traffic conditions and have been shown for the following scenarios:

- "Existing Traffic" – These modifications are expected to be necessary to accommodate Year 2025 Existing traffic volumes without the proposed residential/mixed-use development.
- "Background Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 background traffic volumes, which includes only the off-site development but no on-site development.
- "Full Build Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 full build traffic volumes, which includes full build out of the proposed on-site development as well as the off-site development.

The analysis was conducted using existing intersection geometrics and traffic control. The following modifications, as shown in Exhibit 1-3, are recommended to accommodate the Year 2025 Existing, Year 2030 background and Year 2030 full build traffic volumes, respectively. *Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.*

Node 100: STH 167 intersection with Stonewood Drive/Fairway Knoll driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:* No modifications.

Node 200: STH 167 intersection with Blackstone Creek Golf Club Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
  - Provide a full access driveway on the north approach.
  - Provide stop control on the north approach.
  - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway.

Node 300: STH 167 intersection with Division Road

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.

- *Full Build Traffic:*
    - Using pavement marking, restripe the northbound left-turn lane to a length of 125-feet (this requires an extension of 50-feet).

Node 400: Division Road intersection with Bank Driveway/North Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Provide a full access driveway on the west approach.
    - Provide stop control on the west approach.

Node 450: North Driveway intersection with Residential Driveway

- *Existing traffic:* Not applicable.
- *Background Traffic:* Not applicable.
- *Full Build Traffic:*
    - Construct internal roadways as shown on the site plan.
    - Provide stop control on the north and south approaches.

It is noted that consideration was given to providing additional turn lanes at the Division Road intersection with the bank driveway/proposed north driveway under full build conditions. However, since the expected northbound/southbound through volumes are currently very low (less than 100 vehicles in any peak hour) and are expected to remain low, and the conflicting turning volumes expected at the intersection are relatively low, turn lanes are not expected to be necessary nor warranted. As shown in this report, all movements at this intersection are expected to operate at LOS B (less than 12 seconds of delay) or better with minimal queueing (1 vehicle or less) during all peak periods with the existing intersection configuration.

Dedicated turn lanes are recommended on the north approach at the STH 167 intersection with the Blackstone Creek Golf Club driveway under full build conditions. No other modifications are recommended at this intersection. This intersection is expected to operate acceptably at LOS D or better with minimal queueing (1 vehicle or less) during all peak periods. Even though not expected, if significant adjacent development in the future requires the restriction of left-turn exiting vehicles at the intersection (left-in/right-in/right-out access driveway), an example of the median modifications that could be considered at that time is shown on Exhibit 1-3. It is noted that this type of modification may be considered in the future as part of a future large TIA which generates a significant amount of traffic.

Modifications to the lane configuration on the north and south approaches of the signalized STH 167 intersection with Division Road are not recommended. The intersection is expected to operate acceptably under the current lane configuration whereas, significantly higher delays (LOS E/F) are expected with a shared through/left-turn lane and a dedicated right-turn lane on the south approach.

PART B – CONCLUSION

All movements at the study area intersections are expected to operate safely and efficiently with the development assumptions outlined in this TIA and with the identified recommended modifications if properly designed and implemented through the full built out of the development (expected year 2030).

Village of Germantown

Engineering Department Memorandum

To: **Jeff Retzlaff, AICP, Planning Director/Zoning Administrator**

From: **Kevin Driscoll, Village Engineer**

Date: **August 27, 2025**

Re: **Culvers – Storm Water Management Review**

Items Reviewed:

1. Stormwater Management Plan Dated: 07-07-2025

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.

Stormwater Management Plan:

1. Clarify what pavement area was used for the new pavement area. New driveways into the site located outside the property line shall be included as new parking and roadway area.
2. Provide soil borings demonstrating the native soil infiltration rate of 0.13 in/hr is appropriate for the on-site soils.
3. Adjust stone voids to 33% as recommended by the DNR or provide documentation supporting 40% voids in the stone proposed for use.
4. Provide additional information on how the outlet from the isolator row is being modeled. Its not clear where the weir 1.5' above the bottom is and why the 12" outlet pipe isn't included in the model.
5. Provide information on how water tributary to STM INL #2 will be treated by the isolator

row. Is the 15" outlet invert intended to by higher than the 12" inlet pipe as shown on the plans?

6. Provide information on the 6" NE out of STM MH#1. Is this a draintile that will reduce infiltration of the isolator row? If so it should be included in the SLAMM model.

Transportation:

1. Provide Traffic Impact Analysis.
2. Complete Driveway permit.
3. Extend sidewalk to connect to Mequon Road. Extend sidewalk along Division Road.

Sanitary:

1. Sanitary is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

Water:

1. Water is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, October 13, 2025 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:

Chairman Soderberg and Committee Members Warren, Shadid, Tarantino, Williams and Ewert were all present. Also present were Community Development Director Retzlaff, Associate Planner Yanke and Administrative Coordinator Remich (via Webex). Committee Member Henk 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.*

Citizens that spoke included:
Mario Maenza who lives on Cedar Lane.
Lynn Bednarz who lives on Pawnee Court.
Jim Stout who lives on Goldendale Road.
Martin Peck who lives on Cedar Lane.
Joel Gierach who lives on Cedar Lane.
Tom Stauffacher who lives on Cedar Lane.
Michelle Perkl who lives on Armada Drive.
Penny Dunne-Muzi who lives on Cedar Lane.
Linda Maenza who lives on Cedar Lane.
Jennifer Steffen who lives on Creek Terrace.

IV. APPROVAL OF MINUTES:

A. PC Minutes 9/8/25 (ACTION)

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: Russell Ewert
Yes: Bob Soderberg, Robert Warren, William Shadid, Josh Tarantino, Russell Ewert
No: None
Abstain: Robert Williams
Motion Passed (Yes 5, No 0, Abstained 1)

V. NEW BUSINESS:

A. OneEnergy Development, LLC, Agent for Robert Overmier, Property Owner. Conditional Use Permit (CUP) and Site Plan applications for an approximate 35-acre Solar Energy Facility located at N144 W12531 Pioneer Road in the Rural Preservation District. (PUBLIC HEARING & ACTION)

Associate Planner Yanke gave a short summary of the proposal, stating that the proposed solar farm is a conditional use within the A-1 district that requires site plan review and approval. Yanke went through the primary project details and mentioned the State law provisions applicable to solar energy conversion systems. Yanke also went over staff review comments and staff's recommendations of approval for the applications. Yanke introduced Peter Murphy and Julie Gerrits from OneEnergy, who went over the proposal in a detailed presentation.

Discussion Followed.
Committee Members asked about the length of the lease, which is 30–50 years. Which stays with the land even if it's sold.
After 30–50 years, WE Energies will be responsible for decommissioning if they purchase the asset, which they expect. There is money set aside for asset removal in each of their contracts. All components are removed from the site, everything possible is recycled.
Whether there is a danger of fire? No there is not, there is nothing flammable on site and no lithium batteries are used.
There are no liquids or chemicals used on site.
Will there be mass herbicide spraying to control the native prairie species proposed around the solar structures? No, they only do spot spraying by an individual on a specific plant/weed.
Are there other plans for additional solar projects in Germantown at this time? No.
Did OneEnergy pay anyone money to not come to the meeting tonight? No.
Could the income generated be used towards the village's debt? That can be looked into per staff.
How will this affect property values? The study they use shows that it does not significantly affect property values either way.

Chairman Soderberg opened the Public Hearing at 8:27pm.
Comments were received from:
Lynn Bednarz who lives on Pawnee Court stated that she would see what she could do with her contacts in Washington.
Brian Kirsch who lives on Wildrose Lane stated that this will not make a dent in anyone's electricity bill, and feels that this project is useless.
Charlie Hargan who lives on Biscayne Drive questioned the safety aspects and how they are handled.
Marty Peck who lives on Cedar Lane is concerned about fire issues with lithium batteries if the project is ever converted.
Mario Maenza who lives on Cedar Lane stated that he is concerned about property values, wildlife and fire hazard.
Tom Stauffacher who lives on Cedar Lane doubts that property values would go up and would like more screening other than the current deciduous trees.

Linda Maenza who lives on Cedar Lane is concerned about fire and potential project expansion.
Penny Dunne-Muzi who lives on Cedar Lane is concerned about the research involved, disposal of this project when it is decommissioned and how the panels are made.
Chairman Soderberg closed the Public Hearing at 8:48pm.

Motion 1: Approve CUP as presented with the 6 conditions included in the packet and add the 4 additional conditions listed below.
Motioned By: Robert Warren
Seconded By: William Shadid

Discussion Followed. Committee members discussed the opposition to the project and several members shared the same concerns. Committee members asked what type of legal dispute or recourse the applicant would have if the project is denied. Would it be similar to the project off Rockfield Road last year? Staff clarified that OneEnergy could bring an appeal forward to the Board of Zoning Appeals similar to the previous project. Director Retzlaff suggested that the Commission make motions to add conditions that address residents' concerns and validate the reasoning for denying the project. Commissioners asked whether they could set so many conditions as to be cost-prohibitive to the project.

Motion 2: Amendment #1 - Add a condition for a formal landscape plan that would evaluate current landscaping around the project area and specify the applicant provide year-round screening around the entire solar farm.
Motioned By: Robert Warren
Seconded By: William Shadid
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion 2 Passed (Yes 6, No 0, Abstained 0)

Motion 3: Amendment #2 - Add a condition that the applicant be limited to spot spraying instead of widespread/broadcast spraying of herbicides to manage vegetation on site.
Motioned By: Josh Tarantino
Seconded By: William Shadid
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion 3 Passed (Yes 6, No 0, Abstained 0)

Motion 4: Amendment #3 - Add a condition that the applicant add the Village as an insured party on their Pollution Liability Insurance Policy.
Motioned By: Robert Williams
Seconded By: Russ Ewert
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh

Tarantino, Russell Ewert
No: None
Abstain: None
Motion 4 Passed (Yes 6, No 0, Abstained 0)

Motion 5: Amendment #4 - Add a condition to prohibit the use of lithium batteries on site as part of the solar facility's operation.
Motioned By: Russell Ewert
Seconded By: Josh Tarantino
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion 5 (Yes 6, No 0, Abstained 0)

Results of Motion 1:
Yes: Robert Warren, Josh Tarantino
No: Bob Soderberg, William Shadid, Robert Williams, Russell Ewert
Abstain: None
Motion 1 Failed (Yes 2, No 4, Abstained 0)

Staff recommends approval of the Conditional Use Permit for an approximate 35-acre “solar energy conversion system” consistent with and only to the extent allowed under Wis. Stat. § 66.0401 located at N144W12531 Pioneer 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 and supporting documents date stamped received July 17, 2025. Operations shall be limited to those specified in the CUP supporting documents submitted to the Village.
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 (CUP) 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. 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).

Staff recommends approval of the Site Plan application submitted by OneEnergy Development, LLC for an approximate 35-acre “solar energy conversion system” consistent with and only to the extent allowed under Wis. Stat. § 66.0401 for property located at N144 W12531 Pioneer Road, subject to the following conditions:

1. This approval is for the 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:
    1. Site Development Layout (Sheet D-100) revised dated October 10, 2025.
    2. Vegetative Screening and Management Plan dated August 6, 2025.

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 Vegetative Screening and Management Plan shall be subject to final acceptance by the Village Forester and Community Development staff prior to commencement of construction.
3. Approval of the Site Plan application is subject to approval/acceptance of the proposed private driveway access point to Pioneer Road by the Washington County Highway Department.
4. Per Fire Department, applicant shall install a Knox Box at the main entrance gate to the solar facility.
5. The technical issues and plan revisions identified in the October 7, 2025, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities or issuance of an Erosion Control Permit.
6. Site operations are limited to the proposed activity by the applicant per the submitted/attached “Solar Generating Facility Operations Plan”.
7. State agency (DSPS) approved plans and a $20,000 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.

8. Applicant shall install the 8’ agricultural/wildlife perimeter fence with openings at the bottom (i.e. at-grade) to allow greater wildlife movement.
9. The maximum tilt angle height of the solar array panels (i.e. structures) shall be approximately 8’ from established grade.
10. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations and requires a permit if/when allowed.
11. Applicant shall provide a commitment to the Village including provisions to ensure that there is adequate financial security set aside to perform the specified decommissioning of the project and any restoration needed to be performed to the shared access drive after construction of the project or its decommissioning. Said commitment shall be reviewed and approved/accepted by the Village Attorney.

Motion 6: Approval of the Site Plan with 11 conditions
Motioned By: Robert Warren
Seconded By: William Shadid

Motion 7: Amendment #1 Site Plan - Add 4 additional conditions as noted in CUP recommendation.
Motioned By: Russell Ewert
Seconded By: Robert Williams
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion 7 Passed (Yes 6, No 0, Abstained 0)

Results of Motion 6:
Yes: Robert Warren, Josh Tarantino
No: Bob Soderberg, William Shadid, Robert Williams, Russell Ewert
Abstain: None
Motion 6 Failed (Yes 2, No 4, Abstained 0)

B. Jim Sedgwick/Heimat Capital LLC, Agent for Blackstone Creek LLC, Property Owner N112W17300 Mequon Road. Application to amend the Blackstone Creek Planned Development District (PDD) General Development Plan and Conditions & Restrictions and a 2-Lot Certified Survey Map (CSM) to allow the development of two 1-2 acre commercial retail sites and 205 multi-family residential units. (PUBLIC HEARING & ACTION)

Director Retzlaff went over a brief history of the Blackstone Creek Development and details of the 3 proposed amendments to the PDD which included:
<u>Amendment #1:</u>

- Affects Section 1 (General Development Plan) [see Res. No. 19-12 & 20-16]
- Revise/replace the current GDP dated July 5, 2016 as necessary to incorporate the plan dated October 2, 2025 (copy attached) relative to that portion of the golf course and retail commercial area;

- Add the following land uses to the list of uses allowed in the Blackstone Creek PDD as conceptually shown in the GDP dated October 2, 2025
    - Restaurant with drive-through service (on the 1.27-ac commercial site only)
    - Other retail commercial uses allowed in the B-1: Neighborhood Business District (on the 1.75-ac commercial site only)
    - Multi-Family residential uses developed consistent with the Rm-3: Multi-Family District regulations with the following features, limitations and exceptions:
        - a maximum of 205 dwelling units at a density not to exceed ten (10) dwelling units per gross acre (a 20.55-acre development area is proposed)
        - Eight (8) two-story walk-up/garden-style, multifamily buildings with a maximum 135 dwelling units
        - Seven (7) detached garage parking structures
        - One (1) multifamily building with a maximum of 70 dwelling units (retail commercial uses allowed in the B-1 District on 1st floor only)
        - Clubhouse or shared-use building for residents
        - An amenity-type structure intended to provide or keep mail & package delivery, maintenance equipment and other accessory uses

- Internal walking paths to provide connectivity to and between Mequon Road, Main Street, and the retail commercial sites (the actual location and timing of construction TBD subject to the potential continued operation of the golf course)

<u>Amendment #2</u>

- Affects Section 10 (Building Regulations) [see Res. No. 19-12 & 20-16]
- Reduce the minimum parking lot setback/greenbelt requirement under Section 17.45(1)(c) in the Zoning Code from 15 feet to 6 feet along the north and west property lines of the proposed 1.27-ac retail commercial site (proposed Culver's restaurant site only)

<u>Amendment #3</u>

- Affects Section 5 (Architectural Design, Exterior Materials, and Building Height) [see Res. No. 19-12 & 20-16]
- The architectural design and materials for the restaurant proposed for the 1.27-ac retail commercial site (Culver's) shall be submitted subject to review and approval of the Plan Commission.
- The architectural design and materials for the multifamily buildings and related amenity features and structures shall be generally consistent in quality and materials as presented in the imagery submitted with the PDD amendment application (copy attached).

The certified survey map (CSM) that has been submitted at this time proposes to divide the 143-ac golf course property into the following parcels:

- Lot 1: 1.27 acres (proposed Culver's restaurant)
- Lot 2: 133.63 acres (existing golf course)
- Outlot 1: 5.28 acres

Proposed Development Phasing:
Phase I (2025-26): Culver's land acquisition Fall 2025, Culver's construction start/end Fall 2025/Spring 2026, Golf Course operations to continue through 2026 golf season
Phase II (2026-27): Multi-Family residential construction Fall 2026 / Occupancy 2027
Phase III (timeline TBD): Potential development on other golf course land pending Village agreement on a previously proposed Land Exchange Agreement: Development of other golf course land pending Village agreement to the proposed Land Exchange Agreement (under consideration), Additional multifamily and/or mixed-use development, Public park w/varied public amenities & Menomonee River access

No rezoning will be required. Director Retzlaff introduced Property Owner, Jim Sedgwick who came forward to answer questions along with Matt Bailey of Trio Engineering.
Committee members' concerns/comments included:
Materials for Culvers were acceptable. The appearance of the roofline and facade of the overall entry tower were not acceptable.
The Economic Development Committee is currently working on specifics of the future Gateway feature for the corner of Mequon & Division Roads. There is a sanitary sewer easement on that corner that will need to be figured into the plan for any future sign/feature.
An amendment to reduce the 15' landscape buffer set back to 6' would be needed.
The multifamily units will include 1 or 2 bedroom units, which determines the ratio of incoming children for school district planning.
Commissioners asked for clarification of what they are approving tonight. The PDD amendments only, not a multifamily development plan.

Chairman Soderberg opened the Public Hearing at 10:02pm:
Comments were received from:
Mary Blasczyk who lives on Biscayne Drive is against this proposal due to flooding, lower property values, traffic, noise and doesn't want Culvers.
Keith Dunn who lives on Armada Drive is concerned about the traffic, feels that Culvers has already been decided and is against this proposal.
Lynn Bednarz who lives on Pawnee Court feels that this plan is crazy, is against anything that taxpayers might have to pay for, doesn't want a Culvers and would like this topic postponed.
Sarah Backes who lives on Biscayne Drive is against this proposal due to increased traffic. She doesn't think this will attract new residents to Germantown because they can't afford to live there and feels it will overwhelm utilities.
Bob Simonson who lives on Sawgrass Court is concerned about the number of bedrooms and the rent they would need to generate to maintain property values.

Karen Bell who lives on Blackstone Court is concerned about a decrease in property values, wants to keep the beautiful golf course and feels there should be a buffer to the east.
Je'Ette Tennies who lives on Augusta Court is concerned about buffers, kids going through their subdivision and increased traffic.
Jennifer Robles who lives in Abbey Court is concerned about Roberts, increased traffic, too dense, flooding and feels this will add too many kids into the schools.
Charlie Hargan who lives on Biscayne Drive feels that developers should be able to develop what they want but feels that this is overkill.
Trustee Jolene Pieper who lives on Esquire Court was on Webex and spoke in support of Jim Sedgwick and feels that the personal attacks against him should stop.
Associate Planner Yanke read 6 emails that came in before the 4pm deadline today. All were against this proposal.
Chairman Soderberg closed the Public Hearing at 10:29pm.

Ewert stated that this project was included in the MD Rofer study done by the school district and the increase in children is well within the school's capacity limits. So this will not impact the need for changes within the school district. Soderberg stated that he is in favor of this proposal and feels multifamily in that area makes sense. Sedgwick stated that market forces since 2006 have changed drastically, so their plan also changed to go along with that. He has a long history of trying to recruit businesses to Germantown, and they are not interested because there just isn't enough density/rooftops to support more high-end, sit-down restaurants. So when Culvers came to them and said they were interested, they paid attention. Williams stated that he would like to see any restaurant other than fast food go in on that corner. Sedgwick stated that they also spoke with Panera and they were not interested either. It's been mostly the drive-thru function that drives a lot of business post COVID-19. Ewert stated that they aren't asking for a TID and the Village isn't spending any money on this. This is a very expensive venture for the developer who is paying for all the roads, sewer, water, etc. We get a lot less say in the development when they are asking for no money from the Village.

Staff recommends approval of the proposed amendments to the Blackstone Creek Planned Development District (PDD) as proposed and summarized herein that shall be codified into an appropriate Village Board resolution amending the current General Development Plan (GDP) dated July 5, 2016, and list of conditions & restrictions contained in Resolution Nos. 19-12, 29-12, 22-13, 23-13, and 20-16:

1. Approval is subject to completion of all driveway and intersection improvements detailed in the Traffic Impact Analysis (TIA) prior to or concurrent with the development resulting from the PDD amendments. As deemed necessary by the Village Department of Public Works/Village Engineer, detailed construction plans and right-of-way permits for said improvements shall be prepared, submitted, and approved by the Village Engineer prior to construction.
2. If the Plan Commission and Village Board act to not add “restaurants with drive-through service” to the list of permitted uses in the Blackstone Creek PPD (proposed as part of Amendment #1), that the current provision allowing “banks with drive-through lanes” shall also be removed from the current list of conditions & restrictions for the Blackstone Creek PDD.

3. Prior to or concurrent with the submittal of site development & building plans for the multifamily area and commercial sites, in whole or in part, a certified survey map (CSM) land division (or subdivision plat if needed) shall be prepared to formally create parcels as a prerequisite for development of said sites.
4. The applicant has indicated that the internal pathway shown on the proposed General Development Plan (GDP) is intended to be accessible to the general public. If the pending land exchange agreement with the Village is accepted in the future and all or some of the remaining golf course property is converted for public access and park purposes, detailed specifications and an access easement and maintenance agreement with the Village shall be created subject to review, and approval of the Village.
5. An overall pedestrian pathway or sidewalk plan showing specifications, how, where and in what timeframe pathways and/or sidewalks providing access to the multifamily residential area and the commercial sites will connect to sidewalks along Mequon Road, Division Road, internally to the commercial sites, and to the Fairway Knoll senior community shall be prepared by the Applicant as a supplement to the General Development Plan (GDP).Said plan shall be prepared and submitted to the Village for review and approval prior to or concurrent with the submittal of site development plans for the multifamily residential area.
6. All internal streets serving the multifamily residential area and commercial sites shall be constructed to Village standards if intended to be public or to a mutually acceptable set of standards and specifications if intended to be privately constructed, owned, and maintained. Detailed plans and specifications shall be prepared and submitted for Village review and approval prior to or concurrent with detailed site development plans for the multifamily residential area and commercial sites.
7. The proposed General Development Plan (GDP) shows the internal streets and driveways serving the commercial sites as being located outside or beyond the perimeter property lines for the two commercial sites. Because those internal streets and driveway intersections are critical to site accessibility and traffic circulation as reflected in the traffic impact analysis (TIA), detailed specifications for those internal streets and driveway intersections shall be prepared and submitted for review and approval by the Village. More importantly, the proposed driveways on Mequon Road and on Division Road need to be constructed prior to or concurrent with development of the Culver’s site.
8. As shown in the proposed General Development Plan (GDP), development within the multifamily residential area includes two multifamily buildings positioned parallel to and setback from the east property line. A landscaped buffer of some significance shall be installed between the buildings and along the easterly property. Said landscaped buffer should be designed and presented as part of a larger landscaping plan for the common areas of the entire residential area and submitted for Village review and approval as part of the detailed site development and building plans for the multifamily residential area.
9. The Applicant shall develop a detailed plan for review and approval by the Plan Commission that presents details on landscaping, lighting, signage (building, monument, and directional), architecture & design, exterior materials, etc. that will guide the development of the two retail commercial sites, residential areas,

and any/all common areas within the remaining areas to be developed in the Blackstone Creek PDD area. Said plan shall be prepared and submitted for review and approval by the Village Plan Commission prior to or concurrent with the submittal of detailed site development plans for the commercial sites and multi-family residential area.

10. All items listed in the Village Engineer's August 27, 2025, review memo shall be addressed as part of future development of the multi-family residential area and retail commercial sites. Detailed construction and utility plans meeting all applicable Village Code requirements and requirement is the Village's Development Handbook shall be prepared and submitted for review and approval by the Village for all future multi-family and commercial site development.
11. Given topography across the property from north to south, the multi-family residential area may be able to be served by gravity sewer extended to the south side of the residential area from existing facilities located in Division Road to the east (south of the existing residential condominiums along Division Road). The owner shall explore cooperatively with the Village the possibility of extending water and/or sewer facilities from Division Road as part of future site development and building plans submitted for the multi-family residential area.
12. The Building Inspector has indicated that the submission of state-approved plans shall be required along with a $20,000 occupancy bond prior to the Village issuing any building permits for the multi-family and commercial buildings.
13. The Applicant shall enter into a Development Agreement if/when deemed necessary with the Village pursuant to Section 18 of the Village Code (Subdivision and Platting), as well as, the preparation of detailed construction plans for the public 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 for therein).
14. The current list of conditions & restrictions governing development within the Blackstone Creek PDD is contained in a series of resolutions resulting from previous amendments, including Res. No. 19-12 that was subsequently amended by Res. Nos. 29-12, 22-13, 23-13, and 20-16. As deemed necessary by Village Staff, if the proposed PDD amendments are approved, in whole or in part, Village shall Staff create a new document containing a compilation of all valid conditions & restrictions, including the addition of all conditions adopted herein, into one updated document adopted by resolution by the Village Board.

Motion 1: Approve 3 PDD Amendments with 14 conditions as presented
Motioned By: William Shadid
Seconded By: Russell Ewert

Motion 2: Amendment to remove condition #2 to allow drive-thru restaurants within the PDD

Motioned By: Robert Williams
Seconded By: Russell Ewert
Yes: Robert Williams, Russell Ewert
No: Bob Soderberg, Robert Warren, William Shadid, Josh Tarantino
Abstain: None
Motion 2 Failed Yes 2, No 4, Abstained 0

Results of Motion 1:
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

Staff recommends approval of the Certified Survey Map (CSM) to re-divide the 143-acre golf course property as (Lot 2 of CSM #6749) and Outlot 1 of the Glen at Blackstone Creek as proposed subject to the following conditions:

1. All technical issues and corrections identified by the Village Surveyor in the August 15, 2025, review memo shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.
2. Cross-access easements shall be prepared and recorded as necessary to ensure Lot 1 is accessible by vehicles and pedestrians across Lot 2 given that the location of internal driveways serving Lot 1 are located on Lot 2. An easement agreement for said easement shall be submitted for review and approval by the Village Attorney prior to recording the CSM.
3. A separate cross-access easement agreement between Presbyterian Homes, owner of the Fairway Knoll senior community and the owner of Lot 2, Blackstone Creek LLC, shall be prepared and recorded as necessary to ensure the development on Lot 1 and Lot 2 (as may be further divided) is accessible by vehicles and residents of the Fairway Knoll property to the west as generally depicted on the proposed General development Plan (GDP).

Motion: Approve CSM with 3 conditions as presented
Motioned By: Robert Warren
Seconded By: William Shadid

Ewert stated that we heard a lot of comments from residents tonight regarding the golf course and it being a fabric of the Village and that they want it to continue. He questioned whether the owner/operator of the golf course wants to continue running it. Sedgwick stated that the owner/operator of the golf course is a separate entity, the same owner/operator who sold him the land, and they have been trying to sell the rest of the land since 2006. He believes it is the worst kept secret in Germantown that the current owner/operator has wanted to get out of the golf course business for 25 years.

Result of Motion:
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert

No: None
Abstain: None
Motion 3 Passed (Yes 6, No 0, Abstained 0)

Motion: Move Items E & F up to before Item C on the agenda
Motioned By: Russell Ewert
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed Yes 6, No 0, Abstained 0

E. Sign Effectz, Inc., Agent for Germantown Marketplace AG, LLC, Property Owner. Sign Review Application for Sun Island Spa at N112 W16274 Mequon Road. (ACTION)

Staff recommends approval of the proposed sign for Sun Island Spa for property located at N112 W16274 Mequon Road, subject to the following condition:

1. Applicant/owner shall remove the existing temporary banner sign that is on site.

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: William Shadid
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

F. Micaela Knapp, Agent for Nona Nutrition, and Devo Management Company, LLC, Property Owner. Sign Review Application for Nona Nutrition at N112 W15800 Mequon Road (Suite 4). (ACTION)

Staff recommends approval of the proposed sign for Nona Nutrition for property located at N112 W15800 Mequon Road (Suite 4), subject to the following condition:

1. Applicant/owner shall obtain an electrical permit from Building Inspection Services prior to sign installation.

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino
No: None
Abstain: None
Motion Passed (Yes 5, No 0, Abstained 0)

C. Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-

through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District. (ACTION)

Associate Planner Yanke stated that Culver's is proposing a new drive-through restaurant on property situated at the northwest corner of Mequon Road and Division Road. The restaurant is proposed on property slightly over an acre (1.27 acres) where the Blackstone Creek Golf Club currently sits. The restaurant is 4,403 square feet in size and will incorporate two (2) drive-through lanes and typical off-street parking areas to serve customers that opt to dine-in. This proposal is part of a larger redevelopment proposal of the Blackstone Creek golf course that includes both multifamily residential and new commercial lots, with the subject lot being one of the commercial pads.

Two (2) main access points are proposed to accommodate the new restaurant development. A north driveway is proposed as a full access driveway to Division Road, directly across from the existing bank (Bank Five Nine) access driveway, which is located at the northeastern corner of Mequon Road and Division Road. A second full access driveway is proposed along Mequon Road near the center of the property, approximately 260-feet west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans. A Traffic Impact Analysis (TIA) supplementing the application was submitted along with the recommended modifications. The applicant has worked with staff to submit architectural renderings meeting the intent of the Village's "Germanic Theme" corridor along Mequon Road. While revised renderings were submitted, staff finds them to be unsatisfactory at this point in time and recommends further revisions including a modification to the flat roof design to a pitched roof, additional detail on the building facade facing Division Road, and use of non-metal materials along the roofline.

Given the unsatisfactory architectural design of the building, staff recommends to Table/Postpone the site development and building plans until the applicant submits revised elevations/renderings addressing staff's review comments and at the direction of the Plan Commission.

Dan Braatz and Jay Campbell came forward to ask for architecture recommendations from the Plan Commission to follow up on staff's comments.
Recommendations included:
The flat roof should be redesigned to a pitched roof design.
Material along the roofline should be non-metal.
The facade facing east should have a more robust color design and detail to match the rest of the building.
Dress up the south and east-facing elevations. Maybe it's just a matter of adding a few blue canopy features.
The Germanic features that were added, i.e., the clock tower and gable ends, seem contrived and aren't impressive. The side view looks incomplete.
Meet halfway and make Culver's look more unique than other ones at intersections.
The layout and the building being oriented towards Mequon Road are both acceptable.
Possibly brick instead of stone? Brick is more costly.
The gateway sign will need room on the corner.

Revise renderings and labeling for accuracy and make sure the landscape plan and renderings match.

Soderberg stated that he would rather table this topic until the Village Board can make a final decision on the Blackstone Creek PDD amendments heard earlier, as the Culver's proposal is contingent on the PDD amendments being passed by the Village Board. This will allow time for the applicant to revise the architectural details addressing recommendations per staff and the Plan Commission.

Dan Braatz spoke on his behalf and stated that his restaurant in Menomonee Falls partakes in FundRaisers and makes donations within the community. They sponsor local sports teams and have served custard at fundraiser events at schools.

Motion: Table topic until the next Plan Commission meeting on November 10th.
Motioned By: William Shadid
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

D. Matt Seban/TLC Acres, Property Owner W210 N10738 Appleton Avenue - Site Plan Approval Review-Grading/Filling Status Report & Possible Deadline Extension (ACTION)

Director Retzlaff stated that the deadline for filling that this commission issued is coming up and introduced Matt Seban, who gave details as to why he would need a 60-day extension. Seban stated that the loads needed were not available and he believes that he lost about 300 loads because the Plan Commission dictated that he couldn't start before 8am. In years past, he could start at 7:30am which helped. He's not sure that he can get this done by the extended deadline. On Feb. 20th, 2026, the new floodplain maps go into effect and trump everything. Tier 2 should be out of the floodplain by that point. Warren asked why we are forcing this deadline on him. Retzlaff stated that it was to address the issues of his neighbors. Ewert asked how this will affect his business if the filling does not get done. Seban stated that a large area of his property will move into wetland when the floodplain maps change, and he will not be able to farm that entire area. Ewert suggested giving him an extension to Feb. 20th, 2026 as the final deadline.

Staff does not recommend extending the November 1, 2025, deadline. There is not adequate time to restore the original grades by the February 20th, 2026, deadline with additional filling, grading, and restoration of vegetation, given that little activity has been conducted to date.

Motion: Extend deadline for completion to Feb. 19th, 2026
Motioned By: Russell Ewert
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Robert Williams, Josh Tarantino, Russell Ewert

No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

G. Community Development Department - Holy Hill Gateway District Master Plan Project: Review Consulting Services Request for Proposals (ACTION)

President Soderberg postponed this topic due to the late hour.

H. Community Development Department - Pending State Legislation Regarding Local Land Use, Zoning & Development Regulation (DISCUSSION)

President Soderberg postponed this topic due to the late hour.

VI. ANNOUNCEMENTS:

None.

VII. ADJOURNMENT:

Chairman Soderberg adjourned the meeting at 11:43pm.

PLANNED DEVELOPMENT DISTRICT (PDD) & PRELIMINARY SUBDIVISION PLAT AMENDMENT

12/08/25 Plan Commission Meeting

Home Path Financial, LP / Mohrhusen Family Farm, LLC

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

SUMMARY

Home Path Financial, LP, Agent for Mohrhusen Family Farm, LLC, Property Owner. Application for an amendment to the "Sutton Farm" Planned Development District (PDD) and Preliminary Subdivision Plat, for property located at the northeast corner of Lannon Road (CTH Y) @ County Line Road (CTH Q) in the *Lannon Gateway Neighborhood*.

Property Location: Lannon Road (CTH Y) @ County Line Road (CTH Q)

Applicant/Owner:

Home Path Financial, LP
5116 N 126TH Street
Butler, WI 53007

Mohrhusen Family Farm, LLC
P.O. Box 99
Menomonee Falls, WI 53052

Current Zoning: Rs-7: Single-Family & Rm-2 Multi-Family with Planned Development District (PDD) Overlay

Adjacent Land Uses		Zoning
North	Agricultural/Residential	A-1/A-2
South	Residential (Men. Falls)	N/A
East	Institutional	I
West	Agricultural/Residential	A-1/A-2/Rs-2/Rs-4

Background

Home Path Financial, LP, Agent for Mohrhusen Family Farm, LLC, Property Owner. Application for an amendment to the "Sutton Farm" Planned Development District (PDD) and Preliminary Subdivision Plat, for property located at the northeast corner of Lannon Road (CTH Y) @ County Line Road (CTH Q) in the *Lannon Gateway Neighborhood*.

In July 2025, the Village approved a rezoning application to create a Planned Development District (PDD) and a Preliminary Subdivision Plat for an 88.3-acre residential neighborhood known as “Sutton Farm”. The development was approved with 171 single-family units and 102 multi-family units. A condition of approval specified that prior to recording of the preliminary plat, the proposed access/intersection locations, recommended turn-lane, and traffic control improvements as detailed in the Traffic Impact Analysis (TIA) submitted by the developer, shall be approved/accepted by the appropriate jurisdiction governing each roadway.

Since approval was granted by the Village, the applicant has worked with the Washington County Highway Department based on a concern they had related to site distance applicable to the proposed access road from the development to Lannon Road. To alleviate this concern, the applicant has proposed a shift of the access road where it intersects Lannon Road approximately 200 feet north. Due to this change, an amendment to the Planned Development District (PDD) and Preliminary Subdivision Plat is required and was submitted by the applicant for review and approval.

Proposal

<u>PDD & Preliminary Plat Amendment</u>

At this time, Home Path Financial, LP, agent for the property owner, has submitted a proposal to amend the Sutton Farm PDD/preliminary plat to:

- Shift access road to Lannon Road approximately 200 feet north, which also includes a slight adjustment to internal lots and street arrangement.
- Shift sanitary sewer easement in southeast corner of development 50 feet to the north of the property at N96 W19602 County Line Road.
- Increase open space from 28 acres to 28.8 acres.

These changes require the following minor PDD amendments to the adopted General Development Plan (GDP) and list of conditions and restrictions for the Sutton Farm PDD:

1. Revise Condition #1 of Resolution No. 11-2025 (A Resolution Adopting Conditions and Restrictions for the Sutton Farm PDD) to reference the amended General Development Plan (GDP) dated November 10, 2025; and
2. Revise Condition #4 of Resolution No. 11-2025 (A Resolution Adopting Conditions and Restrictions for the Sutton Farm PDD) to specify a maximum of one-hundred sixty-nine (169) single-family dwelling units instead of one-hundred seventy-one (171) units; and
3. Revise Condition #11 of Resolution No. 11-2025 (A resolution Adopting Conditions and Restrictions for the Sutton Farm PDD) to the following:

    Modifications to the Rs-7: Single-Family Residential District:

    a. Reduce maximum Residential Density from 4.4 DU/acre to ~~2.4~~ 2.3

DU/acre.

Modifications to the Rm-2: Multi-Family Residential District:

a. Reduce maximum Residential Density from 8.0 DU/acre to ~~5.9~~ 6.1 DU/acre.

In addition to the above PDD changes, the applicant submitted an amended Preliminary Subdivision Plat showing the revised road configuration and associated impacts to the layout of the subdivision for review and consideration. Under this amendment, Condition #10 of the initial approval document, Resolution No. 12-2025 (A Resolution Approving a Preliminary Subdivision Plat "Sutton Farm") would be revised to reference the amended General Development Plan (GDP) dated November 10, 2025, for consistency between the GDP and preliminary plat.

Staff Comments

Community Development: Planning and Zoning

Changes to a Planned Development District (PDD) go through the PDD amendment process requiring Plan Commission and Village Board approval. As stated in Section 17.27 of the Zoning Code, the overall intent of the Planned Development District (PDD) is to "*…permit greater flexibility… more creative design… while providing a higher level of amenities… while providing the Village with assurances that the project will retain the character envisioned at the time of approval.*"

As required under Section 17.27(9) of the Zoning Code, the Plan Commission must determine if the proposed amendment to the Sutton Farm PDD is "*minor*" or if the proposed changes are significant enough to "*… materially affect the intended design of the project and the impact of the project on neighboring uses.*" A finding that the amendment is a "minor" change means that the Plan Commission recommendation can be considered by the Village Board without a public hearing. However, a finding that the proposal rises to the level of a "substantial" change requires a public hearing before the Village Board renders a decision on the proposed changes.

Regarding the proposed amendment to the Sutton Farm PDD, it is staff's opinion and recommendation that the proposed changes constitute a "*minor*" change and do not rise to a significant level that would warrant a public hearing. Concurrent with the proposal for the change to the PDD, the Preliminary Subdivision Plat amendment incorporating the revised road configuration and associate layout can be approved.

Staff supports the PDD/preliminary plat amendment application as the proposed changes will alleviate a safety concern regarding site visibility pertaining to traffic movement to/from Lannon Road at the originally approved western access point to the subdivision. The changes will also reduce potential impacts on residents that live on the west side of Lannon Road as it pertains to glare from headlights when vehicles are exiting the subdivision via Lannon Road. Finally, the changes will increase open space and slightly lower the residential density that was originally approved for the development.

VILLAGE STAFF RECOMMENDATIONS

APPROVE staff's recommendation that the proposed Planned Development District (PDD) amendment constitutes a "*minor*" change to the Sutton Farm PDD, meaning that the Plan Commission recommendation can be considered by the Village Board without a public hearing.

APPROVE the proposed Planned Development District (PDD) amendment by Home Path Financial, LP, to the "Sutton Farm" PDD, subject to the following condition:

1. The proposed amendment shall be codified into an appropriate resolution amending the current list of conditions and restrictions contained in Resolution No. 11-2025 (A Resolution Adopting Conditions and Restrictions for the Sutton Farm PDD) to be considered for approval by the Village Board.

APPROVE the Preliminary Subdivision Plat amendment for "Sutton Farm", subject to the following condition:

1. The proposed amendment shall be codified into an appropriate resolution amending the current list of conditions contained in Resolution No. 12-2025 (A Resolution Approving a Preliminary Subdivision Plat "Sutton Farm") to be considered for approval by the Village Board.

Village of Germantown ...Willkommen

Fee Must Accompany Application

☒ $820 Paid ✓ Date 11/12/25 CHK#2735

☐ $200 PC Consultation Only

Paid _____ Date _____

PLANNED DEVELOPMENT DISTRICT (PDD) AMENDMENT APPLICATION

Applications NOT signed by the Property Owner(s) will not be accepted. Attach additional sheets and/or include supplemental information in support of your application.

APPLICANT OR AGENT:
Home Path Financial Limited Partnership
ATTN: William Gentil
Address: 5116 N 126th St
Butler, WI 53007
Phone: 414-312-3345
FAX:
E-Mail: wgentil@myhomepath.com

PROPERTY OWNER(S):
Mohrhusen Family Farm, LLC; et al
Dittmar Realty, Inc. ATTN: Kevin Dittmar
Address: PO Box 98
Menomonee Falls, WI 53052
Phone: 414-870-5810
FAX:
E-Mail: cdunn@drilots.com

PDD Name & Resolution No.:

Sulton Farm

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

Attach separate legal description if necessary

See attached Legal Description

Check all that apply:

- ☐ **REQUEST TO AMEND PDD ZONING**
- ☒ **REQUEST TO AMEND PDD GENERAL DEVELOPMENT PLAN**
- ☐ **REQUEST TO AMEND PDD CONDITIONS & RESTRICTIONS**

RECEIVED
NOV 12 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

List of Proposed Amendment(s) (include Resolution # and Condition #):

Attach Revised Plan(s) or Separate Pages as Necessary

Please see attached Project Narrative

Detailed Explanation and Justification for Proposed Amendment(s):

Attach Revised Plan(s) or Separate Pages as Necessary

The adjustment to the approved Preliminary Plat was due to a request by the County to shift the western access road connection to Lannon Road/CTH Y north approximately 200'. This also satisfies a request by the neighbors to the west of Lannon Road to minimize the impact of traffic, light and noise to their homes. This adjustment caused the lot and neighborhood street arrangement to change. We also sifted the sanitary sewer easement on the southeast corner of the site north 50' to avoid impacting our neighbor at 19602 County Line Road. These changes reduced the density by 2 units (1 duplex building). These changes reduced the density from 273 unit to 271 and increased the open space from 28 to 28.8 acres.

See attached plans for more detail.

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

All Amendment Applications:
- ☐ Complete Application Form (Affidavit of Understanding and signatures required)
- ☐ Application Fee
- ☐ Detailed explanation of and justification for proposed amendment(s)
- ☐ Detailed explanation of if and how the proposed amendment(s) will affect other aspects of the development included within the PDD

General Development Plan Amendment Only:
- ☐ Legal Description of the land subject of map amendment in electronic/digital file format (e.g. Microsoft Word)
- ☐ Revised or New General Development Plan at a scale of 1" = 50' or other suitable scale necessary to accurately present:
  - Exterior boundary of the land subject of the map amendment
  - All existing and/or proposed features to be included in the development

AFFIDAVIT OF UNDERSTANDING

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

WS 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;

WS I understand that, regardless of the justification and/or information provided in support of my application, the Village is not obligated to approve my application nor amend the PDD as requested;

WS I am aware that the approval of an application to amend a PDD only amends the General Development Plan and/or conditions & Restrictions Resolution and does not otherwise revise or change the zoning of the land affected by the amendment(s), and, I may be required to obtain separate permits and/or approvals (e.g. site plan, building permits, etc.) from the Village or other agencies as a prerequisite to actual or continued development of such land.

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

11/12/25
Applicant/Agent Date

Kevin S Dittmar 11/13/25
Property Owner Date

Applicant/Agent Date

Property Owner Date

Authentisign ID 425F9F9A-3A0B-F011-90CE-00224822F75A

Village of Germantown ...Willkommen

Fee must accompany application
Preliminary & Final Plat Fees Combined
Under 10 lots $4,575
11-25 lots $5,600
26-50 lots $6,625
Over 51 lots $7,650

☐
☐
☐
☒

SUBDIVISION PLAT APPLICATION

Pursuant to Section 18.04 and 18.05 of the Municipal Code

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

1

APPLICANT OR AGENT
Home Path Financial Limited Partnership
ATTN: Ken Frank
5116 N 126th St
Butler, WI 53007
Phone (262) 328-4939
Fax ( )
E-Mail kfrank@myhomepath.com

PROPERTY OWNER
Mohrhusen Family Farm, LLC; et al
Dittmar Realty, Inc. ATTN: Kevin Dittmar
PO Box 99
Menomonee Falls, WI 53052
Phone (414) 870-5810
cdunn@drilots.com

2

PROPERTY ADDRESS OR GENERAL LOCATION	TAX KEY NUMBER(S)
Property on Northeast corner of County Line Road and Lannon Road	GTNV_323995, GTNV_323986 and GTNV_323987

3

READ AND INITIAL THE FOLLOWING:

KF I understand that the Subdivision Plat 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.

KF If technical corrections to the Plat are required, I understand that the document will not be recorded until all corrections are made and approved by the Village.

KF I understand that all applicable impact fees must be paid prior to recording. Failure to pay fees will delay recording and may ultimately result in the revocation of Village approval. 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.

KF I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

KF I understand that a Developer's Agreement will be required prior to recording of the plat.

4

SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Authentisign
Ken Frank 03/27/25
Applicant Date

Kevin S. Dittmar 3/27/25
Owner Date
Kevin S. Dittmar, President of Dittmar Realty, Inc. Manager of Mohrhusen Family Farm, LLC

A. Project Summary

Total Site Area	88.3 acres
Total Residential Units	271
P.E.C.	0.0
169 Single Family & Duplex	71.5 gross acres
102 Attached Homes	16.8 gross acres
Gross Density	3.1 acres
Open Space	28.8 acres
Net overall Res. Density	4.6 du/ac
Net Single Family Density	2.3 du/ac
Net Attch'd Home Density	6.1 du/ac
Public R.O.W.	13.6 acres

B. Request for Action

Amended Preliminary Plan Approval

The adjustment to the approved Preliminary Plat was due to a request by the County to shift the western access road connection to Lannon Road/CTH Y north approximately 200'. This also satisfies a request by the neighbors to the west of Lannon Road to minimize the impact of traffic, light and noise to their homes. This adjustment caused the lot and neighborhood street arrangement to change. We also sifted the sanitary sewer easement on the southeast corner of the site north 50' to avoid impacting our neighbor at 19602 County Line Road. These changes reduced the density by 2 units (1 duplex building). These changes reduced the density from 273 unit to 271 and increased the open space from 28 to 28.8 acres.

C. Existing Site Analysis

The proposed neighborhood to be developed is an 'L' shaped 88.3 acre site that is currently in cultivated farmland and is bisected by tree lines and has a 9 acre area that is currently a somewhat degraded woodland located at the northwest corner of Lannon (CTH Y) and Couty Line Road (CTH Q). The site is a large part of the Lannon Gateway Neighborhood in the 2050 Comprehensive Plan which states that

"desirable future land uses within the Lannon Gateway Neighborhood include single family and multifamily residential Future residential development is acceptable at an average density of 2.9 du/ac for single family and 10 du/ac for multifamily".

There are 3 (zoned Rs-2, Rs-3, and Rs-4) residential parcels that are 'cut-outs' from the original parcel that were part of the original farmstead. The lands to the east are zoned I-Institutional, A-1 farmland to the northeast and a large rural residential lot that is A-2 to the northwest the lands to the west are A-1, Rs-4 and Rs-2 scattered site zoning. The Village of Menomonie Falls is to the south and consists of rural residential.

The topography of the site has a ridge that runs through the site from the northwest to the southeast and will require 3 water retention areas. There are no Primary Environmental Corridors on the property.

Lannon and County Line Roads have recently been improved to include center medians and a fully improved intersection. There are opportunities to create access points on County Line Road at Club Circle and Woodside Lane. Access points are available at key locations along Lannon Road based on elevations and the gentle curve of the road.

D. Proposed Zoning and Land Use

The parcel is currently zoned A-1. The neighborhood was designed to incorporate the rolling terrain, set aside ample buffers from the surrounding roads and land uses, provide a range of house types to attract young families and empty-nesters, and create a thoughtful road pattern that creates an organized circulation pattern for pedestrians and vehicles. To achieve our design goals, we are requesting that we be zoned as Rs-7/PDD for the single-family area and Rm-2/PDD following the preferred land uses laid out in the Lannon Gateway Neighborhood Plan in the 2050 Comprehensive Plan.

The parcel serves as a transition area between the commercial corridor and business park to our east and the rural residential areas to the west.

E. Utility Description

Please refer to Civil Preliminary Plat Drawings.

F. Description of Development

To provide a range of housing types that will ensure that we have a dynamic neighborhood, we created 4 areas that are connected by pedestrian pathways. open

space and neighborhood streets. 32.6% of the site is set aside as open space and includes the preservation of the 9+ acre woodland, a central active park and buffer and storm water detention areas. There are 2 connections provided to County Line Road and one to Lannon Road to provide efficient access to the neighborhood.

The 4 types of homes:

1. The 44 (44 previously approved) Flagship Homes that are the pinnacle of Stepping Stone Homes portfolio with homes that range in size starting at 1,800 sf for ranch models to over 2,700 sf for 2 story homes – all with 2 and 3 car garages. Many of the Flagship homes back to open space and can provide for walk out basements.

2. The 99 (99 previously approved) Pathway Homes woven into the neighborhood are a mid-range home that provides a wide range of homes for young families and families looking to upsize into a larger home. These homes range in size from 1,450 to 2,450 sf in ranch and 2 story models all with 2 or 3 car garages.

3. The 26 (28 previously approved) paired homes are a one story 2 and 3 bedroom ranch home that can provide a maintenance free option for young families or empty nesters.

4. The 16.8 acre area set aside for the 102 attached homes is planned for townhouse style homes that will be designed to take advantage of the south sloping terrain and be accessed by a private drive with common outdoor space and additional guest parking. Each will have 2 garage spaces, driveways, outdoor space and connections to the open space and neighborhood.

G. Bulk Table

Rs-7 Areas include the Flagship lots, the Pathway lots, and the Paired Homes:

A. Setbacks:

	Flagship	Pathway	Duplex (Paired)	Attached
Front	30’	30’	30’	25’
Side	12’	8’	6’	16’
Corner Side	25’	25’	25’	25’
Rear	30’	30’	25’	25’ perimeter

H. Deed Restrictions

Ranch homes minimum 1,450 sf

2 story homes minimum 1,750

I. Common Open Space and Parkland

The 28.8 acres of open space surround the site as landscape buffer, stormwater detention and woodland preservation space and is also integrated into the neighborhood by providing green connections and an active park in the center of the neighborhood. The open space will be connected with a nature trail to knit together all corners of the neighborhood and will be maintained by the Homeowners Association.

The central areas within the neighborhood will be maintained lawn and shrub beds and the perimeter landscaped buffers will be maintained tree and shrub beds and lawns and the woodland and detention areas will be designed with native plantings and maintained to ensure a pleasant and efficient storm water system and natural aesthetic.

The 3 entrance areas will provide entrance signage, decorative fencing and landscaped beds with perennials, ornamental trees and shrubs. These areas will be integrated into the buffer areas to provide a perimeter image for the neighborhood and will provide a consistent landscaped edge for the Village at this key gateway location.

Neighborhood trails will be proved as shown on the Site Plan and will be low-impact woodchip and mown paths. Areas at slopes and high traffic areas being limestone screening or asphalt paving.

J. Benefits to the Village

Anticipated increase of approximately $1.8M in additional tax revenue to the Village of Germantown. The SW corner of the site provides for monumentation as a gateway into Germantown, from the west. Adding a variety of price points for additional needed housing stock within Germantown. Public sanitary sewer and water main extensions through the proposed neighborhood will support future growth/demand within this part of the Village.

SITE DATA

Gross Site Area		88.3 acres
Overall Gross DU/ Acre		3.1 du/acre
Gross Sq Ft per unit		13,986 sf/per unit
Total Density		271 units
Rm-2 PDD/Attached Home Area		16.8 gross acres
Total		102 Attached Units
Attached Home Density		6.1 du/acre
Rs-7 PDD/Single & Paired Home Area		71.5 gross acres
Paired Ranch Villas	26	
Pathway + Homes	43	
Pathway ltd.	56	
Flagship Homes	44	169 Detached Units
Single and Paired Density		2.3 du/acre
Open Space		28.8 (32.6%)
Overall Gross DU/Acre (88.3 ac)		3.06 du/ac
Total Net Site Area		59.5 ac
Overall Net DU/Acre		4.55 du/ac
Proposed ROW		13.6 (15.4%)

LOT DATA

Single Family & Paired Setbacks:	
Front:Single Family & Paired	30'
Side: Flagship	10'
Side: Pathway	8'
Side: Paired	8'
Side at Corner	25'
Rear: Flagship/Pathway	30'
Rear: Paired	25'
Attached SF Homes:	
Front:	25'
Front Corner	25'
Side: Pathway	12.5'
Rear: Attached Home	25' Perimeter
Flagship Single Family	**44 units**
Average Home Footprint	72'w x 65'd
Typical Lot	92'w x 135'd
Pathway + SF	**43 units**
Average Home Footprint	49'-65'w x 65'd
Typical Lot	72'w x 125'd
Pathway Ltd. SF	**56 units**
Average Home Footprint	40'w x 65'd
Typical Lot	59'w x 125'd
Paired Homes	**26 units**
Average Home Footprint	64'w x 50'd
Typical Lot	76'w x 125'd
Attached SF Homes	**102 units**
Average Unit	1,259 sf
up to 4 unit bldgs	

Site Plan

North

0 50 100 200 400

HOME PATH FINANCIAL
Opening a path to success

SUTTON FARM
Germantown, Wisconsin

BSB DESIGN
BSBDESIGN.COM

The drawings presented are illustrative of character and design intent only, and are subject to change based upon final design considerations (i.e. applicable codes, structural, and MEP design requirements, unit plan / floor plan changes, etc.) © 2025 BSB Design, Inc.

Revised Date: November 10, 2025

SITE DATA

Gross Site Area		88.3 acres
Overall Gross DU/ Acre		3.1 du/acre
Gross Sq Ft per unit		13,986 sf/per unit
Total Density		273 units
Rm-2 PDD/Attached Home Area		17.5 gross acres
Total		102 Attached Units
Attached Home Density		5.9 du/acre
Rs-7 PDD/Single & Paired Home Area		77.3 gross acres
Paired Ranch Villas	28	
Pathway + Homes	46	
Pathway ltd.	53	
Flagship Homes	44	171 Detached Units
Single and Paired Density		2.2 du/acre
Open Space		28.0 (32.0%)
Total Net Site Area		46.6 ac
Overall Gross DU/Acre		3.11 du/ac
Overall Net DU/Acre		4.56 du/ac
Proposed ROW		13.7 (15.5%)

LOT DATA

Single Family & Paired Setbacks:	
Front:Single Family & Paired	30'
Side: Flagship	10'
Side: Pathway	8'
Side: Paired	8'
Side at Corner	25'
Rear: Flagship/Pathway	30'
Rear: Paired	25'
Attached SF Homes:	
Front:	25'
Front Corner	25'
Side: Pathway	12.5'
Rear: Attached Home	25' Perimeter

Flagship Single Family	**44 units**
Average Home Footprint	72'w x 65'd
Typical Lot	92'w x 135'd
Pathway + SF	**48 units**
Average Home Footprint	49'-65'w x 65'd
Typical Lot	72'w x 125'd
Pathway Ltd. SF	**51 units**
Average Home Footprint	40'w x 65'd
Typical Lot	59'w x 125'd
Paired Homes	**28 units**
Average Home Footprint	64'w x 50'd
Typical Lot	76'w x 125'd
Attached SF Homes	**102 units**
Average Unit	1,259 sf
up to 4 unit bldgs	

Site Illustrative Plan

North

0 50 100 200 400

HOME PATH FINANCIAL
Opening a path to success

SUTTON FARM
Germantown, Wisconsin

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Revised Date: June 23, 2025

PRELIMINARY PLAT
OF
SUTTON FARM

That part of the Northwest 1/4 of the Southwest 1/4 and the Southwest 1/4 of the Southwest 1/4 and part of the Southeast 1/4 of the Southwest 1/4 of Section Thirty-two (32), Town Nine (9) North, Range Twenty (20) East, Village of Germantown, Washington County, Wisconsin.

HORIZONTAL DATUM:
This survey is referenced to Wisconsin State Plane Coordinate System Grid, South-Zone (NAD83/2011), in which the West line of the Southwest 1/4, Section 32,Township 9 North, Range 20 East bears North 01°30'51" West.

VERTICAL DATUM:
Vertical Datum is based on North American Vertical Datum of 1988. (2020 Adjustment).

FLOODPLAIN NOTE:
According to the flood insurance rate map of the County of Washington, Community Panel No. 55131C0358E & 55131C0359D, effective date of November 20, 2013, this site falls in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).

AGENCIES HAVING AUTHORITY OF OBJECT:
- State of Wisconsin, Department of Administration.
- Washington County.

APPROVING AUTHORITY:
- Village of Germantown.

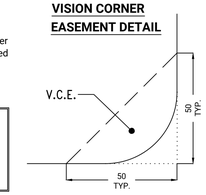
DEVELOPMENT SUMMARY:
1. Tax Key Number 323995, 323986 & 323987.
2. Subdivision contains 88.30 Acres.
3. Subdivision contains 159 Lots and 5 Outlots.
4. Proposed Zoning = (PD) Planned Development District.
5. All lots to be served with Sanitary Sewer & Watermain.
6. Public Roads to have Concrete Curb and Gutter, Asphalt Pavement with Storm Sewer.
7. Stormwater Management Facilities are located on Outlot 3 and 4 of this Subdivision. The owners of the residential Lots within this Subdivision shall each be liable for an equal undivided fractional share of the cost to repairs, maintain or restore said Stormwater Management Facilities within this Subdivision. Said repairs, maintenance and restoration shall be performed by the Owners of all Lots within this Subdivision.
8. The Owners of all Lots within this Subdivision shall each own an equal undivided fractional interest in Outlots 1 thru 5 of this Subdivision. Washington County shall not be liable for fees or special charges in the event they become the owner of any Lot or Outlot in the Subdivision by reason of tax delinquency.
9. Lot 159 to be used for Future Well Site.

Notes
- Street A, B, C, D, E ,G, H, K & L to be dedicated to the Public.
- Access easement note per Doc. No. 377634: (Public access points must be at least 400' from any public access point to C.T.H. "Q", 300' from any private access point to C.T.H. "Q" include a dedication of vision triangles which have a 150' leg, as measured along the centerline of C.T.H. "Q" and a 100' leg as measured along the centerline of intersection public access point and include the restriction of access across said triangles.
- (A) 12' Electric Easement per Doc. 856645

WETLANDS:
Wetlands are delineation by Hey & Associates, Inc conducted October 2024.

VISION CORNER EASEMENT: (V.C.E.)
Corner lots & outlots are herein subject to a Vision Corner Easement in that nothing maybe grown, stored or erected to a height more than two feet above ground surface.

VISION CORNER EASEMENT DETAIL



PROPOSED IMPROVEMENTS

SAN — SAN	PROPOSED SANITARY SEWER
STM — STM	PROPOSED STORM SEWER
W — W	PROPOSED WATER MAIN
FM — FM	PROPOSED FORCED MAIN SEWER
	PROPOSED PAVEMENT EDGE

SITE DATA SUMMARY

Gross Site Area	88.3 acres	
Gross DU/ Acre	3.1 du/acre	
Total Density	271 Units	
Rowhomes	102	
Paired Ranch Villas	26	
Pathway ltd. Homes	62	
Pathway + Homes	37	
Flagship Homes	44	
Proposed ROW	13.9 Ac.	15.7%
Open Space	27.3 AC	30.9%
Total Net Site Area	47.1 Ac.	
Net DU/ Acre	5.8 du/ac	

SETBACKS

Front: Single Family & Paired	30'
Front: Row Home	25'
Side: Flagship	12'
Side: Pathway	8'
Side: Paired	8'
Side: At Corner	25'
Rear: Flagship/Pathway	30'
Rear: Paired	25'
Rear: Row Home	20'

OWNER:
CARRIE J RAMOS LIV TR,
KRISTI E LESWING

DEVELOPER:
HOME PATH FINANCIAL, LP
5116 N 126TH ST
BUTLER, WI 53007
Phone: (262) 749-5467

ENGINEER/SURVEYOR:
FOTH INFRASTRUCTURE & ENVIRONMENT, LLC
7044 S. BALLPARK DR. STE 200
FRANKLIN, WI 53132
Phone: (414) 336-7900

Curve Table							
Curve #	Arc	Radius	Delta	Chord	CHB	TAN IN	TAN OUT
C1	367.38	1058.00	019° 53' 44"	365.54	N10°17'44"W	N00° 20' 52"W	N20°14'36"W
C2	307.93	942.00	018° 43' 45"	306.56	N10°52'43"W	N01° 30' 51"W	N20°14'36"W

I hereby certify that this preliminary plat is a correct representation of all existing land divisions and features and that I have fully complied with the provisions of the subdivision and platting code of the Village of Germantown.

Date of Plat or Map:
March 25, 2025
Rev: May 30, 2025
Rev: July 30, 2025
Rev: August 27, 2025
Rev: November 7, 2025

WISCONSIN — ANDREW J. MIAZGA — S-2826 — MUKWONAGO WI — LAND SURVEYOR

Andrew J. Miazga, PLS (S-2826)

Field Date: March 5, 2025

VILLAGE OF GERMANTOWN

SUTTON FARM

SCALE 0 100 200

PROJECT ID: 0025H025.00

DATE: NOVEMBER/7/2025
PREPARED BY: FXA
CHECKED BY: AJM

Foth

SHEET 1 OF 1

PRELIMINARY PLAT OF SUTTON FARM

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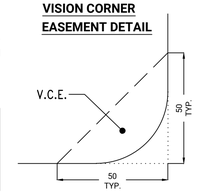
VISION CORNER EASEMENT DETAIL



PROPOSED IMPROVEMENTS
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- PROPOSED WATER MAIN
- PROPOSED FORCED MAIN SEWER
- PROPOSED PAVEMENT EDGE

Curve Table

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Date of Plat or Map:
March 25, 2025
Rev: May 30, 2025

WISCONSIN — ANDREW J. MIAZGA — S-2826 — MUKWONAGO WI — LAND SURVEYOR

Field Date: March 5, 2025

Andrew J. Miazga, PLS (S-2826)

VILLAGE OF GERMANTOWN

SUTTON FARM

SCALE 0 100 200

PROJECT ID: 0025H025.00

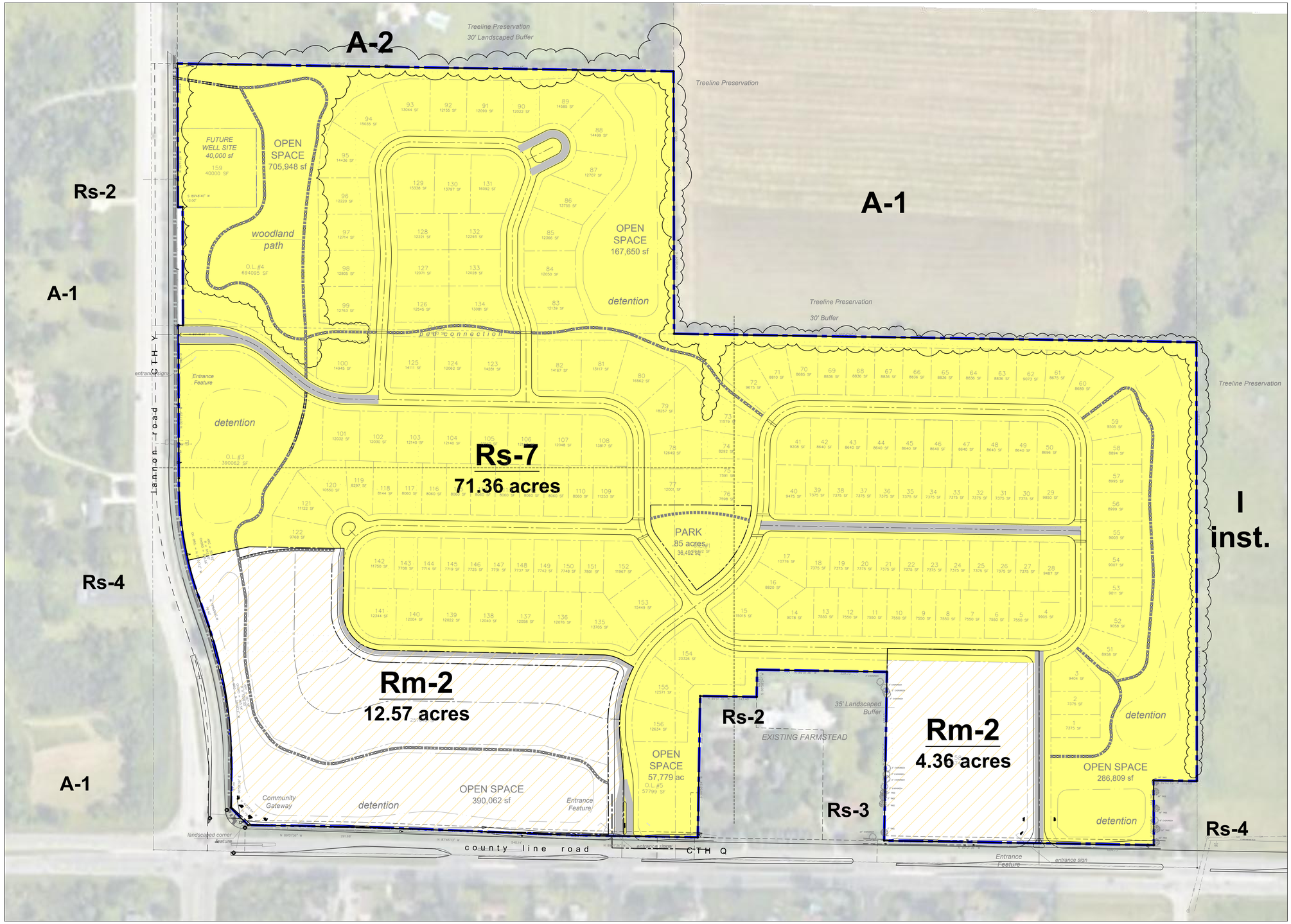
DATE: MAY/30/2025
PREPARED BY: FXA
CHECKED BY: AJM

Foth

SHEET 1 OF 1

ZONING DATA:

Gross Site Area	88.3 acres	
Rs - 7 PDD	71.36 ac	
	80.7%	
Net Density	2.2 du/acre	
Bulk Standards:		
Setbacks		
Front	30'	
Side	8'	
Corner Side	25'	
Rear	30'	
Height	35'	
Lot Coverage	30%	
Min. Width	56'	
Min. SF	7,286 sf	
Rm - 2 PDD	16.93 ac	
	19.3%	
Net Density	5.9 du/acre	
Bulk Standards:		
Setbacks		
Front	25'	
Side	10'	
Corner Side	25'	
Rear	20'	
Height	45'	
Lot Coverage	40%	
Min. SF/unit	7,330 sf	



Zoning Map

North

0 50 100 200 400

HOME PATH FINANCIAL
Opening a path to success

SUTTON FARM
Lannon & County Line Neighborhood
Germantown, Wisconsin

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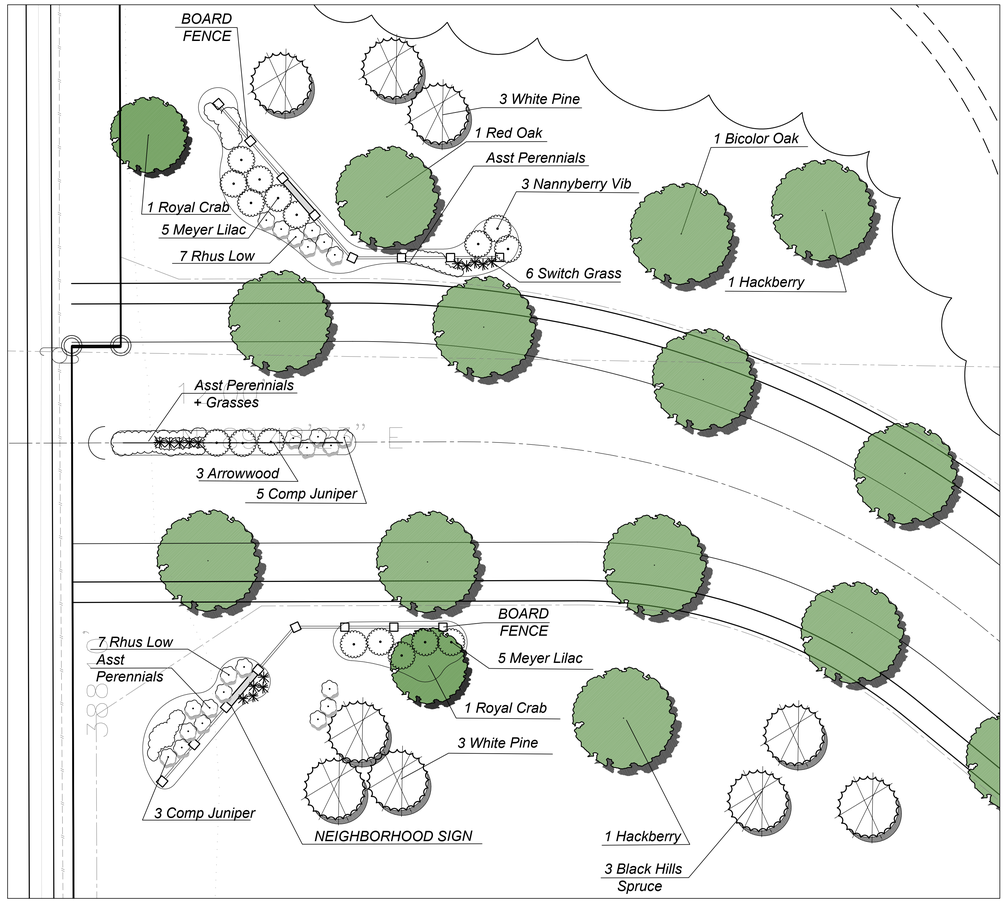
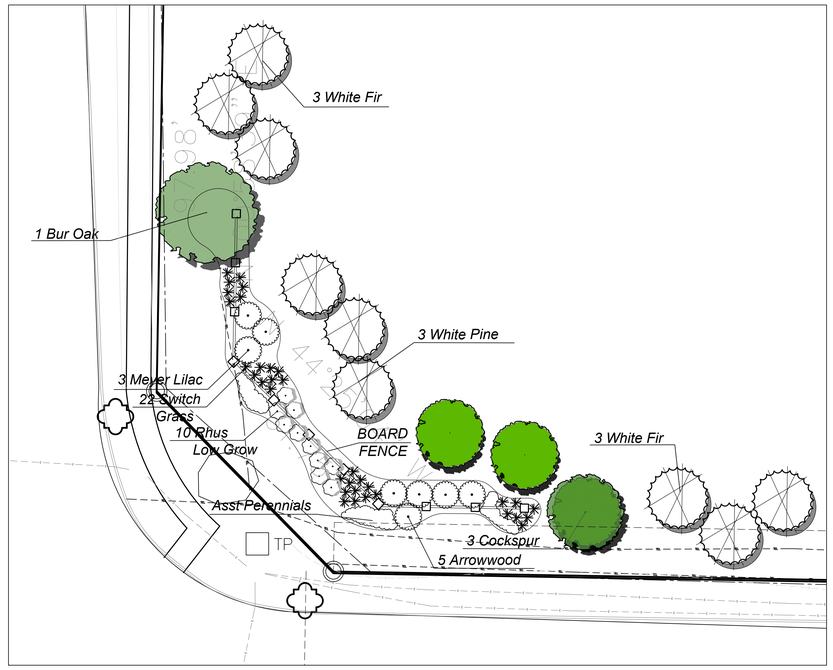
Revised Date: November 9, 2025

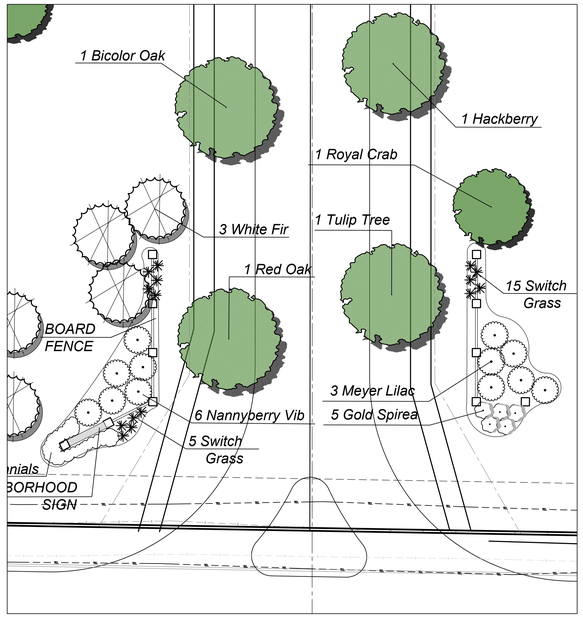


Landscape A

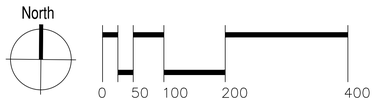


Landscape B

Landscape C



Landscape D



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Lannon & County Line Neighborhood
Germantown, Wisconsin

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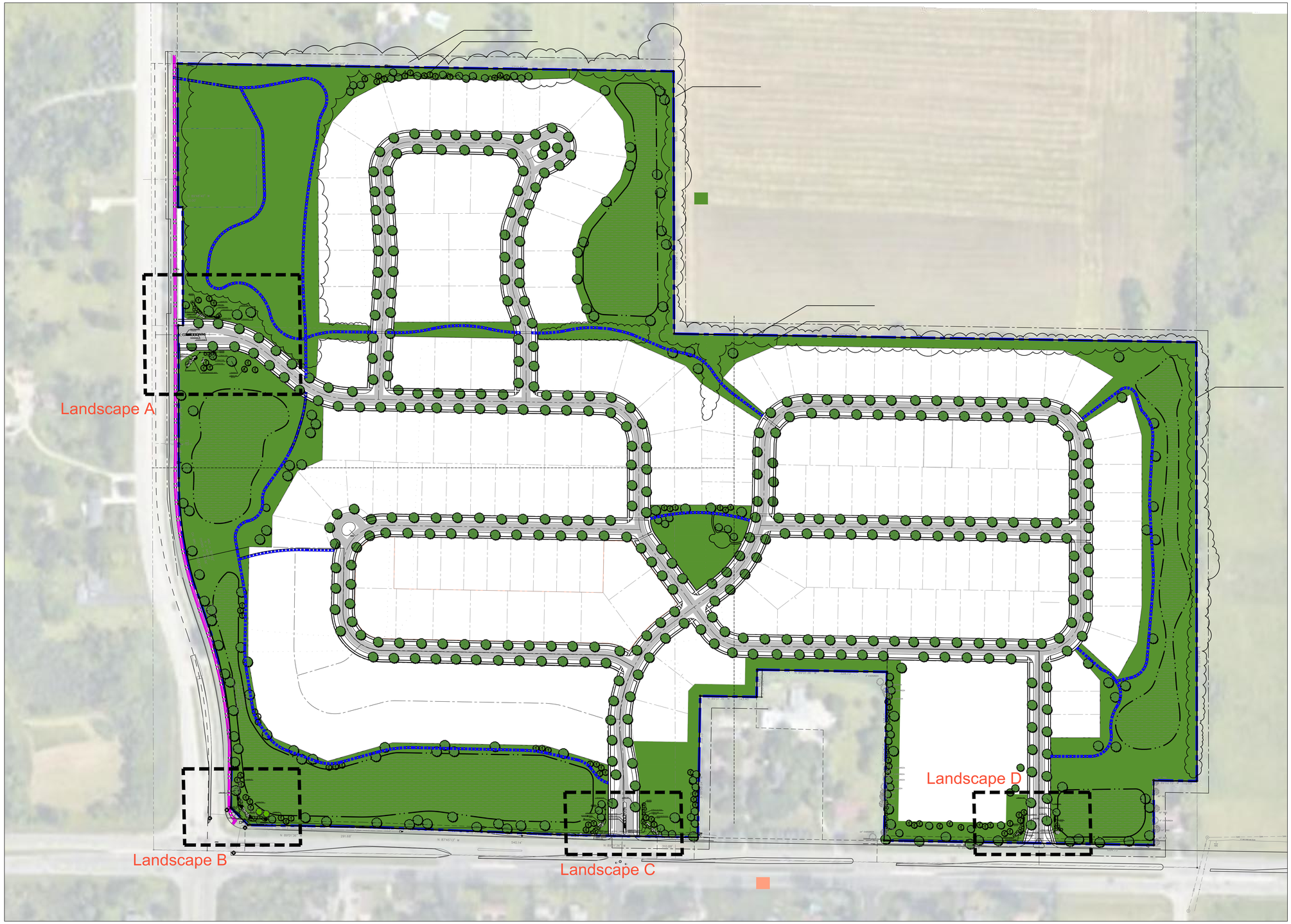
Revised Date: November 10, 2025

OPEN SPACE DATA:

Gross Site Area	88.3 acres
Open Space	28.8 acres
Open Space Ratio	32.6%
Development Area	59.5
Dwelling Units	271
Density Ratio	4.5 du/acre
Public R.O.W.	13.6 acres

PEDESTRIAN CONNECTIVITY:

- Neighborhood Pathway
- Public Sidewalks
- Lannon Road Path (existing)



Open Space Plan

North

0 50 100 200 400

HOME PATH FINANCIAL
Opening a path to success

SUTTON FARM
Lannon & County Line Neighborhood
Germantown, Wisconsin

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PLANNED DEVELOPMENT DISTRICT (PDD) REZONING & PRELIMINARY SUBDIVISION PLAT

07/07/25 Village Board Meeting

Home Path Financial, LP / Mohrhusen Family Farm, LLC

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

SUMMARY

Ken Frank, Agent for Home Path Financial, LP, and Mohrhusen Family Farm, LLC, Property Owner, is requesting approval of a rezoning application to create a Planned Development District (PDD) and a Preliminary Subdivision Plat for an 88.3-acre residential neighborhood known as “Sutton Farm” comprised of 171 single-family units and 102 multi-family units located at the Lannon Road (CTH Y) @ County Line Road (CTH Q) intersection in the “Lannon Gateway Neighborhood”.

Property Location: Lannon Road (CTH Y) @ County Line Road (CTH Q)

Applicant/Owner:

Home Path Financial, LP
5116 N 126TH Street
Butler, WI 53007

Mohrhusen Family Farm, LLC
P.O. Box 99
Menomonee Falls, WI 53052

Current Zoning: A-1: Agricultural District
Proposed Zoning: Rs-7: Single-Family & Rm-2 Multi-Family with Planned Development District (PDD) Overlay

Adjacent Land Uses		Zoning
North	Agricultural/Residential	A-1/A-2
South	Residential (Men. Falls)	N/A
East	Institutional	I
West	Agricultural/Residential	A-1/A-2/Rs-2/Rs-4

Proposal

Ken Frank, Agent for Home Path Financial, LP, and Mohrhusen Family Farm, LLC, Property Owner, is requesting approval of a rezoning application to create a Planned Development District (PDD) and a Preliminary Subdivision Plat for an 88.3-acre residential neighborhood known as “Sutton Farm” comprised of 171 single-family units and 102 multi-family units located at the Lannon Road (CTH Y) @ County Line Road (CTH Q) intersection in the “Lannon Gateway Neighborhood”.

Land Uses & Development Density

As presented in the Project Narrative and shown on the General Development Plan (GDP), Sutton Farm is a proposed residential neighborhood comprised of four (4) areas with a mixture of residential dwelling types. The areas are interconnected with public and private streets, sidewalks, pedestrian pathways, and both interior and perimeter open space areas. Thirty-two (32) percent of the total property is set aside in open space including a central park and an existing 10-ac woodland area.

Table 1 presents a summary of the proposed Sutton Farm residential neighborhood characteristics:

TABLE 1.

Sutton Farm Summary

Total Property Area	88.3 ac
Environmental Corridor/Wetland Area	0.09 ac
Right-of-Way (proposed internal streets)	13.2 ac
Open Space (5 Outlots)	28.1 ac
Total # of DU’s	273
Gross Density (DU/ac)	3.1
Net Density (DU/ac)	5.8
# Single-Family DU’s (detached)	171
# Multi-Family DU’s (attached condominium)	102
Lot Size (range) “Flagship” Homes	12-16,092 sqft
Lot Size (range) “Pathway Plus” Homes	10-11,682 sqft
Lot Size (range) “Pathway Ltd” Homes	6,825 -9,999 sqft
Lot Size (range) Paired Ranch Villas	11,888-15,723 sqft

To accomplish this mixture of residential housing types within one neighborhood, the Developer is proposing to create a Planned Development District (PDD) that combines the Village’s Rs-7: Single-Family and Rm-2: Multi-Family Zoning Districts under one General Development Plan and set of zoning regulations with minor adjustments to specific requirements in the two underlying district regulations.

As shown in the Zoning Plan, 80.7% (71.3 ac) of the site will effectively be developed under the Rs-7 regulations and 19.3% (17 ac) under the Rm-2 regulations.

As detailed in the GDP and depicted in the color elevations included in the application packet, the single-family housing types proposed for the Rs-7 area include the following:

1. Flagship Series. (44) single-family ranch and 2-story homes ranging from 1,800 sqft to 2,700+ sqft in area with 2 & 3-car garages and varying architecture from the Stepping Stone Homes portfolio. The Flagship homes will be constructed in the northwest area of the property on lots ranging in size from 12,000 to 16,100 sqft. The average sale price for a Flagship Series home and lot is expected to be from $675K-$800K;
2. Pathway Series. (99) single-family ranch and 2-story homes ranging from 1,450 sqft to 2,450 sqft in area with 2 & 3-car garages will be constructed in the central and east side of the property on lots ranging in size from 6,825 sqft to 11,700 sqft. The average sale price for a Pathway Series home and lot is expected to be from $500K-$550K;
3. Paired Ranch Villas. (28) ranch villas starting at 1,200 sqft in area with 2 & 3 bedrooms and 2-car garages will be constructed in the central portion of the site on lots ranging in size from 11,900 sqft to 15,725 sqft. The average sale price for a paired villa and lot is expected to be from $475K to $550K;

The multi-family housing type proposed for the Rm-2 area in the Sutton Farm neighborhood includes:

4. Attached Townhouse. (102) condominium-style 2-story homes with a basement level 2-car garage ranging from 1,650 sqft to 2,200 sqft will be constructed across the lower portion of the property closer to Lannon and County Line Road. These multi-family units are referred to as “attached single-family” given that they are a “for sale” product with separate attached garages and separate entrances. Also called “row homes” because there are twenty-five 4-unit structures that share common walls between units (two structures have 5 units). The average sale price for an attached townhouse is expected to be from $450K to $500K.

Access and Traffic Circulation
Access to the development will be provided by three (3) new public street intersections, one onto Lannon Road and two onto County Line Road, that will serve a series of public streets serving the single-family areas and a private driveway serving the two multi-family areas. Sidewalks will be constructed on both sides of all public streets. Additional pedestrian access through the neighborhood will be provided via woodchip pedestrian paths. All access intersection, street, and pedestrian path improvement costs are the responsibility of the Developer.

Water & Sanitary Sewer Utilities
Public water main (12” & 8”) and sanitary sewer (15” & 8”) facilities will be extended westerly along County Line Road to the southeast corner of the property and then into the property to serve the development. Sewer will be extended to the west side of the property near Lannon Road for possible extension along and/or across Lannon Road to serve future

development. A separate system of private lift station, force main, and sanitary sewer will be installed in and serve the multi-family area. A 1-ac site is being set aside in the wooded area along Lannon Road for a future public water supply well (well only; no tower). All water & sanitary sewer improvement costs are the responsibility of the Developer.

Storm Water Management
Public and private storm sewers will be installed to drain the development to a series of five storm water detention basins constructed through the development. The topography of the property includes a ridge that runs through the property from the northwest to the southeast. All storm sewer improvement costs are the responsibility of the Developer.

Open Space, Landscaping, and Buffering
The proposed Sutton Farm development is designed as a type of "conservation subdivision" with smaller lots and building footprints clustered in areas with common open space within and around the perimeter of the development. In this case, an existing 10-ac wooded area along Lannon Road will also be preserved. A total of 28 acres of common open spaces provides a perimeter buffer and internal active park areas owned and maintained in common by a neighborhood association of all the property owners.

Landscaping comprised of decorative fencing, berms, landscaped beds with perennial plantings, trees, and ornamental trees and shrubs will be installed at all the access intersections and perimeter edges. Street trees will be planted along all public streets consistent with the Village's Tree Plan and street tree requirements.

Planned Development District (PDD) Creation & Rezoning
As discussed above, the Developer is proposing to create a new Planned Development District (the Sutton Farm PDD) and rezone the property into the PDD with appropriate residential zoning district regulations that are consistent with the "Lannon Gateway Neighborhood".

As stated in the Applicant's project narrative and shown in the Zoning exhibit, the Applicant is proposing the following zoning district changes for the 88.3-acre property:

- Rezone 71.34 acres of land in from the A-1: Agricultural District to the RS-7: Single-Family District.
- Rezone 16.97 acres from the A-1: Agricultural District to the Rm-2: Multi-Family District.
- Create a Planned Development District (PDD) for the entire 88.3-acre property with a General Development Plan and set of restrictions that specify a maximum of 171 single-family units at a density not to exceed 2.4 dwelling units/ac and a maximum of 102 multi-family units at a density not to exceed 5.9 dwelling units/ac

The proposed densities will be less than the maximum allowed in the underlying Rs-7 District (4.4 DU/acre) and Rm-2 District (8 DU/acre), respectively, and less than the maximum densities prescribed for the Lannon Gateway Neighborhood (up to 2.9 DU/ac for single-family and 10 DU/ac for multi-family).

Further, the PDD District will be created to take advantage of the "flexibility" available to provide a more creative layout that contains the many "conservation design" features designed into the development, e.g. large contiguous tracts of open space with smaller, clustered lots. To facilitate this conservation site design, the Developer is proposing to modify some of the underlying Rs-7 and Rm-2 Zoning District requirements that would ordinarily apply, e.g. lot width, lot size, etc.

As indicated in the Applicant's Zoning Compliance Table attachment, the proposed modifications to the Rs-7 and Rm-2 District requirements are limited to the following:

- Rs-7: Single-Family Zoning District requirements:
  - Reduce maximum density from 4.4 DU/ac to 2.4 DU/ac;
  - Reduce minimum Lot Width from 80 feet to 56 feet;
  - Reduce minimum Lot Area from 10,000 sqft to 6,825 sqft;
  - Reduce minimum side yard setback from 10 feet to 8 feet;
  - Increase rear yard setback from 25 fee to 30 feet;
  - Increase minimum dwelling size from 1,200 sqft for 3 bedroom to 1,450 sqft;
  - Increase minimum dwelling size from 1,200 sqft for 4 bedroom to 1,690 sqft.

- Rm-2: Multi-Family Zoning District requirements:
  - Reduce the maximum density from 8 DU/ac to 5.9 DU/ac;
  - eliminate the minimum lot area requirement to allow the clustering of the attached townhouse units and develop as a condominium;
  - Reduce the minimum front yard setback from 35 feet to 25 feet;
  - Reduce the minimum side yard setback from 25 feet to a combined total of 25 feet;
  - Reduce the minimum rear yard setback from 35 feet to 25 feet;
  - Increase the maximum number of stories from 2.5 to 3.0 on the rear elevation;
  - Increase minimum dwelling size from 800 sqft for 2 bedroom to 1,650 sqft;
  - Increase minimum dwelling size from 1,000 sqft for 3 bedroom to 1,750 sqft;
  - Increase minimum dwelling size from 1,000 sqft for 4 bedroom to 2,200 sqft.

Other features and amenities of the proposed PDD development are described in the Applicant's narrative, including:

- Preservation of 10 acres of woodland and .09 acres of wetland;
- 28 acres of open space or 31.7% of total 88.3 acres;
- Street access entrance & perimeter buffer landscaping;
- 1-Acre well site land reservation;
- Water & sanitary sewer extensions located & sized to accommodate future extension and service to other property.

[NOTE: A separate PDD Conditions & Restrictions resolution containing these development-specific allowances, references to the detailed general development plan, and any other conditions of approval deemed appropriate by the Village, will be prepared by Village staff at the time the PDD is considered by the Village Board].

Preliminary Subdivision Plat

In addition to the PDD Rezoning application, the Developer has submitted a preliminary subdivision plat for the entire 88.3 ac development site. The Sutton Farm Preliminary Plat contains the level of detail required under the Village's Subdivision & Platting Code and is a prerequisite for subsequent approvals including: final plat, construction plan, Development Agreement, land conveyance, and eventually building permits. The preliminary plat details the creation of 157 lots for the single-family area containing 171 total units (Lots #135-142 & 152-157 are for the paired villas with 2 units per lot) and 2 lots for the attached townhouse condominium units. Separate condominium plats are required by the Village for the condominium development proposed for Lots #158 & #159 and will be reviewed and processed like a Site Plan application when submitted.

The phasing plan indicates that development will start with Phase I (highlighted GREEN) in the southeast corner of the property with approximately (50) single-family homes, (8) paired ranch villas, the internal open space park, and both access street intersections to County Line Road. The Developer has indicated that (34) townhouse condo units in the southeast (Lot #159 highlighted BROWN) will also be developed beginning in Phase I. Phase II (highlighted PURPLE) in the west central area of the property will contain (40) single-family homes, (20) paired ranch villas, and the Lannon Road access intersection. Development of the remaining attached townhouse condo area (Lot #158 highlighted BROWN) will also be developed beginning in Phase II. Phase III (highlighted ORANGE) in the northeast part of the property will contain (28) single-family homes. Phase IV (highlighted BLUE) in the northwest part of the property will contain (26) single-family homes. No specific start date for each phase has been identified.

Staff Comments

Community Development: PDD Rezoning &General Development Plan (GDP)

Creation of the Sutton Farm PDD as proposed and the rezoning of 88.3 acres from the A-1 District to the Rs-7 & Rm-2 Districts will be consistent with the preferred land uses and density provisions for the "Lannon Gateway Neighborhood" as set forth in the 2050 Plan. Prior to Village Board consideration and action, a detailed set of Sutton Farm PDD "conditions and restrictions" will need to be drafted by Staff to codify the proposed development features and underlying Rs-7 and Rm-2 Zoning District requirements and proposed modifications summarized above that will guide development.

The General Development Plan (GDP) presents the overall site design and layout to which development is required to be generally consistent as part of the PDD Zoning District. In this case, the GDP provides an adequate level of detail to guide future development with the following exceptions that should be revised prior to adoption of the PDD by the Village Board:

1. A minimum 30' wide landscaped buffer is required around the perimeter of the property; the only location where this perimeter buffer is not provided on the GDP is around the two "existing farmstead" parcels on County Line Road. The buffer in this area is particularly important because of the existing differences in lot size and use on these pre-existing parcels and potential incompatibilities with the higher density residential uses proposed in the subdivision around them.
2. Details are needed regarding the intended use of and improvements to (if any) the common open space areas, including the 0.85-ac internal park and pedestrian paths

(can be provided as a supplement to the GDP).

With respect to local resident concerns regarding land use, it is important to note that from about 2004 up to the fall of 2022, under the old 2020 Comprehensive Land Use Plan, the Village's plan for this property and others along County Line Road was for commercial and industrial development. Three years ago, alternative developer proposals for various combinations of commercial, industrial and high-density, multi-family residential apartment development consistent with the 2020 Plan were presented to the Village and eventually withdrawn given public reaction. As part of the Village's 2050 planning process that was completed soon thereafter in 2022, the 2050 future land use plan for this area was changed in direct response to that public sentiment to reduce the intensity of future development to only allow low & moderate-density residential uses on this and other property along County Line Road.

With respect to local resident concerns that the homes and density in the Sutton Farm proposal are not the same or similar to existing homes particularly in the Menomonee Falls neighborhoods to the south, one needs to realize that the Club Drive and Woodside Lane neighborhood was developed in the early 1960's with relatively larger lots (~1/2 acre) to meet 1960 plumbing code and land area requirements necessary to accommodate the individual wells & septic systems serving those homes in Menomonee Falls as well as the existing homes in Germantown. A lot has changed in the last 60+ years. The Village of Germantown has made plans to serve the area north of County Line Road and east of Lannon Road with public water & sewer. In addition to wanting to provide a variety of housing choices that current and future residents can afford, future development needs to also be cost-effective for the Village to provide these services to its residents and taxpayers. As stated above, The Sutton Farm proposal is consistent with the Village's 2050 Plan for this area and is in line with the current needs for different housing choices that are within the "affordability" price range (upper end) for those seeking single-family housing in the Germantown market as identified in the 2024 Tracy Cross Residential Market Analysis.

One aspect of the Sutton Farm proposal that the Developer points out in the Project Narrative is the financial impact the development would have ($1.8M in property tax revenue). As summarized in the tables below, this development is expected to generate approximately $662K in annual property tax revenue for the Village of Germantown (only) and $2.3M in one-time impact fee revenue.

Housing Type	Units	Projected Ave Price	Estimated Total Value	Estimated Property Taxes
Flagship Series	44	$ 737,500	$ 32,450,000	$ 146,025
Pathway Series	99	$ 525,000	$ 51,975,000	$ 233,888
Paired Single Familiy	28	$ 512,500	$ 14,350,000	$ 64,575
Attached Single Famil	102	$ 475,000	$ 48,450,000	$ 218,025
Total	**273**		**$147,225,000**	**$ 662,513**

Impact Fee	Units	Fee	Total
Water Connection	273	$ 1,003	$ 273,819
Fire Protection	273	$ 171	$ 46,683
Police Protection	273	$ 148	$ 40,404
Park & Rec	273	$ 1,311	$ 357,903
Library	273	$ 711	$ 194,103
Sewer Connection	273	$ 5,079	$ 1,386,567
Total			**$ 2,299,479**

As discussed with the Plan Commission earlier this year during the February consultation, a Traffic Impact Analysis (TIA) was completed for the proposed development (see TADI Technical Memorandum dated May 6, 2025). As summarized therein, the development is expected to generate a total of 170 morning peak-hour trips, 225 evening peak-hour trips, and an overall 2,430 daily trips that will impact the existing local road system and intersections. The TIA concludes that the impact will not reduce the level of service (LOS) on the roads and intersections below an acceptable LOS “D” condition during the peak-hours. As 4-lane divided highways, there is adequate capacity to accommodate the additional traffic expect to be generated from the Sutton Farm development. With that said, there are site access related improvements, i.e. turn-lanes and stop controls, that will need to be installed to ensure safe and efficient access to/from the development entrances onto Lannon Road and County Line Road.

Community Development: Preliminary Plat

In accordance with the Village's Subdivision Code, the Plan Commission is responsible for reviewing the preliminary plat application and forwarding a recommendation to the Village Board along with comments received from any official "objecting agencies". As of October 2023, Washington County discontinued their objecting authority for subdivision plats within the incorporated areas of the county. While the Wisconsin Department of Administration (DOA) is an official objecting agency, no comments have been received from the DOA to date.

The Developer has not submitted a street tree or detailed landscaping plan for all of the common area improvements or perimeter buffer areas at this time. Nor has a detailed design been submitted for the internal “active” park or internal pedestrian trails. When the Developer prepares and submits detailed construction street and utility plans for final approval, the detailed plans for landscaping, the park, and pedestrian trails should also be submitted to the Plan Commission and Village Forester for review and approval.

A Development Agreement (DA) between the Village and Developer is a requirement of the subdivision platting 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:

1. A requirement that subdivision deed restrictions and covenants be submitted to the Village prior to final plat submittal that includes a requirement that each individual lot contain the minimum landscaping required under Section 17.43(5).
2. The Developer has tentatively agreed to set aside a 1-ac area within the 10-ac wooded area along Lannon road for a future public potable water well site. The Developer and Village need to work cooperatively with the Village's consultant to identify the specific location and other details regarding this commitment.

Village Engineer/Public Works

The developer has submitted civil engineering plans, a storm water management plan, traffic impact analysis, and a preliminary plat indicating the development is feasible. In review memos dated May 16, 2025, and June 6, 2025, the Village Engineer identifies a series of issues and plan corrections in the submittals that need to be addressed and/or corrected in a revised plan submittal prior to granting formal approval.

The Village Engineer memos express concerns with the proposed private sanitary lift station and force main, in addition to the proposed private road. Therefore, prior to the Village Board approving a Development Agreement, the Village Engineer is recommending the developer provide clarification on the financial guarantee for private repair, maintenance, and replacement of the proposed private lift station and private road. It is also recommended that the developer establish a provision in the Declarations for the subdivision that allows the Village to assess liens against properties in the event special assessment is needed to properly maintain the private facilities.

Village Surveyor

In a review memo dated April 14, 2025 (copy attached), the Village Surveyor identifies a series of issues that need to be addressed and/or corrected in a revised preliminary plat. The applicant has since submitted a revised preliminary plat addressing these comments, which is currently under review by the Village Surveyor.

Fire and Police Departments

No comments at this time. The Fire Department and Police Department will be able to detailed comments at the final design and site planning stages of the project.

Washington & Waukesha County

As of October 2023, Washington County discontinued their objecting authority for subdivision plats within the incorporated areas of the county. However, the Washington County Highway Department has jurisdiction over Lannon Road and is reviewing the Traffic Impact Analysis (TIA) to verify and agree with the recommended access intersection turn-lane and traffic control improvements. The Highway Department is also evaluating sight distances to/from the proposed access intersection on Lannon Road to ensure adequate

visibility. Waukesha County has jurisdiction over County Line Road and is also reviewing the TIA to verify and agree with the recommended access intersection turn-lane and traffic control improvements on County Line Road.

Wisconsin Department of Administration
No comments received.

Village Forester
The plans were reviewed by the Village Forester, who provided the following comments:

- Site Illustrative Plan and Landscapes A – D. Selected tree species and quantities will need to be revised/updated to reflect the approved right-of-way tree species list identified on pages 6-9 of the Village's Comprehensive tree plan. A tree planting schedule will also be required in future planning stages.
- Grading plan – Include specifications and measures that will be implemented to preserve existing woodlands that have been described in the project narrative. These specifications should include how tree protection zones (TPZ) will be planned, implemented, and enforced on site to preserve existing tree health amidst ongoing construction and site changes.

The applicant has acknowledged these comments and has confirmed they will be addressed through final landscape design and plan submittals if the General Development Plan (GDP) and rezoning request is approved.

VILLAGE STAFF RECOMMENDATIONS

APPROVE creating a planned Development District (PDD) based on the underlying Rs-7: Single-Family and Rm-2: Multi-Family Zoning Districts to be known as the "Sutton Farm PDD" for the 88.3-acre Mohrhusen Family Farm, LLC property and rezoning said 88.3 acres from the A-1: Agricultural District into the "Sutton Farm PDD", subject to the following requirements and conditions:

1. The Rs-7: Single-Family Zoning District and Rm-2: 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 Sutton Farm Planned Development District (PDD).
2. The Site Illustrative Plan revised dated March 25, 2025, and any subsequent revisions necessary as a result of satisfying Village approval shall constitute the General Development Plan (GDP) required under Section 17.27 of the Zoning Code.
3. The General Development Plan (GDP) and PDD conditions and restrictions shall be revised to include the following:
    a. A minimum 30' wide landscaped buffer is required around the perimeter of the property including around the two "existing farmstead" parcels on County Line Road.
    b. Details regarding the intend use of and improvements to (if any) the common open space areas, including the .85-ac internal park and pedestrian paths (can be provided in a supplement to the GDP).

APPROVE the preliminary subdivision plat for "Sutton Farm", subject to the following conditions:

1. Approval of the preliminary plat is subject to creation of and rezoning of the 88.3-ac Mohrhusen property into the proposed "Sutton Farm Planned Development District" by the Village Board.
2. Prior to recording of the preliminary plat, the Washington County Highway Department and Waukesha County Department of Public Works shall approve/accept the Traffic Impact Analysis (TIA) submitted by the Developer, for the proposed access/intersection locations, recommended turn-lane, and traffic control improvements. (MODIFIED BY STAFF)
3. Prior to recording of the preliminary plat, the Developer shall obtain written approval/acceptance from the Wisconsin Department of Administration (DOA) that they have "no objections" to the proposed preliminary plat. (MODIFIED BY STAFF)
4. 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 the public 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 for therein).

5. The Development Agreement shall include a requirement that subdivision deed restrictions and covenants be submitted to the Village prior to final plat submittal that include a requirement that each individual lot contain the minimum landscaping required under Section 17.43(5).
6. The Developer shall submit a detailed street tree and landscaping plan for any common area improvements to the Plan Commission and Village Forester for review and approval prior to execution of a Development Agreement with the Village.
7. All technical issues and corrections identified by the Village Surveyor (see April 14, 2025, memo from Bob Beilfuss, PLC) shall be addressed and reflected in a revised preliminary subdivision plat reviewed and approved by Village staff prior to recording.
8. All items, issues and technical requirements identified in the May 16, 2025 review memo from the Village Engineer and Public Works Department shall be addressed and reflected in additional information and/or revised plans submitted to Village staff for further review, comment, and approval prior to recording the preliminary plat and final approval of construction plans for all public and private improvements.
9. The Developer proposes to install a private sanitary lift station and force main that is not recommended by Public Works Department Staff as detailed in the May 16, 2025 and June 6, 2025, review memos from the Village Engineer. As stated therein, prior to recommending approval of the proposed private sanitary system, the Village Engineer has requested additional information that is needed to ensure the private system will be installed and properly maintained by the Developer and/or Homeowner's Association into the future and not become a financial burden to nor the responsibility of the Village. The Developer shall provide the information requested in the June 6, 2025, memo to the Village Public Works Department Staff prior to recording the preliminary plat and final approval of construction plans for all public and private improvements. If deemed necessary by the Village and agreed to with the Developer, adequate provisions to protect the Village shall be incorporated into the Development Agreement and/or Homeowner's Association restrictions and protective covenants.
10. The preliminary plat shall be revised to be consistent with the street and lot configuration shown per the revised General Development Plan (dated June 23, 2025) prior to recording of the preliminary plat. (ADDED BY STAFF)

STATE OF WISCONSIN VILLAGE OF GERMANTOWN WASHINGTON COUNTY

ORDINANCE NO. 16-2025

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, Section 17.27 of the Zoning Code provides for the creation of Planned Development Districts (PDD) that are intended to permit greater flexibility and more creative design for the development of a site than is possible under conventional zoning regulations and intended to promote more economical and efficient use of a site while providing a harmonious variety of housing choices, a higher level of amenities, and the preservation of open spaces; and

WHEREAS, Section 17.27 provides that, upon request by a property owner, the Plan Commission may recommend that the Village Board establish a Planned Development District that will benefit from a coordinated site planning proposal that allows the diversified of structures, a mix of dwelling types, and a mix of compatible uses; and

WHEREAS, the property owner, Mohrhusen Family Farm, LLC, represented by Home Path Financial, LP, has requested that the Village establish a planned development district to guide future development of an 88.3-acre site and presented a proposed general development plan for a mix of compatible residential single and multi-family uses and dwelling types to be known as "Sutton Farm" pursuant to the planned development district provisions under Section 17.27 of the Zoning Code; and

WHEREAS, the Plan Commission has considered this petition for a Rezoning and found the request to be consistent with the Village's 2050 Comprehensive Plan and Section 17.27 of the Zoning Code; and

WHEREAS, the Plan Commission forwarded a recommendation of approval to the Village Board for the Rezoning at its meeting on June 9, 2025;

NOW, THEREFORE, the Village Board of the Village of Germantown, Wisconsin, do ordain as follows:

SECTION I

That the Zoning Code and Zoning Map of the Village of Germantown is amended by the creation of an Rs-7/Rm-2 Planned Development District (PDD) to be known as the "Sutton Farm Planned Development District", and, the following described area as shown in Exhibit A is rezoned from the A-1: Agricultural Zoning District to the newly created Rs-7/Rm-2/PDD Zoning District:

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER (NW ¼ SW ¼) AND PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER (SW ¼ SW ¼) AND PART OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER (SE ¼ SW ¼) OF SECTION THIRTY-TWO (32), TOWN NINE (9) NORTH, RANGE TWENTY (20) EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH ¼ CORNER OF SAID SECTION 32; THENCE NORTH 01° 24' 32" WEST ALONG THE EAST LINE OF THE SOUTHWEST ¼ OF SAID SECTION 32 (RECORDED AS NORTH 01° 25' 14" WEST), 219.222 FEET TO AN EXISTING 1-INCH I.P., SAID POINT BEING THE POINT OF BEGINNING OF LANDS TO BE DESCRIBED; THENCE CONTINUING NORTH 01° 24' 32" WEST ALONG SAID EAST LINE, 1114.738 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 89° 35' 56" WEST, 1325.809 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 22' 09" WEST, 665.595 FEET TO AN EXISTING "X" IN A ROCK; THENCE SOUTH 89° 35' 36" WEST, 1294.485 FEET TO AN EXISTING 1-INCH I.P., SAID POINT ALSO BEING ON THE EASTERLY R.O.W. LINE OF C.T.H. "Y" (LANNON ROAD); THENCE SOUTH 01° 30' 31" EAST ALONG SAID R.O.W. LINE, 1440.115 FEET TO A SET 1-INCH I.P.; THENCE ALONG THE ARC OF A CURVE, 234.733 FEET (CHORD BEARING OF SOUTH 12° 14' 10" EAST, 233.364 FEET) TO A SET 1-INCH I.P.; THENCE SOUTH 22° 57' 49" EAST, 175.906 FEET TO A SET 1-INCH I.P.; THENCE ALONG THE ARC OF A CURVE, 86.957 FEET (CHORD BEARING OF SOUTH 16° 55' 14" EAST, 86.796 FEET) TO A SET 1-INCH I.P.; THENCE SOUTH 64° 49' 42" EAST, 76.644 FEET TO A SET 1-INCH I.P., SAID POINT BEING ON THE NORTHERLY R.O.W. LINE OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W. LINE, 1149.251 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 21' 03" WEST, 364.030 FEET TO AN EXISTING 1-INCH I.P.; THENCE NORTH 89° 38' 57" EAST, 143.400 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 00° 21' 03" EAST, 77.870 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 89° 23' 34" EAST, 170.370 FEET TO AN EXISTING 1-INCH I.P.; THENCE SOUTH 00° 54' 50" EAST, 283.325 FEET TO A SET 1-INCH I.P, SAID POINT BEING ON THE NORTHERLY R.O.W. OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W., 28.604 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 21' 03" WEST, 170.000 FEET TO A SET 1-INCH I.P.; THENCE NORTH 89° 38' 57" EAST, 110.000 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 00° 21' 03" EAST, 170.000 FEET TO A SET 1-INCH I.P., SAID POINT ALSO BEING ON THE NORTHERLY R.O.W. LINE OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W., 702.830 FEET TO A POINT ON THE NORTH R.O.W. OF SAID C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 01° 29' 35" WEST, 169.186 FEET TO AN EXISTING 1-INCH I.P.; THENCE NORTH 89° 38' 01" EAST, 110.080 FEET TO THE POINT OF BEGINNING, EXCEPTING THEREFROM THREE (3) PARCELS OF LAND, DESCRIBED AS FOLLOWS:

1. THAT PORTION DESCRIBED BY TRUSTEE'S DEEDS RECORDED AS DOCUMENT NO'S 440169, 440170 AND 440171.
2. THAT PORTION CONTAINED IN AWARD OF DAMAGES RECORDED ON APRIL 29, 2005, AS DOCUMENT NO. 1086250.
3. THAT PORTION CONTAINED IN CONVEYANCE RECORDED ON DECEMBER 27, 1938, AS DOCUMENT NO. 168138.

Tax Key No: GTNV_323-986; GTNV_323-987; GTNV_323-995

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: July 7, 2025

Robert A. Soderberg, Village President

ATTEST:

Donna Ott, Village Clerk

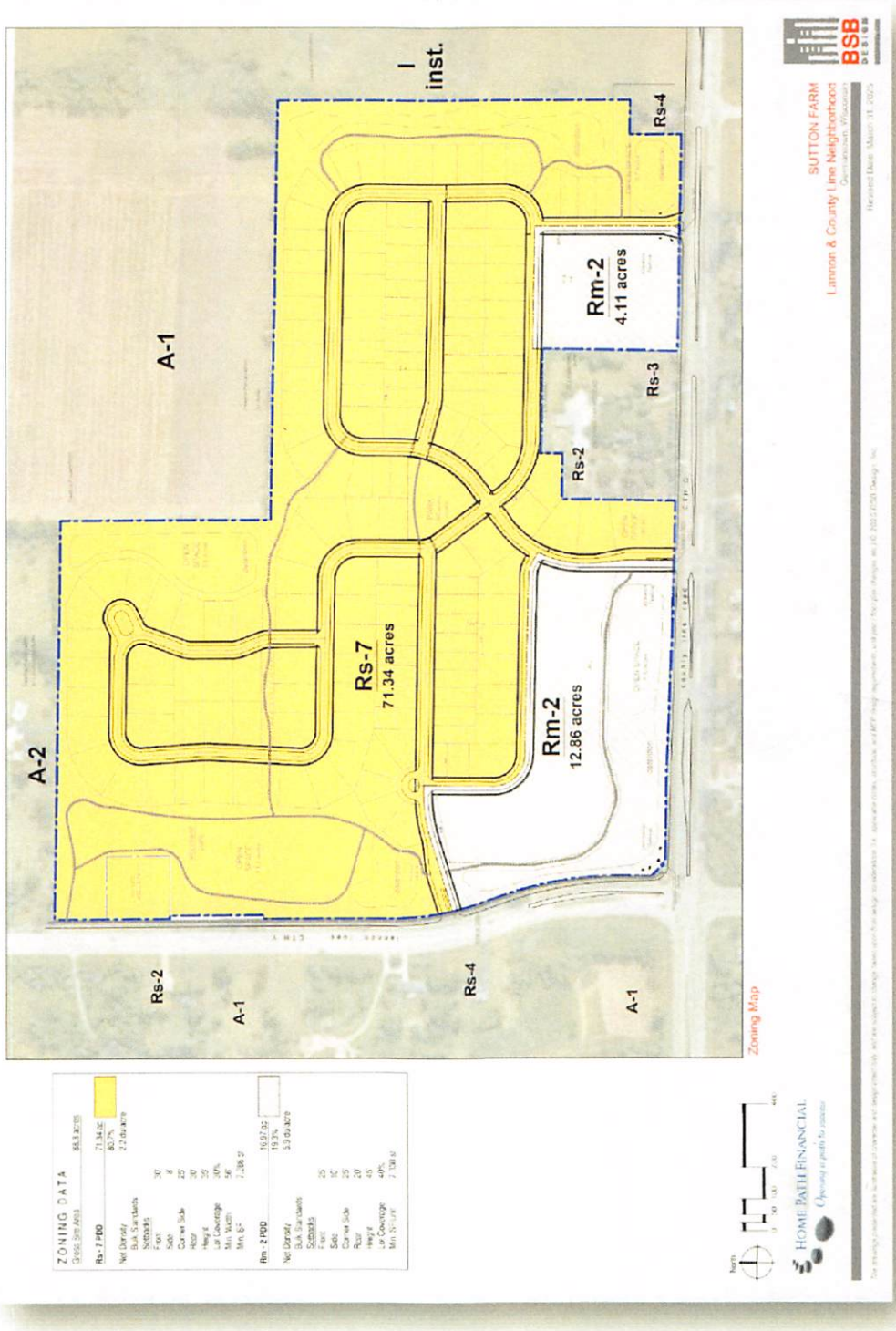
Approved as to form:

Brian C. Sajdak, Village Attorney

Published:

EXHIBIT A

Sutton Farm PDD Rezoning Exhibit
(See Attached Zoning Plan Dated March 31, 2025)



STATE OF WISCONSIN VILLAGE OF GERMANTOWN WASHINGTON COUNTY

RESOLUTION NO. 11-2025

A RESOLUTION ADOPTING CONDITIONS AND RESTRICTIONS FOR THE SUTTON FARM PLANNED DEVELOPMENT DISTRICT ("SUTTON FARM PDD")

WHEREAS, Home Path Financial, LP, agent for Mohrhusen Family Farm, LLC, property owner (hereinafter the "Developer") has applied for an Rs-7: Single-Family Residential and Rm-2: Multi-Family Residential Planned Development District (Rs-7/Rm-2/PDD) to be applied to the property located in the Village of Germantown as described in Exhibit A attached hereto; and

WHEREAS, Section 17.24(4) of the Village of Germantown Municipal Code allows for the adoption of conditions and restrictions for Planned Development Districts (PDD) that modify the basic allowances, limitations, and bulk regulations of the underlying zoning districts, as well as allow for the establishment of specific uses, bulk regulations, density standards, yard setbacks, etc. to ensure proper development, operation, and maintenance of the proposed development in the General Development Plan; and

WHEREAS, the Village of Germantown Plan Commission on June 9, 2025, reviewed the Rs-7/Rm-2/PDD rezoning application and forwarded a positive recommendation regarding both the rezoning and General Development Plan to the Village Board.

NOW THEREFORE, BE IT RESOLVED by the Village Board of the Village of Germantown hereby adopts the following specific conditions and restrictions that shall apply to all development on and the use of property within the PDD:

1. **GENERAL DEVELOPMENT PLAN (GDP)**. The General Development Plan (Exhibit B dated June 23, 2025) establishes the basic parameters for development within the Sutton Farm PDD including the approximate size and orientation of lots, density of development, setbacks, location of internal roadways and intersections to the adjacent road system, and the general location and extent of landscaping, buffering, and recreational trails. While all development within the Sutton Farm PDD shall be generally consistent with the GDP, the GDP does not grant specific site development or building approval. Subsequent Village approvals shall be required as a prerequisite for development, including but not limited to a subdivision plat, condominium plat, and site plan.

2. **PERMITTED LAND USES**. Permitted Principal, Accessory, Conditional, and Temporary Uses allowed within the Sutton Farm PDD shall be as set forth in the Rs-7: Single-Family Residential (Section 17.20) and Rm-2: Multi-Family Residential (Section 17.23) Zoning Districts of the Zoning Code and in accordance with the Sutton Farm Zoning Plan (dated March 31, 2025). A future well site for the Village shall also

be an allowed use and generally positioned in accordance with the well site location depicted per the General Development Plan.

3. **ACCESS**. Public road/driveway access to the Sutton Farm PDD shall be limited only to the proposed public streets to/from Lannon Road (CTH Y) and County Line Road (CTH Q) as shown on the GDP, and that except for the potential well site, no direct access to Lannon Road or County Line Road from any lot or outlot shall be allowed.

4. **RESIDENTIAL DENSITY, UNIT SIZE, AND TYPE**. The project shall include a maximum of one-hundred seventy-one (171) single-family dwelling units (includes paired units) on individual platted lots ranging in size from 6,825 square feet to 16,092 square feet, and, no more than one-hundred two (102) multi-family dwelling attached townhome units in residential buildings containing no more than five (5) townhome dwelling units per building. Development of the single-family residential areas shall be approved consistent with and pursuant to the Village's subdivision platting procedures.

5. **SITE PLAN APPROVAL REQUIRED**. Development of the multi-family attached townhomes shall be consistent with and pursuant to the Village's Site Plan and Condominium Plat procedures.

6. **ARCHITECTURAL DESIGN AND BUILDIGN MATERIALS**. Final architecture design and exterior materials of all residential structures shall be consistent with the conceptual elevation drawings and building/home portfolio documents included with the Developer's General Development Plan submittal package, and attached hereto as Exhibit C.

7. **COMMON AREA/OPEN SPACE OWNERSHIP AND MAINTENANCE**. All open space shown on the General Development Plan shall be owned and maintained by a Homeowners Association in perpetuity. Maintenance guarantees shall be included in the Development Agreement. Details regarding intended use of and improvements to (if any) the common open space areas, including the 0.85-acre internal/central park and pedestrian paths, shall be provided by the Developer and included in the Development Agreement.

8. **STREET IMPROVEMENTS, INTERIOR ROAD CONSTRUCTIONS, AND OWNERSHIP**. All internal roadways intended for dedication shall be approved by the Plan Commission and constructed to standards deemed acceptable to the Department of Public Works. Detailed cross sections shall be approved by the Public Works and Highways Committee.

9. **PEDESTRIAN CIRCULATION**. The Developer shall install neighborhood trails in the form of low-impact woodchip mowed pedestrian paths in accordance with the General Development Plan. The construction of sidewalks along all internal roadways intended for dedication to the Village shall be required as directed by the Village's Public Works and Highways Committee. A sidewalk extending along the County Line

Road frontage and connecting to Lannon Road shall be evaluated and constructed as set forth in the Development Agreement, if feasible.

10. **SPECIFIC LIGHTING AND LANDSCAPING PLANS**. The Developer shall submit detailed lighting, street tree, and landscaping plans (for any common area improvements and the required 30' perimeter buffer) to the Plan Commission and Village Forester for review and approval prior to final plat approval as set forth in the Development Agreement. Lighting and landscaping including the installation of street trees shall comply with Village guidelines. The General Development Plan shall be used as a guide for the general location and character of landscaping, including location of buffers such as the required 30' perimeter buffer, and street trees. Street lighting shall be installed at all access entrances/intersections along Lannon Road (CTH Y) and County Line Road (CTH Q), and, at all internal road intersections within the development unless otherwise approved by the Village's Public Works and Highways Committee. Individual lot landscaping and lighting of the multi-family attached townhome areas shall be installed as required under the Village's Subdivision Code (or as part of site plan approval by the Plan Commission for the attached townhomes areas).

11. **SITE DEVELOPMENT AND BUILDING REQUIREMENTS**. Unless otherwise modified as set forth below, all development and buildings shall be in accordance with the lot, building, and other applicable bulk requirements set forth in the applicable underlying Rs-7: Single-Family Residential or Rm-2: Multi-Family Residential Zoning Districts and other applicable Zoning Code regulations:

Modifications to the Rs-7: Single-Family Residential District:

a. Reduce maximum Residential Density from 4.4 DU/acre to 2.4 DU/acre.
b. Reduce minimum Lot Width from 80 feet to 56 feet.
c. Reduce minimum Lot Area from 10,000 sqft to 6,825 sqft.
d. Reduce minimum Side Yard Setback from 10 feet to 8 feet.
e. Increase Rear Yard Setback from 25 feet to 30 feet (applicable to flagship/pathway home lots only).
f. Increase minimum Dwelling Size from 1,200 sqft for 3-bedroom to 1,450 sqft.
g. Increase minimum Dwelling Size from 1,200 sqft for 4-bedroom to 1,690 sqft.

Modifications to the Rm-2: Multi-Family Residential District:

a. Reduce the maximum Residential Density from 8.0 DU/acre to 5.9 DU/acre.
b. Eliminate the minimum Lot Area requirement to allow the clustering of the attached townhome units and develop as a condominium.
c. Reduce the minimum Front Yard Setback from 35 feet to 25 feet.
d. Reduce the minimum Side Yard Setback from 25 feet to a combined total of 25 feet.
e. Reduce the minimum Rear Yard Setback from 35 feet to 25 feet.
f. Increase the maximum Number of Stories from 2.5 to 3.0 on the rear elevation.
g. Increase minimum Dwelling Size from 800 sqft for 2-bedroom to 1,650 sqft.
h. Increase minimum Dwelling Size from 1,000 sqft for 3-bedroom to 1,750 sqft.
i. Increase minimum Dwelling Size from 1,000 sqft for 4-bedroom to 2,200 sqft.

12. **DEVELOPMENT AGREEMENT REQUIRED**. The Development Agreement shall be reviewed by the Public Works and Highways Committee and approved by the Village Board. The Development Agreement shall include a requirement that subdivision deed restrictions and covenants be submitted to the Village prior to final plat submittal that include a requirement that each individual lot contain the minimum landscaping mandated under Section 17.43(5) of the Zoning Code.

13. **GARBAGE AND RECYCLING COLLECTION**. 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 multi-family structures containing five (5) or more units shall apply.

14. **BLASTING**. The Developer shall receive Village approvals for blasting permits prior to commencing any blasting activities. All blasting activities shall comply with all Federal, State, and local requirements.

15. **EXPIRATION**. The Developer shall obtain all necessary approvals and permits from the Village and other agencies in a timely manner consistent with a general development phasing plan set forth in the Development Agreement. If construction of the public improvements has not commenced within two (2) years after the date of PDD approval and continued toward completion, the Village may determine that the approvals and provisions granted under this PDD resolution and General Development Plan have expired and are null and void, unless an extension of said approvals and provisions is granted by the Village pursuant to the procedures under Section 17.43(11) and (11a) of the Zoning Code. If this requirement is not satisfied, the Sutton Farm PDD and General Development Plan (GDP) shall become null and void, and the property shall revert back to the previous A-1: Agricultural Zoning District.

16. **APPLICABILITY OF MUNICIPAL CODE**. Unless otherwise set forth herein, all other applicable zoning and development regulations contained in the Germantown Municipal Code (e.g. Shoreland-Wetland Zoning, Floodplain Zoning, Subdivision) shall apply to development and land use within the Sutton Farm PDD. In the event a requirement, restriction, or limitation set forth herein conflicts with a similar requirement, restriction, or limitation found in another section of the Municipal Code, the most stringent requirement, restriction, or limitation shall apply.

Adopted: July 7, 2025

Robert A. Soderberg, Village President

ATTEST:

Donna Ott, Village Clerk

EXHIBIT A

Sutton Farm Planned Development District (PDD)
Metes and Bounds Legal Description

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER (NW ¼ SW ¼) AND PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER (SW ¼ SW ¼) AND PART OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER (SE ¼ SW ¼) OF SECTION THIRTY-TWO (32), TOWN NINE (9) NORTH, RANGE TWENTY (20) EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTH ¼ CORNER OF SAID SECTION 32; THENCE NORTH 01° 24' 32" WEST ALONG THE EAST LINE OF THE SOUTHWEST ¼ OF SAID SECTION 32 (RECORDED AS NORTH 01° 25' 14" WEST), 219.222 FEET TO AN EXISTING 1-INCH I.P., SAID POINT BEING THE POINT OF BEGINNING OF LANDS TO BE DESCRIBED; THENCE CONTINUING NORTH 01° 24' 32" WEST ALONG SAID EAST LINE, 1114.738 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 89° 35' 56" WEST, 1325.809 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 22' 09" WEST, 665.595 FEET TO AN EXISTING "X" IN A ROCK; THENCE SOUTH 89° 35' 36" WEST, 1294.485 FEET TO AN EXISTING 1-INCH I.P., SAID POINT ALSO BEING ON THE EASTERLY R.O.W. LINE OF C.T.H. "Y" (LANNON ROAD); THENCE SOUTH 01° 30' 31" EAST ALONG SAID R.O.W. LINE, 1440.115 FEET TO A SET 1-INCH I.P.; THENCE ALONG THE ARC OF A CURVE, 234.733 FEET (CHORD BEARING OF SOUTH 12° 14' 10" EAST, 233.364 FEET) TO A SET 1-INCH I.P.; THENCE SOUTH 22° 57' 49" EAST, 175.906 FEET TO A SET 1-INCH I.P.; THENCE ALONG THE ARC OF A CURVE, 86.957 FEET (CHORD BEARING OF SOUTH 16° 55' 14" EAST, 86.796 FEET) TO A SET 1-INCH I.P.; THENCE SOUTH 64° 49' 42" EAST, 76.644 FEET TO A SET 1-INCH I.P., SAID POINT BEING ON THE NORTHERLY R.O.W. LINE OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W. LINE, 1149.251 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 21' 03" WEST, 364.030 FEET TO AN EXISTING 1-INCH I.P.; THENCE NORTH 89° 38' 57" EAST, 143.400 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 00° 21' 03" EAST, 77.870 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 89° 23' 34" EAST, 170.370 FEET TO AN EXISTING 1-INCH I.P.; THENCE SOUTH 00° 54' 50" EAST, 283.325 FEET TO A SET 1-INCH I.P, SAID POINT BEING ON THE NORTHERLY R.O.W. OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W., 28.604 FEET TO A SET 1-INCH I.P.; THENCE NORTH 00° 21' 03" WEST, 170.000 FEET TO A SET 1-INCH I.P.; THENCE NORTH 89° 38' 57" EAST, 110.000 FEET TO A SET 1-INCH I.P.; THENCE SOUTH 00° 21' 03" EAST, 170.000 FEET TO A SET 1-INCH I.P., SAID POINT ALSO BEING ON THE NORTHERLY R.O.W. LINE OF C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 89° 38' 57" EAST ALONG SAID R.O.W., 702.830 FEET TO A POINT ON THE NORTH R.O.W. OF SAID C.T.H. "Q" (COUNTY LINE ROAD); THENCE NORTH 01° 29' 35" WEST, 169.186 FEET TO AN EXISTING 1-INCH I.P.; THENCE NORTH 89° 38' 01" EAST, 110.080 FEET TO THE POINT OF BEGINNING, EXCEPTING THEREFROM THREE (3) PARCELS OF LAND, DESCRIBED AS FOLLOWS:

1. THAT PORTION DESCRIBED BY TRUSTEE'S DEEDS RECORDED AS DOCUMENT NO'S 440169, 440170 AND 440171.
2. THAT PORTION CONTAINED IN AWARD OF DAMAGES RECORDED ON APRIL 29, 2005, AS DOCUMENT NO. 1086250.
3. THAT PORTION CONTAINED IN CONVEYANCE RECORDED ON DECEMBER 27, 1938, AS DOCUMENT NO. 168138.

EXHIBIT B

Sutton Farm Planned Development District (PDD)
General Development Plan
(See Attached General Development Plan Dated June 23, 2025)

EXHIBIT C

Sutton Farm Architectural Design and Building Materials
(See Attached Elevations and Building/Home Portfolio Products)

Home Product Offering-Flagship

Home Product Offering-Pathway

Home Product Offering-Ranch Villas

Front Elevation
Scale: 3/16" = 1'-0"

TYPE 1 - FRONT ELEVATION
Character Elevation

BSB DESIGN

Rear Elevation

TYPE 1 - REAR ELEVATION
Character Elevation

Front Elevation

TYPE 3 - FRONT ELEVATION
Character Elevation

Rear Elevation
Scale: 3/16" = 1'-0"

TYPE 3 - REAR ELEVATION

BSB

TYPE 2 - FRONT ELEVATION
Character Elevation

BSB

STATE OF WISCONSIN VILLAGE OF GERMANTOWN WASHINGTON COUNTY

RESOLUTION NO. 12-2025

A RESOLUTION APPROVING A PRELIMINARY SUBDIVISION PLAT ("SUTTON FARM")

WHEREAS, Home Path Financial, LP, agent for Mohrhusen Family Farm, LLC, property owner (hereinafter the "Developer") has requested approval of a Preliminary Subdivision Plat known as "Sutton Farm" as prepared by Foth Infrastructure & Environment, LLC, and attached and incorporated into this Resolution as Exhibit B; and

WHEREAS, the subject land as described in Exhibit A attached to this Resolution is within the Village of Germantown, who has adopted subdivision plat review authority per Chapter 236.45 of the Wis. Stats.;

WHEREAS, the Village of Germantown Plan Commission on June 9, 2025, reviewed the Preliminary Subdivision Plat and forwarded a positive recommendation to the Village Board.

NOW THEREFORE, BE IT RESOLVED by the Village Board of the Village of Germantown hereby approves the Preliminary Subdivision Plat for "Sutton Farm", subject to the following conditions:

1. Approval of the preliminary plat is subject to creation of and rezoning of the 88.3-ac Mohrhusen property into the proposed "Sutton Farm Planned Development District" by the Village Board.

2. Prior to recording of the preliminary plat, the Washington County Highway Department and Waukesha County Department of Public Works shall approve/accept the Traffic Impact Analysis (TIA) submitted by the Developer, for the proposed access/intersection locations, recommended turn-lane, and traffic control improvements.

3. Prior to recording of the preliminary plat, the Developer shall obtain written approval/acceptance from the Wisconsin Department of Administration (DOA) that they have "no objections" to the proposed preliminary plat.

4. 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 the public 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 for therein).

5. The Development Agreement shall include a requirement that subdivision deed restrictions and covenants be submitted to the Village prior to final plat submittal that include a requirement that each individual lot contain the minimum landscaping required under Section 17.43(5).

6. The Developer shall submit a detailed street tree and landscaping plan for any common area improvements to the Plan Commission and Village Forester for review and approval prior to execution of a Development Agreement with the Village.

7. All technical issues and corrections identified by the Village Surveyor (see April 14, 2025, memo from Bob Beilfuss, PLC) shall be addressed and reflected in a revised preliminary subdivision plat reviewed and approved by Village staff prior to recording.

8. All items, issues and technical requirements identified in the May 16, 2025 review memo from the Village Engineer and Public Works Department shall be addressed and reflected in additional information and/or revised plans submitted to Village staff for further review, comment, and approval prior to recording the preliminary plat and final approval of construction plans for all public and private improvements.

9. The Developer proposes to install a private sanitary lift station and force main that is not recommended by Public Works Department Staff as detailed in the May 16, 2025 and June 6, 2025, review memos from the Village Engineer. As stated therein, prior to recommending approval of the proposed private sanitary system, the Village Engineer has requested additional information that is needed to ensure the private system will be installed and properly maintained by the Developer and/or Homeowner's Association into the future and not become a financial burden to nor the responsibility of the Village. The Developer shall provide the information requested in the June 6, 2025, memo to the Village Public Works Department Staff prior to recording the preliminary plat and final approval of construction plans for all public and private improvements. If deemed necessary by the Village and agreed to with the Developer, adequate provisions to protect the Village shall be incorporated into the Development Agreement and/or Homeowner's Association restrictions and protective covenants.

10. The preliminary plat shall be revised to be consistent with the street and lot configuration shown per the revised General Development Plan (dated June 23, 2025) prior to recording of the preliminary plat.

Adopted: July 7, 2025

Robert A. Soderberg, Village President

ATTEST:

Donna Ott, Village Clerk

EXHIBIT A

Sutton Farm Preliminary Subdivision Plat
Metes and Bounds Legal Description

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER (NW ¼ SW ¼) AND PART OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER (SW ¼ SW ¼) AND PART OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER (SE ¼ SW ¼) OF SECTION THIRTY-TWO (32), TOWN NINE (9) NORTH, RANGE TWENTY (20) EAST, VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:

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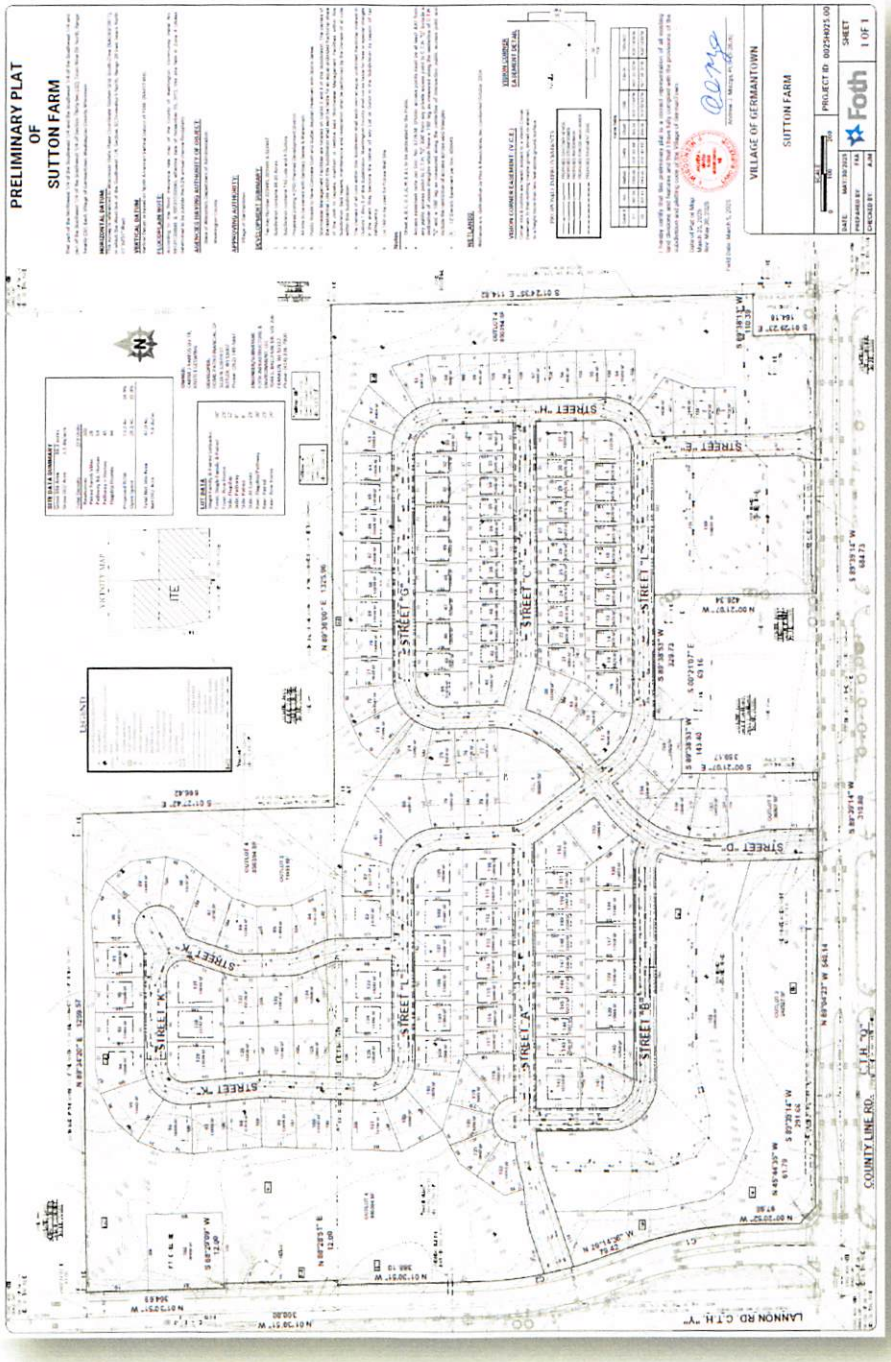
EXHIBIT B

Sutton Farm Preliminary Subdivision Plat
(See Attached Preliminary Subdivision Plat Dated May 30, 2025)



SIGN PERMIT APPLICATION

12/8/25 Plan Commission Meeting

Furlong industrial Systems

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

SUMMARY

Finishing Touch Signs, agent for Furlong Industrial Systems, and Michael Furlong Rev Trust, property owner, is requesting approval of a sign permit for Furlong Industrial Systems located at W194 N11221 McCormick Drive in the Germantown Industrial Park.

Location: W194 N11221 McCormick Drive

Applicant/ Owner:

Finishing Touch	Michael Furlong Rev Trust
5111 Sherman St	N2293 Fargo Road
Wausau, WI	Neosho, WI

Zoning: M-1: Limited Industrial

Adjacent Land Uses		Zoning
North	Industrial/Office	M-1
South	Industrial	M-1
East	Industrial/Office	M-1
West	Single-family Residential	M-1

Background/Proposal

Finishing Touch Signs, agent for Furlong Industrial Systems, and Michael Furlong Rev Trust, property owner, is requesting approval of a sign permit for Furlong Industrial Systems located at W194 N11221 McCormick Drive in the Germantown Industrial Park.

In 2024, Furlong Industrial Systems was granted zoning permit approval for exterior renovations to the building

The owner is now seeking approval of a wall sign for the building as shown in the application. Details of the proposed sign are listed as follows:

- 28” x 220” (42.5 sqft) single-sided (not illuminated) wall sign comprised of aluminum letters/logos flat mounted on the east elevation (building front).

Staff Comments

The proposed sign complies with applicable standards per the Village’s Sign Code.

VILLAGE STAFF RECOMMENDATION

APPROVE the proposed wall sign for Furlong Industrial Systems located at W194 N11221 McCormick Drive.

Village of Germantown
Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid SR Date 11/3/25
ChK#2180

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

Finishing Touch Signs
5111 Sherman St.
Wausau, WI 54401
Phone (715) 845-0500
Fax (-) —
E-Mail mackenzie@ftsign.com

PROPERTY OWNER

Michael Furlong Rev Tr
N2293 Fargo Rd.
Neosho, WI 53059
Phone ( )

2 PROPERTY ADDRESS OR GENERAL LOCATION

W194N11221 McCormick Dr.
Germantown, WI 53022

3 SIGN INFORMATION

Sign Dimensions 27.8" height x 220" width (Single)/Multi Tenant (circle one)
Number of Sides 1 Building Frontage SF 1700 sq.ft.
Total Square Footage of Sign (include all sides) 42.47
Total height of the Sign 27.8"
Is the Sign to be illuminated ____ yes X no
Type of Sign Construction Materials Aluminum
Distance to Closest Property Line 70 ft.

Are there any existing signs on the property ____
If yes, what is the total Square Footage of existing signs ____

What are the intentions for the existing signs: Take down ____ Remain ____

4 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant 10-28-25 Date

Owner 10/27/2025 Date

RECEIVED
OCT 28 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Finishing Touch Signs LLC 10/30/2025	Village of Germantown	2180 275.00
River Valley	Furlong Industrial Systems	275.00

Village of
Germantown

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

11/03/2025 01:30PM PRAVINA P
001013-0011
Payment effective date 11/03/2025

MISCELLANEOUS
ZONING FEES (GENZON)
2025 GENZON
1 @ $275.00 $275.00

$275.00

Subtotal **$275.00**
Total **$275.00**

CHECK $275.00
Check Number2180

Change due **$0.00**

Thank you for your payment

CUSTOMER COPY

Finishing Touch
SIGNS

5111 Sherman St.
Wausau, WI 54401

Office: 715-845-0500

Customer: Furlong Industrial
Job Location: Germantown
Job #: 20818
Proof Date: 10.8.25
Sales Rep: Pat
Designer: Evelyn

Client Approval:

Substrate:
- ☐ Double Sided
- ■ Single Sided
- ☐ Lit Sign
- ■ Non Lit
- ☐ Opaque Vinyl
- ☐ Translucent Vinyl
- ☐ Frosted
- ☐ Painted
- ■ Exterior
- ☐ Interior

Colors:
- TBD
- TBD
- Raceway to color match building
- TBD
- TBD
- TBD

220 in

27.8 in

FURLONG
INDUSTRIAL SYSTEMS

Sign Specifications:

(1) Individual flat cut aluminum characters and logo

- .25" thick aluminum

FINAL DRAWING APPROVAL
These drawings will be released to manufacturing once signed and returned. Any detail or dimension changes will delay fabrication and incur extra charges. Once the design is approved Finishing Touch will not be responsible for errors. Colors shown for representation only. Actual paint or vinyl graphics may not match ink colors on layout.

This artwork is copywrited and may not be reproduced or used without written permission. Design fees will be charged without authorized use.

2050 COMPREHENSIVE PLAN IMPLEMENTATION:
Village Center District Community Engagement Program
12/8/25 Plan Commission Meeting

Germantown Community Development Department

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

As you are aware, earlier this year the Village Board paused the "Village Center" re-development effort for the area located near the Pilgrim @ Mequon Road intersection at the request of the Germantown School District to allow the Board time to evaluate the M.D. Roffer's "Community Growth & Student Enrollment Study" that was nearing completion at the time.

Following the "pause" the Village Board decided to set aside the visioning and master planning work that had been completed by the RINKA Group and embark on a different course of action. To gather more public opinion and input regarding potential re-development of this and possibly other properties within the larger "Village Center District" as defined in the 2050 Comprehensive Plan, the Board directed Staff to initiate a comprehensive community engagement program to identify community issues, priorities, needs, and desires that will, in turn, be used to develop specific development regulations and design guidelines for potential re-development.

To that end, Staff prepared a request for proposals (copy attached) outlining the intended purpose and desired outcomes for what is intended to be a consultant-assisted community engagement process involving the Plan Commission and Village Board over the next 6 months into the spring of 2026. At the time the RFP was prepared, the Board's focus was on three (3) Village-owned properties located in the "Village Center District" including:

1. The "Flower Source Property". A 15-acre property formally used as a retail nursery, greenhouse and landscape supply operation;
2. The "Ascension Property". Two developed parcels totaling 4.6 acres and currently being used for a medical clinic and offices by Ascension Columbia-St. Mary's; and
3. The "Grosenick Property". Two parcels totaling 5.6 acres located near the Fond du Lac Ave/STH145 intersection including a 5.2-acre vacant parcel with direct access to Main Street and a .42-acre developed parcel with a small office building and parking lot with direct access to Fond du Lac Ave

Recently, the Village Board discussed the possibility of expanding the scope of the community engagement effort to include other properties in the Village Center District including the Blackstone Creek golf course and Village-owned former recycling center property along the Menomonee River.

Five (5) consultant proposals have been submitted. At this time, the role of the Plan Commission is to review the proposals and make a recommendation to the Village Board who, in turn, will make a final consultant/proposal selection.

Village of Germantown

Request for Proposals
Community Engagement Services

Release Date: November 3, 2025

INTRODUCTION

The Village of Germantown (hereafter the "Village") is seeking proposals from well-qualified consultants to design, manage, and facilitate implementation of a comprehensive community engagement program that will identify community issues, priorities, needs, and desires that will, in turn, be used in the development of a general land-use plan and specific development regulations, and design guidelines for the potential re-development of three (3) Village-owned properties located in the "Village Center District" as identified under the Village's 2050 Comprehensive Plan.

PURPOSE AND OBJECTIVES

The Village owns two adjoining properties totaling 19.6 acres within an overall 35.8-acre re-development area located at the intersection of Mequon Road @ Pilgrim Road. The "Flower Source" property is a 15-acre property formally used as a retail nursery, greenhouse and landscape supply operation. The adjoining "Ascension" property is comprised of two parcels totaling 4.6 acres and is currently developed with a medical clinic and offices (Ascension Columbia-St. Mary's) that provides comprehensive, out-patient medical services (see Exhibit A). In another part of the "Village Center District", the Village owns the "Grosenick Property" comprised of two adjoining parcels totaling 5.6 acres located near the Fond du Lac Ave/STH145 intersection, including a 5.2-acre vacant parcel with direct access to Main Street and a .42-acre parcel developed with a small office building with direct access to Fond du Lac Ave.

While the Village eventually wants to develop a detailed land-use plan, development regulations, and design guidelines to guide potential re-development of property within the entire "Village Center District" over the long-term, the purpose for this near-term project is to develop site-specific re-development plans along with development regulations and design guidelines for the three (3) properties owned by the Village, i.e. the 15-acre "Flower Source property", the 4.6-acre "Ascension property" and the 5.6-acre "Grosenick property".

Proposals are requested to provide community engagement services from consultants with experience conducting traditional and innovative community outreach and engagements activities that involve and collaborate with residents, property owners, business owners & operators, community organizations, and other identified stakeholders.

The selected consultant will need experience designing and conducting surveys, stake-holder meetings, focus groups, and other in-person, virtual and social-media based activities that engage a variety of community participants in an inclusive and equitable manner. The type, number, and method of conducting the community engagement activities selected will need to generate useful and pertinent feedback and recommendations that the consultant will document in a report that can, in turn, be used by the consultant, Village officials, and Village staff in the development of site-specific land use plans, development regulations, and design guidelines for the Village-owned properties that are consistent with and further the intent of the “Village Center District” land use table and development policies in the 2050 Comprehensive Plan.

SCOPE OF SERVICES

The selected consultant will provide the Village specific recommendations regarding the final scope of the project, including specific tasks and deliverables based on their expertise and experience completing similar community engagement programs. However, the selected consultant shall design a community engagement program that, at a minimum, will accomplish all the tasks outlined below. The consultant may propose enhanced or alternative approaches or methods to accomplishing the tasks provided such approaches or methods satisfy the required tasks as deemed acceptable by the Village.

Task 1: Project Management

The consultant shall manage and be responsible for all project activities related to designing, conducting, and reporting of the community engagement program in cooperation with and under the direction of Village staff, including:

- Developing the community engagement program
- Maintaining the project schedule based on realistic timelines including all essential tasks and deliverables
- Holding regular check-ins with appropriate Village staff to provide progress updates, coordinate efforts, receive direction from staff, and discuss any needed adjustments to the schedule, engagement program activities, or scope of work
- Delivering regular and timely invoices based on a mutually-acceptable timeframe that include a breakdown of time spent on each task and percentage of work completed
- Unless otherwise mutually-agreed to and clearly specified by the Village, create and obtain Village approval of all engagement-related tools, products, materials, images, graphics, content, websites, social media accounts, and other digital or physical items needed for engagement activities, including: surveys, presentations, handouts, promotional materials, advertising and public information notices

- Conducting or executing the engagement activities and associated logistics, including, but not limited to scheduling and securing permission to use Village and non-Village facilities, meeting rooms, or other spaces, equipment, websites, social media sites, etc. necessary to promote and conduct all engagement activities

Task 2: Conduct Introduction Meetings with Village Officials and Staff to Develop the Community Engagement Program

The consultant will facilitate meetings and other activities deemed necessary with Village officials and staff to identify goals, priorities, expectations, resources, opportunities, and limitations necessary to shape and create the community engagement program. The proposed engagement program should provide meaningful opportunities for dialogue between Village officials, staff, and the consultant to identify mutually-acceptable community engagement activities to be conducted as part of the program.

Without limitation and subject to the experience and creativity of the consultant, activities that should be considered are those that are interactive and collaborative with participants and may include, but are not limited to:

- Listening sessions
- Charettes, open houses or hands-on workshops
- Visual preference surveys, opinion surveys, and mapping exercises conducted live or on-demand, in-person or virtual utilizing website or social media
- On-the-ground outreach opportunities or activities such as pop-up tents or tables ant local community events

The final community engagement program shall include:

1. A list of specific engagement activities to be conducted and the type of feedback, opinions, recommendations, etc. intended to be collected
2. A list of the means, methods, tools, media, technology, etc. to be employed to advertise, or conduct the various engagement activities
3. A schedule outlining dates, times, and locations of each engagement activity
4. A list of the various community participants, e.g. residents, property owners, business owners, organizations, other stakeholders, etc. intended to be reached by the various engagement activities

Based on feedback gathered from the meetings, the consultant will prepare a written summary of the proposed community engagement program in a “Community Engagement Plan” document for presentation to and approval by the Village Board prior to

commencement of the engagement program activities. Said document shall include a detailed description of the community engagement program, including a list and narrative description of the engagement activities, events, intended participants, expected outcomes, and scope of services tasks.

Task 3. Facilitate the Community Engagement Process

With mutually-acceptable support from Village officials and staff, the Consultant will facilitate execution of the community engagement events and activities as described in the Community Engagement Plan. The consultant shall be responsible for all logistics related to preparing, conducting, reporting the results of and completing all engagement activities, including:

- Obtaining necessary permission for the use of or creating all engagement-related tools, products, materials, images, graphics, content, websites, social media accounts, and other digital or physical items needed for engagement activities, including: surveys, presentations, handouts, promotional materials, advertising and public information notices
- Scheduling and securing permission to use Village and non-Village facilities, meeting rooms, or other spaces, equipment, websites, social media sites, etc. necessary to promote and conduct all engagement activities
- Preparing a written report summarizing each engagement activity documenting details about the event, participants, outcomes, feedback received, etc. Where appropriate said report should include graphics, tales, images, etc. to adequately convey the feedback presented and the feedback received

Task 4: Prepare a Final Community Engagement Outcomes Report

The purpose of the final report is to develop a clear, concise document of the feedback received through the community engagement process. The report should be in a format that is easily reproducible and geared toward use by Village officials, staff and the general public. The use of color maps, graphics, images, plans, renderings, etc., to present the qualitative and quantitative information and feedback received is encouraged. The final report shall contain a list of the key findings, feedback, and recommendations at a level of detail, terminology, and understanding that can be easily explained to the general public and applied by the consultant or Village staff into the development of site-specific land use plans, zoning-type development regulations, and design guidelines for the three (3) Village-owned properties in the “Village Center District”.

The consultant shall provide a draft final report to Village staff for review and approval. Based on the feedback from staff, the consultant will prepare a final report and present it to the Village Board at a mutually-acceptable public meeting.

PROJECT BUDGET & SCHEDULE

The final budget and scope of services for the overall project will be negotiated with the selected consultant. The Village shall not be responsible for any costs incurred during or for the preparation of a proposal in response to this Request for Proposals.

The project is expected to commence in January, 2026, and be completed in April, 2026. However, additional time may be necessary and granted by the Village depending on project needs.

PROPOSAL REQUIREMENTS

A Proposal submitted in response to this RFP must include the following items:

1. **Project Understanding and Interest.** Provide a narrative discussion of your understanding of the proposal and explain why the consultant is interested in partnering with the Village of Germantown.

2. **Key Personnel and Qualifications.** Provide a list of key members of the consultant project team (including any subcontractors) and their anticipated role in the project. Include qualifications or resumes for each team member. Include an organizational chart of the project team (including any subcontractors), as well as the percentage of time the project team will have available to devote to this project. Consultant shall describe the project members capacity to engage with the public at events that are held outside a typical 9-5 weekday schedule.

3. **Relevant Experience.** Provide an overview of the consultant's prior relevant experience, including examples of projects of similar scope and nature. Provide the following items for at least three (3) past projects:
    a. Municipality/Agency & Location
    b. Project Date, Time Period & Completion Status
    c. Project Budget
    d. Client Contact Name, Phone Number or Email Address

4. **References**. Provide a contact name, phone number or email address for at least three (3) references for the consultant's prior contracted work.

5. **Work Program and Project Schedule**. Provide an overview of key tasks, actions, and deliverables, drawing from the Scope of services included above. This section should also outline your approach, understanding, and strategy for completing the project. The work program should also include a tentative project schedule with key dates assuming a contract award in mid-December, 2025. Finally, this section shall demonstrate how the proposed work program incorporates strategies for equitable and inclusive

engagement of typically underrepresented stakeholders and “silent” supporters or objectors.

6. **Cost Proposal**. Provide a detailed description of the proposed fee structure, estimated costs, and budget assumptions for the project. The budget should include costs per task item and per deliverable, costs for materials/supplies, and project management costs. Please provide a breakdown of the tasks and deliverables for the work program(s), with estimated costs and hours worked by personnel.

7. **Supporting Documents** (optional). Please include any relevant supporting documents with your submittal which showcase the consultants experience and expertise in the provision of community engagement consulting services.

SUBMITTAL INSTRUCTIONS

Proposals must be received before 4:00pm CST on or before the submittal deadline stated below. Other key dates and deadlines are as follows:

Request for Proposal Release Date	Nov 3, 2025
Deadline for submittal of consultant questions	Nov 10, 2025
Village responses to consultant questions	Nov 12, 2025
Proposal Submittal Deadline Date	**Nov 21, 2025**
RFP Review Committee Recommendation	Nov 24, 2025
Plan Commission Recommendation	Dec 8, 2025
Village Board Selection	Dec 15, 2025
Negotiate & Finalize Project Contract	Dec 15-31, 2025
Project Commencement	after January 1, 2026

The Village reserves the right to extend the deadline or accept a late submittal with good cause shown. The Village of Germantown reserves the right without prejudice to reject any or all proposals. The consultant is responsible for verifying that their proposal has been received before the submittal deadline date.

Proposals must include all of the required information listed herein and should be presented in a sequence consistent with this RFP. The proposal shall not exceed 30 pages in length. All proposals shall be submitted in a digital PDF file format via email to the Village Administrator at the email address listed below. If the proposal is too large to submit via email, please submit via Drop Box or other filesharing service mutually agreed to with the Village.

Alternatively, a proposal may be submitted in an electronic format contained in a USB flash drive provided it is received by the Planning & Zoning Services counter in Village Hall at the address below and before the submittal deadline:

Steve Kreklow, Village Administrator
N112 W17001 Mequon Road
Germantown, WI 53022
skreklow@germantownwi.gov

No reimbursement will be made by the Village for costs incurred in the preparation of the response to this RFP. Submitted materials will not be returned and will become the property of the Village of Germantown.

SELECTION CRITERIA

Proposals will be evaluated based on the following criteria:

1.	Project Understanding and Interest	10 %
2.	Key Personnel and Qualifications	15 %
3.	Relevant Experience & Local/Regional Experience	15 %
4.	References	10 %
5.	Work Program and Project Schedule	30 %
6.	Cost Proposal	20 %
	Total	100%

The Village reserves the right to select a consultant without interviews, however, a short list of consultants ***may*** be selected and invited to present their proposal to and discuss with the selection committee. The presentation portion of the interview will be limited to no more than 15 minutes with up to 30 minutes set aside for questions and answers. The presenters must include one of more of the key personnel who will work on the project.

The selected consultant will be required to enter into a Professional Services Agreement with the Village. Village Board approval may be required based on the contract amount. A Notice to Proceed will be issued to formally begin work.

EXHIBITS

Exhibit A “Village Center District”: Mequon @ Pilgrim Road Re-Development Area & Village-Owned Parcel Map (Flower Source Property & Ascension Property)

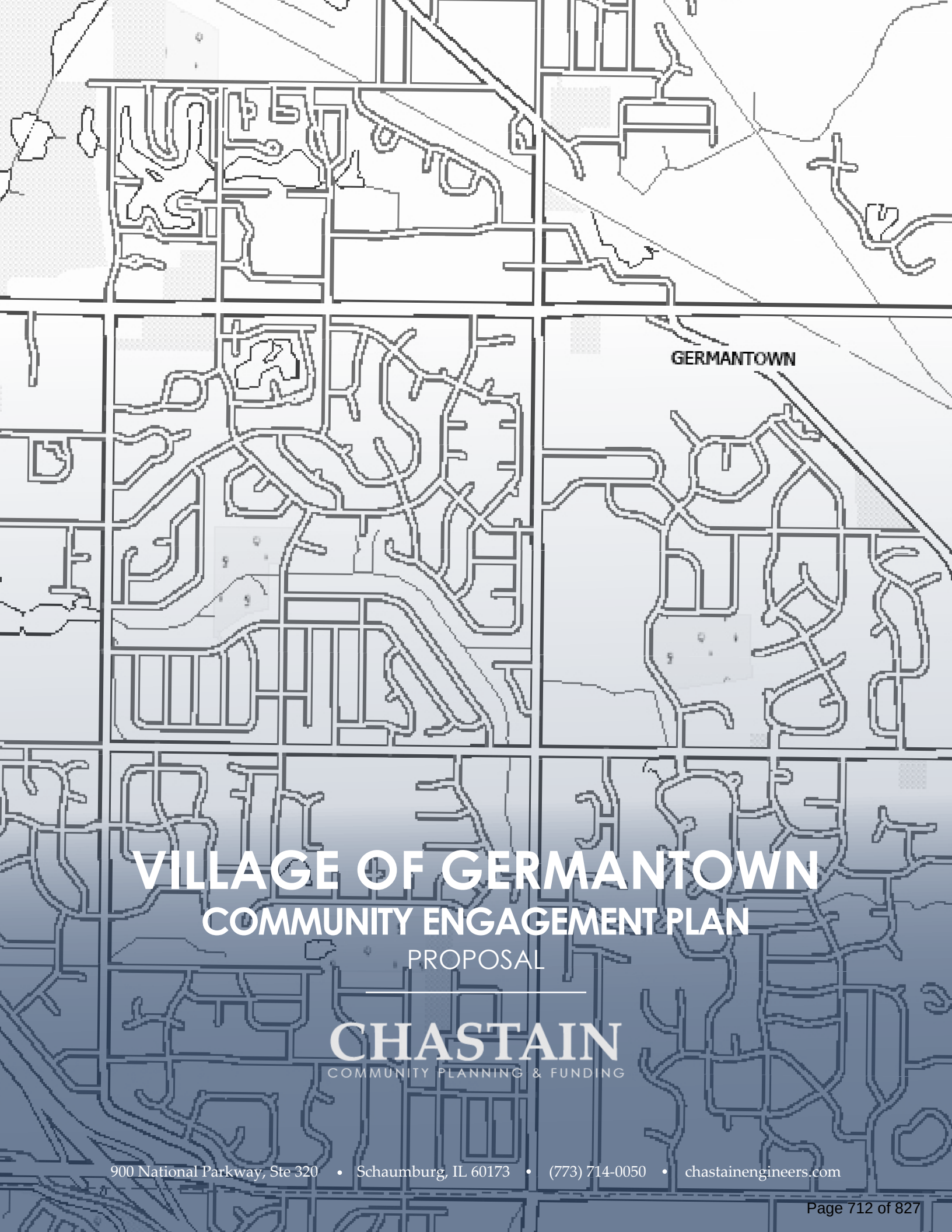
Exhibit B “Village Center District”: Main Street @ Fond du Lac Ave Re-Development Area & Village-Owned Parcel Map (Grosenick Property)

Exhibit A

"Village Center District"
Mequon @ Pilgrim Road Re-Development Area &
Village-Owned Parcel Map

Exhibit B

"Village Center District"
Main Street @ Fond du Lac Ave/STH145 Re-Development Area & Village-Owned Parcel Map



VILLAGE OF GERMANTOWN

COMMUNITY ENGAGEMENT PLAN

PROPOSAL

CHASTAIN
COMMUNITY PLANNING & FUNDING

900 National Parkway, Ste 320 • Schaumburg, IL 60173 • (773) 714-0050 • chastainengineers.com

November 21, 2025

Steve Kreklow
Village Administrator
N112 W17001 Mequon Road
Germantown, WI 53022

RE: Village of Germantown Community Engagement Plan

Dear Steve,

We are excited to submit a proposal for your community engagement plan to help envision the future of the Village owned properties in the Village Center District. We understand that the Village is entering this process with intention and care, mindful of both the opportunities these sites present and the sensitivities shaped by the planning efforts conducted in early 2025. The public response to earlier high-density, mixed-use concepts underscores the importance of building trust, creating clarity, and ensuring that residents' voices meaningfully guide the next phase of decision-making.

Our project approach is designed to meet Germantown as it is positioned today. This engagement effort provides an opportunity to reset the conversation, establish a tone of transparency and collaboration, and invite residents into a process that feels open, authentic, and grounded in shared understanding. We also understand the importance of aligning this project with the current comprehensive plan, highlighting a continuous, collaborative and comprehensive approach to planning the future of the Village.

Chastain's philosophy is rooted in the belief that great engagement doesn't happen by chance; it happens by design. Our team excels at crafting clear, consistent messaging, creating accessible visuals, and developing surveys and activities that encourage meaningful participation rather than passive feedback. The engagement plan for Germantown includes a mix of tools — online visual surveys, focus groups, department interviews, pop-up events, and a hands-on, interactive design charrette — each selected to foster dialogue, build momentum, and help residents see how their input shapes real outcomes. Every touchpoint reinforces the message that the Village is listening and committed to an open, collaborative process.

This project will be managed by Stephanie Brown, AICP, with day-to-day coordination and engagement facilitation led by Sophie Parr. Together, we bring deep experience in guiding communities through complex, and at times contentious, redevelopment discussions. Our goal is to translate the values and priorities of Germantown residents into a clear, shared direction — one that is feasible, visually grounded, and aligned with the identity and aspirations of the Village Center.

We would be honored to support the Village during this important chapter and to help create a pathway forward that feels authentic, community-driven, and rooted in trust. Please feel free to contact me with any questions or to discuss the proposal further.

Sincerely,

Stephanie E. Brown, AICP
Associate
Department of Community Planning and Funding
Chastain & Associates, LLC
sbrown@chastainengineers.com
(618) 889-5592

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CHASTAIN

WHO WE ARE

At Chastain, our Community Planning & Funding team helps municipalities and counties shape futures that reflect community vision while staying rooted in actionable, data-driven strategies. We specialize in comprehensive plans, outdoor recreation planning, zoning review, land use analyses, and funding strategies that combine technical expertise with clear, engaging communication. We are also a full-service engineering firm, giving us the ability to bring our clients' plans to life.

WHY WORK WITH US

Our approach blends rigorous analysis with creative outreach. We design maps, dashboards, info-graphics, and branded engagement campaigns that make the planning process accessible and energize public participation.

We also understand the realities of implementation. From funding strategies and grant support to step-by-step road maps, we ensure communities can move seamlessly from vision to action.

Equally important, we build lasting client relationships. We remain a trusted resource long after adoption, offering technical expertise, creative problem-solving, and ongoing guidance as communities grow and evolve past the plans.

OUR CORE VALUES

- **AUTHENTICITY**
  We Do What We Say.
- **EXCELLENCE**
  We Do What It Takes.
- **INTEGRITY**
  We Operate With Integrity.
- **WILLINGNESS**
  We Have An Outward Mindset

OUR SERVICES

- COMMUNITY PLANNING & FUNDING
- MUNICIPAL ENGINEERING
- TRANSPORTATION ENGINEERING
- STRUCTURAL ENGINEERING
- CONSTRUCTION ENGINEERING
- LAND DEVELOPMENT
- SURVEYING
- LAND ACQUISITION
- GRANT WRITING

OUR EXPERTISE

- Comprehensive Plans
- Outdoor Recreation Plans
- Engagement Campaigns
- Community Identity Branding
- Implementation Plans
- Downtown Revitalization
- Historic Preservation
- Zoning and Policy Review
- Transit Planning
- Bike, Ped and Trails
- Strategic Planning
- Grant Writing
- Grant Administration
- Relationship Building

Our team of urban planners has worked across Illinois and Wisconsin in both urban and rural communities and brings over 25 years of combined experience.

$40 MILLION of grants & low-interest loans (in the last 5 years) *secured to offset public infrastructure costs*

Decatur, IL | Schaumburg, IL | Rockford, IL | Paris, IL | Lafayette, IN | Metropolis, IL

WHO YOU'LL BE WORKING WITH

Chastain & Associates has assembled a focused two-person planning team for this engagement effort. This structure ensures efficiency, consistency, and clear lines of communication while providing the Village with experienced staff who are deeply involved in every task — from early messaging development to final report delivery.

Stephanie Brown, AICP
Associate

Stephanie Brown, AICP, leads the team with a 16-year history of planning, starting with as a planner with the City of Decatur. While with the city she led general planning efforts and helped to spearhead the growth the city's Historic Preservation advocacy. Moving from the public sector to the private sector, Stephanie consulted with MSA Professional Services before becoming an associate with Chastain. She has led the successful completion of over 20 comprehensive plans, downtown revitalization and streetscape programs, and parks and recreation plans and studies as well as secured over $25 million in municipal funding to support planning projects.

Sophie Parr
Urban Planner

Sophie Parr brings nine years of planning experience with a strong emphasis on parks, recreation, transportation, and community-focused engagement. Her background includes planning as well as specific communications work at a public relations firm, where she supported both employee engagement and external client communications, experience that now informs her ability to craft clear messaging, design accessible materials, and facilitate conversations that build trust and understanding.

She previously led the Planning Department at the Duluth Transit Authority and later launched her own freelance planning practice, Civic 4, LLC. Over the past five years, Sophie has worked primarily throughout rural Wisconsin, especially in Lake Michigan tourism communities, where housing, seasonal population patterns, and economic development have been central challenges and opportunities for growth.

Her work across Wisconsin communities has strengthened her ability to translate local priorities into clear, visually compelling planning tools that resonate with residents, seasonal visitors, and year-round stakeholders. Sophie joined Chastain in 2024 and has since supported the firm's growing planning practice while continuing to bring a Wisconsin-centered perspective rooted in regional context, small-town character, and community identity.

CAPACITIES

Both Stephanie and Sophie have flexible availability that extends beyond traditional business hours. Community engagement often requires evenings, weekends, and coordination around residents' schedules, especially for a project with heightened interest and sensitivity. Our team is fully prepared for this.

Sophie, in particular, routinely facilitates public events outside standard hours in Wisconsin communities, including seasonal towns with nontraditional engagement patterns. The team is structured to be responsive and present whenever the Village determines public participation will be strongest.

PROJECT APPROACH

The Village of Germantown is seeking to do something more than just collect input, it wants to build ownership around the future of its "Village Center District." The three Village-owned properties, Flower Source, Ascension, and Grosenick, represent a once-in-a-generation opportunity to shape a vibrant, people-oriented heart for Germantown that reflects local identity and balances small-town character with thoughtful reinvestment.

Our understanding is that this engagement process must:

- Spark community curiosity and imagination around what these sites could become.
- Provide clear, actionable feedback that ties directly into future land use, design guidelines, and zoning recommendations.
- Build trust by showing the Village is listening and responsive, not just gathering input.
- Reach beyond "the usual voices" by engaging residents, property owners, and business owners in accessible, inviting, and even playful ways.

This isn't just about land use, it's about identity, connectivity, and belonging. We see our role as crafting a narrative and experience that makes residents feel, "This is my Village and I get to help shape it."

ADVANCING THE VILLAGE CENTER VISION

Building on the 2050 Comprehensive Plan

The Village of Germantown's 2050 Comprehensive Plan set a clear foundation for this project by identifying the importance of developing a Village Center, District an area of Germantown that acts as the "heart" of the community. The Plan recognized that while Germantown is well-established as a strong residential and employment hub, it lacks a cohesive, identifiable center that brings people together to live, gather, and connect.

> ***Straight from the comprehensive plan...***
> "The village should invest in a town center. A combination of shops, restaurants, green space with trails, nicer town homes and public spaces. Carve out an area along Mequon, Main or some other area of undeveloped land closer to the interstate? ***Right now there is no heart of Germantown."***

Our team views this community engagement process as the next chapter in the Germantown Village Center story. An opportunity to focus on a specific area as a next step of the comprehensive planning process and bring to life the ideas and concepts residents desire. The Comprehensive Plan established the "why", the importance of walkable, connected, and vibrant destinations. This engagement process will define the "how", shaping the design principles, development regulations, and identity that bring the Plan's vision to life.

We will synthesize existing community input and design direction from the Comprehensive Plan, ensuring residents see continuity between what they shared before and the new conversations ahead. Specifically, our engagement will:

- **Start with Familiarity:** Reference the vision and community voices already captured in the Comprehensive Plan, acknowledging that this process is building on their earlier input, not restarting it.
- **Refine the Vision for Specific Sites:** Translate the Plan's broad Village Center concepts into concrete design preferences for the three Village-owned parcels (Flower Source, Ascension, and Grosenick).
- **Validate and Expand Community Priorities:** Revisit the ideas of "walkability," "place-making," and "connectivity" with new tools — visual preference surveys, concept design exercises, and pop-up engagement stations that help residents see, touch, and shape what the Village Center can become.
- **Tie Engagement Directly to Implementation:** Frame every conversation around how the feedback will influence future design guidelines, development standards, and partnerships.

COMMUNITY ENGAGEMENT PLAN

We believe great engagement doesn't happen by chance; it happens by design. Our team excels at setting the stage for success, crafting key messages, designing visuals that make complex ideas simple, and developing surveys and activities that invite meaningful feedback rather than passive participation. Every detail, from the tone of the first press release to the layout of the final outcomes report, will reinforce the message that the Village is proactive, transparent, and deeply committed to collaboration.

Throughout this process, our priority is to build trust and confidence in the Village's leadership. We want residents to see that their voices are valued, that the Village listens and follows through, and that this process reflects a genuine commitment to the community. Our work is designed to help residents believe in the vision and in the people leading it.

The following Community Engagement Plan outlines the tools, methods, and touch-points we will use to deliver on this promise. Each activity is designed not only to gather feedback but to build momentum, trust, and excitement, turning community input into shared ownership of Germantown's future.

KEY MESSAGING & COMMUNICATION FRAMEWORK

The first step in our engagement process will be to develop a clear, unified set of key messages that define how the Village and project team talk about this effort. We want to ensure that everyone, from Village officials to residents, is speaking the same language. We greatly value spending time understanding how to speak about the project because it can help garner buy-in, understanding and support in the long term.

We will work with Village staff to craft messaging that explains the purpose of the project, outlines the desired outcomes, and helps residents understand why this process matters and how they can contribute. These messages will guide every form of communication, from website copy and press releases to social media posts, surveys, and public meeting materials, creating a cohesive story across all channels.

Our focus will be on messages that:

- **Build trust** in the Village's leadership by showing transparency, responsiveness, and collaboration.
- **Clarify the purpose and scope** of the project, why the Village is focusing on these three properties and how it connects to the 2050 Comprehensive Plan.
- **Empower participation** by explaining how resident feedback will directly shape the next phase of planning and design.
- **Ensure alignment** among Village officials, staff, and partners so that everyone communicates with one consistent voice.

ENGAGEMENT PLAN DEVELOPMENT

Chastain will work closely with Village officials and staff to collaboratively define the goals, priorities, and desired outcomes for the community engagement process. Our approach begins with a facilitated kickoff meeting to identify project expectations, available resources, and key audiences. From these discussions, we will develop a customized engagement program designed to build understanding, generate meaningful dialogue, and ensure broad participation from Germantown residents, businesses, and stakeholders.

Our engagement philosophy centers on creating accessible and interactive opportunities for community input. We will design activities that meet people where they are, both physically and digitally, to encourage participation from all segments of the community.

ENGAGEMENT TOOLKIT

Our engagement toolkit functions as a flexible menu of options that can be customized to fit Germantown's needs. From hands-on workshops and pop-up events to online mapping and visual preference surveys, each tool is selected to foster meaningful, two-way dialogue. This menu-based approach allows the Village to mix and match interactive, in-person, and digital methods, ensuring that engagement is inclusive, accessible, and tailored to the unique context of the project and audience.

ONLINE SURVEY

An online survey is a great tool for providing people with an opportunity to get involved on their own time. For any online survey we launch we will utilize Survey Monkey which allows us to ask questions with imagery, gaining feedback on things like: What types of development fit the character of Germantown? Or what building scale feels appropriate for the Village Center?

QUESTION EXAMPLE:

1. What building scale is appropriate for development within the Village Center?

_____

- ☐ **A - Single-story, small scale with a focus on retail and commercial**
- ☐ **B - Two-story, small scale with mixed commercial and residential uses**
- ☐ **C - Multi-story, medium scale with mixed commercial and residential uses**
- ☐ **D - Multi-story, large scale with mixed commercial and residential uses**

FOCUS GROUPS

Meeting with targeted stakeholder groups is a valuable way to explore viable paths forward for each redevelopment site. These small-group discussions will bring together property owners, nearby business representatives, real estate professionals, developers, and economic development partners to identify opportunities, constraints, and desired outcomes. We can also meet with community and civic organizations that can help clarify local priorities, such as housing diversity, downtown vitality, or public gathering spaces, to ensure that redevelopment concepts reflect both market realities and community values.

COMPREHENSIVE PLAN STEERING COMMITTEE

This project is an outcome of the Comprehensive Plan and we believe it could be beneficial to meet with the original comprehensive plan steering committee to hear more about how the Village Center identity and needs came to life in the plan. This ensures alignment and consistency in Germantown's planning efforts.

DEPARTMENT & LEADERSHIP INTERVIEWS

We encourage meeting with Village leadership and department heads to discuss what is actually possible for each property. These discussions will help identify zoning or code changes that may be necessary, infrastructure or site readiness considerations, and opportunities for public investment or incentives to attract developers. By engaging staff early, we can understand the Village's capacity to support redevelopment, identify barriers to implementation, and outline actionable steps to make the sites market-ready.

DESIGN CHARRETTE

A design charrette can explore future redevelopment opportunities for the identified Village-owned properties. The charrette process combines hands-on participation, real-time design, and community dialogue to shape concepts that reflect both the Village's goals and public aspirations.

Preparation and Framing

The charrette process begins with a meeting with Village staff to confirm key objectives, available site data, and known development constraints or opportunities. We will prepare base maps, preliminary site information, and engagement materials to ensure participants can focus on creative exploration rather than data gathering.

Community Design Workshop

The public-facing portion of the charrette includes facilitated mapping and sketching exercises, visual preference activities, and interactive discussion stations. Participants will work alongside the consultant team to identify design priorities, such as building scale, access and circulation, public spaces, and preferred uses.

Visual Concept Development

The feedback being collected throughout the workshop will get synthesized and translated into preliminary concept illustrations for each site. Throughout the charrette, participants will be able to view concepts as they evolve and provide immediate feedback.

Presentation and Refinement

The charrette concludes with a public presentation or open house summarizing the outcomes and showing alternative concept options. Feedback gathered during this session will inform refinements and the preparation of final redevelopment concept plans.

Summary Report

Following the charrette, Chastain prepares a concise summary of key findings, visual concepts, and recommended next steps to guide the Village in advancing redevelopment discussions.

ADDITIONAL ENGAGEMENT TOOLS

Pop Up Events: Small, mobile engagement stations set up at farmers markets, concerts, or community events to gather quick feedback and raise awareness about redevelopment efforts.

Property Walks: Guided tours with residents, business owners, and Village officials to discuss site opportunities, challenges, and ideas directly on the ground.

Idea Wall or Comment Boards: Simple, high-visibility installations in Village Hall, the library, or downtown where residents can leave notes, sketches, or ideas.

WORK PLAN

Our work plan is designed around a three-month project timeline, as noted in the RFP, and includes recommended engagement activities. We want to emphasize that we will work with the Village to finalize a work-plan and ensure the engagement activities meet the anticipated needs and desired outcomes as we begin to map out the process when the project kicks off.

PHASE 1: KICK-OFF, KEY MESSAGING, AND PLAN DEVELOPMENT

Phase 1 will focus on building a solid understanding of the desired outcomes of the community engagement by reviewing feedback that has already been collected by the Village, the previous engagement process from early 2025 and the recently updated Comprehensive Plan. Developing this base knowledge of the properties and the history around why we are conducting engagement will help us establish clear and consistent messaging for residents, property owners and stakeholders.

TIMEFRAME: January 2026

TASK 1.1: Project Kick-Off

We will begin with a project kick-off meeting to confirm expectations, outline the timeline, and ensure alignment between Village staff and the consultant team. This step establishes a shared foundation for a smooth and collaborative process.

TASK 1.2: Review Past Engagement Results & Property Histories

We will review and synthesize past engagement processes, outcomes, and property histories to develop a base understanding as to how to best engage and discuss the project. This will also help avoid duplication or redundancy in how we collect feedback.

TASK 1.3: Develop Key Messaging, Marketing and Communications

Working with staff, we will create a cohesive communications packet that includes key messaging about the goals, outcomes and process of the project, marketing materials for promoting events, and items such as press releases and social media posts so the Village can be equipped and proactive in communicating with the public.

TASK 1.4: Finalize Engagement Plan

Using this work plan as a baseline, we will finalize an engagement plan that the Village is confident in. This will not only include a schedule of events but also developing an online survey with an emphasis on visual elements related to character, scale and aesthetic when planning for development.

PHASE 2: PUBLIC ENGAGEMENT

Phase 2 will center on the engagement process and ensuring proper feedback and insights are collected to help inform plans for the future of the development sites based on community input.

TIMEFRAME: January - April 2026

TASK 2.1: Launch Online Survey

Chastain will create an online survey that uses imagery and visual choice exercises to help residents share what design character and development types feel right for Germantown. The survey will be transparent, balanced, and easy to understand, focused on listening to residents rather than steering them toward a predetermined outcome. The results will establish a clear picture of community values to guide next steps in the redevelopment process.

TASK 2.2: Department Interviews

We will engage directly with key stakeholders through interviews and focus groups. This will include interviews with staff and department heads about opportunities for development from the Village's perspective. These conversations will provide deeper insights into specific issues or opportunities, including utility or infrastructure needs, and incentive options for developers. These conversations will help us guide future conversations with the public.

TASK 2.3: Focus Groups

Given the history and sensitivities surrounding prior redevelopment discussion and engagement efforts, our engagement strategy includes focused small-group discussions with key stakeholder audiences. These conversations will help the Village understand the full range of perspectives and build a foundation for a more unified path forward. We anticipate at least four focus groups with: property owners; real estate or development groups; nearby residents; and civic or community groups (i.e. Chamber of Commerce & Comprehensive Plan Steering Committee).

TASK 2.4: Design Charrette

Chastain will lead a collaborative design charrette to engage community members in shaping redevelopment concepts for the Village-owned properties. Through interactive mapping, discussion, and visualization, participants will help identify priorities and development directions that reflect both community values and practical feasibility.

TASK 2.5: Pop Up Events

As the community's events schedule allows, we will plan for two pop-up events where we set up a table and have maps and markers for people to share ideas and thoughts about development on the three properties.

PHASE 3: REPORT PREPARATION AND PRESENTATION

Following completion of the engagement activities, Chastain will prepare a clear, concise, and visually engaging report summarizing all feedback received throughout the process. The report will blend qualitative and quantitative insights, supported by color maps, graphics, and illustrative visuals to make the findings easy to understand for Village officials, staff, and the public. Emphasis will be placed on accurately reflecting community preferences gathered through design-based and visual exercises, ensuring results are transparent and unbiased. The report will outline key themes, recommendations, and preferred development directions for each Village-owned property, including up to four concept iterations per site derived from community input. A draft report will be reviewed with staff for feedback before a final version is presented to the Village Board at a public meeting.

TIMEFRAME: April 2026

ENSURING COMPREHENSIVE REACH

To reach silent supporters and objectors, our engagement strategy deliberately prioritizes low-pressure, anonymous, and easily accessible participation opportunities. Through visual online surveys, casual pop-up events, small-group focus discussions, trusted community networks, and multiple non-verbal feedback tools, we ensure that residents who may not feel comfortable speaking publicly can still share meaningful input. By meeting people in everyday places, providing flexible scheduling, and using clear, transparent messaging, we create an environment where silent voices feel safe, informed, and empowered to participate, ensuring the Village hears from the full range of community perspectives, not only the most vocal.

SCHEDULE

The proposed four-month schedule represents a short turnaround given the depth of engagement, coordination, and deliverables outlined in the RFP. Based on our experience with similar community engagement projects, this timeframe will require a focused and well-structured approach. We will work closely with Village staff to refine dates and adjust the schedule as needed to ensure a thorough, high-quality process that meets the Village's expectations.

		WEEKS															
PHASE 1																	
#	**TASK**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1.1	**Project Kick-Off**																
1.2	**Review Past Engagement Results & Property Histories**																
1.3	**Develop Key Messaging, Marketing and Communications**																
1.4	**Finalize Engagement Plan**																
PHASE 2																	
2.1	**Launch Online Survey**																
2.2	**Department Interviews**																
2.3	**Focus Groups**																
2.4	**Design Charrette**																
2.5	**Pop Up Events**																
PHASE 3																	
3.1	**Report Preparation & Presentation**																

PROJECT MANAGEMENT

Stephanie Brown, AICP will serve as the Project Manager, overseeing all phases of the Community Engagement Plan. She will coordinate regularly with Village staff to keep the process on schedule, maintain quality control, and ensure alignment with the Village's expectations. Sophie Parr will serve as a day-to-day point of contact, managing scheduling, and document coordination. Sophie will also lead all focus groups and design charrettes. While she currently resides in Illinois, Sophie is fortunate to have family in both Madison and Door County which allows her to have better in-person access to clients in Wisconsin.

If the Village utilizes a web-based collaboration platform, our team will seamlessly integrate into that system. Otherwise, we will establish a dedicated Microsoft Teams channel to share files, review materials, and facilitate clear communication between our team and Village staff. Chastain & Associates will manage all project administration, billing, and accounting with accuracy and transparency. Our dedicated administrative staff ensures timely invoicing and responsive coordination throughout the duration of the project.

STEPHANIE BROWN, AICP

Associate

Stephanie has a deep understanding of how to connect with people and empower them to take ownership in tailoring their towns. She uses a holistic approach to planning and design, emphasizing historic preservation and quality of life.

Stephanie has practiced as an urban planner for the last eighteen years in both the private and public sectors. She has led multiple successful downtown plans including to lead and manage a $14M overhaul the downtown streetscape while at the City of Decatur; to design a public plaza to activate Downtown Marion; and to design a new streetscape for Downtown Murphysboro.

PROJECT EXPERIENCE

Comprehensive Plan & Zoning Code Update
Effingham, Illinois

Comprehensive Plan
Byron, Illinois

Downtown Revitalization Plan
Marion, Illinois

Downtown Revitalization Plan
Murphysboro, Illinois

Comprehensive Plan
Marshall, Illinois

Comprehensive Plan
Paris, IL

GRANTS & FUNDING

Illinois Transportation Enhancement Program - $5.7M
Safe Routes to School - $1.7M
Community Project Funding - $2.3M

WORK EXPERIENCE

Urban Planner, City of Decatur
Decatur, Illinois

Urban Planner, MSA Professional Services
Champaign, Illinois

HOMETOWN

Marion, Illinois

EDUCATION

MA Urban and Regional Planning
University of Illinois, 2007

BS Geography
Augustana, 2005

CERTIFICATIONS

American Institute of Certified Planners

ORGANIZATIONS

American Planning Association
Illinois Chapter, President

SKILLS

GIS
Adobe InDesign, Illustrator

OFF THE RECORD

I live in Rural Central Illinois and am happily married to Farmer Brown. Mother of 3 adorably active children and two spunky dogs -- Bobwhite and Lima. I thoroughly enjoy working out, playing volleyball, interior decorating and home improving, organizing, puns, and making delicious meals to share with my family and friends.

CHASTAIN

SOPHIE PARR

urban planner

Sophie is passionate about asking the right questions to uncover community needs and desires, and translating them into clear, visually compelling communication that guides actionable planning outcomes.

Sophie has been practicing planning for nine years throughout Minnesota, Wisconsin and Illinois. She has experience in both the public and private sectors including state and regional governments. She is skilled at bringing to life data and feedback from communities through maps and visuals. She has created multiple successful marketing campaigns for comprehensive plans as well as worked with communities to develop policies or zoning updates to reflect goals and objectives from planning processes.

PROJECT EXPERIENCE

Comprehensive Plan & Zoning Code Update
Effingham, Illinois

Comprehensive Plan
Byron, Illinois

Experience Prior to Chastain:
Comprehensive Plan, Outdoor Recreation Plan & Zoning Review
Village of Egg Harbor, Wisconsin

Economic Development Plan
Village of Siren, Wisconsin

GRANTS & FUNDING

Transit & Transportation Federal Funding - $1.7M
Parks and Recreation Funding - $900K
Congestion Mitigation Air Quality Act - $55k
Community Development Block Grant - $25k

WORK EXPERIENCE

Owner, Urban Planner, Civic 4, LLC
Remote

Project Specialist, Wisconsin Department of Natural Resources - Parks
Madison, Wisconsin

Director of Planning and Grants, Duluth Transit Authority
Duluth, Minnesota

HOMETOWN

Elmhurst, Illinois

EDUCATION

BA Business Management
Purdue University, 2010

MUPP Urban Planning & Policy
University of Illinois at Chicago, 2015

ORGANIZATIONS

American Planning Association
Preserve Elmhurst, Housing Advocacy

SKILLS

GIS, Map Design
Adobe InDesign, Illustrator

OFF THE RECORD

When I'm not working, you can usually find me in Door County — hiking, exploring small towns, or sitting by the water with a sketchbook in hand. I love turning places into art, whether it's a detailed hand-drawn map or a quick sketch over a cup of coffee. Creating these illustrations keeps me connected to the character and nuances of the communities I work with, and it's one of the ways I stay inspired.

CHASTAIN

COST PROPOSAL

The following budget reflects the anticipated costs associated with the community engagement scope as currently proposed. These figures align with the activities, deliverables, and level of effort outlined in the accompanying work plan. All costs are fully negotiable. We understand that needs may shift throughout the project, and we are committed to working with the Village to add, remove, or modify tasks to ensure the project stays aligned with your goals and budget.

ITEM DESCRIPTION	Billing	Hours	BROWN	PARR	ADMIN
COMMUNICATION & MANAGEMENT					
Administration & Management	$1,659.97	12	4	4	4
Staff Meetings	$1,888.59	12	4	8	0
Communication	$2,179.30	14	4	10	0
Total - Communication & Management	$10,500.00	64	40	12	12
COMMUNITY ENGAGEMENT					
Key Messaging & Communication Materials	$4,358.59	28	8	20	0
Survey Development, Analysis & Report	$4,940.01	32	8	24	0
Focus Groups (4)	$6,247.18	40	12	28	0
Interviews/Stakeholder Meetings (8)	$3,777.18	24	8	16	0
Design Charrette (1)	$5,664.76	35	16	19	0
Pop Up Events (2)	$4,576.12	29	10	19	0
Total - Community Engagement	$29,563.84	188	62	126	0
REPORT DEVELOPMENT & PRESENTATION					
Draft Final Report	$7,410.01	48	12	36	0
Revisions	$1,888.59	12	4	8	0
Final Report & Presentation	$2,179.30	14	4	10	0
Total - Report Development & Presentation	$11,477.90	74	20	54	0
DIRECT COSTS					
Travel (Anticipated Mileage)	$2,559.40	300			
PROJECT TOTAL	$49,329.00				

PROFESSIONAL HOURLY RATES

To support transparency, we have included the hourly rates for our two primary team members assigned to this project. Should additional services be needed, these rates will apply:

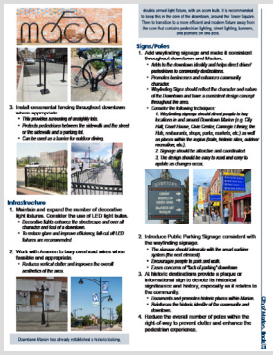
Sophia Parr (Project Lead): $150/hour

Stephanie Brown: $180/hour

These rates apply to all professional services, including preparation time, content development, analysis, meeting facilitation, event staffing, design, and administrative coordination.

REVITALIZATION OF DOWNTOWN MARION

MARION, ILLINOIS (2020)



The Marion Downtown Plan was created to guide improvements to the city's central district, focusing on beautification, walkability, and the overall experience of the downtown corridor. Chastain examined existing conditions, engaged the public, and developed concepts to enhance streetscapes, activate public spaces, and support year-round vibrancy. It serves as both a vision and a practical framework for future design and investment.

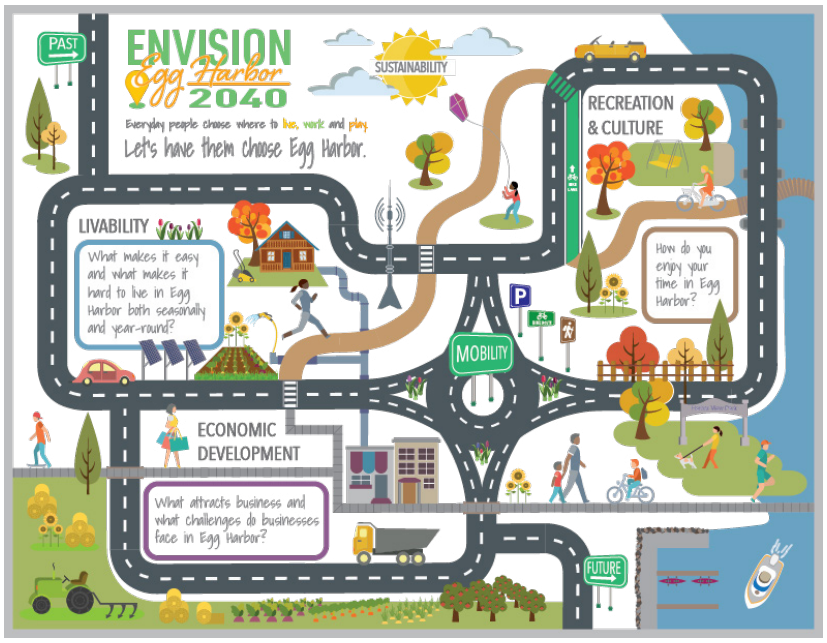
This plan shows how a simple, well-structured community engagement process can shape a cohesive vision for the redesign of key village properties. Through one-on-one stakeholder conversations, a public open house, and opportunities for residents to react directly to early design concepts, the community helped define what they want these spaces to look and feel like.

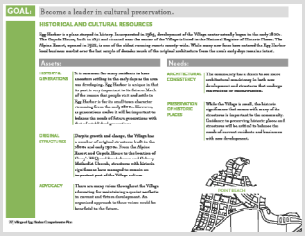
People consistently asked for improvements that make the corridor welcoming, beautiful, and comfortable. They emphasized landscaping, lighting, signage, and cleaner, more coordinated aesthetics. Walkability and safety came up repeatedly, wider sidewalks, more visible crosswalks, better ADA access, traffic-calming, and upgrades to aging pavement and alleyways. Residents also responded strongly to ideas that bring life and activity into the district, such as flexible plazas, shaded seating areas, enhanced alleys, and seasonal features that support events year-round.

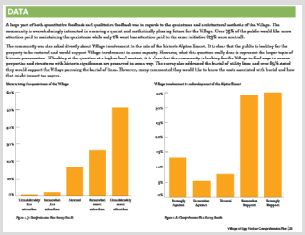
These conversations shaped a design direction that blends identity and functionality: greener streets, consistent materials and furnishings, safer crossings, activated alleys, and public spaces that can shift between everyday use and community events. The result is a corridor framework rooted in community guidance, one that strengthens sense of place, improves the pedestrian experience, and sets the stage for long-term investment and vibrancy.

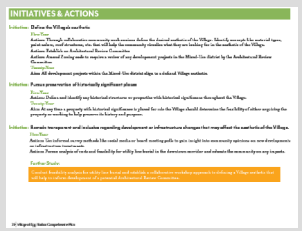
ENGAGING AN OUTSPOKEN COMMUNITY

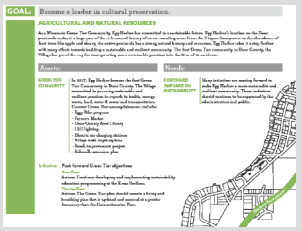
EGG HARBOR, WISCONSIN (2020-2023)











The Village of Egg Harbor's Comprehensive Plan focused on shaping future growth while protecting the small-town character that defines the community. The Village worked with Sophie Parr to conduct extensive community engagement using a combination of resident and tourist surveys, pop-up engagement events, and listening sessions, the plan gathered diverse perspectives on how the village should evolve and what qualities must be preserved as development continues.

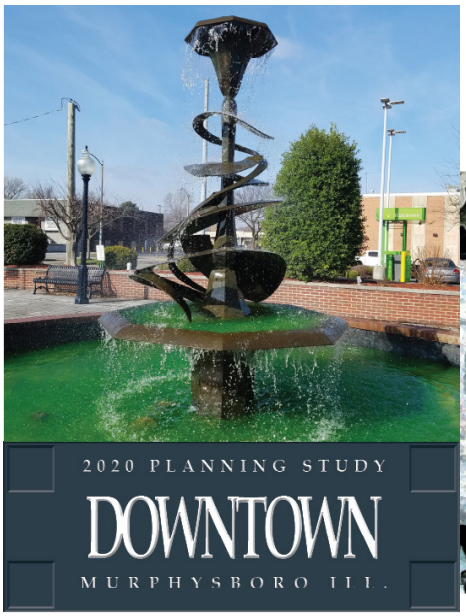
Across all engagement activities, people consistently emphasized the importance of maintaining Egg Harbor's charm, the scale of buildings, the sense of place, and the cohesive aesthetic that makes the village feel intimate and welcoming. Residents wanted new development to fit within that character. This desire for thoughtful design became one of the strongest themes of the entire planning process.

One of the most meaningful discussions centered on whether the community would support burying utility lines during the upcoming highway reconstruction. People saw it as a once-in-a-generation opportunity to protect the village's visual identity and significantly improve the aesthetics of the corridor.

Three years after the plan's adoption, Sophie Parr returned to Egg Harbor to help facilitate public meetings specifically about the utility burial. Drawing on the earlier engagement, the survey data, the comments, the themes, we were able to show that this project directly reflected the community's original voice. The meetings were positive, future-focused, and ultimately helped the village move forward with confidence. Today, the utility lines have been buried, the corridor has been transformed, and Egg Harbor continues to uphold the charming, cohesive aesthetic that residents and visitors said mattered most.

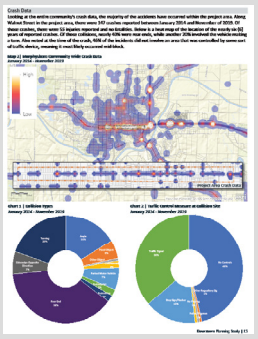
A COMMUNITY BUILT CORRIDOR

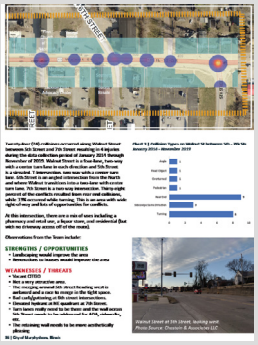
MURPHYSBORO, ILLINOIS (2020)

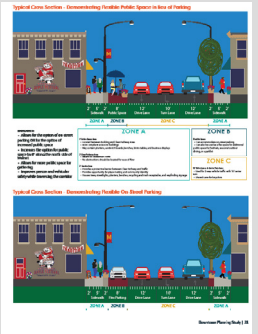


The Murphysboro Paving Brick Co. began in 1909 and produced as many as a quarter-million bricks daily until the plant closed in 1931. These bricks were used to surface streets across Southern Illinois communities. As the plant grew, the bricks also paved streets in Arkansas, Colorado, Missouri, Mississippi, and Florida. They paved the Indianapolis Motor Speedway and the transcontinental Lincoln Highway. Most notably, however, the bricks went international as they were used in the construction of the Panama Canal.

Downtown Planning Study | 11







The Downtown Murphysboro Planning Study was developed to guide improvements along the Walnut Street corridor — a historic, heavily traveled route that connects key businesses, civic spaces, and neighborhoods. The goal was to enhance safety, walkability, and overall identity while positioning the City for future funding and phased implementation.

Because the project took place during COVID-19, community engagement relied on creative online tools, interactive surveys, and virtual walkabouts. Even with these limitations, participants were remarkably consistent in what they wanted: safer sidewalks and crossings, clearer ADA access, better lighting, reduced visual clutter, and streetscape upgrades that would restore the charm of the downtown core. The desire for more greenery, coordinated materials, and a more inviting pedestrian environment came through strongly.

These insights shaped a design framework focused on enhancing the experience for all users — from ADA-compliant sidewalks and traffic-calming measures to flexible public spaces, improved intersections, new lighting, and added landscaping. Each segment of Walnut Street, from residential areas to the historic downtown blocks, received context-specific recommendations to match its character.

The result is a practical, community-supported vision for a safer, more attractive Walnut Street corridor, giving Murphysboro a clear path forward to revitalize its downtown and strengthen its sense of place.

REFERENCES

City of Effingham

Chastain - Comprehensive Plan Update

Client Contact: Gregory L. Koester, P.L.S., City Planner/Subdivision Coordinator
(217) 342-5300, ext. 5348
gkoester@effinghamil.com

Village of Egg Harbor

Sophie Parr* - Comprehensive Plan Update & Comprehensive Outdoor Recreation Plan

Client Contact: John Heller, Village President
(920) 421-3811
jheller@villageofeggharbor.org

City of Byron

Chastain - Comprehensive Plan Community Engagement

Client Contact: Patricia Diduch, AICP
(815) 234-2762
patricia.diduch@cityofbyron.com

COMMUNITIES WE HAVE WORKED WITH

CURRENT ENGAGEMENT PROJECTS

Door County - Master Trails Plan
Grundy County - Comprehensive Plan

PAST CLIENTS

Egg Harbor, WI*
Sister Bay, WI*
Baileys Harbor, WI*
Siren, WI*
Fish Creek, WI*
Effingham, IL
Byron, IL
Paris, IL
Marshall, IL
Shabbona, IL
Waterman, IL
Casey, IL*
Eureka, IL*
Le Roy, IL&
Monticello, IL*
Tuscola, IL*

Annawan, IL*
Arcola, IL*
Clinton, IA*
Decatur, IL*
Marion, IL*
Murphysboro, IL*
Port Byron, IL*
Greenup, IL*
Martinsville, IL*
Neoga, IL*
Oakland, IL*

**** experience prior to joining Chastain***

THANK YOU!

CHASTAIN
COMMUNITY PLANNING & FUNDING

900 National Parkway, Ste 320
Schaumburg, IL 60173
(773) 714-0050
chastainengineers.com

Creating Community thru Collaborative Engagement

Village of Germantown Community Engagement Plan

Successful collaboration requires trust in the talent and vision of the community

Prepared by **Todd Streeter, Principal, Community Collaboration**

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"We are taking this entire concept and now we are applying it to government. So that to me speaks to the impact of how this Comp Plan has changed things.

– Fred Horne, Mayor, City of New Richmond, WI

Proposal Submission

Community Collaboration 's focused expertise is generating public participation on municipal improvement projects and comprehensive plans through its awarding winning engagement process. As former mayor and principal consultant, Todd Streeter is passionate about offering effective and purposeful public engagement designed to build community and civic relationships fostering continued collaboration for years to come.

Todd is also very familiar with the engagement requirements of the Village of Germantown RFP having conducted a very similar project for the Village of Pleasant Prairie, WI. See Featured Project for a more project information and engagement outcomes provided by linked videos and materials.

Proposal Contact

Todd Streeter: Principal Community Collaboration
Phone | 651.325.7642
Email | Todd@ InvolvementIsGood.com
Website | InvolvementIsGood.com
Address | 1940 Redwing Avenue South Lakeland, MN 55043

Proposal Cover

Project Photos: Photos include Village of Pleasant Prairie, WI (redevelopment) and City of New Richmond, WI (comprehensive plan) committee members engaged during regular committee meetings and community open house.

Letter of Interest

Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022

November 20, 2025

Board President, Board Members and Staff:

It is my pleasure to submit for your consideration this Project Proposal and Agreement for community engagement services pertaining to re-development opportunities of two Village re-development areas. This Proposal satisfies all RFP criteria while providing a number of interactive features demonstrating the qualifications and expertise available to successfully complete and deliver public engagement planning, process management, project lead facilitation, and culminating collective work deliverables.

As a former mayor, I am acutely aware of the importance of quality public engagement. From my 20+ years assisting municipalities, relying solely on passive engagement activities such as listening sessions and open house 'show and tell' of hired planner's work does not offer true engagement but merely 'feedback.' True engagement requires 'actively' engaging citizens over a span of several months from which they create the ideas, concepts and recommendations through their participation, research, and collective vision for their community's future.

The Working Committee™ Approach

For this reason I developed the Working Committee™ engagement process that has not only out-performed older engagement methods, it has raised significant pro-bono and grant funding for contracted projects. This is achieved through the dedication of citizens who participate in the Project's committee activities and final *Project Presentation*. This multi-month citizen-led process creates buy-in, community support, collective ownership, and even local funding. How is this possible? It's very simple: It's the community's hard work and their thoroughly vetted ideas, concepts and recommendations. They created it. They own it. And they want to see it become reality. Passive engagement activities can't produce this amount of long-lasting benefits.

Feature Project (Interactive Examples)

The best example of the Working Committee™ approach is the Village of Pleasant Prairie, WI *Village Green Center* master-planned redevelopment project of 180 acres. Our Kickoff presentation drew 155 citizens with 72 attendees signing up to participate at the event. You can view the project's Storybook for an overview of the entire process. Watch the Kickoff presentation and each of the committee's *Project Presentation* and view their slide deck from this safe link-friendly interactive Proposal. You can also view the City of New Richmond, WI video with council member's comments regarding their experience with the Working Committee™ process after their comprehensive plan update project.

I look forward to discussing the remaining portions of this Proposal and more details about this award winning process and its proposed implementation for the Village's two re-development projects.

Regards,

Todd Streeter

Todd Streeter, Principal
Community Collaboration

Project Understanding

The Village of Germantown seeks to hire a qualified consultant to lead the community through a thorough and innovative engagement process to determine opportunities, issues, needs, desires and related priorities pertaining to two separate redevelopment areas. The overall Project objective is to develop specific re-development plans for each separate area A and B, providing the Village direction for the development of design guidelines and development regulations.

<u>Project A:</u>
"Grosenick Property"
5.6 acres

<u>Project B:</u>
"Village Center District"
19.6 acres

Community Collaboration is experienced in planning, designing, managing and implementing comprehensive and purposeful community engagement processes on behalf of municipalities in Wisconsin and Minnesota. This includes develop of surveys, stakeholder *Project Kickoff* meetings, large and small group facilitation, project deliverables including final *Project Presentations* presented by Project subcommittees, and final Project File Portfolio.

Project Understanding

Improved Land (small office building)
.42 acres

Main St.

Project A:
"Grosenick Property"
5.6 acres

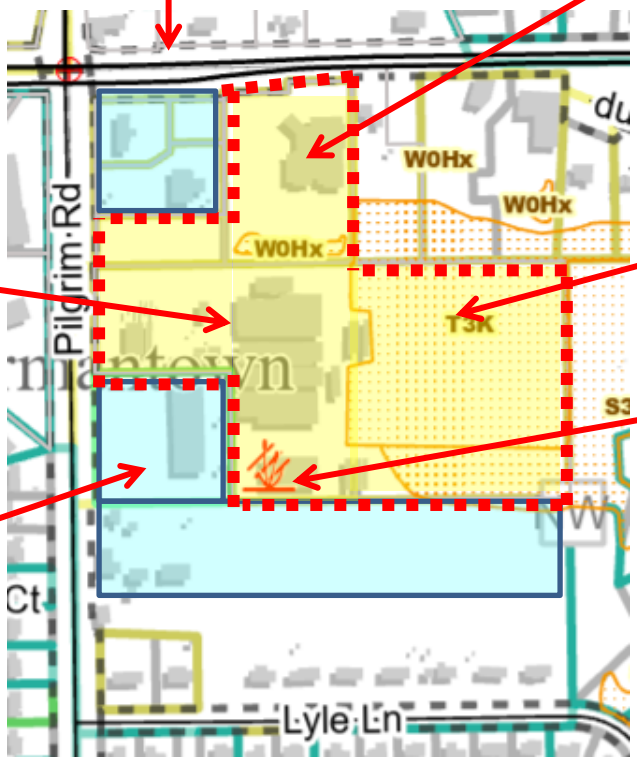
Fond du Lac Ave.

Undeveloped Land
5.2 acres

Mequon Road

Ascension Columbia-St. Mary's
4.6 acres

Project B:
"Village Center District"
19.6 acres



WI Wetland
Inventory (DNR)
Environmental
Corridor

Former Flower
Source Nursery
15 acres

Filled/Drained
Wetland

Desired "Village
Center District"
Future Expansion
(light blue areas)

Todd Streeter - Engagement Consultant

Principal, Community Collaboration

Community Collaboration specializes in relationship-building community engagement for large master planned development projects, comprehensive plans, and downtown revitalization initiatives. Todd Streeter's engagement approach includes his award winning Working Committee™ process that increases community participation, buy-in, ownership and local funding capacity. Todd's 20-years of community engagement leadership experience has assisted cities, counties, multi-governmental agencies, businesses, commercial property owners, nonprofit organizations, civic interest groups, and residents.

Professional and Civic Positions

- **Principal**, Community Collaboration
- **Mayor**, City of Lake St. Croix Beach
- **President/Executive Director**, Greater Stillwater Chamber of Commerce
- **Co-founder/Chair**, Lower St. Croix Valley Community Foundation
- **Board Member**, St. Croix Crossing Coalition
- **Board Member**, Stillwater/Oak Park Heights Convention and Visitors Bureau

Current and Recent Community Engagement Projects

- **City of Taylors Falls** (MN) – Comprehensive Plan | CAP Community Engagement | CAP Phase II
- **City of Beaver Dam** (WI) – Comprehensive Plan | CAP Community Engagement
- **Village of Somerset** (WI) – Comprehensive Plan | CAP Community Engagement
- **City of Pine City** (MN) – Comprehensive Plan | CAP Community Engagement
- **Metropolitan Airports Commission** (MN) – MSP International Airport Comprehensive Plan
- **Village of Pleasant Prairie** (WI) – 180 Acre Downtown Master Planned Development
- **Village of Turtle Lake** (WI) – Comprehensive Plan | CAP Community Engagement
- **City of New Richmond** (WI) – Comprehensive Plan | CAP Community Engagement (APA-WI Award)
- **City of Cambridge** (MN) – Downtown Revitalization
- **City of Stillwater** (MN) – Downtown Comprehensive Plan | Downtown Revitalization

Professional Presentations

- International City & County Management Association (ICMA) Annual Conference 2024
- American Planners Association (WI)– Annual Conference 2019
- Wisconsin City & County Management Association – Winter Conference 2019
- American Planners Association (MN)– Annual Conference 2016, 2017, 2018
- League of Wisconsin Municipalities – Annual Conference 2018
- Minnesota Metropolitan Council – City Planners Workshop 2017

Proven Success

The success of any community is rooted in the citizen's ownership of their collective future. And this belief is best exemplified by direct citizen involvement in this proven community engagement process.

A thorough and purposeful engagement process comprised of dedicated residents, business owners, and organizational leaders volunteering their time, talents and resources will create essential project participation, collective buy-in, community-wide ownership, and local funding potential.

Community-Led Projects Attract Funding

Stillwater, MN – More than $100,000 in sponsorships and pro bono professional services from four local architects are integrated into the community-driven Downtown Revitalization Committee's master plan.

Pine City, MN – Blandin Foundation awards Pine City a $50,000 grant just four months after the completion of the Community Action Plan™ project. This grant was awarded to the city due to the quality of the citizens' work and community improvement recommendations developed during the CAP | Comprehensive Plan project.

Pine City subcommittee presents their recommendations during the CAP project presentation

Recognition & Awards

The International City | County Management Association | BEST of IMCA 2024 Conference in Pittsburgh, PA

The Working Committee™ process was selected for ICMA's On-Demand membership training and AICP-CM certification.

American Planners Association (WI) | 2019 Planning Excellence Award for Engagement Innovation.

When the City of New Richmond, WI embarked on their comprehensive plan update, the city chose the traditional method of having a planning firm lead the engagement process. After two meetings staff, dissatisfied with the direction the process was taking, decided to cancel the process and seek a new approach to engaging the community.

> *"We wanted our citizens and businesses to develop their own ideas and solutions we can all collaborate on through to implementation. The old comp plan engagement methods didn't engage our community interests and resources to create actionable outcomes like this new approach," — Beth Thompson, Community Development Director.*

Watch Short Video

Click on this safe linked image to view short video of staff and council member comments about how the engagement process works.

Featured Project

180 Acre Redevelopment Project

Village of Pleasant Prairie, WI

The Village of Pleasant Prairie, WI (population 21,000) hired Community Collaboration to facilitate a citizen-led engagement process to identity opportunities to redevelop Village Green Center, a new downtown destination development on 180 acres of mostly village-owned undeveloped land .

The Village chose to use a new engagement process designed to let the community drive all aspects of the project's concept development allowing interested citizens to directly influence ongoing VGC development activities undertaken by the Village.

The project committee, Designing Downtown Pleasant Prairie, consisting of approximately 75 dedicated citizens collaborated for seven months, volunteering more than 1500 hours, to create a wide variety of development recommendations for Village Green Center, a new downtown destination development on 180 plus acres.

This group of dedicated volunteers identified opportunities, researched ideas, and developed concepts for housing options, commercial district, park and recreation amenities, and public and civic facilities. Other areas of focus included environment-friendly solutions, project marketing, and the downtown's aesthetics, character, branding and themes.

Project Subcommittees

Epicenter on the Prairie
A Place for Everyone
Village Marketplace
Earthly Relations
The Leisurely Life
Pleasantville
Arrive As You Wish
The Village Voice

Topic Focus

Civic Facilities & Amenities | Smart Community
Housing Options
Commercial Zones
Sustainable Development (land & structures)
Parks, Trails, Open Spaces and Recreation
Aesthetics, Branding and Themes
Vehicle & Personal Modal Infrastructure
Marketing and Promotion

View Project Storybook

View the entire engagement process step-by-step as the Designing Downtown Pleasant Prairie committee works through their initial ideas at meeting #1 to their open house and final community *Project Presentation*. View comments from Board Trustee members and open house and presentation attendees.

View Storybook Here

Feature Project

Watch Designing Downtown Pleasant Prairie Presentation Videos

To view any of the Designing Pleasant Prairie presentations, just click on the image or subcommittee. To view any of the presentation slide decks, click on 'View Slides.'

Welcome
Nathan Thiel
Village Administrator
(Approx. 5 min.)

Project Overview
Todd Streeter
(Approx. 8 min.)

Epicenter on the Prairie
(Civic Facilities & Amenities)
Melanie Neal
(Approx. 11 min.)

View Slides

Arrive As You Wish
(Vehicle & Personal Modal Infrastructure)
Brett Brandenburg
(Approx. 17 min.)

View Slides

Earthly Relations
(Sustainable Development - land & structures)
Tim Garland, Alyssa Whitmore
(Approx. 11 min.)

View Slides | View Site Plan

The Leisurely Life
(Parks, Trails, Open Spaces and Recreation)
Lisa Dretske
(Approx. 11 min.)

View Slides

Site Plan Team
(Traditional Site Plan Options)
Brock Williams
(Approx. 5 min.)

View Site Plans

Village Voice
(Marketing and Promotion)
Michelle Burnett
Ashleigh Henrichs
(Approx. 13 min.)

View Slides

A Place for Everyone
(Housing Options)
Juliane Nagel
(Approx. 9 min.)

View Slides

Village Market Place
(Commercial District)
Heather Wessling, Laura Shoemaker, Heather McKay
(Approx. 12 min.)

View Slides

Pleasantville
(Aesthetics, Branding and Themes)
Debbie Swift
(Approx. 11 min.)

View Slides

[Read Kenosha News Featured Story]

Project Comments

Committee Members

"It was really impressive to see how everything came together and to see all of our hard work over the last several months be received so well by the overall community."

"This is been a great experience & given the opportunity I would love to continue being involved with this project!!"

"Todd - Thank you for all of your time and hard work these past 7-8 months to assist the Village and our community with this project. I am very happy the Village decided to ask for your help to work with the community to design the new downtown. It's been an honor to work with you and be a part of this project. Thank you!"

Village Board & Staff

"I am honored to have been able to watch the process first hand."

- Dave Klimisch, President, Village of Pleasant Prairie Board

"It is incredible the way the Community Collaboration method engaged and activated the interest of our community. Citizens were truly empowered to participate and develop a vision for the Village Green Center. I am amazed the creativity and enthusiasm it sparked, and grateful for the relationships the process created."

- Nathan R. Thiel, Former Village Administrator, Village of Pleasant Prairie

“This entire Village Green Center Community Collaboration process has been an exciting grassroots community engagement effort. The participation that the Village received from the Designing Downtown Pleasant Prairie Committee and from Todd Streeter has been truly phenomenal."

- Thomas G. Shircel, Assistant Village Administrator, Village of Pleasant Prairie

"I am still in awe at the remarkably successful community involvement process for the Village Green Center project. Congratulations to your staff, the Village Board, and most importantly, the Village residents who over six months worked most enthusiastically and energetically to lay out a vision for the Village Green. Todd Streeter did a magnificent job in quietly reassuring us and guiding us to ways of moving forward."

- Brent McClintock, Chair, Department of Economics, Carthage College

The Community Working Committee™ Engagement Approach

Using Community Collaboration's Working Committee™ approach, a wide range of community stakeholders assume the responsibility of redeveloping the "Grosenick" and "Village Center District" properties by taking a purposeful, active and long-term role in the future of the Village of Germantown community.

Proven Community-Driven Approach is Successful

The successful community-driven engagement approach establishes:

- "We're in this together" working environment focusing on the future
- Mutual respect and understanding through a purposeful solution-orientated process
- Collaborative relationships creating a common vision, implementation buy-in and ownership
- Community resources willing to participate in supporting process outcomes

Cambridge members review Hwy 95 underpass concept ideas

Community Engagement Project Goals

The value of this Proposal is predicated on the direct hands-on, autonomous involvement of committee members and completion of their required scope of work tasks. The committee is a "working committee" with the freedom to contact and engage third parties to further the committee's research if desired for additional assessment for eventual committee recommendations. This Proposal and budget pertains only to the consulting activities involved to fulfill the Primary Objective outcomes.

Primary Objectives (Within allocated budget):

- Engage and energize citizens to participate on the two-site re-development committee
- Establish a committee of committed citizens that create a common vision
- Identify fresh ideas, concepts and opportunities addressing current and emerging needs
- Draft Value and Guiding Principles statements creating a pathway for ongoing community and economic development
- Prepare recommendation *Project Presentation* to Village Board and community

New Richmond subcommittee works on community improvement ideas

The Working Committee™ Process

Committee Development

The 'Redevelopment Project Committee' will consist of any and all interested citizens, business owners, commercial property owners, organization leaders, and others seeking to work in a consensus-building atmosphere to create comprehensive redevelopment concepts, plans and recommendations. Primary committee and subcommittees will identify fresh, forward-thinking, progressive ideas, concepts and opportunities addressing current and emerging needs.

Subcommittee Themes TBD*	**Topic Focus**
Epicenter on the Prairie	Civic Facilities & Amenities | Smart Community
A Place for Everyone	Housing Options
Village Marketplace	Commercial Zones
Earthly Relations	Sustainable Development (land & structures)
The Leisurely Life	Parks, Trails, Open Spaces and Recreation
Pleasantville	Aesthetics, Branding and Themes
Arrive As You Wish	Vehicle & Personal Modal Infrastructure
The Village Voice	Marketing and Promotion

* Final subcommittee themes and content development will be completed after further discussions with Village staff.

Primary Outcomes (Phase I):

Committee members will:

- Conduct research to address potential issues and opportunities including images, white paper, and successful project examples from other communities supporting their concept recommendations
- Prepare maps, drawings, and images fully describing their redevelopment concepts
- Develop Vision and Guiding principle statements for each redevelopment site to establish a pathway for continued redevelopment strategic planning
- Host a Community Open House (optional) to showcase their collective redevelopment concepts and present their final recommendations to the Village Board and community at-large

Committee members will be expected to:

- Attend regularly scheduled large committee meetings and subcommittee work groups
- Actively participate and contribute to the committee and its activities
- Complete work assignments in between regular meetings
- Be present at scheduled project events

> *"Having watched Todd's work and seen the results, I believe a committed focus to needs, concerns and desires of the community should be included in the public engagement process for any community improvement project or comprehensive plan update."*
>
> – Bill Turnblad, Former Community Development Director, City of Stillwater, MN

Secondary Outcomes (Phase II):

It is highly recommended a transition model be developed to move the committee's recommendations into a permanent strategic planning phase. This Proposal and budget does not include Phase II development. However, if the committee is exceeding in their work and time and budget allows, additional efforts may be applied to achieve some of the Secondary Outcomes.

- Establish a permanent collaborative structure (Re-Development Commission) post-community engagement process to ensure enduring community engagement, buy-in and ownership to usher committee recommendations forward

- Empower citizens, business owners, organization leaders, Village Board, and staff to take continued collective ownership of each re-development site's future by establishing a long-term collaborative structure that promotes ongoing community involvement, support and potential local funding for a variety of civic and community amenities

Other Facilitation Considerations

Project Management & Facilitation

Todd Streeter will be the primary point of contact in-charge of all project management and facilitation aspects and will be 100 percent available for all required duties and responsibilities.

Participation Outreach

- Community Collaboration and Village staff will coordinate public promotion efforts to all known local media outlets and area organizations of interest. Village staff will review all marketing materials and press release drafts prior to distribution. All reasonable efforts will be made for the Project to be equitable and inclusive to all interested participants.

- Community Collaboration will construct a free-standing Project landing page housing all related Project information, materials and participation sign-up links. Village will place links to the Project landing page on the Village's homepage. View Sample Landing Page

- Community surveys may be used for the Project but only after the community has had an opportunity to sign-up after the Project's Kickoff event. View Sample Online Survey

- Project promotion using social media will be performed by Village staff utilizing their social media platforms and personnel.

Participation Formats

The primary engagement format will be in-person large and small group committee workshop-style meetings with mapping exercises among other forms of activities. The process also allows for the ability to conduct online virtual meetings with Village staff, committee members or other stakeholders as needed. Surveys, event pop-ups, and open house options will be evaluated during project planning with Village staff.

Responsibilities

Community Collaboration Responsibilities

As community engagement project lead, Community Collaboration is responsible for:

Engagement Process Planning
- Developing committee purpose, structure, scope of work, goals, and methodology
- Developing/creating committee/subcommittee objectives and outcome deliverables
- Attracting wide community participation during the consulting scope of activities
- Establishing committee's cultural and autonomous research process and identification of current and anticipated issues and new opportunities

Facilitation
- Meeting structure and overall scope of work
- Subcommittee work plan development and monitoring
- Committee engagement and exploration of additional supporting ideas
- Committee mapping and presentation preparations

Administration
- Village and committee contact data base management
- Village and committee communications and regular communications with Village project lead
- Meeting agenda preparation
- Agenda distribution and meeting reminders

Marketing and Promotion
- Pre-launch organization and community promotion material drafts
- Committee Kickoff event promotional material drafts
- Press release drafts (media submission by Village or consultant)
- Drafting of other forms of media or communication materials (as needed or available):
  - Project website landing page
  - Flyers, postcards, posters
  - Community newsletter
  - Website content for appropriate sites
  - Social media content
  - Media interviews

Note: Village will assume production and distribution costs if associated with agreed upon marketing efforts.

Committee Event Preparations
- Community Kickoff planning for committee sign-up and participation
- Committee-hosted community open house event planning
- Community and civic organization(s) presentation planning and program

Other Committee Preparations
Committee meeting presenters or speakers (as desired, needed or available)

Responsibilities

Community Collaboration Project Management Tasks Detail

KICKOFF EVENT PREPARATIONS

Project website landing page development
Subcommittee descriptions
PR 1: Hiring press release draft
Project description - website posting
Sign-up forms, landing page materials
Kickoff prep planning
PR 2: Committee Kick-off Announcement
Kickoff flyer prep, emails
Newsletter articles
Flyer final
Outreach to area civic organizations
PR 3: Project Kickoff reminder
Radio and newspaper interviews (if available)
Replies to email and phone call interests
Presentation materials preparation
Final Kickoff presentation slide deck
Kick-off Event

COMMITTEE FORMATION

Follow-up Thank You email
Downloading committee sign-ups
Preliminary subcommittee assignments
Committee schedule of activities
Sign-up emails and responses
Subcommittee development
Day and date email and reply follow-up
Three question exercise
Committee exercise tabulation
Meeting date schedule and location
First meeting planning

COMMITTEE MEETING PREPARATIONS

Final committees and email draft
Meeting prep / homework / emails
Meeting planning and agendas
Brainstorm update, agenda distribution
New committee sign-ups, email for additional signup
Revisions to agenda and outline
Committee emails
Post meeting committee updates
Summary and community updates
Landing page updates
Email follow-ups, committee revisions, calls
Process agenda outline final draft
Next committee meeting email prep, planning, updates
Scheduling upcoming speaker (if desired)
Finding/creating materials for committee
Review of Google Docs, Google images, PowerPoint usage

COMMUNITY PRESENTATION PREPARATION

Presentation prep
Presentation press release
Presentation program draft
Poster and draft updates
Project landing page updates
Newsletter draft
Flyer draft
Review of presentations with suggestions
Draft updates
Presentation invite draft
Committee communications
Presentation planning
Collating subcommittee presentations
Printing of presentation program

PROJECT SUMMARY

Creation of deliverables folder with files that may apply:
- Report Summary
- Presentation slide deck
- Printed press releases
- Testimonials and project comments
- Project photos

> *"We had high expectations for the CAP Plan process, and the results exceeded those expectations. It showed community members their ideas are valued and that their many hours of volunteer work would be rewarded with positive outcomes. It triggered an outburst of community pride and volunteer enthusiasm that is still going strong. I firmly believe the Community Action Plan and the ongoing efforts of our volunteers efforts will make a difference in Pine City for generations to come."*
>
> – Mike Gainor | Former Community Development Director, City of Pine City, MN

Village of Germantown Responsibilities

Village of Germantown support will be required in a variety of areas:

Marketing & Promotion
- Encourage Planning Commission, Village Board and staff to inform the public and interested stakeholders about the Project and encouraging them to be involved in the planning process at any point along the Project's progress
- Approve Consultant's press releases and marketing drafts for timely submission
- Have staff and Board Trustees available for quotes for promotional materials
- Provide Village website home page area for the promotion and marketing of the Project
- Provide website links to Project materials and information
- Provide Project photographer/videographer for Kickoff and *Project Presentation*
- Provide regular Board meeting report on Project activities
- Assume production and distribution arrangements and costs of marketing materials such as flyers, posters, postcards and mailings

Kickoff Event
- Secure facility and PowerPoint presentation audio visual equipment
- Assume facility rent and hospitality costs including hosted reception of light food and beverage (beer and wine, if desired) and related supplies

Committee Meeting Support
- Provide appropriate staff expertise during meetings (as needed) to be a resource for committee member questions regarding property, zoning or other related questions
- Provide large 24" x 36" colored maps (GIS maps) and map updates with committee layout improvements such as streets and other redevelopment concept images and overlays
- Provide meeting materials such as name tags, markers, posting tape, velum tracing paper, etc.
- Provide land use ratio requirements, required land management systems/requirements, etc. per zoning/planning or other property notations helpful to the committees
- Provide audio visual equipment, cords, screens and PowerPoint projector, etc. if not provided by meeting hosting facility
- Provide hosted hospitality arrangements for snacks and refreshments for regular meetings
- Provide enlargements, storyboards, boards and other uniquely printed materials as needed

Guest Presenters
Provide (compensate speaker if applicable) presenters or speakers as desired for the Project

Project Celebration
Provide location, food and beverages for project completion celebration

Phase II Development
Development of Village "Action Plan Steps" to keep the project moving forward (Phase II)

Work Program

Project Duration

Many considerations enter into the duration needed to produce a series of committee outcomes as the Project moves from one stage to another. The Project builds upon the successful achievement of the previous stage before moving onto the next. For the purposes of this Project, it is conceivable it may take approximately 5-6 months to complete the Primary Objectives. While there is a structure to this process, it also encompasses a design-build element allowing flexibility for new opportunities or situations not anticipated at this time. These unanticipated elements may impact the Project timeline. If the Committee is exceeding in their work and time and budget allows, it is conceivable additional efforts can be applied to achieve some of the Secondary Objectives.

Committee Meetings

Typical Meeting Overview

Scheduling: (2) large group meetings per month (establish standing schedule after Kickoff meeting)
Duration: 2 hours
Location: Outside village hall and accessible in early evening hours with Wi-Fi and presentation capabilities (This is the preferred arrangement)
Format: May vary, but generally begins with project committee instructions, perhaps guest speaker/presentation, subcommittee chair update reports, and committee breakouts
Offsite: Subcommittees are encouraged to meet up in between scheduled large group meetings to advance their ongoing research, concept development and outcome preparation

Tentative Community Engagement Schedule (Thursdays 5-7 pm)

Month	Project Planning, Kickoff and Committee Launch
Nov 21	Proposal submission
Dec 15	Village Board proposal approval
	Project planning with staff: Development of Community Engagement Plan
	Meet with Village Board and Stakeholders | Project promotional planning
January	Project promotion | Kickoff planning | Creation of landing page and materials
Jan/Feb	Kickoff event, committee formation, and Project committee launch

Month	Bi-Monthly Committee Meetings
Feb	Meeting #1 | Project Orientation/Exercise review/Site reviews
Feb	Meeting #2 | Placemaking/V&GP statements/Brainstorms /Mapping
Mar	Meeting #3 | Subcommittee research and concept development
Mar	Meeting #4 | Concept mapping/PPT/Subcommittee breakout
Apr	Meeting #5 | Subcommittee research/Breakout
Apr	Meeting #6 | Subcommittee statement drafts/PPT walkthrough
May	Meeting #7 | Subcommittee presentation final drafts
May	Meeting #8 | Presentation rehearsal
May/Jun	Meeting #9 | **Village Board/Community Presentation**

Proposed Budget

Project Budget Considerations

Every effort will be made to administer the Primary Objectives of the two re-development sites' community engagement consulting activities within the budget of $15,625. This budget includes the Project planning to date, Kickoff planning and meeting, 9 regular committee meetings per the Proposal, 2 extra contingency meetings, and final Project wrap-up activities. While a number of factors are unknown or unanticipated, it is expected that the Primary Objectives could be achieved within the allotted budget. The menu of optional project deliverables is provided to complete additional Primary Objectives. Travel and other Project related expenses are estimated to be approximately $4,7,00. Consulting activities and Project expenses will be invoiced monthly.

Situations such as holidays, additional opportunities, or other circumstances could extend the process by a meeting or two but the goal is to complete the Primary Objectives within the stated duration and budget. The tentative schedule is subject to change as the process unfolds. While there is a prescribed schedule, this is also a fluid process that incorporates a "design build" approach allowing for either unforeseen situations or potential opportunities that could enhance the process to achieve the desired outcomes. These unanticipated elements may impact the Project budget.

Proposed Activity Budget Breakout (with options)	**Hours**	**Budget**
Project Planning - Marketing, Committee Development, Kickoff,	38	$ 4,750
(9) Committee Meetings - Planning, Communications, and Facilitation	77	$ 9,625
Project Summary Report - Collating Project Deliverables, Report, Folder	10	$ 1,250
Travel - Lodging and Mileage Estimate		$ 4,500
Other Expenses - Committee Materials Estimate		$ 200
	125	$ 20,325
Optional Deliverables:		
Greater Cedarburg Foundation Support - Initial post-project meetings		$ 250
Executive Committee Formation (Separate arrangement if desired)		$ -
		$ 20,575

Budget Notes

The provided Project budget estimates are based on actual time requirements of similar projects and scope of work to plan and facilitate the Kickoff Event, committee meetings, and final *Project Presentation* as well as the Summary Report. See project management tasks on next page.

If desired, Community Collaboration will assist in the facilitation of initial **Greater Cedarburg Foundation** meetings to help establish support for the resulting Project recommendations. Learn more about the foundation at: Greater Cedarburg Foundation.

If desired, Community Collaboration is available to assist in the creation of an Executive Committee. This arrangement requires a separate scope of work proposal and agreement.

Consulting Services Agreement
Arrangement

Facilitation Arrangement

BayPointe Enterprises, Inc., dba Community Collaboration, is an independent contractor providing consulting services to the Village of Germantown (here in, Municipality).

Invoices

Invoices are submitted each month for Project facilitation consulting activities. Invoice may also include: additional expenses incurred for meeting materials; special materials required to support Consultant activities such as enlargements, storyboards, public engagement poster boards and other uniquely printed materials printed by Consultant to be reimbursed at cost; lodging, if necessary, and mileage at IRS rate.

Agreement Changes

Material changes to this Agreement may be modified or amended in writing by mutual agreement.

Cancelation

Municipality and Consultant may cancel this Agreement upon thirty (30) days with written notice to either party if either party determines the other party has not performed properly in substantial respect or if either party determines that the other has failed, neglected or refused to carry out the terms of this Agreement. If cancellation is served to Consultant, Consultant may invoice for work activities provided and expenses incurred from last paid invoice to date of receiving cancelation notice. Municipality is responsible for payment of final invoice and related expenses incurred but not paid prior to cancelation.

Mutual Use

Municipality and Community Collaboration reserve mutual rights to all Project materials, images, videos, media, comments, research, and outcomes for their mutual use without restriction. Recording of Project meetings is not permitted. Project meetings are a work in progress and are not available for public viewing by use of any technical means prior to the Project conclusion.

Hold Harmless

Municipality and Consultant mutually agree to indemnify and hold harmless the other party from and against any loss, cost, damage of any kind (including reasonable outside attorneys' fees) or as responsible, liable, or accountable for actions, services or outcomes from Project participants or others not party to this Agreement.

Project Interruption

Municipality and Consultant shall not be held liable for failure of or delay in performing its obligations under this Agreement if such failure or delay is the result of natural disaster, severe or unsafe weather conditions, transportation issues or hosting facility unavailability.

Changes

While this Proposal is comprehensive, it may not include or anticipate all circumstances unique to this Project, emerging needs, unanticipated situations, or additional scope of work required as the Project evolves or as desired by the Municipality.

Proposal Acceptance
Acceptance

This Re-development Community Engagement Proposal (Project) and Agreement is made between the Village of Germantown (Municipal Client), indicating their acceptance of the general approach, schedules, and terms described herein, and Community Collaboration, a division of BayPointe Enterprises, Inc. (Consultant) for the community engagement facilitation of the Village of Germantown's community engagement process and related activities. By signing this agreement, signers attest they have the authority to bind their respective entities into a legal contract within the State of Minnesota and Wisconsin.

Village of Germantown (Municipality/Client)

By: _____
Name: _____
Title: _____
Date: _____

BayPointe Enterprises, Inc. dba/Community Collaboration

By: _____
Name: _____
Title: _____
Date: _____

Work Examples

Village of Pleasant Prairie, WI

Responsible for leading community-wide conceptual vision project for a 180 acre downtown development including commercial district, multifamily housing, civic facilities, parks, recreation and sustainable land use concepts.

View videos, materials and comments in Featured Project Section

City of New Richmond, WI

Todd received state recognition for the CAP engagement process as well as the design of the planning document.

Click to View Materials
Complete Comprehensive Plan
Community Action Plan Project Portfolios
CAP – Final Chronology
State of the City CAP Presentation (Video)

"They were fresh ideas to plot the course of city government and planning going forward and thought it was incredible the number of new faces, folks I didn't know that were part of this and I think that's unbelievably refreshing."

– Mike Montello, Council President

City of Pine City, MN

Todd's leadership of Pine City's CAP|Comprehensive Plan project allowed for the city to attract a $50,000 grant to support the CAP committee's project recommendations.

Click to View Materials
Comprehensive Plan
CAP Accomplishments Update

"Thank you for guiding us through this process. It's been a very positive experience and I'm excited to see what becomes of all the proposals. If there is anything I can contribute to the future of any of the projects, I'd be honored and happy to help!"

– Christina LaFrance, Committee Member

Featured References

The provided references are from the 'featured projects' highlighted in this Proposal. In addition to their contact information are the project term dates, status and project budget.

Village of Pleasant Prairie (WI)
9915 39th Avenue
Pleasant Prairie, WI 53158
January - August 2019
Completed
Budget: $21,750

Tom Shircel, Asst. Village Administrator
tshircel@pleasantprairiewi.gov
262.925.6715

City of New Richmond (WI)
156 East First Street
New Richmond, WI 54017
May – December 2018
Completed
Budget: $18,080

Beth Thompson, Community Development Director
bthompson@newrichmondwi.gov
715-243-0402

City of Pine City (MN)
9915 39th Avenue
Pleasant Prairie, WI 53158
February - July 2022
Completed
Budget: $11,398

Mike Gainor, Fmr Community Development Director
gainormike@gmail.com
320-223-0924

Other References

These references are very familiar with all aspects of Community Collaboration's consulting experience and project deliverables with several staff administration selecting us for multiple community engagement projects over the years.

City of Taylors Falls (MN)
637 First Street
Taylors Falls, MN 55084

Sherrie Thomasen, City Clerk
clerk@taylorsfalls.org
651.465.5133

Added an additional year of strategic planning consulting after the CAP project.

City of Beaver Dam (WI)
205 South Lincoln Avenue
Beaver Dam, WI 53916

Nathan Thiel, Former City Administrator
Director of Finance and Administration, Dodge County, WI
nthiel@co.dodge.wi.us
(920) 386-3287

Two projects with Nathan at two different municipalities.

Metropolitan Airports Commission (MN)
6040 28th Avenue South
Minneapolis, MN 55450

Dana Nelson, Director, Government Affairs
Dana.Nelson@mspmac.org
612-725-6330

Two airport engagement facilitation projects.

COMMUNITY ENGAGEMENT SERVICES

VILLAGE OF GERMANTOWN

November 21, 2025

Prepared for

Village of Germantown

Prepared by

GRAEF

DE VOR Communications

Prime Contact
Craig Huebner, AICP
GRAEF
Project Manager
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November 21, 2025

PROJECT UNDERSTANDING AND INTEREST:

GRAEF and De Vor Communications are pleased to submit this proposal and expresses a strong interest in partnering with the Village of Germantown on the Community Engagement Services regarding the redevelopment of the Flower Source, Ascension and Grosenick properties. GRAEF will serve as the project lead and provide expertise and guidance in future use planning/visualizations. De Vor Communications will lead community engagement program and engagement process. GRAEF also has a strong relationship with local commercial brokers and residential developers, who could be called upon if necessary to assist with additional data collection or confirmation of future development realities.

As a firm located directly between these two properties, De Vor has both a professional and personal stake in seeing this area thoughtfully transformed into a vibrant gateway that reflects the Village's character and long-term vision. Our proximity and deep ties to Germantown uniquely position us to understand the community's expectations, questions, and concerns and insight that will inform every phase of our engagement strategy.

Our joint GRAEF + De Vor team believes the redevelopment of the Flower Source and Grosenick properties represents a once-in-a-generation opportunity to establish a true Germantown Village Gateway and impact on Main Street, one that honors the Village's historical identity while creating new opportunities for residents, businesses, and visitors. As local professionals with team members who currently live or have lived in Germantown and the surrounding communities for over 30 years, we bring an understanding of the local context. We recognize, for example, that residents may be skeptical about additional multi-family housing and will expect clear, accurate information about who these units will serve, how they compare to existing housing options, and what community benefits they may provide. Likewise, we are aware that questions related to funding, tax impacts, and school district capacity will arise and must be addressed proactively, consistently, and transparently.

Our interest in this project stems not only from our location and relationships within the Village, but also from our commitment to high-quality public involvement and community engagement. GRAEF and De Vor Communications specialize in designing and implementing comprehensive engagement programs for projects from early concept through project completion. Our approach is rooted in building trust through openness, clarity, and responsiveness; values that we know align with the Village's expectations for this initiative.

Partnering with the Village of Germantown on this project allows us to leverage both our professional expertise and our personal understanding of the community. We are committed to delivering a transparent, well-organized, and inclusive engagement process that builds confidence in the redevelopment effort and helps shape vibrant, successful developments on these key Village-owned properties. Our goal is to support the Village in ensuring that the final outcomes reflect community values, strengthen Germantown's identity, and position the Village Center District for long-term success.

We are excited about the opportunity to collaborate with Germantown and contribute our expertise to the Germantown Community Engagement Services. We are confident that our local presence, combined with our professional excellence and know-how, makes GRAEF the perfect partner for this pivotal project.

Thank you for considering our proposal. We look forward to the opportunity to collaborate with Germantown and help shape a thriving future. Please reach out if you have any questions or require additional information. GRAEF is a corporation authorized to do business in Wisconsin. GRAEF is responsible for delivering the required services and deliverables.

Craig Huebner, AICP
Project Manager
414 / 266 9228
craig.huebner@graef-usa.com

GRAEF

Since its inception in 1961, GRAEF has grown from a small individual partnership to a prominent, multi-disciplinary international firm. GRAEF has a team of over 300 employees spread across ten offices in the Midwest, Florida, and Turks and Caicos.

For over 64 years, GRAEF's unwavering dedication to excellence has been fueled by core values such as integrity, quality, and a steadfast commitment to exceptional customer service. These principles form the bedrock of GRAEF's operations, ensuring that clients receive the highest level of satisfaction and a seamless experience.

GRAEF has remained at the forefront of the industry, consistently adapting to emerging trends and embracing advancements, and is proud to be a reliable partner for clients seeking top-tier planning and design services and unmatched expertise. GRAEF is licensed to operate in the state of Wisconsin.

OUR CORE PURPOSE

To improve the physical environment for the benefit of society in a sustainable manner

OUR EXPERTISE

- Master Plans
- Comprehensive Land Use Plans
- Neighborhood Plans
- Strategic Plans
- Community Visioning Plans
- Business District Improvement Plans
- Park and Landscape Design
- Design Guidelines and Form-Based Codes
- Capital Improvements Planning
- Tax Incremental Financing (TIF) Plans
- Market Analysis
- Traffic Calming
- Economic Development
- Promotional Strategies for Development
- Ongoing Plan/Design Reviews
- Tailored Public Participation Plans
- Developer Solicitations
- GIS

OUR SKILLS

- Hand Sketching, 2-D and 3-D Views
- Photomontage Over an Existing Photo
- SketchUp 3-D Modeling
- AutoCAD Drafting
- Graphic Design
- Infographics
- Cartography and Mapping
- Presentation Renderings (by hand & digital)
- Booklets, Pamphlets, Plan Document PDFs

LOCAL PRESENCE

Being a local firm, we have a strong connection with the community and better understanding of local needs, leading to effective solutions.

INNOVATIVE PUBLIC ENGAGEMENT STRATEGIES

We prioritize community involvement through innovative outreach methods, ensuring our plan reflects the diverse needs and aspirations of Germantown's residents and stakeholders.

PAST EXPERIENCE IN GERMANTOWN

GRAEF has partnered with Germantown on numerous projects throughtout the years, working together on many visionary and award-winning collaborations.

DE VOR Communications

OFFICES

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W156N11355 Pilgrim Road
Germantown, WI 53022

Rhinelander
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Rhinelander, WI 54501

PHONE

(715) 499-5894
(262) 899-9231

WEBSITE

www.devorpr.com

About **De Vor Communications**

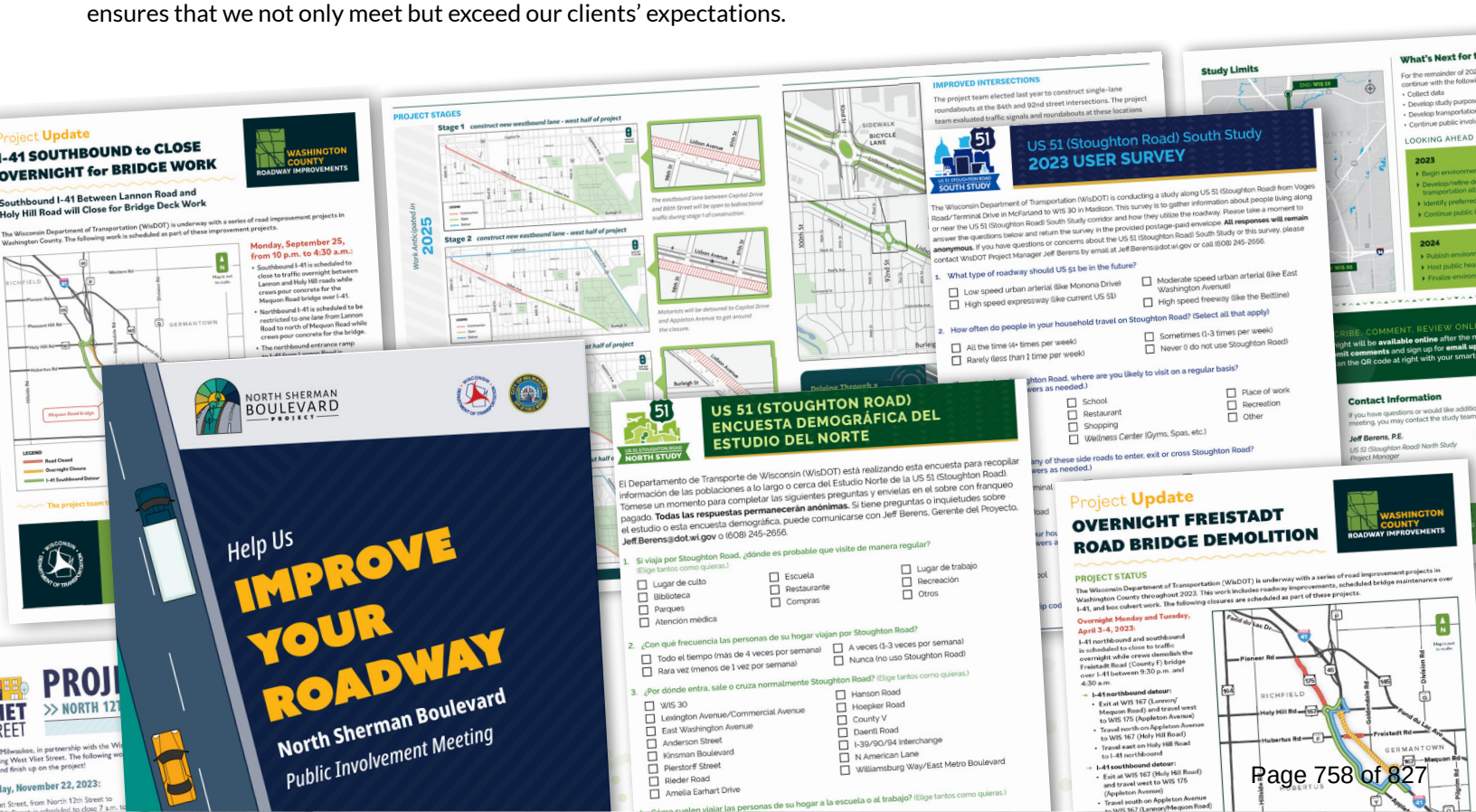
De Vor Communications, LLC is a full-service public involvement communications firm, renowned for its high-quality public outreach and information programs. We excel in managing complex projects and addressing client challenges through innovative public involvement and community outreach services that go beyond traditional methods, such as distributing flyers and facilitating public meetings. As a single female-owned Disadvantaged Business Enterprise (DBE), De Vor is committed to excellence and innovation.

We understand that building trust within the community is paramount. Our approach to community outreach is rooted in transparency, active listening, and genuine engagement. We believe trust is earned through consistent, meaningful interactions, and we strive to create platforms where community members feel heard and valued. We are also deeply committed to accessibility and diversity, ensuring that our programs and services are inclusive and representative of the communities we serve.

Our digital and marketing expertise further enhances our outreach efforts. By leveraging the latest technologies and digital tools, we are able to reach a broader audience and engage with them in more dynamic and interactive ways. Our digital strategies include targeted social media campaigns, engaging content creation, and data-driven insights to ensure that our messages resonate with the community.

In addition to our digital efforts, we prioritize face-to-face interactions and personalized communication. Our team is dedicated to organizing community events, workshops, and forums that foster open dialogue and collaboration. We believe that these in-person engagements are crucial for building lasting relationships and trust within the community.

Through our comprehensive approach to public involvement and community outreach, De Vor Communications continues to set the standard for excellence in the industry. Our commitment to innovation, transparency, and community engagement ensures that we not only meet but exceed our clients' expectations.

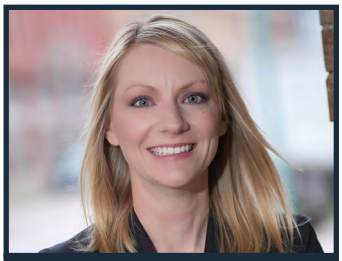


MEET YOUR TEAM

ORGANIZATIONAL CHART

CRAIG HUEBNER, AICP
Project Manager
GRĀEF

DOUG SEYMOUR, AICP
Economic Development
GRĀEF



KRISTIN REICHART
Urban Designer
GRĀEF

ERIC MILLER
Senior Public Involvement Specialist
DE VOR Communications

JESSICA SHERMAN
Senior Public Involvement Specialist
DE VOR Communications

ELLIE CATANIA
Public Involvement Specialist
DE VOR Communications

MACKENZIE KATCH
Multimedia Designer and Marketing Lead
DE VOR Communications

All project team members have capacity to engage with the public at events that are may be held outside a typical 9-5 weekday schedule.

Craig Huebner AICP

PROJECT MANAGER | PRINCIPAL

Craig is the Practice Team Leader for GRAEF's Planning+Urban Design group. Craig has experience working collaboratively with both public and private sector developers to envision redevelopment solutions ranging from green fields, brownfields, and urban infill projects. Craig has extensive experience in the creation of innovative public participation plans for a variety of planning projects. Craig is currently leading two site master planning projects including the City of Milwaukee Former Northridge Mall Redevelopment Plan and Milwaukee County Public Museum Redevelopment Plan. Both of these projects include extensive public engagement strategies surrounding the future uses of publicly-owned facilities.

EDUCATION

Master of Architecture, 2012
Master of Urban Planning, 2012
Certificate in Real Estate Development, 2012
University of Wisconsin-Milwaukee, Milwaukee, WI

B.S., Architectural Studies, 2009
University of Wisconsin-Milwaukee, Milwaukee, WI

CERTIFICATIONS

American Institute of Certified Planners (AICP)

AFFILIATIONS

American Planning Association (APA)

Wisconsin Chapter of the American Planning Association (APA-WI)

PROJECT EXPERIENCE

MUNICIPAL PLANNING: Craig has extensive experience acting as an extension of municipal staff in the role of ongoing planning consultant in over a dozen communities across Wisconsin. In this role, Craig analyzes existing land use and zoning codes and policies, understands and interprets municipal master plans and ordinances, prepares staff reports for private sector development approval procedures, assists in economic development tasks (TIF analysis, grant assistance, etc.), and leads special planning projects (master plans, design guidelines, incentive programs, ordinance amendments, site planning/design, etc.). Craig's experience in different municipalities allows him to share best practices found in other communities for current projects.

PUBLIC PARTICIPATION: Craig's experience in public participation includes the creation and facilitation of public meetings in a variety of settings, stakeholder involvement strategies, focus groups, outreach techniques for multiple constituencies, programs for involving business leaders, image preference surveys, and community education programs.

URBAN DESIGN & PROPERTY DEVELOPMENT: Craig leads urban design strategies throughout the firm's work. His focus exemplifies coordination between the multiple disciplines that make visions into realities. At GRAEF he combines his urban design concepts with technical needs through his clear coordination with civil engineering, landscape architecture, architecture, transportation and traffic engineering, and environmental planning. Craig's experience in urban design includes developing design strategies for a variety of commercial corridors and specific properties as well as corresponding design guidelines. He has conducted detailed site analyses, including parking analyses, and used this information to develop achievable design solutions. Craig develops graphic maps, diagrams, and illustrations to communicate a range of urban design concepts and solutions.

Doug Seymour AICP

ECONOMIC DEVELOPMENT SPECIALIST

Doug joined GRAEF's Planning + Urban design team as a Senior Planner after serving as the Director of Community Development for the City of Oak Creek for over 30 years. In his role at GRAEF, Doug focuses his time on municipal ongoing planning services, bringing his technical expertise and experience to every project. Doug is an innovative problem-solver with a passion for urban planning and economic development and has a demonstrated commitment for the betterment of all communities he serves.

EDUCATION

Master of Urban Planning, University of Wisconsin-Milwaukee, Milwaukee, WI

B.S., Land Use Planning, Carrol College, Waukesha, WI

REGISTRATION

American Planning Association (APA)

CERTIFICATIONS

American Institute of Certified Planners (AICP)

PROFESSIONAL AFFILIATIONS

Commercial Association of Realtors - Wisconsin (CARW)

PROJECT EXPERIENCE

MUNICIPAL PLANNING: Doug has extensive experience leading municipal planning efforts, resulting in successful outcomes for the communities he has served. For over 30 years, Doug served as the Director of Community Development for the City of Oak Creek, where he oversaw the City's major zoning code rewrite, created and managed fifteen incremental financing districts and two redevelopment districts, and played a crucial role in the City's planning and economic development efforts. Doug's contribution was integral to Oak Creek's success today.

Drexel Town Square Redevelopment, Oak Creek, WI – Director of Community Development: As the Director of Community Development, Doug led the development of an 85-acre mixed-use project on the former Delco plant site. He spearheaded the creation of a new city center for Oak Creek, which included a new City Hall, Library, Town Square, and wetland park, leveraging additional residential, mixed-use, hospitality, medical, office and retail development.

Kristin Reichart

URBAN DESIGNER

Kristin is a multidisciplinary design professional with over 10 years of experience creating and managing architectural and environmental graphics projects from conception through implementation. Specializing in the development of impactful brand experiences for consumers, while keeping client objectives and future planning in mind.

EDUCATION

Master of Architecture, Master of Urban Planning - University of Wisconsin – Milwaukee, 2011

B.S., Architectural Studies, Cert. of Urban Planning University of Wisconsin – Milwaukee, 2008

PROJECT EXPERIENCE

Northridge Mall Master Plan, Milwaukee, WI – Planner/Urban Designer: Kristin is currently engaged in a study of the former Northridge Mall property in Milwaukee, WI. In her role, she is involved in diagramming and visualizing future development opportunities for the site. Additionally, she assists in generating urban design and development concept scenarios, contributing to the strategic planning and revitalization efforts for this significant project.

Reimagining WIS 175 Study (2024) - Planner/Urban Designer: Kristin was involved in the Reimagining Wis-175 Study, which focused on the corridor between Wisconsin Avenue and Lisbon Avenue in Milwaukee, WI. In her role, she contributed to generating and analyzing alternatives for the corridor. She also played a key role in visualizing land use development scenarios for these alternatives. Kristin's expertise in graphics and visualization was instrumental in creating maps and exhibits that effectively communicate the project's vision. Additionally, she was involved with public engagement efforts to ensure community input and support for the project.

Random Lake Master Plan (2024) - Planner/Urban Designer: As a Planner/Urban Designer for the Random Lake Master Plan in Random Lake, WI, Kristin developed urban design strategies and innovative development concepts for the downtown area and lakefront properties. She contributed to the creation of a comprehensive report, offering recommendations for redevelopment opportunities, activation, and placemaking strategies for the downtown area. Additionally, Kristin designed detailed maps and exhibits to highlight opportunities and development concepts, which were instrumental in facilitating effective public engagement.

Key Personnel and Qualifications

Eric Miller

Senior Public Involvement Specialist

Eric served in law enforcement for 24 years, including nine years as a lieutenant and one year as Chief of Police/Director of Public Safety. Eric has a master's degree in Criminal Justice Administration from Columbia Southern University, and he is a 2017 graduate of the FBI National Academy.

Eric's experience in law enforcement includes intense public outreach with various stakeholders, including individual citizens, community organizations, and other government officials, to inform and teach. Additionally, with multiple management roles, he worked on the planning and public information on local transportation projects.

Eric Miller is currently working on WisDOT projects, serving as the Public Involvement Traffic Technical Specialist for De Vor Communications. Taking time to listen, understand, and identify solutions is a goal that is regularly met for Eric. He recognizes the importance of keeping stakeholders informed no matter their role or background and strives to identify issues before they become problematic.

Eric has been an instructor in various topics, helped create and run a citizen police academy, was a field training officer, and worked with schools and businesses on active threat prevention and response. He also has extensive grant management and media relations experience.

Related Projects:

- Kenosha-Racine-Milwaukee Passenger Rail, City of Racine
- Milwaukee County's Timmerman Airport, Milwaukee County
- WisDOT Backbone Projects Construction, Various Counties
- WIS 32 (N. Lake Drive) Construction, Milwaukee County
- Moorland Road Construction, Waukesha County

Education

Columbia Southern University
M.S. Program – May 2020
Major: Criminal Justice Administration

Mount Senario College
B.S. Program – May 1997
Major: Criminal Justice

Certifications and Affiliations

Member of ACEC, WI
Member of WTBA, WI
Member of FBI National Academy Associates
Member of IACP
Member of LEEDA

(phone) 262-933-0467
(email) Eric@devorpr.com

Jessica Sherman

Senior Public Involvement Specialist

Jessica Sherman is a stakeholder engagement specialist with extensive experience in public outreach, education, and community planning. She specializes in developing inclusive public engagement strategies, identifying communication barriers, and implementing outreach initiatives across in-person, online, and social media platforms.

Her recent work on the I-41 expansion project highlights her ability to coordinate large-scale public involvement efforts, including hosting outreach events, managing digital communications, and integrating stakeholder feedback into planning processes. She is committed to creating user-friendly, web-accessible materials and engagement opportunities that inform and inspire action.

With a track record of successful outreach campaigns and a passion for community-driven planning, she is well-equipped to support the Village's vision for an inclusive and actionable plan.

Related Projects:

- I-41 (Appleton to De Pere) Design/Construction, Brown and Outagamie Counties
- Moorland Road Construction, Waukesha County
- WisDOT Backbone Projects Construction, Various Counties

Education

UW–Green Bay
B.A. Program – History with an Emphasis in Education

Certifications and Affiliations

Member of ACEC, WI
Member of WTBA, WI

(phone) (920) 204-1070
(email) Jessica@devorpr.com

Key Personnel and Qualifications

Ellie Catania

Public Involvement Specialist

Over the past two years, Ms. Catania has supported and led several design and construction projects across southeastern Wisconsin, including the Sherman Boulevard redesign and the Holton Street Bridge rehabilitation. She also leads public involvement for an economic and fiscal development study in Madison County, TN, where is developing and administering a countywide survey to assess stakeholder engagement with local government and attitudes toward economic development.

With a background in political science, Ellie brings a strong understanding of the governmental role in road construction. Her work on Milwaukee projects strengthened her time-management and multitasking abilities, and her organizational skills and transparent communication help her effectively leverage internal resources and continue growing in her role.

Related Projects:

- Economic Development Study, Madison County Tennessee
- Sherman Boulevard Design, City of Milwaukee
- City of Milwaukee Construction Projects, City of Milwaukee

Education

St. Norbert College
B.A. Program – December 2025 Major: Political Science and Media Studies

Certifications and Affiliations

Member of ACEC, WI
Member of WTBA, WI

(phone) 414-255-5658
(email) Ellie@devorpr.com

Mackenzie Katch

Multimedia Designer and Marketing Lead

Mackenzie is a seasoned multimedia designer with two years of professional experience in creating both print and digital graphics for diverse public audiences. She holds a bachelor's degree in Graphic Design from the University of Wisconsin-Whitewater and an associate degree in Applied Arts from Madison Area Technical College.

She specializes in creating engaging graphics and icons for both websites and print materials, significantly enhancing visual communication efforts. She is responsible for maintaining and updating web pages for various projects, ensuring content remains current and accessible. Additionally, Mackenzie designs branding and marketing materials for events, contributing to increased visibility and outreach.

Mackenzie is adept at maintaining accessibility standards and developing materials for public information dissemination. She possesses a robust understanding of color theory and excels in designing assets such as branding systems, icons, illustrations, and other visual elements that align with appropriate branding, target audiences, and consistent messaging. Her portfolio of print materials includes invitations, project updates, handouts, and displays. Additionally, she has proficiency in using Webflow to develop project websites.

Related Projects:

- Economic Development Study, Madison County Tennessee
- Sherman Boulevard Design, City of Milwaukee
- Kenosha-Racine-Milwaukee Passenger Rail, City of Racine

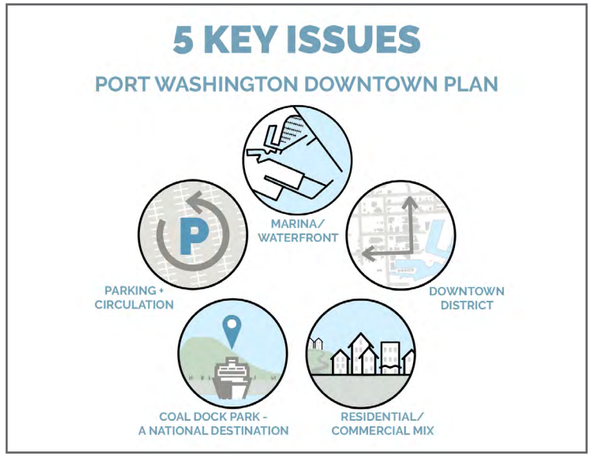
Education

Madison College
A.A. Program – May 2018 Graphic Design
UW–Whitewater
B.A. Program – Dec 2022 Major: Art Emphasis: Graphic Design

Certifications and Affiliations

Member of ACEC, WI
Member of WTBA, WI

(phone) 414-374-6919
(email) Mackenzie@devorpr.com



PORT WASHINGTON DOWNTOWN + LAKEFRONT MASTER PLAN

PORT WASHINGTON, WI

Facing significant development pressures, downtown Port Washington is growing rapidly, reminiscent of its historic boom. The City initiated the Downtown & Lakefront Plan to guide future development and preserve the city's charm.

GRAEF provided a framework envisioning a "traditional waterfront village," supported by Urban Design Guidelines for new development. This framework aligns new projects with a clear vision, reflecting community input and fostering sub-district identities. The Circulation + Parking strategy addresses traffic, navigation, parking, and street safety, creating place-based solutions for the state highway (STH 32) and enhancing waterfront access with pedestrian-first spaces.

In collaboration with stakeholders, we developed visionary yet contextually appropriate concepts for underutilized sites, including public amenities like a two-way cycle track, riverwalk, and waterfront gathering space. The Marina + Waterfront section outlines twelve potential improvements to transform Port Washington into a premier Lake Michigan destination. By addressing growth challenges with a comprehensive, community-driven vision, our firm has helped Port Washington navigate its transition while preserving its unique character and enhancing its appeal as a destination and place to live.

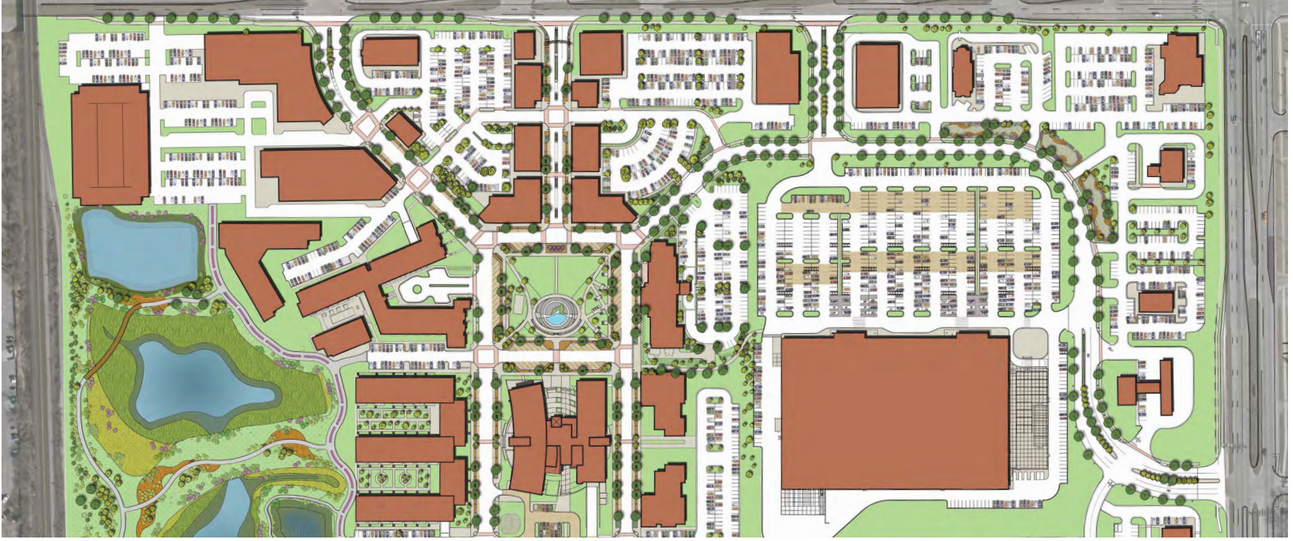
GRĀEF

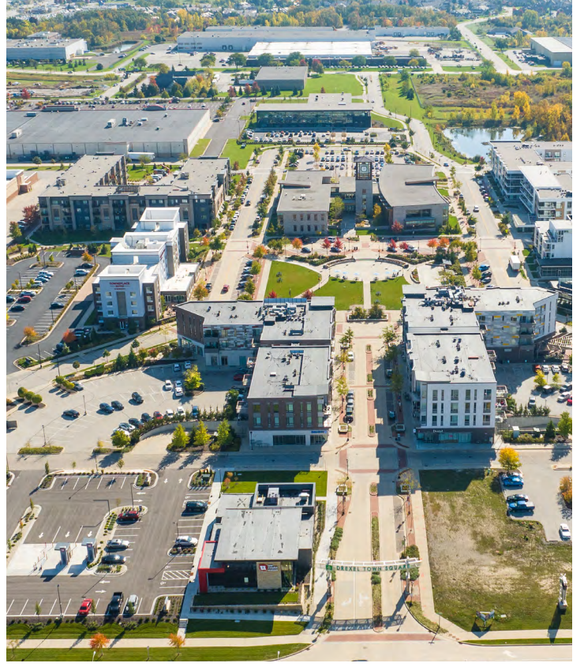
Municipality: City of Port Washington

Project Dates: Completed April 2023

Project Budget: $100,000

Contact:
Robert Harris
Director of Planning & Development
Telephone: 262.284.2600 x1017
RHarris@portwashingtonwi.gov





DREXEL TOWN SQUARE REDEVELOPMENT

OAK CREEK, WI

THE DREXEL TOWN SQUARE REDEVELOPMENT REQUIRED THE COLLABORATION OF SEVERAL LOCAL BUSINESSES AND A STRATEGIC VISION FOR THE SOCIAL AND ECONOMIC OUTCOME OF THE PROJECT.

Oak Creek is a large suburban city which lacked a downtown. The Mayor, born and raised on a farm in Oak Creek, had the vision to create a downtown on an 80-acre abandoned, contaminated, industrial site. Public controversy erupted over the cost, desirability, and feasibility of the vision.

GRAEF's planners created a public engagement process, financial subsidy analysis (TIF), and environmental and economic development grants. Collectively, these efforts brought the community together and led to major market-driven interest by local developers. GRAEF developed a series of different design options for the redevelopment of the former 80-acre Delphi site, now known as Drexel Town Square. This work included several public workshops, economic analysis, and the creation of plan alternatives to address multiple visions for the site. GRAEF also analyzed the public costs and revenues associated with development options. GRAEF's work helped support the creation of a new Town Square featuring the City Hall and Library as a premier destination place.

GRAEF prepared a Planned Development ordinance to regulate and guide the vision set forth in the prior conceptual master planning phase. The ordinance includes design standards that regulate both physical appearance and social activity within the development. The document is amply illustrated and includes standards for site design, buildings (broken down by building types), landscaping, streetscape, community places, signage, and lighting, as well as an embedded section on detailed sustainability options for the district.

Today, the project's success has led to further development along Drexel Avenue including a new investment in streetscape and aesthetics – also led by GRAEF's designers.

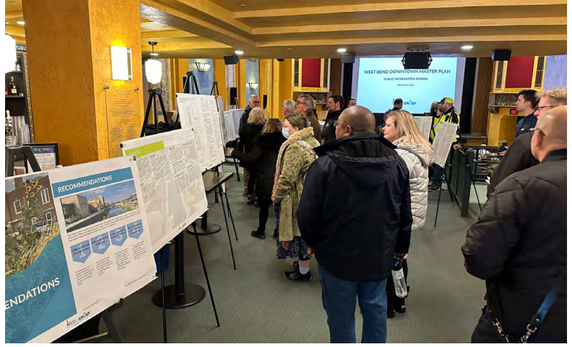
GRĀEF

Municipality: City of Oak Creek

Project Dates: Completed May 2013

Project Budget: $25,000 (Design Guidelines only)

Contact:
Kristi Laine
Community Development Director
(414) 766-7025



WEST BEND DOWNTOWN AND STREETSCAPE MASTER PLAN

WEST BEND, WI

DOWNTOWN MASTER PLAN FOCUSED ON TRANSFORMING THE COMMUNITY INTO A VIBRANT, WALKABLE DESTINATION BY ENHANCING THE RIVERWALK AND ADDRESSING DEVELOPMENT PRESSURES.

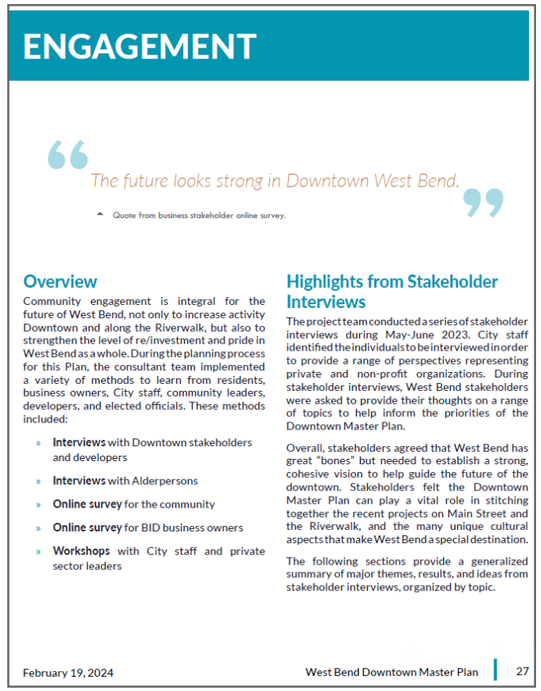
The recommendations of this plan culminated over an intensive 10-month stakeholder engagement process, accelerated in response to growing development pressures and investment potential in the Downtown. The outcomes of the plan include immediate activation and placemaking strategies which position the community to catalyze investments over the medium-term within an overall urban design framework. Activation and placemaking strategies are focused on getting people to occupy places during longer periods of the day and extending beyond the peak May-October tourism season with strategies for outdoor dining, kid-friendly outdoor activities, and enhanced landscaping to improve walkability and tree canopy.

The urban design framework and streetscape master plan provide a foundation for how catalytic projects will invest in the public realm. The GRAEF Planning + Urban Design team worked closely with local developers, business owners, community groups, and long-time residents to provide a focused direction for investment and development.

DELIVERING RESULTS

The plan is strategic as much as it is a long-range comprehensive area plan. The plan is organized to produce an action plan the identifies key responsibilities – both at City Hall and on Main Street – to assist with the daily planning efforts. Discrete implementation actions are arranged as line items to assist with Capital Improvement Planning. Priority projects are identified to organize strategic planning over the first few years of implementation, and additional time frames are included for all other recommendations. The implementation plan is designed to give an executive a one-stop shop for providing direction, to give city staff the tools they need to develop detailed programs, and to provide State and County agencies the details they need to begin the process of reviewing and approving plans that need intergovernmental coordination. The plan is also designed to make it easier to qualify and apply for a range of grant funding opportunities. Every investment in Downtown West Bend will be able to use this plan to inform decision making, provide direction, and inspire confidence in the future of the community.

Since Plan adoption in February 2024, the community has already begun implementing the recommended streetscape activation strategies including hanging flower baskets, sidewalk planter pots including oversized pots with street trees, and custom seating elements.



ENGAGEMENT

"The future looks strong in Downtown West Bend."

Quote from business stakeholder online survey.

Overview

Community engagement is integral for the future of West Bend, not only to increase activity Downtown and along the Riverwalk, but also to strengthen the level of re/investment and pride in West Bend as a whole. During the planning process for this Plan, the consultant team implemented a variety of methods to learn from residents, business owners, City staff, community leaders, developers, and elected officials. These methods included:

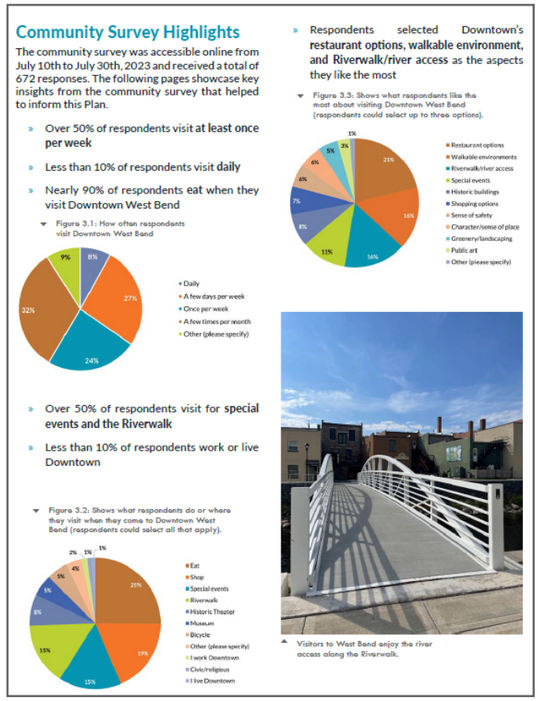
- **Interviews** with Downtown stakeholders and developers
- **Interviews** with Alderpersons
- **Online survey** for the community
- **Online survey** for BID business owners
- **Workshops** with City staff and private sector leaders

Highlights from Stakeholder Interviews

The project team conducted a series of stakeholder interviews during May-June 2023. City staff identified the individuals to be interviewed in order to provide a range of perspectives representing private and non-profit organizations. During stakeholder interviews, West Bend stakeholders were asked to provide their thoughts on a range of topics to help inform the priorities of the Downtown Master Plan.

Overall, stakeholders agreed that West Bend has great "bones" but needed to establish a strong, cohesive vision to help guide the future of the downtown. Stakeholders felt the Downtown Master Plan can play a vital role in stitching together the recent projects on Main Street and the Riverwalk, and the many unique cultural aspects that make West Bend a special destination.

The following sections provide a generalized summary of major themes, results, and ideas from stakeholder interviews, organized by topic.



Community Survey Highlights

The community survey was accessible online from July 10th to July 30th, 2023 and received a total of 672 responses. The following pages showcase key insights from the community survey that helped to inform this Plan.

- Over 50% of respondents visit **at least once per week**
- Less than 10% of respondents visit **daily**
- Nearly 90% of respondents **eat when they visit Downtown West Bend**

Figure 3.1: How often respondents visit Downtown West Bend

- Over 50% of respondents visit for **special events and the Riverwalk**
- Less than 10% of respondents work or live Downtown

Figure 3.2: Shows what respondents do or where they visit when they come to Downtown West Bend (respondents could select all that apply).

- Respondents selected Downtown's **restaurant options, walkable environment, and Riverwalk/river access** as the aspects they like the most

Figure 3.3: Shows what respondents like the most about visiting Downtown West Bend (respondents could select up to three options).

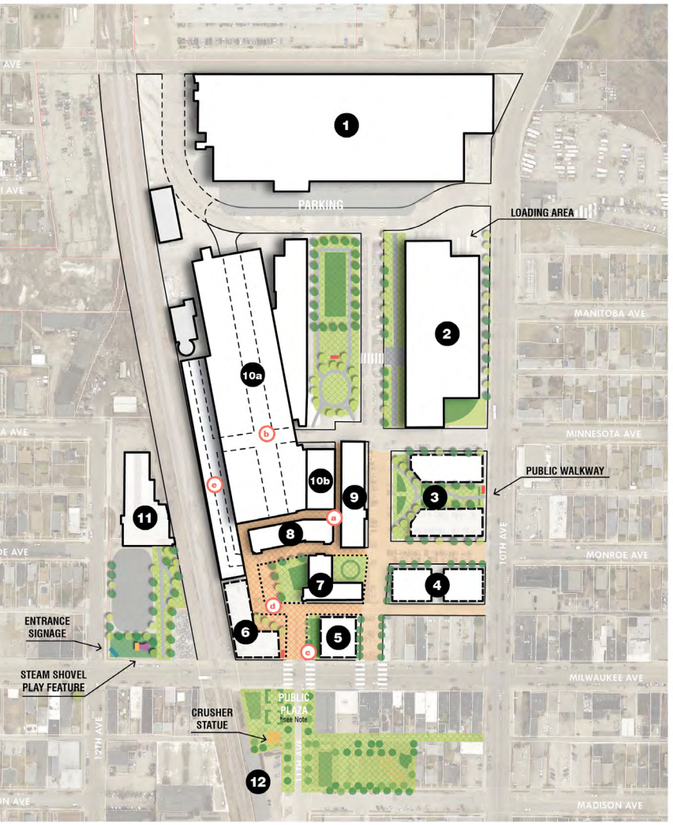
Visitors to West Bend enjoy the river access along the Riverwalk.

Municipality: City of West Bend

Project Dates: Completed January 2024

Project Budget: $110,000

Contact:
Jay Schambeau, ICMA-CM, MPA
Innovative Public Advisors, Partner
(Former West Bend City Administrator)
262-355-6102
jay@public-advisors.com



Bucyrus Campus Master Plan

LAND USES

1. Industrial
2. Industrial, possible maker places, brewery, parking
3. 3-5 story residential (apartments or condos), retail, officec, hotel
4. 3-4 story residential (townhomes, apartments, or condos), possible retail
5. 1 story retail, possible 1-2 stories of residential
6. 3-5 story residential (apartments or condos), possible retail, office, hotel
7. 4 story rehab, residential (apartments or condos), office
8. 6 story rehab, residential (apartments or condos) or office, possible hotel
9. 3-4 story rehab, residential (apartments or condos)
10a. Industrial, possible residential, marketplace, parking
10b. Office
11. Cultural, dining, entertainment
12. Long-range potential: Kenosha-Racine-Milwaukee Commuter Rail Station

0 100 200 400

GRĀEF

PRECEDENTS

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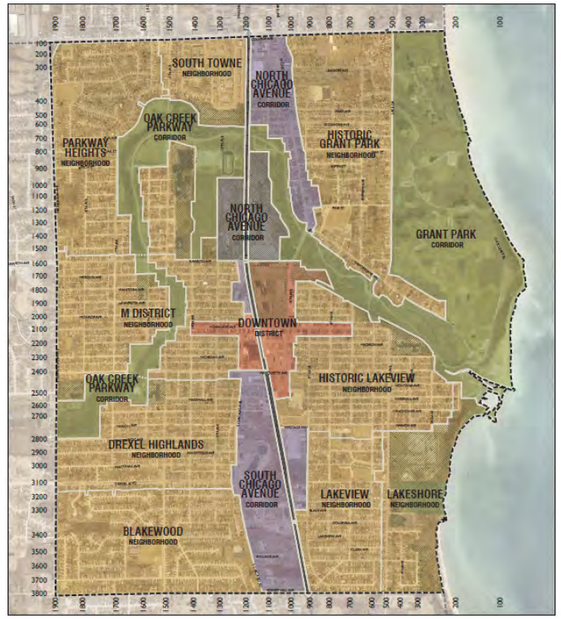
FUTURE LAND USE MAP | NEIGHBORHOODS, DISTRICTS, AND CORRIDORS



BUCYRUS CAMPUS MASTER PLAN

SOUTH MILWAUKEE, WI

THE BUCYRUS CAMPUS IN SOUTH MILWAUKEE WAS REIMAGINED TO SERVE THE SURROUNDING CITY IN A NEW WAY.

For more than a century, the Bucyrus Campus – its people, projects and products – was the economic engine that spurred the growth of South Milwaukee. Manufacturing was the lifeblood of the community, and Bucyrus was an international leader in producing the heavy equipment and machinery that fueled decades of economic development in our nation and beyond. Over time, and with the decline of manufacturing, many Bucyrus Campus buildings became empty shells. Yet the potential for renewal remained strong. GRAEF was hired by the City in 2021 to perform site analysis and redevelopment scenarios for the campus. This included collaboration with private-sector developers to envision market-real adaptive reuse and redevelopment solutions. In 2024, GRAEF is on the project team leading site design/engineering for new mixed-use redevelopment that was envisioned as part of the master plan.

The redevelopment approach relies on key assumptions:

1. Redevelopment of the campus as an active mixed-use district will dramatically improve the downtown and the City.
2. The conceptual plan will facilitate incremental change, with significant flexibility,while focusing on the goal noted above.
3. Actions by the City, landowners, and investors will receive public support.
4. Multiple market opportunities for the campus will increase the likely realization of potential value.
5. Redevelopment will emphasize preservation and reuse of existing structures.
6. A coordinated private/public effort towards redevelopment will yield the best outcomes.

GRĀEF

Municipality: City of South Milwaukee

Project Dates: Completed March 2021

Project Budget: $45,000

Contact:
Patrick Brever
Economic Development Director
City of South Milwaukee
414-768-8051
brever@smwi.org

KENOSHA-RACINE-MILWAUKEE REGIONAL RAIL CORRIDOR PROJECT (MARK RAIL)

RACINE COUNTY, WI | CITY OF RACINE, WI

Kenosha-Racine-Milwaukee Regional Rail Corridor Project (MARK Rail)
Municipality/Agency and Location: Racine County, WI, City of Racine
Project Start: June 2024
Project Completion: December 31, 2025
Project Budget: $123,000
Client Contact Name: Trevor Jung
Client Contact Email: trevor.jung@cityofracine.org

Our team recently led the public engagement strategy for the Milwaukee–Racine–Kenosha (MARK) Rail Study, a multi-jurisdictional effort conducted in partnership with the Southeastern Wisconsin Regional Planning Commission (SEWRPC), the City of Milwaukee, the City of Racine, and the City of Kenosha. The purpose of the study was to explore the potential for establishing passenger rail service along the Lakeshore corridor and to position local governments for future federal funding opportunities.

Because the long-term success of the MARK study depended heavily on early stakeholder involvement and broad community understanding, our team was responsible for designing, managing, and executing a comprehensive engagement program. The scope and nature of this work directly align with the Village of Germantown's goals for the Village Center District engagement initiative.

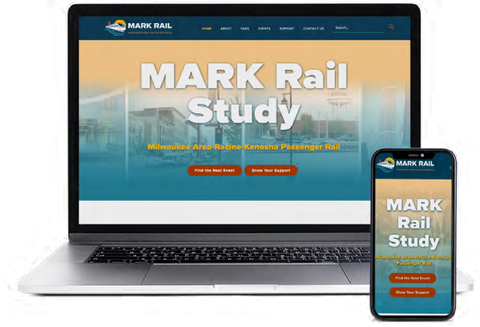
Key Components of Engagement
Stakeholder Identification & Prioritization

We collaborated with SEWRPC and local partners to develop a detailed inventory of key audiences including residents, major employers, transit advocacy groups, municipal officials, business associations, elected leaders, neighborhood organizations, community groups, and potential future riders. Stakeholders were categorized by level of influence, interest, and required involvement, ensuring that engagement activities were inclusive and strategically targeted.

Public Engagement Plan
Our team prepared a structured engagement roadmap outlining communication goals, outreach methods, event formats, survey strategies, timelines, and expected outcomes. Engagement tools included:

- Listening sessions and initial briefings with municipal leaders
- A tiered outreach strategy for high-priority stakeholders
- Public-facing materials to introduce the study and invite participation
- Tracking procedures to document feedback, commitments, and follow-up actions

This plan served as the guiding document for all study engagement efforts.



DE VOR Communications

WEBSITE, BRANDING AND PUBLIC COMMUNICATION TOOLS
To support clear, consistent, and accessible communication throughout the MARK Rail Study, our team developed a portfolio of public-facing materials with a dedicated project brand. This included a logo, color palette, typography, and style guidelines, ensuring all outreach materials were cohesive and recognizable across platforms.

De Vor developed the MARK Rail Study website to serve as the main source for public information and engagement. It features a project overview, background materials, technical presentations, fact sheets, and a streamlined process for community members and organizations to submit letters of support. The platform facilitates both outreach and community input, aligning with the Village's approach of combining in-person and digital engagement.

In addition, we developed clear and accessible communication materials that translated complex rail planning concepts into easy-to-understand language. These resources supported partner communities, elected officials, and the general public in building a shared understanding, facilitating stakeholder discussions, and generating the letters of support critical to strengthening the study's federal funding application.

SUPPORT-BUILDING & FUNDING READINESS
One of the study's requirements was to demonstrate strong regional backing to secure Federal Railroad Administration (FRA) funding. We facilitated this process by coordinating outreach to stakeholders, providing letter-writing templates, and generating information packets that explained project benefits and anticipated outcomes.

The result was a coordinated, region-wide show of support that strengthened the study's competitive position for federal funding.

Relevance to Germantown's Community Engagement Needs
The MARK Rail Study demonstrates our ability to:

- Work across multiple jurisdictions and stakeholder groups with diverse interests
- Develop comprehensive engagement plans grounded in clear goals and transparent processes
- Use a combination of in-person, virtual, and digital engagement tools
- Present technical concepts to the public in accessible, visually rich formats
- Document input and translate it into actionable guidance for planners and decision-makers

This experience directly aligns with the Village of Germantown's objectives for a collaborative, inclusive, and well-structured community engagement program that will inform land-use planning and design for the Village-owned redevelopment sites.

MADISON COUNTY, TENNESSEE - IMPACT OF PUBLIC SERVICES CONSOLIDATION

MADISON COUNTY, TN, MADISON COUNTY CHAMBER OF COMMERCE

Municipality/Agency and Location: Madison County, TN, Madison County Chamber of Commerce
Project Start: August 2025
Project Completion: Ongoing
Project Budget: $20,000
Client Contact Name: Bob Arrington
Client Contact Email: barrington@afgemail.net

De Vor Communications is currently serving as the public involvement consultant for the Madison County Chamber of Commerce on a project assessing the potential consolidation of government services between Madison County and the Town of Jackson, TN. The project requires gathering and analyzing community input to inform economic development and fiscal projection analyses.

Our team has developed a distinct project brand and launched a dedicated website to share the study's intent and provide ongoing updates to the public. We have designed and administered a community survey hosted on Qualtrics and integrated within the project website to collect stakeholder feedback on interactions with the existing local government structure and sentiments regarding potential consolidation. Survey results are being shared with the economic and fiscal study team in real time to ensure community input informs the ongoing analysis and emerging recommendations.

In addition to survey administration, De Vor Communications is facilitating virtual focus group discussions to engage residents, property owners, business leaders, and other key stakeholders in meaningful dialogue about the study. We provide guidance on messaging, assist with website content and design, and participate in regular client meetings to align engagement activities with project timelines and objectives.

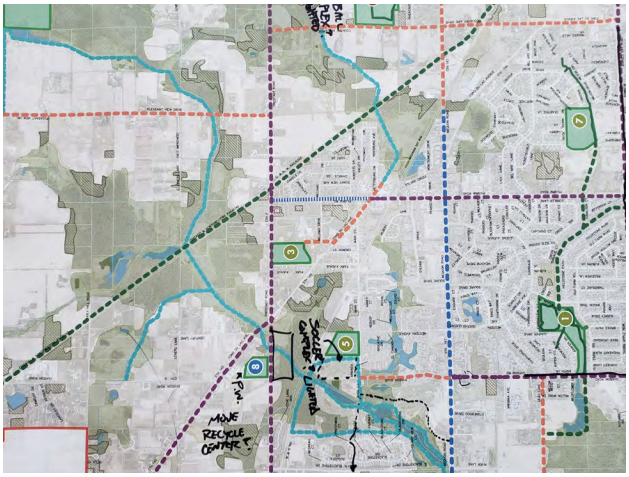
We also provide guidance on messaging, assist with website content and design, and participate in regular client meetings to align engagement activities with project timelines and objectives. Our methodology emphasizes transparency, accessibility, and inclusivity, ensuring that diverse voices are represented and that input is synthesized into actionable insights.

Through these efforts, our team is implementing an inclusive and structured public engagement program that captures, analyzes, and integrates community perspectives into a complex policy and economic study. This experience demonstrates our capacity to design and execute multi-faceted engagement programs including digital, virtual, and interactive strategies, tailored to the needs of diverse stakeholders. This experience demonstrates our capacity to:

- Identify community issues, priorities, and needs through surveys, focus groups, and stakeholder interviews.
- Translate public input into planning and design guidance that can inform land-use plans, development regulations, and design guidelines.
- Facilitate dialogue across diverse stakeholder groups to build consensus and ensure redevelopment strategies reflect community desires.
- Leverage digital, virtual, and interactive tools to maximize participation and transparency.

Our work in Madison County illustrates our ability to design and execute multi-faceted engagement programs that integrate seamlessly with technical planning studies. This positions De Vor Communications to support Germantown in developing a community-driven vision for the Village Center District and ensuring redevelopment of Village-owned properties reflects the priorities and aspirations of its residents.

REFERENCES



1.

Jay Schambeau, ICMA-CM, MPA
Innovative Public Advisors, Partner
262-355-6102
jay@public-advisors.com
Project: West Bend Downtown Master Plan

2.

Trevor Jung
Director of Transit and Mobility
City of Racine
262-636-9123
Trevor.Jung@cityofracine.org
Projects: MARK Rail

3.

David Tapia
DPW Infrastructure Major Projects Manager
City of Milwaukee
414-286-2453
ddtapia@milwaukee.gov
Project: Multiple design projects in the City of Milwaukee, including Sherman Boulevard and Lisbon Avenue

OUR APPROACH TO GERMANTOWN

Your stories are uncovered during the engagement process, in the neighborhoods.

TASK 1
PROJECT MANAGEMENT

Craig Huebner will serve as Project Manger for this project. Craig has recent experience working with Village staff on the Comprehensive Plan and will be a recognizable face to many local officials.

We will begin by holding an in-person kickoff meeting with Village staff to discuss project goals, priorities, expectations, resources, opportunities, and limitations necessary to shape and create the community engagement program. This initial kick-off meeting will set the stage for subsequent meeting(s) with Village Officials in Task 2.

In addition to the kick-off meeting, GRAEF and DeVor will maintain regular contact with the Village with bi-weekly virtual meetings. These meetings will be used to provide progress updates, coordinate efforts, receive direction from staff, and discuss any needed adjustments to the schedule, engagement program activities, or scope of work.

DeVor utilizes Monday.com as a project management and communications platform to track stakeholder interactions, manage workflow, and maintain quality control. This system allows us to log questions and comments from community members in real time, ensure timely responses, and provide the Village with clear, organized reports throughout the project and at its conclusion. This level of documentation ensures that Village officials and staff have a complete, accurate record of community input to inform decision-making.

TASK 2

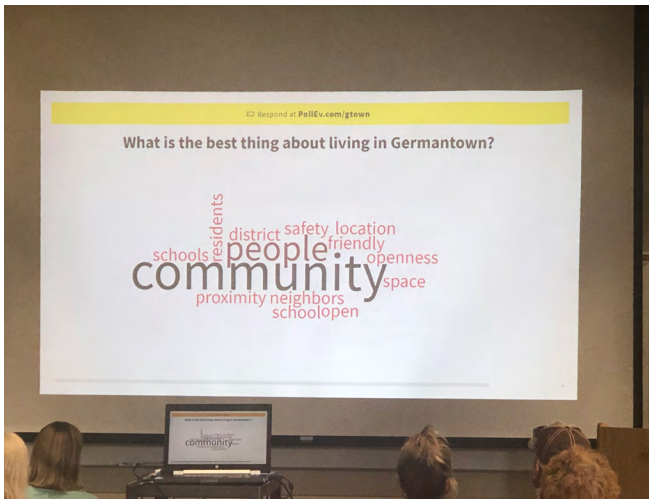
CONDUCT INTRODUCTION MEETINGS WITH VILLAGE OFFICIALS AND STAFF TO DEVELOP THE COMMUNITY ENGAGEMENT PROGRAM

WORK PROGRAM OVERVIEW:
Our public and stakeholder engagement strategy prioritizes accessibility, inclusivity, and purposeful outreach. We will implement a layered approach that blends broad-based engagement tools with targeted, relationship-driven methods to ensure every voice has a meaningful opportunity to participate.

We understand that the goal of this project is to build a community-supported vision by gathering meaningful feedback from residents, property owners, business owners, organizations, and other stakeholders.
Our strategy centers on:

- Meeting community members where they are physically, digitally, and in communication style
- Offering multiple, flexible ways for stakeholders to participate
- Providing clear, consistent materials that translate technical concepts into accessible information for all stakeholders
- Documenting all engagement activities thoroughly so community sentiment is accurately reflected in the final redevelopment plans and guidelines

In alignment with the RFP, our team will work closely with Village staff to develop a tailored Community Engagement Plan that reflects Germantown's goals, resources, and expectations. Through introduction meetings, listening sessions, workshops, surveys, on-the-ground outreach, and other interactive methods, we will create meaningful opportunities for residents, business owners, and stakeholders to participate in shaping both properties that meet the community's desires. After each event, we will provide a detailed debrief report summarizing participation, key themes, concerns raised, and areas of consensus.



TASK 3
COMMUNITY ENGAGEMENT PROCESS

POTENTIAL ENGAGEMENT ACTIVITIES:
Using the Village's guidance and our experience in designing inclusive outreach strategies, we will conduct the engagement tactics approved by the Village Board

- **Stakeholder Mapping and Engagement Plan:** Identify a contact list of community organizations, neighborhood associations, faith-based groups, nonprofits, senior services, disability advocates, and multilingual networks to ensure outreach captures perspectives often missing from traditional processes.
- **Survey and Feedback Tools:** Launch an inclusive community survey to gather broad input on preferences, priorities, and redevelopment goals from a variety of stakeholders. Partner with targeted outreach to groups with historically lower response rates and offer anonymous response options. Distribute paper surveys in partner locations, use QR codes, and provide digital links offering multiple ways to respond.
- **Communication and Engagement Materials:** Develop print and digital materials such as a project website, social media posts, handouts, project FAQ pages, presentations, and informational, interactive display boards. Our team is familiar with ensuring all materials are ADA-accessible and mobile-friendly as well as using clear, consistent messaging and visual tools to support understanding.
- **Meetings & Pop-Up Engagement:** Host a combination of in-person, virtual, and hybrid events, including public meetings, focus groups, workshop/charettes sessions, and pop-up events at accessible locations and times. Special attention will be given to meeting formats and times that reduce barriers. These events will be designed to encourage hands-on collaboration and dialogue among residents, business owners, organizations, and other stakeholders.
- **Comprehensive Engagement Documentation & Reporting:** Oversee all scheduling, coordination, and operational needs for engagement activities; maintain a structured log of stakeholder interactions and public feedback; produce regular summaries that clearly communicate findings and community priorities.
- **Presentations to Plan Commission/Village Board:** Provide a summary of findings at monthly meetings.

TASK 4

PREPARE A FINAL COMMUNITY ENGAGEMENT OUTCOMES REPORT

- **Plan Priorities & Development Framework Diagrams:** As part of the engagement process, our team will ask questions in order to establish “Plan Priorities” that will serve as a guiding element for future uses, site, and building design. Throughout the engagement process, our team will show a variety of precedent imagery as well as 2D site diagraming that help aid in future use opportunities. As part of the final report, our team will develop what we call “Development Framework Diagrams” for each site. These diagrams will show a series of infrastructure, land division and development concept sketches to portray alternative development scenarios that each bring. Each diagram will portray scale, density, and relationship to the surrounding context.
- **Final Report:** Our team will provide a draft final report to Village staff for review and approval. Based on the feedback from staff, the consultant will prepare a final report and present it to the Village Board at a mutually-acceptable public meeting.

PROJECT DELIVERABLES BY TASK

PROJECT TASKS	CONSULTANT DELIVERABLES	*TIMING
TASK 1	• Contract Execution • Kickoff meeting, scoping discussions • Bi-weekly meetings and project management	December 15, 2025 January 2026 Project Duration
TASK 2	• Draft Community Engagement Plan • Community Engagement Plan Review	Janurary 2026 February 2026
TASK 3	• Launch Survey, website, and other initial informational materials • Initial hybrid meetings/workshops • Social media outreach • Ongoing documentation and Reporting	Early March 2026 March/April 2026 February-May 2026
TASK 4	• Establish Plan priorities based upon engagement findings • Create Development Frameworks for each site • Final Report	March-May 2026

*Note: Schedule can adjust to accommodate Village exeptions.

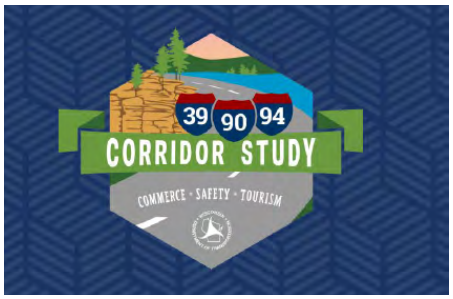
COST PROPOSAL

	Proposed Scope of Work		Fee
1	**Project Management**	$	6,152
1.1	*Kick-off Meeting*	$	662
1.2	*Bi-weekly check-in meetings*	$	3,181
1.3	*Project Management*	$	2,309
2	**Conduct Introduction Meeting with Village Officials and Staff**	$	4,782
2.1	*Joint working meetings with Village Board and Staff (1 meetings with staff; 1 meetings with Board)*	$	2,196
2.2	*Community Engagement Plan*	$	2,586
3	**Community Engagement Process**	$	28,926
3.1	*Project Website*	$	2,407
3.2	*Social Media Presence*	$	546
3.3	*Community Surveys (2)*	$	1,618
3.4	*Digital | Print Informational Material*	$	8,433
3.5	*Mailer*	$	534
3.6	*FAQ's*	$	946
3.7	*Staff Workshop*	$	1,662
3.8	*Focus Group Meeting/Workshop*	$	2,028
3.9	*Community--Wide Hybrid Meetings (2)*	$	4,592
3.10	*Notification to Stakeholders (Project Mailings, surveys, faqs, knock & drops, e-blasts, and responses)*	$	3,352
3.11	*Presentation slides/engagement summaries and attend up to three (3) Plan Commission/Board meetings*	$	2,808
4	**Report**	$	11,882
4.1	*Establish Plan priorities*	$	1,604
4.2	*Create Development Framework Diagrams for each site*	$	8,304
4.3	*Final Report*	$	1,974
	subtotal	$	51,742
	Expenses (materials and supplies for engagment)	$	2,000
	Total	$	53,742

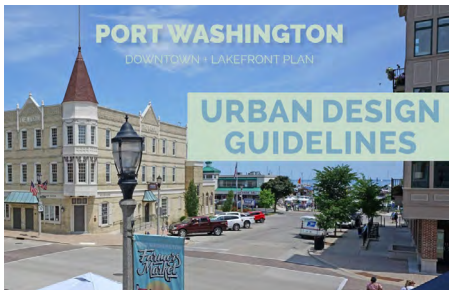
Rate:	$218	$183	$164	$113	$102	$79	$91
Staff:	CH	DS	KR	EM	JS	EC	MK
	2			2			
	12			5			
	8			5			
	8			4			
	2			10	10		
				3	6		16
							6
	1			4		12	
	4		24	5	10	12	12
	1					4	
	1						8
	2	2		4	4		
	2	4		4	4		
	8		8	8		8	
	2				10	24	
	8			4	6		
	4	4					
	8		40				
	2		8	2			
Total:	75	10	80	60	50	60	42

SUPPORTING DOCUMENTS

Please click the photos below for more information and direct links to the detailed reports.

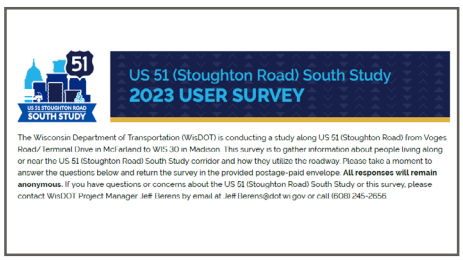


I-39/90/94 Corridor Study
Public Involvement Plan
Developed by De Vor Communications



Downtown Port Washington Design Guidelines
Developed by GRAEF

Downtown West Bend Engagement Summary
Developed by GRAEF



User Survey Example
US 51 (Stoughton Road) South Study
Developed by De Vor Communications

Branding Overview
Developed by De Vor Communications

VILLAGE OF GERMANTOWN

RFP FOR COMMUNITY ENGAGEMENT SERVICES

21 NOVEMBER 2025

JUANGABRIELMORENOARCHITECTS

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1 PROJECT UNDERSTANDING AND INTEREST

2 KEY PERSONNEL AND QUALIFICATIONS

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4 REFERENCES

5 WORK PROGRAM AND PROJECT SCHEDULE

6 COST PROPOSAL

7 SUPPORTING DOCUMENTS

1 PROJECT UNDERSTANDING AND INTEREST

Village of Germantown
Steve Kreklow
Village Administrator
N112 W17001 Mequon Road
Germantown, WI 53022
skreklow@germantownwi.gov

21 November 2025

RE: REQUEST FOR PROPOSALS COMMUNITY ENGAGEMENT SERVICES - PROJECT UNDERSTANDING AND INTEREST

Dear Mr. Kreklow,

On behalf of JGMA, we extend our sincere appreciation for the opportunity to submit our qualifications for the Village of Germantown's Community Engagement Services project. We understand that this initiative is a critical first step in shaping the future of the Village Center District and establishing a community-supported foundation for site-specific redevelopment plans, land-use recommendations, and design guidelines for the Flower Source, Ascension, and Grosenick properties. The Village's commitment to a transparent and inclusive engagement process speaks directly to our values as a practice at JGMA, and we are enthusiastic about the chance to support Germantown in creating a vision that reflects the priorities, needs, and aspirations of its residents and stakeholders.

JGMA brings extensive experience designing and facilitating meaningful community engagement processes that blend traditional in-person outreach with innovative virtual tools, online polling platforms, and multi-modal engagement strategies. Our work with municipalities, local businesses, school districts, counties, and nonprofit organizations—including the United Community Center, Neal Math + Science Academy, Milwaukee County's King Community Center, Start Early, and Esperanza Health Centers—demonstrates our ability to convene diverse audiences, build trust, and generate actionable insights that guide planning and design. These efforts routinely involve residents, property owners, business operators, civic partners, and "silent stakeholders," all of whom must be represented in a truly inclusive planning process. This RFP emphasizes equitable, accessible, and well-organized engagement—and these principles are foundational to our work. Additionally, as identified under Section 7: Supporting Documents, JGMA can provide links to the synthesized programming and community engagement documents from the United Community Center and Start Early projects upon request, should the Village wish to review examples of our recent engagement deliverables.

Our interest in partnering with the Village is rooted not only in our technical capabilities, but in our genuine commitment to community-centered processes. We understand the importance of an engagement program that is thorough, well-managed, and aligned with the Village's tight project schedule from January to April 2026. Our team is prepared to design and facilitate surveys, listening sessions, mapping exercises, stakeholder meetings, workshops, and both in-person and virtual engagement events that clearly respond to the tasks outlined in the RFP. Equally important, we excel in synthesizing the resulting qualitative and quantitative feedback into clear, visually communicative reports that can be confidently used to inform land-use planning, zoning-related development regulations, and design guidelines for the three Village-owned properties.

JGMA is proud to be one of the most recognized community-focused design firms in the Midwest. Our work has received national and international recognition, including the Architecture MasterPrize Firm of the Year Award and Architect Magazine's ranking among the top 50 design firms in the United States, reflecting our belief that planning and design can be transformative when rooted in authentic community voices. We bring that same level of commitment, creativity, and rigor to this project. Our team is fully prepared to meet the RFP requirements, collaborate closely with Village staff, and deliver a high-quality, inclusive, and actionable engagement process that positions the Village Center District for long-term success.

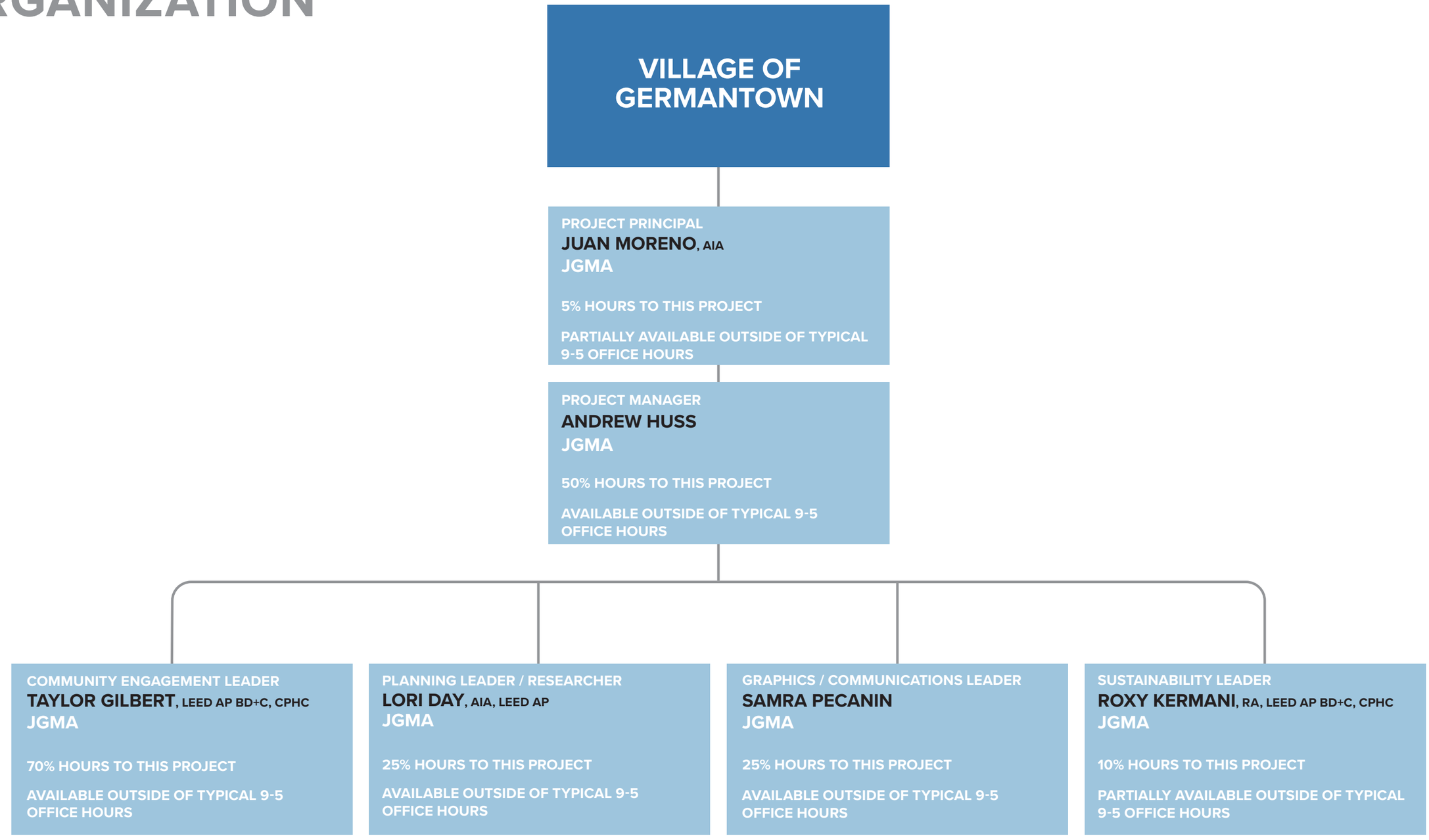
We thank you for your consideration and look forward to the potential opportunity to support the Village of Germantown in this important initiative. Please do not hesitate to contact us with any questions regarding our submission.

Sincerely,

Juan Gabriel Moreno, AIA
President, JGMA
+1.773.294.1056
juan@jgma.com

2 KEY PERSONNEL AND QUALIFICATIONS

PROJECT TEAM ORGANIZATION



JUAN GABRIEL MORENO AIA

PROJECT PRINCIPAL

EDUCATION
California State Polytechnic University, Bachelor of Architecture, Pomona, California
Study Abroad: Florence, Italy

REGISTRATIONS
Licensed Architect, State of California

LEED Accredited Professional (LEED AP)

AFFILIATIONS + MEMBERSHIPS
American Institute of Architects (AIA), Member

Society of Registered Architects (SARA), Member

Chicago Architecture Biennial, Board Member

United States Green Building Council, Member

Chicago Sister Cities Bogota, Committee Member

Chicago Architecture Center, Board of Trustees Member

City of Chicago Landmarks Commission, Former Appointee

Leadership Greater Chicago, Fellow

Arquitectos, Past Board President

Loyola University Health System, Board Member

Metropolitan Planning Council, Board Member

National Museum of Mexican Art, Board Member

Juan Gabriel Moreno, AIA, is an award-winning architect and President/Founder of JGMA (Juan Gabriel Moreno Architects). Mr. Moreno was born in Bogota, Colombia and studied architecture at California State Polytechnic University, Pomona. He also lived in Florence, Italy where he studied under Superstudio founders Christiano Toraldo di Francia and Gianni Pettena.

Mr. Moreno has been creating provocative works for more than 30 years. His portfolio includes having worked on projects throughout the United States and internationally. These projects represent a diverse portfolio of public and private work in typologies ranging from education, government, research, commercial, urban planning, product design and graphic design. However, in 2010 he launched JGMA with the sole purpose of transforming disadvantaged and underserved communities with his architecture. Since then, JGMA has become one of the most highly acclaimed design firms in the nation, and continues to grow, establishing offices throughout the country. JGMA's work has captured the attention of some of the most respected voices in architecture and design, earning recognition from both national and international institutions. From the Architecture MasterPrize to Architizer and Architect Magazine, the firm has been consistently celebrated for its innovative design approach. Institutions local to its headquarters as Crain's Chicago Business, the Chicago Architecture Foundation, and the Chicago Architecture Biennial have highlighted JGMA's impact on the city's evolving architectural identity. Esteemed professional organizations including AIA, the Association of Licensed Architects, and the Society of American Registered Architects have acknowledged the firm's design excellence and leadership.

Mr. Moreno has served on the City of Chicago's Design Excellence Committee since its launch and was an inaugural appointee to the Committee on Design by the Department of Planning and Development. He is currently a board member of the Chicago Architecture Center and the National Museum of Mexican Art. His past board appointments include the Chicago Architecture Biennial, the Metropolitan Planning Council, and the Commission on Chicago Landmarks. Additionally, Mr. Moreno has served on design juries for AIA chapters and universities both nationally and internationally, reinforcing his belief that design should be in constant dialogue with public service, education, and community.

PROJECT EXPERIENCE

The United Community Center, Milwaukee, WI, USA
The United Community Center is transforming a historic 1907 building on its Burnham Campus into an Early Learning Academy for 230 children ages six weeks to five years old, addressing the need for early childhood education on Milwaukee's south side. The facility will also include a community center to provide additional support and services for local Hispanic families.

King Community Center, Milwaukee, WI, USA
Transformation of the existing building into an engaging community center and vibrant cultural hub, providing a positive safe space for community members within the surrounding neighborhoods.

ANDREW HUSS

PROJECT MANAGER

EDUCATION
University of Illinois at Chicago, Master of Architecture

University of Wisconsin-Milwaukee, Bachelor of Science in Architecture

Architectural Studies Abroad
Berlin, France + Italy

AFFILIATIONS + MEMBERSHIPS
Commercial Real Estate Development Association Member (NAIOP)

Hispanic Professionals of Greater Milwaukee Member (HPGM)

Andrew believes that architecture can create design that enriches, transforms, and improves communities all over the world through intense contextual analysis and adaptive design strategies. As a native of Wisconsin, Mr. Huss is dedicated to giving back to the communities in which he grew up in and is serving as a leader for the JGMA Milwaukee office.

Andrew takes great interests in how surrounding neighborhoods and sites can contextually drive design by examining everything from existing historical relevance to surrounding site data. Deriving design inspiration from the past and using it to inform planning for the future is how he aims to reinvest back into the communities of Wisconsin. Understanding that architecture is more than just a building, but it is however, an all-inclusive thought process, a three-dimensional expression of culture, and a tool that has the ability to impact many different people on many different levels.

PROJECT EXPERIENCE

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The Brighton Park Neighborhood Council, Chicago, IL, USA
Since its founding in 1997, the Brighton Park Neighborhood Council (BPNC) has been committed to empowering the Brighton Park neighborhood in Chicago. Over the years, BPNC has diligently supported the city's southwest side, particularly aiming to uplift the predominantly Latino low-income community. JGMA is honored to collaborate with BPNC in envisioning their new headquarters office building, where they will continue to advocate for positive change in this vibrant but historically underserved neighborhood.

King Community Center, Milwaukee, WI, USA
Transformation of the existing building into an engaging community center and vibrant cultural hub, providing a positive safe space for community members within the surrounding neighborhoods.

KLEO Arts Residences, Chicago, Illinois, USA
Encompassed in neighboring sites totaling almost 100,000 sf, the facility is designed to become a catalyst for further retail and mixed-use development along the Garfield Boulevard corridor.

Cabrini Green Zone Three Development, Chicago, Illinois, USA
To integrate the existing contextual ideas of horizontal facade movement and exterior living spaces, the design seeks to revitalize the way these concepts are perceived and viewed, while simultaneously including aspects of community, place, and culture.

TAYLOR GILBERT LEED AP BD+C, CPHC

COMMUNITY ENGAGEMENT LEADER

EDUCATION
University of Wisconsin at Milwaukee, Bachelor of Science in Architectural Studies
Study Abroad: Sweden, Denmark, Norway, Finland

REGISTRATIONS
LEED Accredited Professional for Building Design and Construction (LEED AP BD+C)

Certified Passive House Consultant

Sustainability Analyst Certificate, Arizona State University

Taylor Gilbert is dedicated to creating design solutions shaped by the voices and values of the communities they serve. With a background that blends architectural training and three years of experience in environmental consulting, she approaches engagement processes with a strong understanding of how the built environment impacts people, place, and long-term resilience. Originally from the Milwaukee area, Taylor brings an authentic regional perspective and a deep appreciation for listening to local communities to inform meaningful design outcomes.

At JGMA, Taylor plays a key role in planning, facilitating, and synthesizing community engagement efforts that guide project direction from the earliest stages. She is skilled in translating stakeholder input—including feedback from residents, families, educators, and civic partners—into clear planning frameworks and design criteria. Her certifications as a LEED AP BD+C and Certified Passive House Consultant (CPHC) further support her ability to connect community priorities with high-performance, sustainable solutions.

PROJECT EXPERIENCE

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Start Early's Educare Lake County Early Learning Center, Zion, IL, USA
New 35,000 square foot early childhood learning facility with dedicated space for enrolled families as well as the broader community of Zion community with an emphasis on net zero and sustainable design.

LORI DAY AIA, LEED AP

PLANNING LEADER / RESEARCHER

EDUCATION
Ball State University, Bachelor of Architecture

Technische Universitat Berlin, Germany

REGISTRATIONS
Licensed Architect, State of Illinois

Leadership in Energy and Environmental Design Accredited Professional (LEED AP)

AFFILIATIONS + MEMBERSHIPS
American Institute of Architects (AIA), Board Member

AIA Chicago Board of Directors, Honors & Awards Committee

AIA Chicago Design Knowledge Committee Co-Chair

Professional Women in Construction

Chicago Women in Architecture

Gene Siskel Film Center Advisory Board

Spark Apprenticeship & Step-up Mentoring Program Volunteer

Lori Day is a Design Principal with 25 years of experience in K12, higher education, residential, and community-based projects. During her career, she has led the design and implementation of many notable, award-winning projects. With a background in fine art and a passion for design, Lori brings a unique perspective to her work, seamlessly blending creativity, technical expertise, and an understanding of human behavior.

Lori actively contributes to the architectural community and currently serves on the AIA Chicago Board of Directors. Promoting design excellence, she serves as Co-chair of the AIA Chicago Design Knowledge Committee and organizes educational building tours of local award-winning architecture. Recently, she was selected for the AIA Chicago Honors & Awards Committee, further solidifying her reputation as a thought leader in the field. Other design organizations include the Gene Siskel Film Center Advisory Board, Chicago Professional Women in Construction and Chicago Women in Architecture.

With an unwavering commitment to fostering an equitable and inclusive design culture, Lori Day continues to shape the architectural landscape through her transformative approach to design.

PROJECT EXPERIENCE

Humboldt Park Health Wellness Center, Chicago, IL, USA
This 45,500 sf facility will provide state-of-the-art services for patients of the campus and members of the community. This wellness building will feature programs that promote healthy lifestyles, including a pool, indoor track, and multiple fitness areas.

NEAL Math & Science Academy, North Chicago, IL, USA
A 100,000 sf Intermediate School creates a special community whereby students with special needs and students from lower income families are all brought together in spaces that encourage inclusion and not isolation, with educational spaces and lecture spaces aiding in cultivating safe and uplifting environments for the students.

SOS Children's Village, Chicago, Illinois, USA
The new SOS Children's Villages Illinois and Maestro Cares Community Center exemplifies a unification of SOS's child-fostering mission with the surrounding family "villages" of the Roosevelt Square community.

The United Community Center, Milwaukee, WI, USA
The United Community Center is transforming a historic 1907 building on its Burnham Campus into an Early Learning Academy for 230 children ages six weeks to five years old, addressing the need for early childhood education on Milwaukee's south side. The facility will also include a community center to provide additional support and services for local Hispanic families.

SAMRA PECANIN

GRAPHICS / COMMUNICATIONS LEADER

EDUCATION
University of Illinois at Chicago,
Master of Architecture

University of Illinois at Chicago,
Bachelor of Science in Architecture
Study Abroad: Berlin, Germany

AFFILIATIONS + MEMBERSHIPS
University of Illinois at Chicago
Architecture Alumni Association,
President

United States Green Building
Council, Member

Samra Pecanin is an ambitious designer that is interested in exploring the way that architecture can propose new possibilities for contemporary society. Having an Eastern European background, her perspective in design has been greatly inspired by her time abroad and being exposed to a different culture. After completing a summer program in Berlin, Germany, Samra developed an interest in the ways different forms of architecture, from installations to buildings, can transform communities within cities. Her travel and personal, cultural experiences have helped strengthen her belief that design has the ability to enlighten and enrich lifestyles. She received her Master of Architecture Degree at the University of Illinois at Chicago, where she was awarded the AIA Henry Adams Medal of Merit.

PROJECT EXPERIENCE

Esperanza Health Center, Chicago, Illinois, USA
Transformation of a brownfield site into the new home for Esperanza Health Centers, focusing on creating spaces for healing and wholeness.

Start Early's Educare Lake County Early Learning Center, Zion, IL, USA
New 35,000 square foot early childhood learning facility with dedicated space for enrolled families as well as the broader community of Zion community with an emphasis on net zero and sustainable design.

Humboldt Park Health Wellness Center, Chicago, IL, USA
This 45,500 sf facility will provide state-of-the-art services for patients of the campus and members of the community. This wellness building will feature programs that promote healthy lifestyles, including a pool, indoor track, and multiple fitness areas.

LISC Southwest Corridor Master Plan - Chicago Lawn, Chicago, Illinois, USA
JGMA's masterplan provides program opportunities that will eliminate the barrier that exists along 63rd Street and looks to create employment for neighborhood residents in light industrial, recreation, and wellness.

LISC Chicago Lawn + Auburn Gresham Corridors, Chicago, Illinois, USA
To revitalize areas of Southwest Chicago, LISC is analyzing two primary corridors in the under-served neighborhoods. JGMA's masterplan provides program opportunities that will bridge the separation of the two neighborhoods and eliminate the barrier that exists along 63rd Street. The plan for the 79th Street corridor in Auburn Gresham examines the 'nodes' of vacancy points by addressing programmatic needs within the neighborhood.

ROXY KERMANI RA, LEED AP BD+C, CPHC

SUSTAINABILITY LEADER

EDUCATION
Cal Poly State University, SLO
Bachelor of Architecture

Studio Ticino Study Abroad,
Design Studio and Architectural
History Program

REGISTRATIONS
Licensed Architect,
State of California

Licensed Architect,
State of Illinois

Leadership in Energy and
Environmental Design AP
Building and Construction

Certified Passive House
Consultant

Certified Green Professional,
National Association of Home
Builders

Roxy Kermani is a Project Architect and Sustainability Lead at JGMA with experience practicing in Los Angeles, San Francisco, and now Chicago. Roxy leads the design efforts of numerous multi-disciplinary projects at JGMA in various sectors including healthcare, aviation, and education. She approaches all of her projects with a holistic mindset prioritizing green building strategies, constructability, and client satisfaction. Her role has been prominent for the office as she launched several sustainability and equity initiatives shortly after joining the company.

Roxy is registered as an architect in California and Illinois with LEED AP BD+C and CPHC accreditations. She received her Bachelor of Architecture and Minor in Construction Management from the accredited program at California Polytechnic State University in San Luis Obispo.

PROJECT EXPERIENCE

Start Early's Educare Lake County Early Learning Center, Zion, IL, USA
New 35,000 square foot early childhood learning facility with dedicated space for enrolled families as well as the broader community of Zion community with an emphasis on net zero and sustainable design.

West Pullman Master Plan, Chicago, IL, USA
New 38 acre intergenerational campus that connects this West Pullman community back to the rest of Chicago through programming such as housing, offices, retail, train station, and outdoor community spaces.

LISC Southwest Corridor Master Plan - Chicago Lawn, Chicago, Illinois, USA
JGMA's masterplan provides program opportunities that will eliminate the barrier that exists along 63rd Street and looks to create employment for neighborhood residents in light industrial, recreation, and wellness.

LISC Chicago Lawn + Auburn Gresham Corridors, Chicago, Illinois, USA
To revitalize areas of Southwest Chicago, LISC is analyzing two primary corridors in the under-served neighborhoods. JGMA's masterplan provides program opportunities that will bridge the separation of the two neighborhoods and eliminate the barrier that exists along 63rd Street. The plan for the 79th Street corridor in Auburn Gresham examines the 'nodes' of vacancy points by addressing programmatic needs within the neighborhood.

Salesforce Offices, London, UK & Munich, Germany
TI for the workplace of multiple Salesforce locations including reception areas, flexible workspaces, amenities, and private offices adhering to the diverse culture each office resides in.

3

RELEVANT EXPERIENCE

UNITED COMMUNITY CENTER

NEW EARLY LEARNING ACADEMY

(PROJECT CURRENTLY IN DESIGN DEVELOPMENT)

CLIENT
UNITED COMMUNITY CENTER

OWNER'S CONTACT INFO
LUKISCHA RAMOS
UNITED COMMUNITY CENTER
CHIEF OPERATING OFFICER
E: LRAMOS@UNITEDCC.ORG
P: 414.202.1509

LOCATION
MILWAUKEE, WI, USA

COMMUNITY ENGAGEMENT DATES
MARCH 2024 - JULY 2024

PROJECT COMPLETION DATE
EST. AUGUST 2026

SIZE
61,000 SF

BUDGET
$24,1360,000

For the Burnham Early Learning Academy, our team led a collaborative and inclusive engagement and programming process centered on listening to the individuals who interact with UCC's early learning system each day. Through a series of in-person sessions with administrators, educators, parents, students, and nearby community members, we gathered meaningful input about daily routines, operational challenges, and long-term aspirations. These conversations consistently highlighted the need for a welcoming and culturally expressive environment, intuitive and safe circulation, flexible classrooms with ample storage, and expanded support spaces for both staff and families.

To complement stakeholder input, our team performed a detailed analysis of the existing Ricardo Diaz ELA campus, documenting both its strengths and opportunities for improvement. Observations related to classroom layouts, wayfinding, staff workflows, visibility and safety, outdoor play conditions, and storage needs were paired with the insights gathered through engagement. This blended understanding of operational realities and user experience became the foundation for shaping an accurate and responsive program for the new Burnham campus.

Building on this foundation, we developed a comprehensive program tailored to UCC's mission, enrollment goals, and the needs of infants, toddlers, and preschoolers. The program includes a full suite of classrooms, STEAM and sensory learning spaces, student assessment and observation rooms, library/learning areas, community-oriented spaces, family engagement rooms, distributed administrative offices, staff wellness amenities, and a range of indoor and outdoor play environments.

To further refine the program, we facilitated an in-person adjacency workshop with UCC leadership, mapping the relationship between spaces and the flow of daily activities. This collaborative exercise shaped key decisions around entry and security sequencing, visibility from reception, placement of family-oriented amenities, and the distribution of offices throughout the building for improved accessibility. Insights from staff and leadership helped ensure the design supports smooth daily operations, encourages parent involvement, and creates a safe and intuitive environment for children and caregivers.

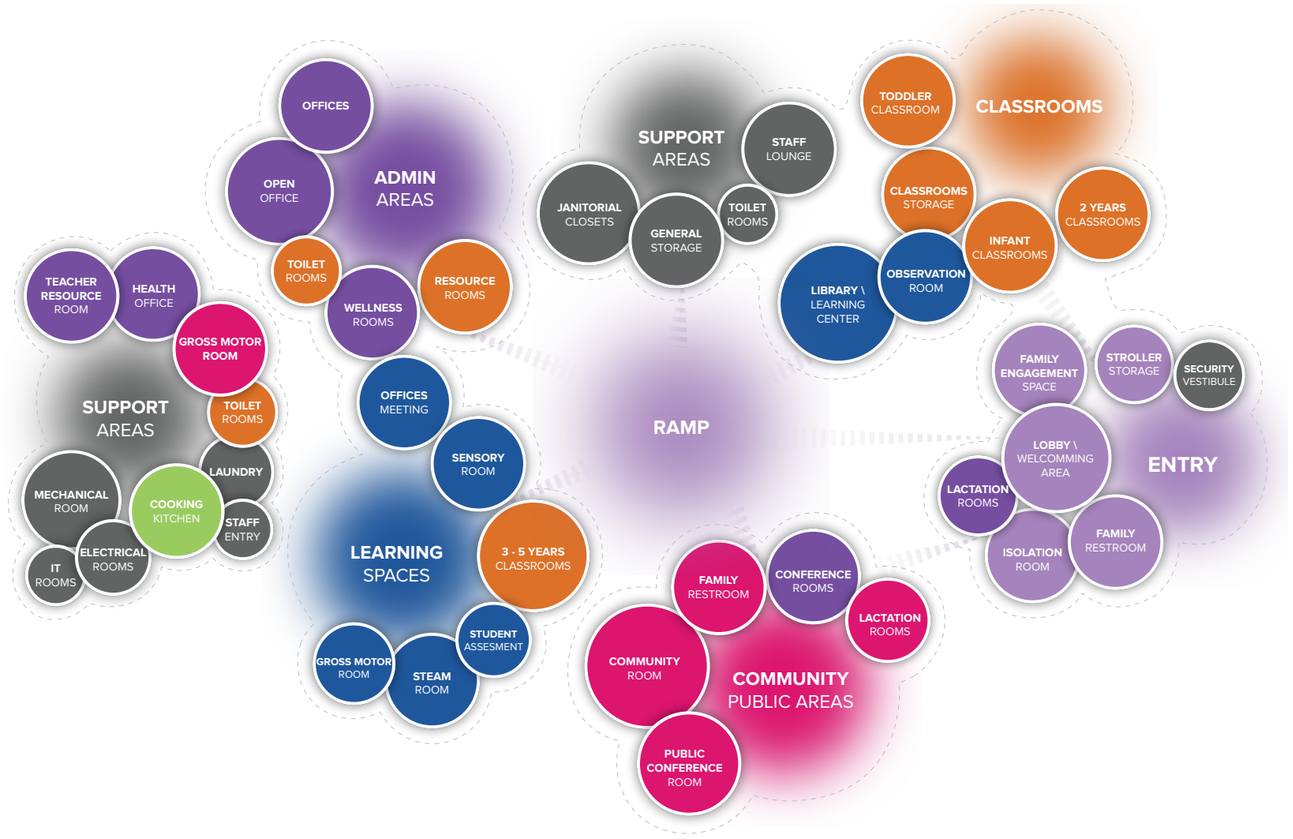
The completed Program Booklet synthesizes all engagement findings, existing campus analysis, program requirements, and adjacency strategies into a clear roadmap for schematic design. This document ensures that the new Burnham Early Learning Academy will be not only efficient and educationally supportive, but also deeply aligned with the values, routines, and aspirations of the UCC community it is designed to serve.

STUDENTS MEETING

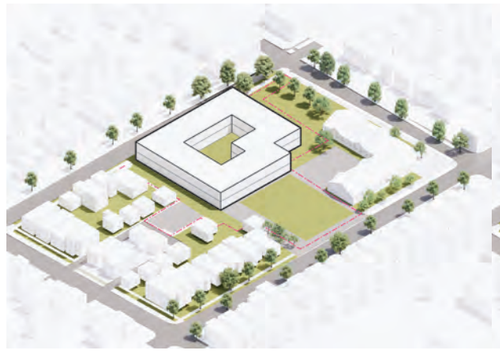
ADMIN MEETING

PARENTS MEETING

PROGRAM ADJACENCY DIAGRAM



SITE MASSING EXPLORATIONS



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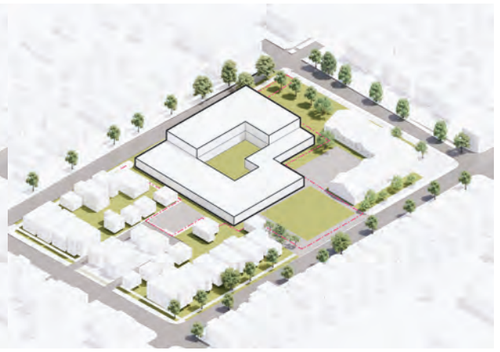

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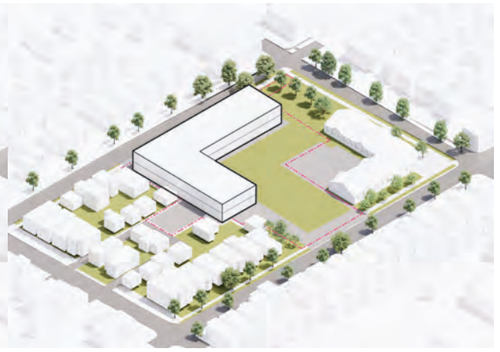

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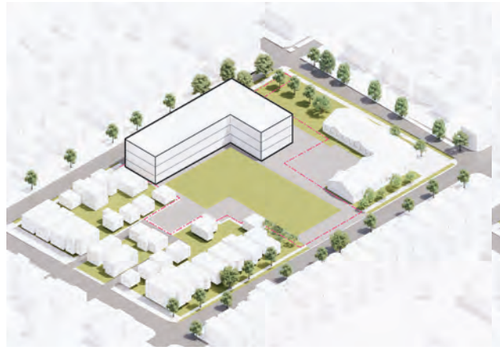


05

06

NEAL MATH + SCIENCE ACADEMY

CLIENT
ABBVIE + IFF + NORTH CHICAGO SCHOOL DISTRICT

OWNER'S CONTACT INFO
IFF : JENNY BOYTS
E: JBOYTS@IFF.ORG
T: 620.217.9360

LOCATION
NORTH CHICAGO, ILLINOIS, USA

COMMUNITY ENGAGEMENT DATES
MAY 2019 - OCTOBER 2019

PROJECT COMPLETION DATE
AUGUST 2023

SIZE
93,000 SF

BUDGET
$40,000,000

DESIGN SERVICES
ARCHITECTURE
INTERIORS
GRAPHICS
MASTERPLANNING
COMMUNITY ENGAGEMENT
FF&E
LEED

The redevelopment of Neal Math + Science Academy in North Chicago was shaped by a comprehensive and collaborative engagement process that centered on the experiences of the students, families, educators, and community members who rely on the school every day. As the neighborhood prepared for a transformative investment, supported in part by AbbVie Pharmaceuticals' $40 million commitment, our team recognized the importance of gathering perspectives not only from school stakeholders but also from local residents and community organizations. Through targeted conversations and listening sessions, we assembled a broad understanding of the community's aspirations for a school that could serve as both an educational anchor and a symbol of renewed opportunity.

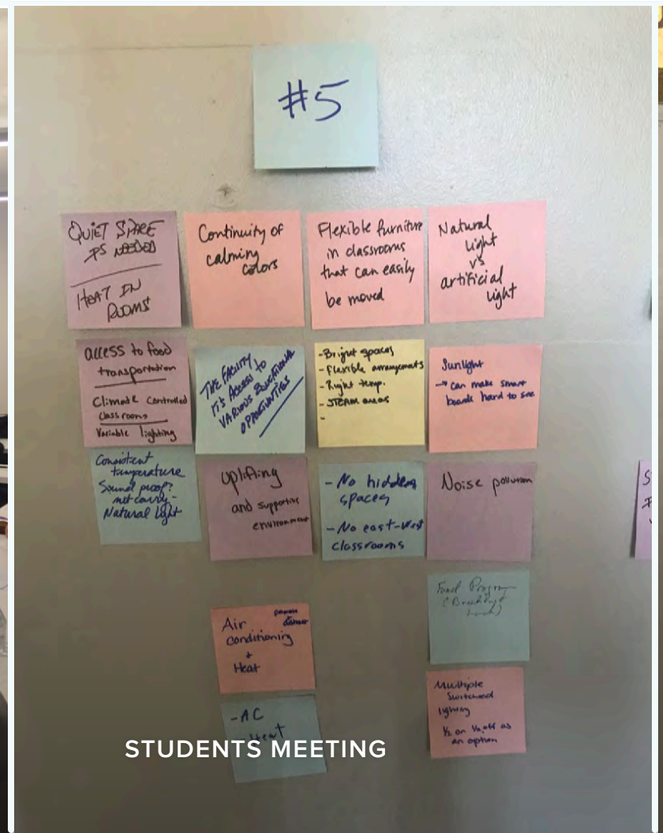
Across all outreach efforts, stakeholders emphasized the desire for a school that would foster pride, visibility, and a renewed identity for a community that has faced decades of underinvestment. In response to this feedback, our design introduces a bold, uplifting architectural form that literally and symbolically rises above its surroundings. This upward expression positions the school as a beacon within the neighborhood, reflecting the community's ambition to redefine its future and celebrate the potential of its young people. The building's confident presence signals a commitment to educational equity and a belief that students in North Chicago deserve inspiring, world-class environments.

Community and school stakeholders also placed strong value on STEM learning, highlighting the importance of making math and science feel accessible, engaging, and woven seamlessly into the student experience. To support this vision, we integrated abstractions of scientific and mathematical patterns across the façade and interior design elements. These forms create a rhythmic and dynamic identity that sparks curiosity and reinforces active learning throughout the campus. Rather than confining education to classroom walls, the building itself becomes a teaching tool, supporting exploration in circulation spaces, gathering areas, and outdoor environments.

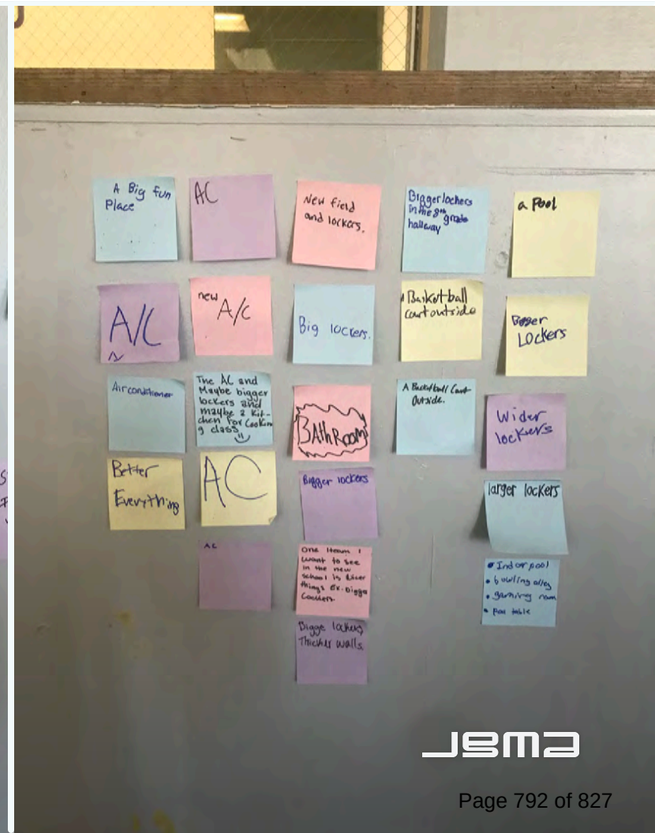
Through this collaborative, community-informed process, the new Neal Math + Science Academy aims to serve more than its immediate academic purpose. It stands as a reflection of the voices that shaped it, an environment designed to uplift students, strengthen community pride, and catalyze positive change across North Chicago. The project demonstrates how inclusive engagement and bold design can come together to create a transformative educational setting that honors the community's history while inspiring its future.

STUDENTS MEETING

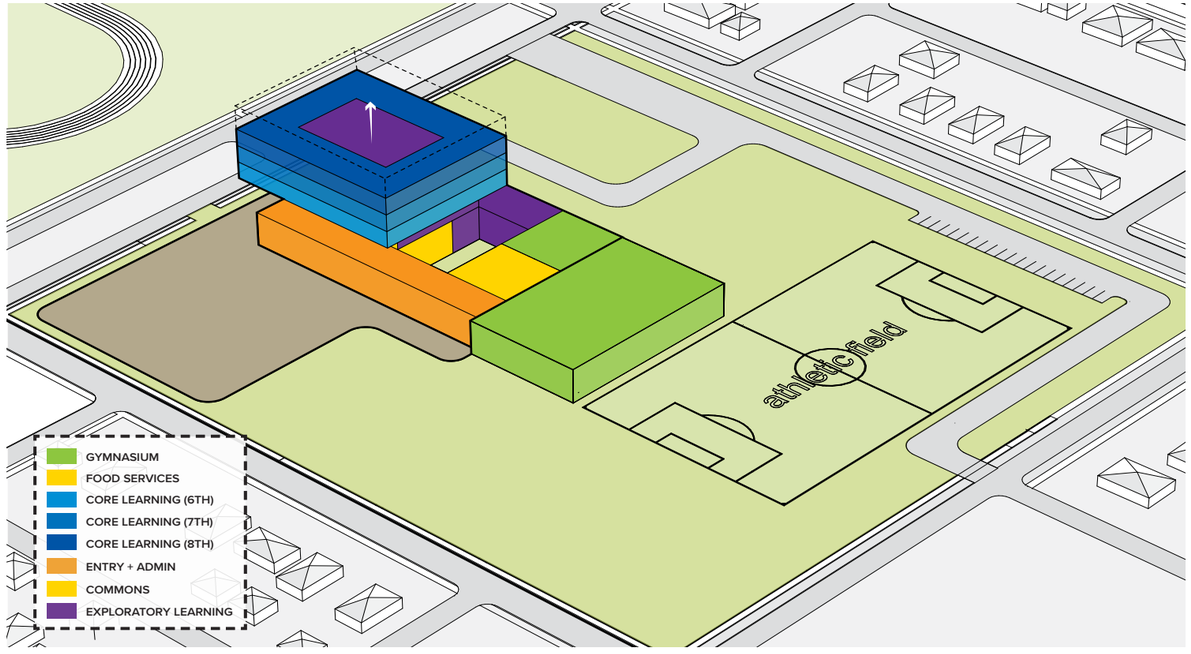
LOCAL RESIDENTS / PARENTS MEETING



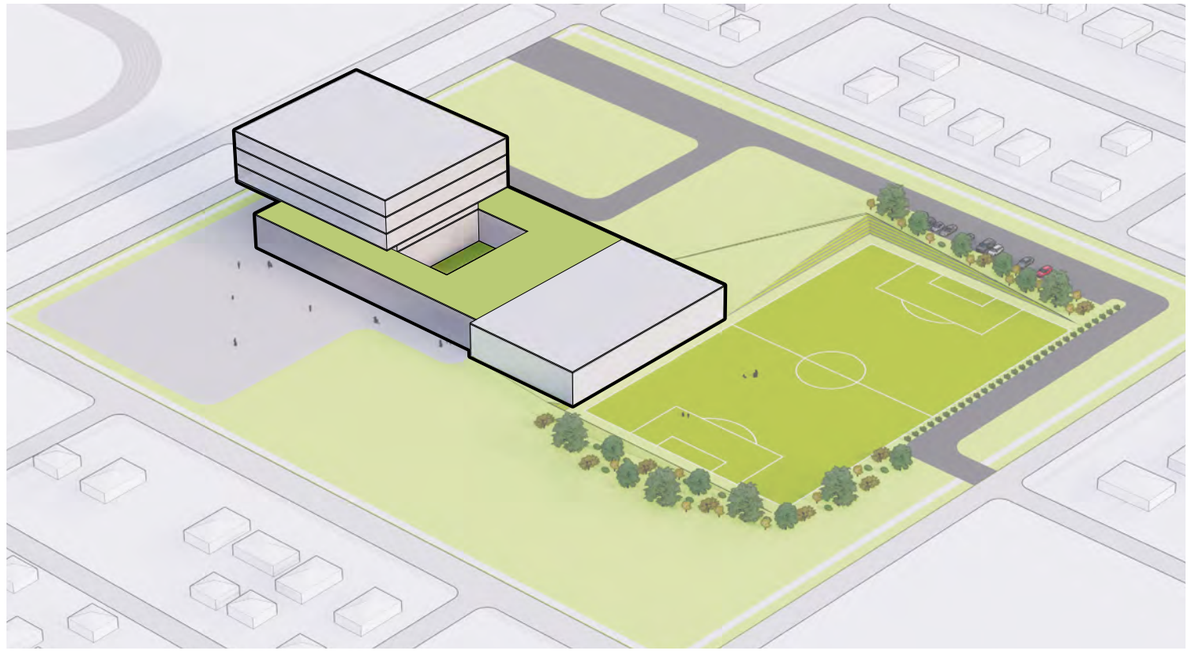
STUDENTS MEETING



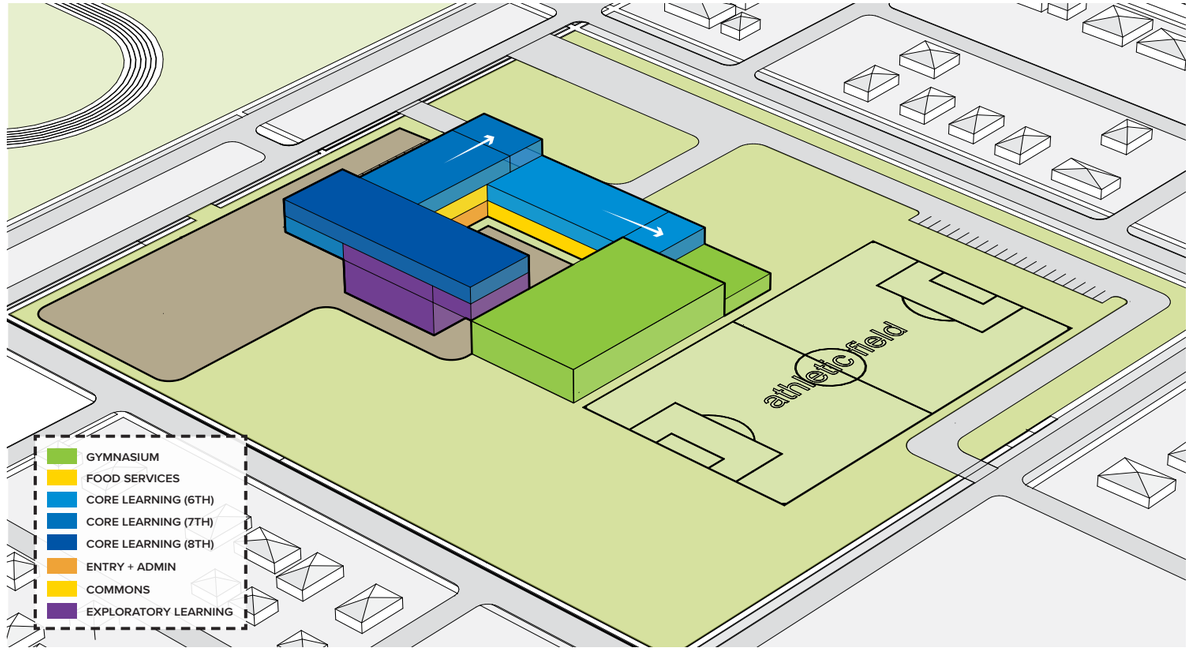
SITE MASSING EXPLORATIONS



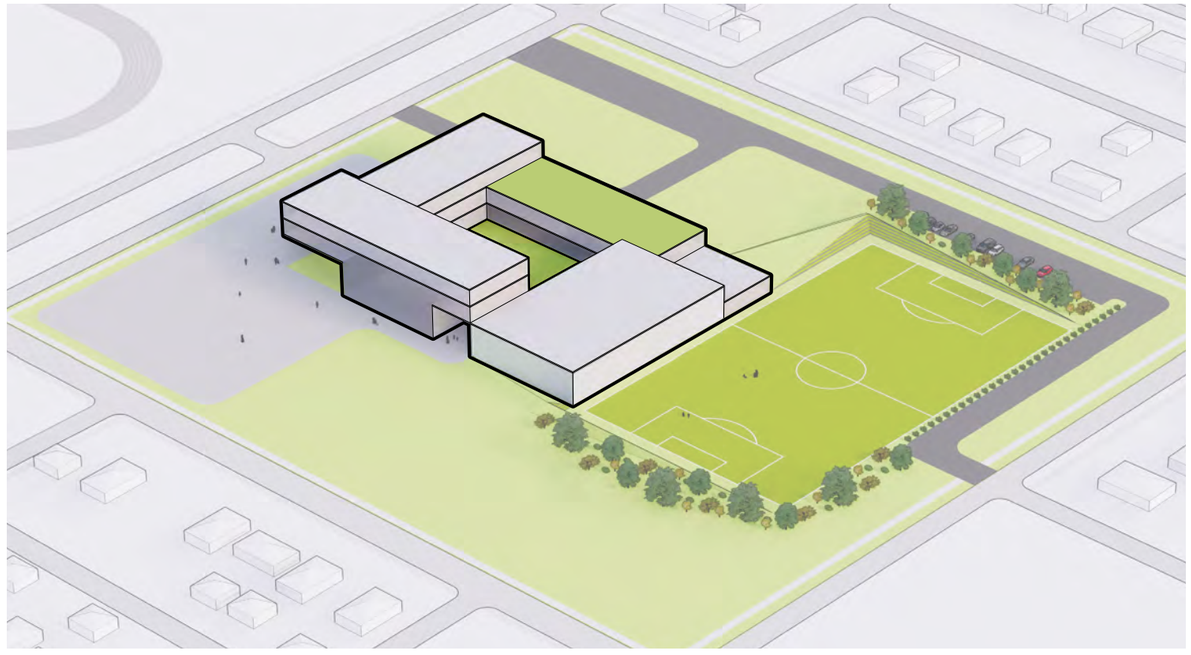
OPTION O1 - PROGRAM STACKING



OPTION O1 - MASSING



OPTION O2 - PROGRAM STACKING



OPTION O2 - MASSING

KING COMMUNITY CENTER

CLIENT
MILWAUKEE COUNTY PARKS

OWNER'S CONTACT INFO
PA PHOUALA VANG, LONG-RANGE PLANNER
E: PAPHOUALA.VANG@MILWAUKEECOUNTYWI.GOV
T: 414.391.6257

LOCATION
MILWAUKEE, WI, USA

COMMUNITY ENGAGEMENT DATES
SEPTEMBER 2023 - NOVEMBER 2024

PROJECT COMPLETION DATE
MARCH 2025

SIZE
25,000 SF

BUDGET
$3,100,000

DESIGN SERVICES
ARCHITECTURE
COMMUNITY ENGAGEMENT

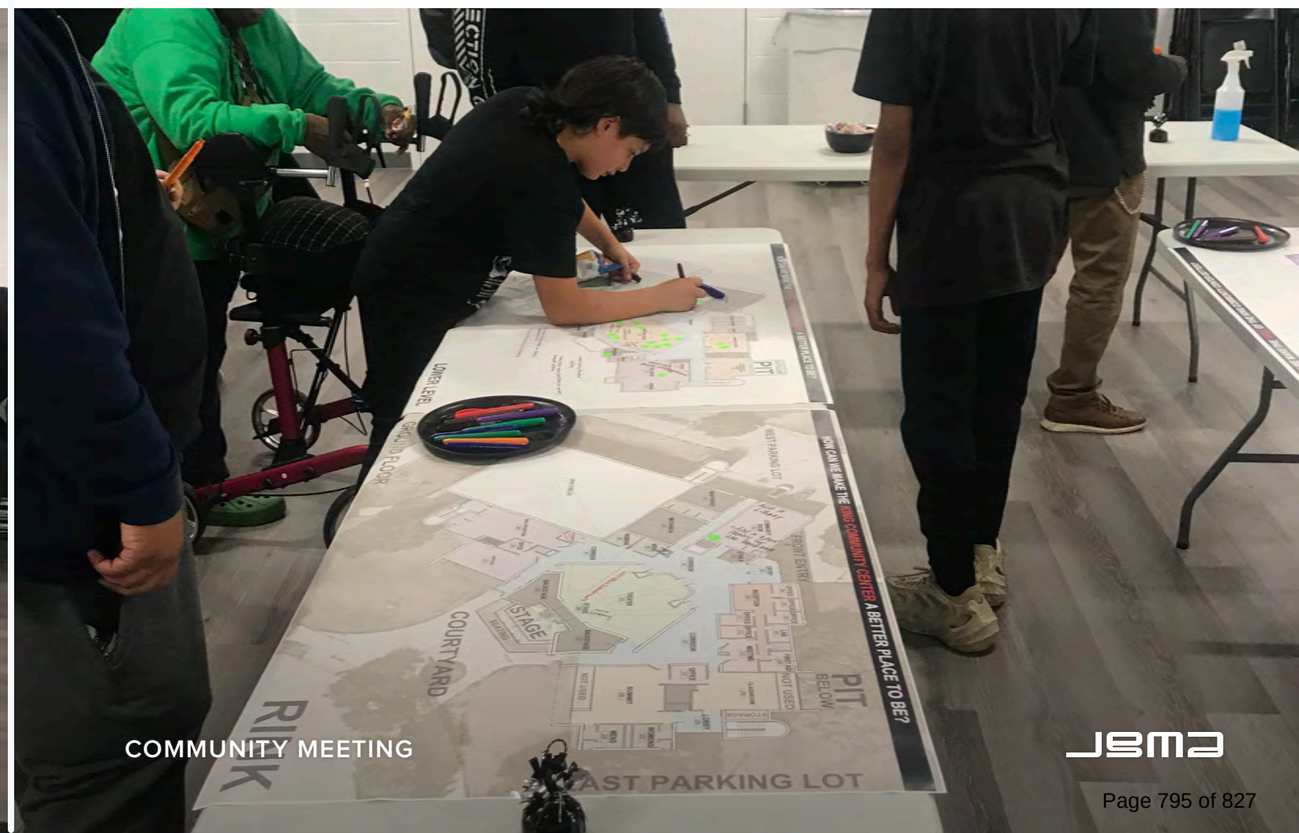
The Dr. Martin Luther King Jr. Community Center, or King Center, has long served as a vital social, recreational, and cultural anchor for Milwaukee's north side. As Milwaukee County sought to reinvest in this important civic resource, our team was engaged to reimagine the Center in a way that restores its vitality and strengthens its role as a welcoming hub for the surrounding neighborhoods. The project focuses on revitalizing both the interior and exterior of the facility to improve its usability, safety, and overall community impact.

Early in the process, our team facilitated a series of focused engagement sessions with King Center staff, program leaders, partner organizations, and community members who rely on the Center's services. These conversations were essential in understanding how the building currently supports daily activities, where it falls short, and what improvements would meaningfully enhance its impact. Stakeholders openly shared their experiences regarding accessibility, safety, programming needs, and the Center's identity within the neighborhood. Their feedback formed the foundation for identifying priorities, shaping design direction, and ensuring that the revitalized King Center responds directly to the needs and aspirations of the people it serves.

The design vision responds to these priorities by focusing on both interior upgrades and substantial exterior enhancements. Improvements aim to modernize the Center's aging 1970s architecture—much of which has remained unchanged since its opening in 1976—while addressing critical energy efficiency, structural, and building performance needs. Upgrades to mechanical systems, lighting, transparency, thermal comfort, and wayfinding will support long-term sustainability and operational efficiency. A refreshed façade and updated site design will help counter the perception of disinvestment and better reflect the welcoming, community-oriented services offered inside.

Ultimately, the King Center project aspires to create a vibrant, safe, and accessible environment that elevates Milwaukee County's mission for community wellness and expands the Center's capacity to serve residents of all ages. By combining thoughtful design interventions with insights gathered through stakeholder engagement, the project seeks to enhance recreational offerings, support social service programs, and re-establish the King Center as a trusted and uplifting resource for neighborhoods facing some of the greatest challenges in the region. This revitalization effort honors the legacy of Dr. Martin Luther King Jr. by strengthening a place dedicated to equity, empowerment, and community well-being.

COMMUNITY MEETING



COMMUNITY MEETING

START EARLY LAKE COUNTY

CLIENT
START EARLY

OWNER'S CONTACT INFO
MIKE HOFFMAN
START EARLY,CEO
E: MHOFFMAN@
STARTEARLY.ORG
P: 312.922.3863

LOCATION
ZION, ILLINOIS, USA

COMMUNITY ENGAGEMENT DATES
MARCH 2024 - JULY 2024

PROJECT COMPLETION DATE
EST. AUGUST 2026

SIZE
35,000 SF

BUDGET
$15,000,000

DESIGN SERVICES
ARCHITECTURE
INTERIORS
GRAPHICS
SUSTAINABILITY
COMMUNITY ENGAGEMENT

The proposed design for Start Early's Educare Lake County early learning center is strategically located on 27th Street between Gabriel Avenue and Bethel Boulevard, forming a central connection point between Shiloh Park Middle School and Zion Central Middle School. This placement was guided by conversations with Start Early leadership, early childhood educators, and local stakeholders, all of whom emphasized the importance of creating a unified educational hub within the heart of Zion. The resulting vision integrates community spaces, outdoor gathering areas, learning environments, and staff facilities to support a holistic, place-based approach to early childhood education.

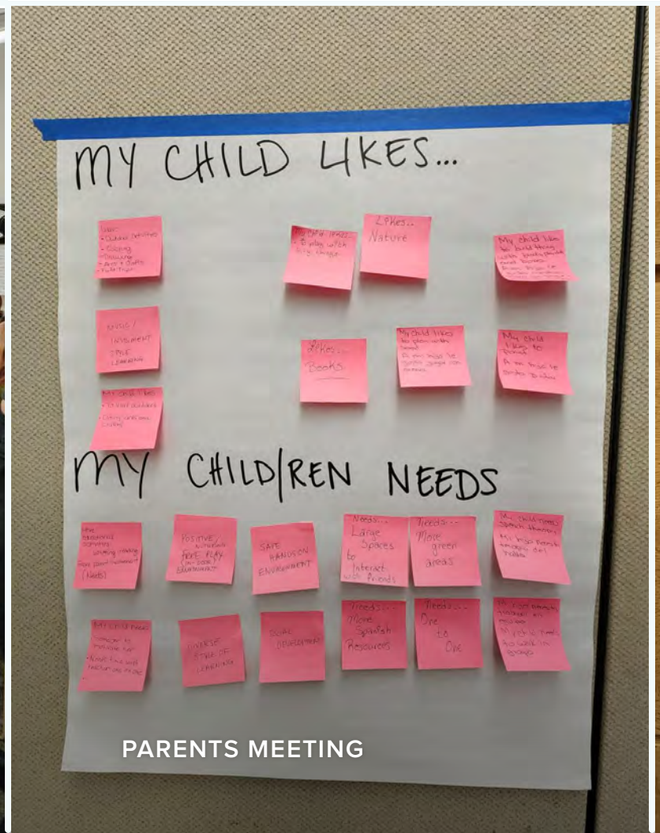
Through a series of meetings and virtual engagement sessions with program leaders, teaching staff, and family representatives, our team gathered insights that shaped the building's organization, site planning, and public-facing amenities. Stakeholders highlighted the need for safe, efficient circulation; clear site visibility; dedicated family engagement areas; and outdoor spaces that could support both play and community interaction. In response, the building is sited to align with the architectural cues of the neighboring middle schools, strengthening visual continuity across the campus. Parking and queuing are positioned on the north side to reduce congestion along 27th Street, while a community plaza and garden are intentionally placed to the south to enhance walkability and foster a strong sense of connection between the two middle schools and the broader community.

The program for the new Educare facility reflects Start Early's commitment to whole-child development and family partnership. It includes dedicated sensory learning environments, age-appropriate classrooms, flexible public spaces for community events, and areas designed specifically for families to gather, learn, and support one another. These spaces were developed with direct input from educators and family staff to ensure they respond to the social, emotional, and developmental needs of young children while also strengthening family engagement. The building's materiality, scale, and character, currently in development, will be tailored to create a warm, developmentally appropriate, and welcoming environment for the diverse groups of students and community members it will serve.

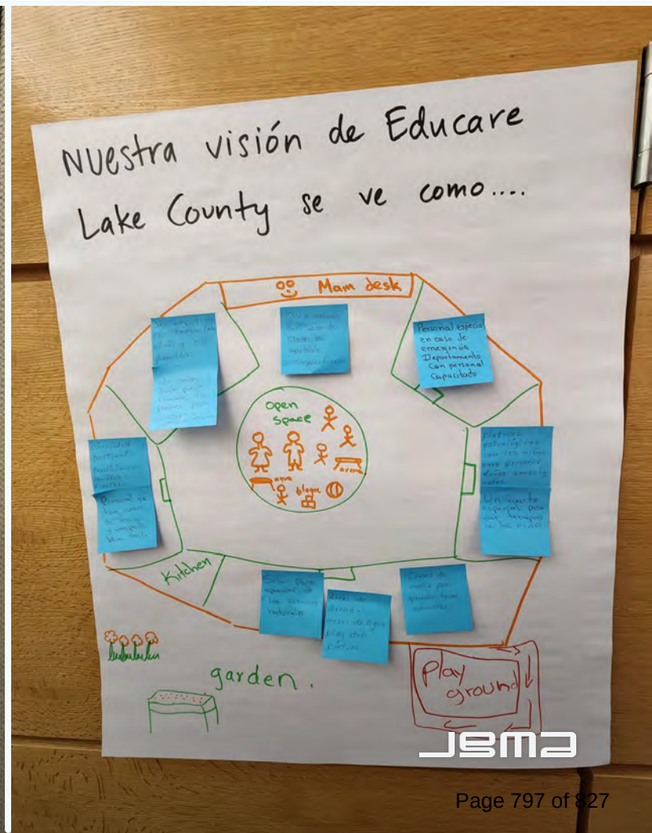
Through thoughtful planning, stakeholder engagement, and a commitment to Start Early's mission, the Educare Lake County early learning center aims to become a vibrant, community-connected anchor in Zion, supporting children, families, and educators in a place designed to foster growth, exploration, and belonging.

STAFF MEETING

LOCAL RESIDENTS / PARENTS MEETING



PARENTS MEETING



DERIVED PROGRAM DIAGRAM

LEARNING SPACES

INFANT CLASSROOMS
TODDLER CLASSROOMS
TWO YEAR CLASSROOMS
3-5 CLASSROOMS
RESOURCE ROOM NEAR CLASSROOMS
GROSS MOTOR ROOMS
STEAM CLASSROOM
STUDENT ASSESSMENT RM
SENSORY ROOM
OFFICES / MEETING ROOMS
CHILD TOILET ROOMS
STORAGE

COMMON AREAS

LOBBY / WELCOMING AREA
FAMILY ENGAGEMENT SPACE
STROLLER STORAGE
FAMILY RESTROOM
LIBRARY
FAMILY STORE
HEALTH OFFICE / ISOLATION

COMMUNITY PUBLIC AREAS

SOCIALIZATION ROOM
PUBLIC CONFERENCE RM (SMALL)
PUBLIC CONFERENCE RM (MEDIUM)
PUBLIC CONFERENCE RM (BIG)
WELLNESS ROOM
FAMILY RESTROOM
LACTATION ROOM

ADMIN AREAS

OPEN OFFICE
OFFICES
TEACHER RESOURCE ROOM
CONFERENCE ROOMS
WELLNESS ROOM
LACTATION ROOM

SUPPORT AREAS

SECURITY VESTIBULE
STAFF ENTRY
COOKING KITCHEN
SATELLITE KITCHEN
STAFF LOUNGE & KITCHENETTE
LAUNDRY
ADULT TOILET ROOMS
IT ROOMS
ELECTRICAL ROOMS
MECHANICAL ROOMS
GENERAL STORAGE
JANITOR CLOSEST

PROGRAM ADJACENCY DIAGRAM

ESPERANZA HEALTH CENTER

CLIENT
ESPERANZA HEALTH CENTERS

OWNER'S CONTACT INFO
RICARDO CIFUENTES
E: RCIFUENTES@ESPERANZACHICAGO.ORG
T: 773.584.6200

LOCATION
CHICAGO, ILLINOIS, USA

COMMUNITY ENGAGEMENT DATES
FEBRUARY 2018 - MARCH 2018

PROJECT COMPLETION DATE
2019

SIZE
26,000 SF

BUDGET
$15,500,000

DESIGN SERVICES
ARCHITECTURE
INTERIORS
GRAPHICS
FF&E
MASTERPLANNING
COMMUNITY ENGAGEMENT

Esperanza Health Centers is a mission-driven community health system dedicated to improving wellness in underserved neighborhoods through accessible, high-quality, bilingual care. With a focus on prevention, education, and eliminating barriers to healthcare, Esperanza, meaning “hope” in Spanish, embodies its name by providing culturally attuned services that respond to the lived realities of the communities it serves. As the organization prepared to expand its reach on Chicago’s southwest side, our team partnered with Esperanza to envision a new, modern health center that reflects this mission and supports a holistic approach to physical, mental, and spiritual well-being.

To ground the project in the needs and experiences of patients and providers, we conducted a series of virtual stakeholder engagement sessions and utilized online polling tools to collect feedback from a wide range of participants. These digital platforms allowed us to hear directly from patients, healthcare staff, and local partner organizations about priorities related to accessibility, cultural comfort, specialty care gaps, and overall user experience. The virtual format broadened participation and helped surface clear themes: a desire for a welcoming, dignified environment, intuitive wayfinding, connection to nature, and integrated spaces that support community wellness beyond traditional clinical care.

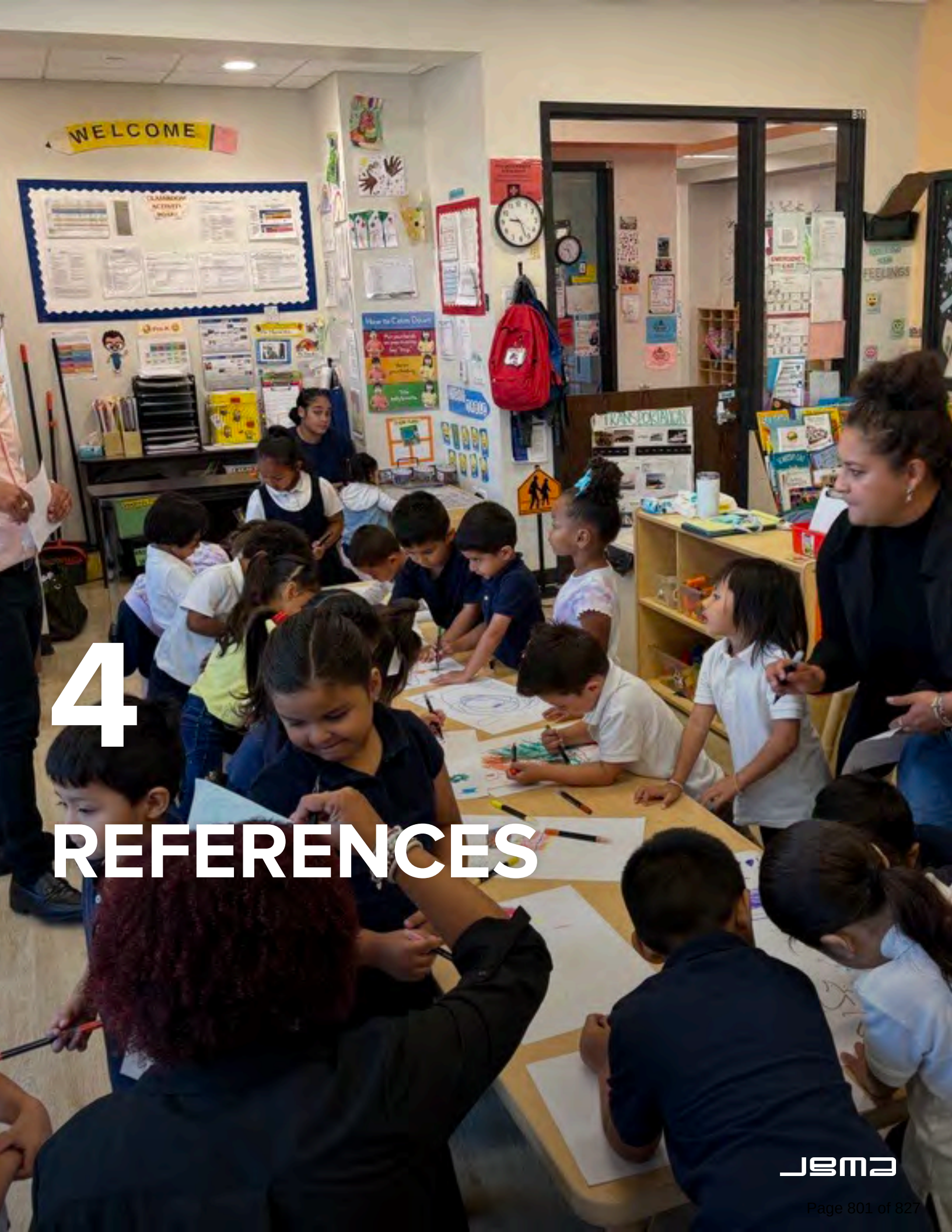
In response, the design delivers a fully accessible, contemporary community health center that provides critical services previously lacking in this part of Chicago. Through partnerships with specialty care providers and community-based organizations, the facility supports a wide spectrum of healthcare needs and offers an environment that encourages trust, engagement, and continuity of care. Forward-thinking design strategies help create a place where patients and families feel supported, empowered, and connected.

Transforming a former brownfield site, the project provides outdoor walking paths, community garden spaces, and a reorganized vehicular area introduce new opportunities for movement, reflection, and gathering. The design intentionally blurs the boundaries between public plaza, lobby, and site, resulting in a colorful, welcoming entry sequence that draws visitors in and orients them naturally. Positioned at a prominent intersection, the flowing, open lobby becomes the vibrant hub of the facility and the starting point for a calm, intuitive care experience. Through thoughtful design and inclusive virtual engagement, the new Esperanza Health Center advances the organization’s mission of hope, healing, and equity. It stands as a model for how community-based healthcare environments can look and feel, accessible, uplifting, and deeply rooted in the needs and aspirations of the people it serves.

LOCAL RESIDENTS MEETING

COMMUNITY MEETING

COMMUNITY MEETING



4 REFERENCES

REFERENCES

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THE CITY OF CHICAGO
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SP MURPHY
Matt Mosher
Vice President of Operations
and Development
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matthew.mosher@spmurphyinc.com

5 WORK PROGRAM AND PROJECT SCHEDULE

OVERVIEW & APPROACH

JGMA's approach to this project is rooted in clarity, transparency, and inclusive engagement. We understand that the Village of Germantown is seeking a consultant who can design, manage, and facilitate a community engagement program that will inform site-specific redevelopment plans, development regulations, and design guidelines for the Flower Source, Ascension, and Grosenick properties within the Village Center District. Our strategy is to establish a structured process that ensures meaningful participation from a broad spectrum of stakeholders through both traditional and innovative engagement methods. We will work collaboratively with Village staff to generate actionable, well-documented feedback that can be confidently used in the next phase of planning and regulation development.

Our work program is organized around the four required tasks outlined in the RFP and incorporates our firm's extensive experience leading engagement processes for municipal, educational, and community-based organizations across the Midwest.

TASK ONE - PROJECT MANAGEMENT

Understanding: Successful engagement requires consistent communication, clear expectations, and well-managed logistics.

Key Actions:

Establish communication protocols with Village staff
Maintain project schedule and deliverable deadlines
Prepare all engagement-related materials for Village approval (surveys, presentations, graphics, websites, social media content)
Coordinate meeting logistics for all events (venues, technology, materials)
Provide timely invoices and progress reports

TASK TWO - INTRODUCTORY MEETINGS & DEVELOPMENT OF COMMUNITY ENGAGEMENT PROGRAM

Understanding: The engagement program must align with Village goals, the intent of the 2050 Comprehensive Plan, and the specific redevelopment context of the three Village-owned properties.

Key Actions:

Facilitate kickoff and coordination meetings with Village officials and staff
Review Village priorities, constraints, past planning studies, and redevelopment goals
Identify target stakeholders and underserved groups
Recommend a menu of engagement tools (listening sessions, surveys, mapping exercises, workshops, virtual platforms, etc.)
Develop a complete Community Engagement Program for Village review and Board approval

TASK THREE - FACILITATION OF ENGAGEMENT ACTIVITIES

Understanding: Engagement must be accessible, interactive, and provide opportunities for residents, property owners, businesses, and other stakeholders to meaningfully participate.

Key Actions:

Conduct all engagement events identified in the approved program
Prepare all logistics: space reservations, digital hosting platforms, materials, setup/teardown
Lead listening sessions, charrettes, open houses, stakeholder meetings, pop-up engagements, surveys, and virtual activities
Document participant feedback through notes, polling results, maps, and visual records

TASK FOUR - FINAL COMMUNITY ENGAGEMENT OUTCOMES REPORT

Understanding: The Village requires a clear, user-friendly report that can directly inform land-use planning, development regulations, and design guidelines.

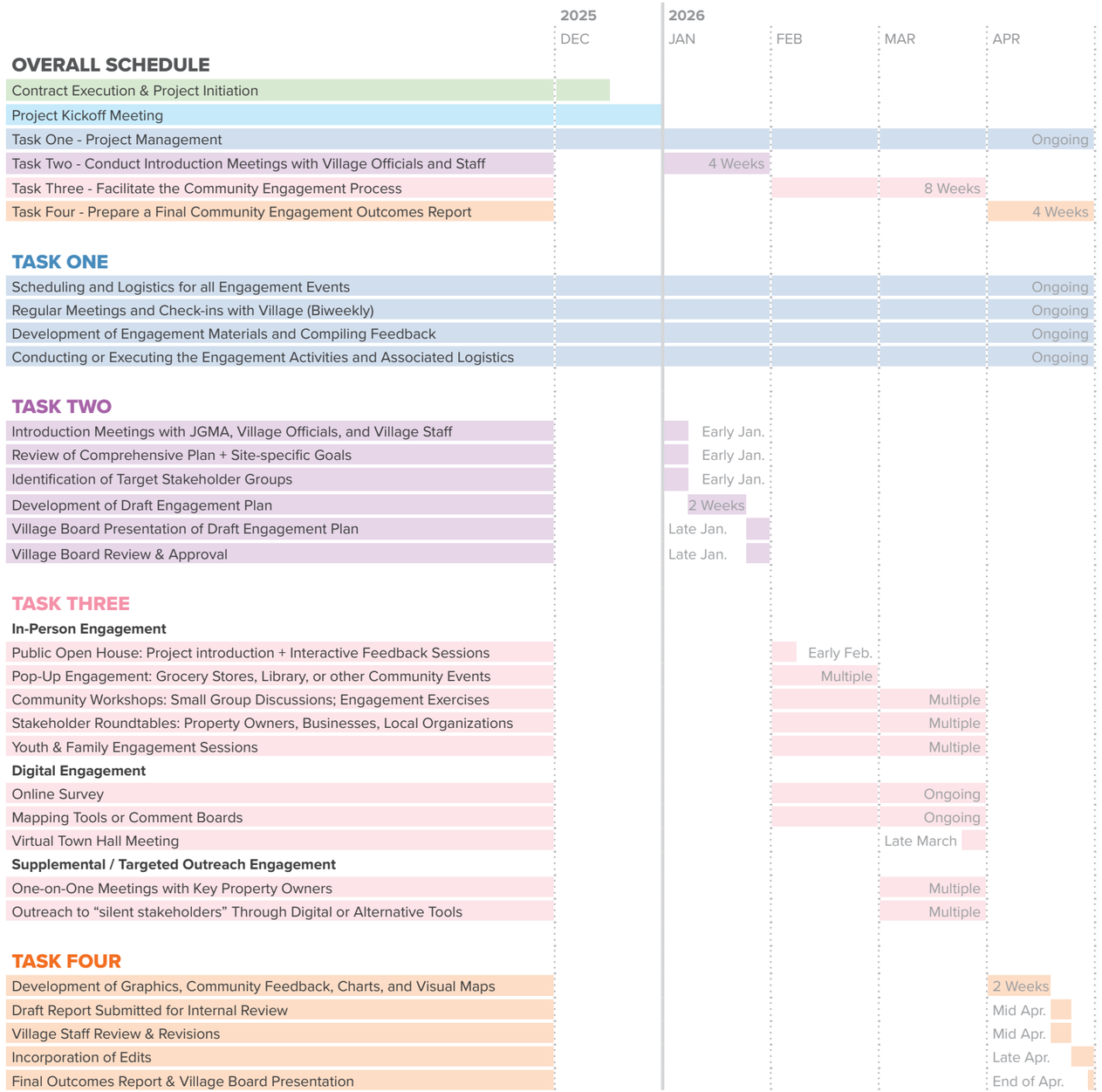
Key Actions:

Synthesize all qualitative and quantitative engagement data
Identify key themes, priorities, opportunities, and concerns
Create visuals such as charts, maps, and diagrams
Prepare a draft report for staff review and incorporate feedback
Present the Final Outcomes Report to the Village Board

EQUITABLE & INCLUSIVE ENGAGEMENT STRATEGY

Our engagement strategy ensures broad, equitable participation by offering multiple ways to get involved, through in-person events, virtual sessions, online tools, and pop-up outreach. Activities will be held at different times, including evenings and weekends, and materials will be presented in clear, accessible formats, with bilingual options available if requested. Through targeted outreach to underrepresented groups, we create meaningful opportunities for all voices, including "silent stakeholders", to be heard and represented in the process.

OVERALL SCHEDULE



*All dates are estimated and are contingent upon Village review approval from phase to phase.

6 COST PROPOSAL

PROPOSED FEE

PHASE	FEE IN DOLLARS	PERCENT OF TOTAL FEE
TASK ONE	$8,150.00	10%
TASK TWO	$19,940.00	25%
TASK THREE	$31,375.00	40%
TASK FOUR	$19,935.00	25%
TOTAL	**$79,400.00**	**100%**
REIMBURSABLE EXPENSES	$7,500.00	-

Community Engagement Services VILLAGE OF GERMANTOWN	JGMA						Task Subtotals	
	Juan Moreno Project Principal	Andrew Huss Project Manager	Lori Day Planning Leader	Taylor Gilbert Engagement Leader	Samra Pecanin Graphics Leader	Roxy Kermani Sustainability	Subtotal Hours	Subtotal Costs
Hourly Rate	$290.00	$175.00	$205.00	$150.00	$175.00	$150.00		
1.1 Task One - Project Management								
1.1.1 Scheduling and Logistics for all Engagement Events		10					10	$1,750.00
1.1.2 Regular Meetings and Check-ins with Village (Biweekly)	4	8	8	8	4	2	34	$6,400.00
1.1.3 Development of Engagement Materials and Compiling Feedback							0	Included in Tasks Below
1.1.4 Conducting or Executing the Engagement Activities and Associated Logistics							0	Included in Tasks Below
1.2 Task Two - Conduct Introduction Meetings with Village Officials and Staff								
1.2.1 Introduction Meetings with JGMA, Village Officials, and Village Staff	2	2	2	2	2	2	12	$2,290.00
1.2.2 Review of Comprehensive Plan + Site-specific Goals	1	4	2	4	2	1	14	$2,500.00
1.2.3 Identification of Target Stakeholder Groups	1	1	2	1	1	1	7	$1,350.00
1.2.4 Development of Draft Engagement Plan	4	10	10	30	10	2	66	$11,510.00
1.2.5 Village Board Presentation of Draft Engagement Plan	2	2	2	2	2	2	12	$2,290.00
1.2.6 Village Board Review & Approval							0	$0.00
1.3 Task Three - Facilitate the Community Engagement Process								
1.3.1 Public Open House: Project introduction + Interactive Feedback Sessions	2	8	6	8	2	2	28	$5,060.00
1.3.2 Pop-Up Engagement: Grocery Stores, Library, or other Community Events		8	6	8	2	2	26	$4,480.00
1.3.3 Community Workshops: Small Group Discussions; Engagement Exercises		8	6	8	2		24	$4,180.00
1.3.4 Stakeholder Roundtables: Property Owners, Businesses, Local Organizations		8	6	8	2		24	$4,180.00
1.3.5 Youth & Family Engagement Sessions		8	6	8	2		24	$4,180.00
1.3.6 Online Survey		1			2		3	$525.00
1.3.7 Mapping Tools or Comment Boards		2		4	2		8	$1,300.00
1.3.8 Virtual Town Hall Meeting	2	2	2	2	2		10	$1,990.00
1.3.9 One-on-One Meetings with Key Property Owners		8	6	8	2		24	$4,180.00
1.3.10 Outreach to "silent stakeholders" Through Digital or Alternative Tools		2		4	2		8	$1,300.00
1.4 Task Four - Prepare a Final Community Engagement Outcomes Report								
1.4.1 Development of Graphics, Community Feedback, Charts, and Visual Maps		10	14	50	20		94	$15,620.00
1.4.2 Draft Report Submitted for Internal Review		1					1	$175.00
1.4.3 Village Staff Review & Revisions							0	$0.00
1.4.4 Incorporation of Edits		2		12			14	$2,150.00
1.4.5 Final Outcomes Report & Village Board Presentation	2	2	2	2	2		10	$1,990.00
MH Subtotal	**20**	**107**	**80**	**169**	**63**	**14**	**453**	**$79,400.00**
Cost Subtotal	**$5,800.00**	**$18,725.00**	**$16,400.00**	**$25,350.00**	**$11,025.00**	**$2,100.00**		
						SUBTOTAL =	**453**	**$79,400.00**
						DIRECT COSTS =		
						Task TOTAL Fee=		**$79,400.00**

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MILWAUKEE, WI 53204
920.716.1120
JGMA.COM

JUANGABRIELMORENOARCHITECTS

COMMUNITY ENGAGEMENT SERVICES

VILLAGE OF GERMANTOWN

NOVEMBER 21, 2025

SRF

1600 Aspen Commons, Suite 650
Middleton, WI 53562
Phone: 608.298.5400 | Fax: 1.866.440.6364
www.srfconsulting.com

November 21, 2025

Steve Kreklow
Village Administrator
N112 W17001 Mequon Road
Germantown, WI 53022

Subject: Village of Germantown – Proposal for Community Engagement Services

Dear Mr. Kreklow and Members of the Selection Committee:

Incorporating community input into planning and development efforts is a critical aspect of gaining community by-in. As the Village of Germantown determines redevelopment plans for Village owed parcels, it is vital that community sentiment is incorporated early and throughout the planning process. The SRF team understands that engagement is an important supporting component of any planning effort and are excited to bring our proven expertise in providing innovative, efficient engagement support for large regional planning efforts.

SRF has assembled a team of engagement and planning experts that is specifically tailored to support the Village. We will develop a customized engagement process that will seek to engage a wide swath of the community and provide a strong foundation for future planning processes.

Our team, led by Mitchell Brouse, AICP, with support from Alexander Brown, AICP, and Daniel McNiel, AICP has deep experience providing community engagement assistance for villages, cities, counties, MPOs, and transit agencies. Our team will bring:

- An experienced and passionate team of engagement and planning experts specifically tailored to support Germantown's needs.
- A deep range of proven engagement tools including in person and online means, such as community and visual preference surveys, public open houses and meetings, pop-up events, and workshops.
- Access to a wide range of professionals with significant experience in land use, zoning, development and redevelopment, and site design.

Paul Schroeder will serve as our Site Development Advisor. Paul's experience spans 30 years as a development consultant in the commercial, residential, and government markets. Paul enjoys collaborating with and leading multidisciplinary teams to develop creative solutions that address project challenges and assist with client objectives.

With our broad engagement experience and local knowledge, our team is uniquely qualified to provide critical engagement support services for the Village of Germantown. We are excited to help the Village and we look forward to working with you! If you have questions regarding our proposal, please contact Mitch Brouse at 608-298-5413 or mbrouse@srfconsulting.com.

Sincerely,

MITCHELL BROUSE, AICP
Project Manager

JEFF KNUDSON, PE
Project Director

Marketing or promotional statements about SRF's professional services are provided solely for general information and not as a contract commitment.
Equal Employment Opportunity / Affirmative Action Employer

Project Understanding and Interest

The Village of Germantown is seeking assistance in the development and implementation of a community engagement plan to collect feedback from the Germantown community on the redevelopment of three parcels owned by the Village. Our understanding is that the engagement results will be used to support the development of a detailed redevelopment plan with associated regulations and design guidelines to guide the redevelopment of the following three properties:

Property	Size	Existing Zoning	Future Land Use Map
Flower Source	15-acres	B-1 – Neighborhood Business & A-2 – Agricultural	Village Center District
Ascension Property	4.6-acres	B-1 – Neighborhood Business	Village Center District
Grosenick Property	5.6-acres	B-3 – General Business	Village Center District

Our team understands that the Village of Germantown is looking for completion of the following tasks:

- Employment of traditional and innovative public engagement methods;
- Collaboration with residents, property owners, business owners and operators, community organizations, and other key stakeholders;
- The use of surveys, stakeholder meetings, focus groups, and other in-person community engagement, such as pop-up events and open houses; and virtual and social-media based engagement;
- Inclusive and equitable outreach and engagement with a variety of community participants; and
- The development of a report provides a clear and concise overview of all feedback collected throughout the life of the project.

SRF's team brings excitement and passion for community engagement. We understand the importance of public input in any planning or development process. For that reason, **our team prides itself in the development of innovative engagement plans.** This engagement effort will seek to identify tangible issues, priorities, needs, and desires that will directly impact site redevelopment.

Dan McNiel engaging with community members at a pop up event.

Key Personnel and Qualifications

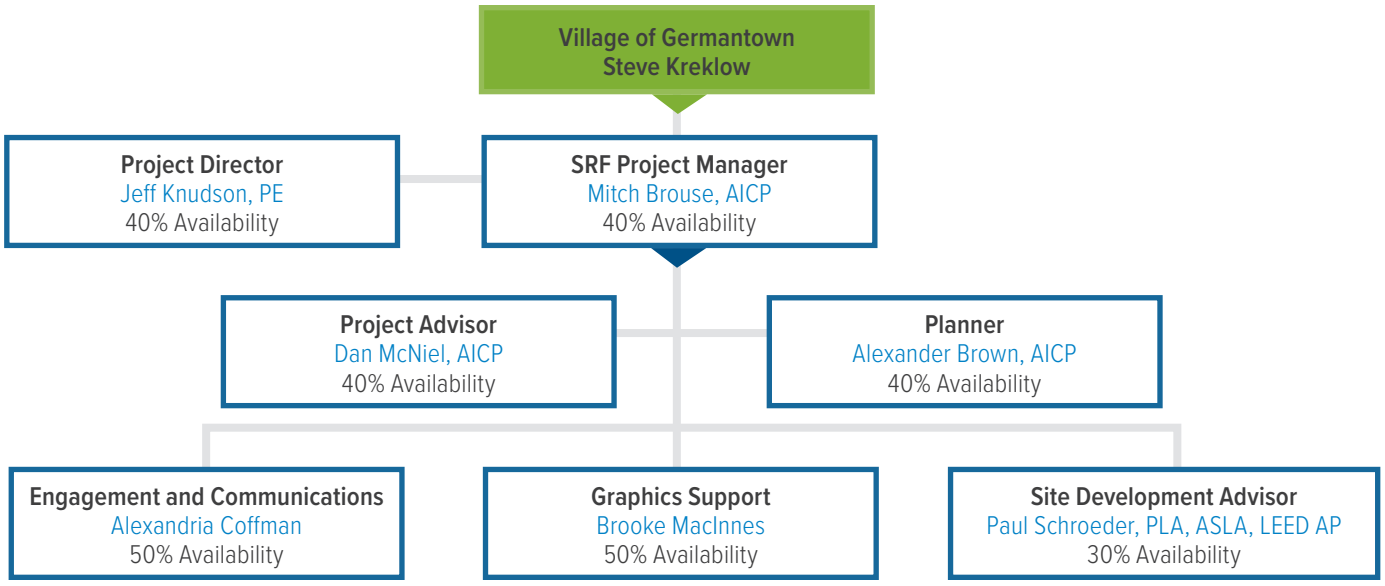
Our team members are skilled at facilitating meaningful discussions amongst the public to gain constructive feedback that can be addressed and incorporated into the final deliverables. Each team member contributes select expertise and prior experience to match the scope of work identified in this proposal. The team and their respective roles are highlighted in the org chart below.

Our team will be led by **Mitch Brouse, AICP**, a community planning leader in our Madison Office. With 10 years of planning experience in both the public and private sectors, Mitch understands and enjoys the complexities that come with developing and implementing a zoning and subdivision ordinance. With each project, he embraces the community's identity and future vision using a collaborative approach to develop creative and implementable solutions. He stresses the importance of building deliverables upon meaningful public and stakeholder engagement.

The project team will be supported by **Dan McNiel, AICP**, a leader in SRF's engagement group. He brings expertise in public involvement of all forms, including youth engagement, online input and meeting facilitation, engagement promotion, and the development of welcoming engagement activities.

Resumes, highlighting applicable project experience for the very capable planners and designers that will participate in the planning process are included in the following pages.

The SRF teamis comprised of seasoned professionals who understand the complexities and opportunities the Village of Germantown faces leading a comprehensive community engagement program for potential redevelopment of three sites. Our team members have extensive experience in day-to-day administration, code, zoning, and site development knowledge, and the expertise to successfully engage the community and stakeholders.



JEFF KNUDSON, PE | PROJECT DIRECTOR

Jeff has successfully managed hundreds of multimodal transportation planning, traffic, and design projects, while working closely with the Wisconsin Department of Transportation (WisDOT) and many other State DOTs and agencies on a wide range of planning, traffic, safety, and design engineering theories, practices, and applications. He will provide project oversight and support to the team as Project Director.

MITCHELL BROUSE, AICP | PROJECT MANAGER

Mitch is an experienced planner, with 10 years of experience between the public and private sectors. His resume that includes various planning efforts including long-range policy and code development and current planning. He brings a wealth of knowledge on code and plan implementation from his past employment with Snohomish County, Washington and Johnson County, Iowa, which allows him to bring a unique understanding of the intricacies of local government. Mitch enjoys working with communities to identify strategies to move the community forward. Throughout his career, Mitch has served a variety of roles ranging from project management to data collection and analysis to development application review.

AREAS OF SPECIALTY

- Land Use & Comprehensive Planning
- Zoning & Development Codes
- Stakeholder and Community Engagement
- Environmental Planning
- Transportation Planning
- Interagency Coordination

EDUCATION

Master of Science, Urban and Regional Planning, University of Iowa, 2015

Bachelor of Art, Economics, Ripon College, 2012

CERTIFICATIONS

American Institute of Certified Planners #31069

PROJECT EXPERIENCE

Winona County 2045 Comprehensive Plan, Winona County, Minnesota. Mitch is currently serving as project manager in the development of Winona County's updated comprehensive plan. In this role, he is coordinating plan development, leading meeting facilitation with internal and external stakeholder groups, and guiding SRF's internal workload.

Calumet County 2045 Comprehensive Plan Update, Calumet County, Wisconsin. Mitch served as the project manager for the Comprehensive Plan Update process. In this role he supported the development of Calumet County's comprehensive plan by crafting goal and policy statements and conducting plan analysis. He coordinated public engagement, including surveys and events, to gather input. Mitch contributed to creating an interactive ArcGIS Storymap and a user-friendly document emphasizing SMART actions and future maintenance.

Marshall Comprehensive Plan Update, Minnesota. Supporting the development of the Comprehensive Plan Update. Efforts focus on the development of the future land use plan and plan element analysis. Mitch's roles include plan analysis, data collection, zoning assessment, and GIS mapping.

Focus River Falls, Comprehensive Plan Update, River Falls, Wisconsin. Provided assistance the planning process with the development of goal and policy statements and plan analysis efforts. Mitch also played a key role in the development of the Comprehensive Plan document.

Imagine 2045 Isanti County Comprehensive Plan, Isanti County, Minnesota. Mitch provided planning support for the development of the Isanti County Comprehensive Plan. Project focus included support for plan development, guiding land use analysis, community visioning and goal setting, and zoning ordinance review.

Worthington Comprehensive Plan, Minnesota. Supported updates to the comprehensive plan, focusing efforts on evaluating, identifying, and documenting recommended updates to the City zoning and development ordinances.

Johnson County, Unified Development Ordinance, Iowa.* Served as the lead planner in the development and adoption of a new Unified Development Ordinance for Johnson County, Iowa, including zoning, environmental, and development regulations and standards. Developed policy memos, verbally communicated policy options to elected officials and the Planning Commission, and facilitated public discussions with decision makers. Completed stakeholder interviews and focus groups to solicit feedback on community needs. Researched and developed updated code provisions and assembled an updated ordinance that was adopted in place of the old standards.

Johnson County, Zoning Administration, Iowa.* Served as a permitting planner interpreting and implementing the County's Unified Development Ordinance. Reviewed subdivision and zoning applications for compliance with the zoning ordinance and prepare associated staff reports. Presented staff reports to the Planning and Zoning Commission, Board of Adjustment, and Board of Supervisors monthly.

**Completed with previous employer*

DANIEL MCNIEL, AICP | PROJECT ADVISOR

Dan has eight years of experience in public engagement and planning, including youth engagement, transportation planning and parks and recreation planning. He has significant experience facilitating public engagement for infrastructure projects, and works to ensure meaningful opportunities to educate, engage and involve community members. Dan is committed to developing accessible and responsive community outreach and is passionate about incorporating underrepresented perspectives into planning processes.

AREAS OF SPECIALTY

- Stakeholder and Community Engagement
- Park and Recreation Planning and Public Engagement
- Planning for Connected and Automated Vehicles
- Youth engagement
- Virtual Meeting Facilitation and Online Input Opportunities
- Graphic Design, ADA Compliance, Plain Language
- Welcoming, Interactive and Educational Engagement Events

EDUCATION

Master of Urban and Regional Planning, University of Minnesota 2019

Bachelor of Individualized Studies, Communications, Management, American Indian Studies, University of Minnesota, 2017

CERTIFICATIONS

American Institute of Certified Planners #34234

PROJECT EXPERIENCE

Winona County 2045 Comprehensive Plan, Winona County, Minnesota. Dan is serving as the engagement lead in the development of Winona County's updated Comprehensive Plan. In this role, he led the development of the public participation plan, is guiding ongoing engagement efforts, and leading plan promotion efforts.

Janesville Long-Range Transportation Plan Update, Janesville, Wisconsin. Dan is providing engagement support for the MPO's Long-Range Transportation Plan update process. Dan works with the team to develop public engagement strategies including focus group, surveys, and pop-up community events to gather input throughout the planning process.

ROCOG Safety Action Plan, Olmsted County, Minnesota. SRF led comprehensive community engagement for the Rochester-Olmsted Council of Governments Safety Action Plan (SAP). The goal of the SAP is to develop a regional strategy to prevent roadway fatalities and serious injuries for all roadway users within the ROCOG boundaries. Dan prepared a comprehensive engagement plan and facilitated robust engagement, with more than 800 people engaged at pop-up events, four focus group meetings with key audiences, and over 500 comments on an online comment map designed to support the systemic analysis and identification of priority locations across the ROCOG planning area.

Mankato/North Mankato Long-Range Transportation Plan, Minnesota. Dan assisted in developing public involvement plan. Planned for, executed, and attended meetings, including pop-ups events and open houses. Developed boards, social media posts, and website content. Summarized comments received from the public.

La Crosse Area Planning Committee – Metropolitan Transportation Plan Update Public Engagement, La Crosse, Wisconsin. The SRF engagement team designed and implemented public outreach to diverse communities around the La Crosse Area Planning region to gather ideas and feedback regarding transportation uses and future desires. The team implemented in person and online engagement activities, tracked and summarized feedback to be incorporated into the Metropolitan Transportation Plan document.

Focus River Falls, Wisconsin. Dan was the Engagement Lead for SRF and helped facilitate an 18-month Focus River Falls planning process. This process updated three important plans for the community, the Comprehensive Plan, Bike and Pedestrian Plan, and Outdoor Recreation Plan. The project included robust in-person engagement with multiple interactive open houses and pop-up events, a dynamic website for each plan that brought more than 1000 residents together to engage online, as well as active public outreach and development of visually appealing and ADA accessible engagement materials.

City of Worthington Comprehensive Plan Update, Minnesota. Dan provided public input and community and stakeholder engagement support for the City of Worthington's Comprehensive Plan Update. Dan works collaboratively with city staff, project team members and residents to ensure meaningful and measurable opportunities for community voice in the Comprehensive Plan update process.

PAUL SCHROEDER, PLA, ASLA, LEED AP | SITE DEVELOPMENT ADVISOR

Paul has nearly 30 years of experience as a development consultant in the commercial, residential, and government markets and has worked on numerous projects over his career. He focuses on site planning, engineering/environmental coordination, and project aesthetics while bringing a complement of skills to assist clients in the project's entitlements, site design, assessment, construction, and overall development success. Paul enjoys collaborating with and leading multidisciplinary teams to develop creative solutions that address project challenges and meet key target dates.

AREAS OF SPECIALTY

- Project Management
- Due Diligence
- Entitlements/Permitting
- Presentations
- Coancept/Site Planning
- ADA Compliance
- Development Plans
- Construction Documents

EDUCATION

Bachelor of Landscape Architecture, Iowa State University, 1994

CERTIFICATIONS

Professional Landscape Architect: Minnesota #25820, Wisconsin #577, North Dakota #43, South Dakota #9469, Iowa #00538, Missouri #PLA2016037209, Kansas #868, Colorado #918, Texas #2656, New York #002243

Landscape Architect: Council of Landscape Architecture Registration Boards (CLARB)

PROJECT EXPERIENCE

Mid-America Steel Redevelopment, Fargo, North Dakota. Completed a redevelopment study of the 10.5-acre abandoned industrial site, that focused on site constraints (rail line, floodplain, environmental, grades, stormwater, utilities, access) and future development uses. With the assistance of other subconsultants, the study also identified alternative environmental remediation options and other next steps in the development of this project.

Meander Park and Boardwalk Development, Medina, Minnesota. Project manager for all survey, wetland, civil engineering, stormwater management, and landscape architecture aspects of the project from design through construction for a 6-acre mixed use retail, data center, event center, and attached residential master planned development. Also includes solar parking lot canopy, geothermal, landscape water features, and boardwalks.

Downtown Hugo, Hugo, Minnesota. A 4-acre mixed use redevelopment retail and office master planned project, complete with a downtown theme and lake front boardwalk. Complete site development services involving site planning, platting, wetland temporary impacts, traffic/parking, civil engineering, and landscape architecture.

Firestone, Waukesha, Wisconsin. Rail access extension study to private property for distribution of products. Worked with Firestone, CN Rail, and the City of Waukesha.

Gundersen Health Care, La Crosse, Wisconsin. Civil engineering and survey coordination involving a downtown urban medical office building renovation, along with related parking/pedestrian modification and additional utility connections.

Norway House, Minneapolis, Minnesota. A complex urban event center addition for this non-profit Norway culture organization, and adjacent church. Design also involved multiple site planning changes to accommodate parking, pedestrian circulation, environmental remediation, sculpture/plaza, and aesthetics. Complete with survey and Travel Demand Management Plan.

Fleet Storage Facility, White Earth, Minnesota. Indoor facility for White Earth Nation to store its fleet of cars that is used to service the community on a daily basis. Provide site schematic design and due diligence assistance, along with future design services for property development.

Jackhaw Lake Property, White Earth, Minnesota. Boundary Topographic survey of large 26-acre parcel for future development.

ALEXANDER BROWN, AICP, PTP | PLANNER

Alexander brings over seven years of public sector planning experience prior to joining SRF in May 2024. His background includes working with a city, a Metropolitan Planning Organization (MPO), and a Regional Planning Commission. Throughout his career, he has developed comprehensive land use plans, active and multi-modal transportation plans, and implemented transportation policies and initiatives at the local level. As a Project Manager, Alexander has led comprehensive and regional planning projects across Wisconsin, working in both urban areas and rural communities. Now part of the Funding & Grants Team at SRF, he enjoys collaborating with communities to identify innovative strategies that support their goals. Alexander's previous experience has given him a deep understanding of the complexities of local government, especially in Wisconsin communities.

AREAS OF SPECIALTY

- Transportation Planning
- Land Use & Comprehensive Planning
- Grants & Fundings Coordination
- Multimodal Transportation

EDUCATION

Master of Science, Urban and Regional Planning, University of Wisconsin, 2017

Bachelor of Arts, Political Science, Environmental Studies, University of Wisconsin, 2015

CERTIFICATION

American Institute of Certified Planners

Professional Transportation Planner

PROJECT EXPERIENCE

Janesville Area MPO Long-Range Transportation Plan, Janesville, Wisconsin. Alexander serves as the project manager for the MPO's Long-Range Transportation Plan update process. In this role, he supports the development of the MPO's multimodal Long-Range Transportation Plan by crafting goals, objectives, and performance measures, and provided financial, demographic, and planning analysis. He coordinates public engagement, including focus group, surveys, and pop-up community events to gather input throughout the planning process.

Goodhue County Long-Range Transportation Plan, Goodhue County, Minnesota. Alexander serves as the deputy project manager for the update of the County's Long-Range Transportation Plan. His contributions include leading an analysis of existing conditions, establishing long-term goals, objectives and performance measures, and developing recommendations for future roadway management and maintenance.

La Crosse Regional Transit Authority Feasibility Study, La Crosse, Wisconsin. SRF is working with the La Crosse Planning Committee to study the feasibility of a Regional Transit Authority (RTA) for the MPO's planning area. Alexander is a planner on this project, helping to develop an assessment of existing conditions and policies, and producing financial analysis and recommendations for this study.

Grant Writing Services. Alexander has served as project manager, lead writer, and supporting writer for multiple federal and state discretionary grant program applications, including the Better Utilizing Investments to Leverage Development (BUILD) program, formally known as RAISE. Clients range from municipalities in Wisconsin to state Departments of Transportation. An experienced grant writer, Alexander has contributed to multiple successful applications for highly competitive discretionary grant programs since joining SRF.

Introduction of Full-time Transit Service to Sun Prairie, Wisconsin*. As Transportation Coordinator for the City of Sun Prairie, Alexander managed various transportation initiatives, including developing annual budgets for on- and off-road active transportation infrastructure. He designed street sections for road reconstruction projects aligned with "Complete Streets" best practices. Alexander also led the transition from a shared-ride taxi service to a fixed-route transit system with regional ADA paratransit, overseeing GIS mapping, data analysis, stakeholder engagement, equity analysis, interjurisdictional coordination, and public outreach.

**Completed with previous employer*

ALEXANDRIA COFFMAN | ENGAGEMENT AND COMMUNICATIONS

Alexandria joined SRF following her time with the Wisconsin Department of Transportation as an Urban and Regional Planner working on bicycle and pedestrian projects and programs. At SRF, Alexandria works on comprehensive planning, transportation planning, zoning, and grant writing projects as a member of the Wisconsin Planning Group. Alexandria is passionate about engaging community stakeholders to advance connectivity, accessibility, equity, and sustainability through planning projects.

AREAS OF SPECIALTY

- Transportation Planning
- Community Engagement
- Comprehensive Planning
- Geographic Information Systems (GIS)

EDUCATION

Bachelor of Arts, Urban and Regional Planning, Miami University, 2023

Bachelor of Arts, Geography and Sustainable Development, Miami University, 2023

Bachelor of Arts, Sustainability, Miami University, 2023

PROJECT EXPERIENCE

Winona County 2045 Comprehensive Plan, Winona County, Minnesota. Alexandria is currently providing engagement and planning support in the development of Winona County's updated Comprehensive Plan. Her role includes graphic development, direct stakeholder engagement support, report writing, and policy development.

Superior Zoning Update, Superior, Wisconsin. Alexandria provides planning and public engagement support for the ongoing update of the City of Superior's zoning ordinance. Work is focused on aligning the zoning code with the updated Comprehensive Plan 2040, using both form-based and traditional zoning approaches.

Calumet County Comprehensive Plan, Calumet County, Wisconsin. Alexandria provided planning and community engagement support for the development of the Calumet County Comprehensive Plan. Work included identifying growth areas through geospatial analysis, completing extensive public engagement, and developing plan materials.

MnDOT Statewide IIJA BIL Grant Coordination. In this ongoing project, SRF supports MnDOT in ranking and selecting projects for IIJA grant programs through the development and implementation of a grant prioritization tool. Alexandria's work on this project includes managing GIS data, updating an extensive grants database, and analyzing funding eligibility criteria.

Village of Harrison Comprehensive Plan, Harrison, Wisconsin. Alexandria provided planning and community engagement support for the update of the Village of Harrison's Comprehensive Plan. Alexandria's work included the development of engaging and informative activities for stakeholders and planning for a diversity of land uses.

Standalone Curb Ramp Program Management and Project Prioritization, Wisconsin Department of Transportation.* Alexandria managed the Standalone Curb Ramp Program alongside the Statewide Bicycle and Pedestrian Coordinator. The program addresses non-compliant curb ramps that will not be addressed by other highway projects before 2037, the year of compliance established in Wisconsin's ADA Transition Plan. Alexandria managed GIS data for the program, identified and programmed future projects, and adapted the project prioritization process to take advantage of federal funds.

East Avenue Corridor Revitalization Plan, Hamilton, Ohio.* As a senior capstone, Alexandria collaborated with a team of fellow planning students to develop a corridor revitalization plan for East Avenue in the Jefferson Neighborhood of Hamilton, Ohio. Alexandria's work centered on public engagement and identifying economic development strategies in line with community character and values. This revitalization plan was recently adopted as a chapter of the City of Hamilton's Comprehensive Plan.

**Completed with previous employer*

BROOKE MACINNES | GRAPHICS SUPPORT

Brooke has a proven track record in designing and delivering impactful print materials, interactive tools, and web-based solutions. She skillfully merges her passion for marketing and communications with a collaborative and comprehensive graphic design approach, consistently achieving project objectives and visions. Brooke has extensive knowledge of the Adobe Creative Suite, which she complements with skills in Wordpress, Wikimapping, and ArcGIS online, resulting in the creation of captivating designs and effective user experiences. Brooke frequently collaborates with SRF's Public Engagement experts to meet the needs of a variety of projects and clients. She develops Wordpress websites, traditional and online engagement materials, assists with video editing and development, and specializes in Wikimapping, an interactive mapping tool to gather community input.

AREAS OF SPECIALTY

- Graphic Design
- Multi-media
- Engagement Support

EDUCATION

Bachelor of Arts in Business, Bethel University, 2016; Minors in Graphic Design & Studio Art

SOFTWARE EXPERTISE

- Adobe Creative Suite
- Microsoft Office Products
- Wordpress
- Wikimapping
- ArcGIS Storymaps

PROJECT EXPERIENCE

Saint Croix County/Dunn County/Eau Claire County Safety Action Plans. Developed a project logo and engagement materials for three county Safety Action Plans, including colorful open house boards and zine-style flyers. Created three interactive maps for public input using wikimapping.com and custom basemap tools, which received over 590 comments total. The project also included layout design for Safety Action Plan documents for each county, as well as related graphics like custom figures, graphical charts, callouts, and decision trees.

Olmstead County TH 14 Corridor Analysis. www.us14corridoranalysis.com. Development of project logo and brand identity, Wordpress website, mailers, email blasts, open house boards, and several project alternatives maps.

Chisago County TH 8 Preliminary design, Chisago County, MN. Developed project logo and brand, as well as communication materials, including mapping, newsletters, online Wikimap, open house materials, and virtual open house video and ArcGIS Hubsite. th-8-online-open-house-srfconsulting.hub.arcgis.com.

MnDOT TH 23/TH 9 Reduced Conflict Intersection in New London. Developed project logo and followed MnDOT brand guidelines for public engagement materials and ADA compliancy standards. Developed illustrations, public meeting boards, mailers, handouts, and graphical maps to assist in public understanding of J-turn intersection.

MnDOT Glencoe Comprehensive Transportation Study. Development of public engagement materials for the Glencoe Comprehensive Transportation Study process. Engagement methods included developing online engagement tools, in-person open house materials, and formatting processed engagement data into Study report.

Washington County Comprehensive Plan Update, Washington County, MN. Design of an updated layout for the new comprehensive plan in addition to design of public engagement materials.

US Highway 83 Alternative Study, Bismarck-Mandan Metropolitan Planning Organization, Bismarck, ND. Designed project logo, website, public meeting materials, alternative public engagement materials including interactive Wikimap.

MnDOT TH 10/Rum River Bridge Improvements. Design and development of public meeting materials, interactive Wikimap.

Apple Valley Comprehensive Plan Brand Identity and Materials, City of Apple Valley, MN. www.imagineapplevalley2040.com. Brooke designed a project logo and brand identity for the project to be cohesive with the City of Apple Valley's existing brand. She also assisted in development of public engagement boards, banners, and survey data visualization.

City of Richfield 2018 Comprehensive Plan Update, Richfield, MN. Design of public engagement materials, including infographic style flyer and presentation boards.

Relevant Experience & References

SRF is a full-service consulting firm with planning, engineering, and design services. SRF's planners, engineers, and designers collaborate with our clients and their stakeholders to develop creative solutions for the most challenging projects. We create lasting solutions to strengthen communities. Our award-winning projects range from planning communities and statewide transportation systems to revitalizing neighborhoods and urban spaces to designing parks, roadways, trails, and bridges.

SRF has a long tradition of responding to client needs and exceeding their expectations. Since 1961, we have been a highly respected member of the Midwestern consulting community. Our firm is home to more than 400 employees, and is headquartered in Minneapolis, with regional office locations in Madison, Wisconsin; Saint Paul, Minnesota; Fargo and Bismarck, North Dakota; Omaha, Nebraska; Chicago, Illinois; and Tallahassee, Florida.

Our project team is led by staff from the Madison office with support from the Minneapolis office.

60+ (365) Years of Achievements

400+ Employee Owners

8 Offices in MN, IL, ND, WI, NE, and FL

10K+ Successful Projects Delivered

100+ Awards

SRF has deep expertise in the design, development, and implementation of community engagement efforts, delivered with a high level of professionalism and quality. We understand the diversity of community voices and work intentionally to educate, inform and involve community in the planning process.

CALUMET COUNTY 2045 COMPREHENSIVE PLAN

Calumet County, Wisconsin

SRF assisted with Calumet County and ten participating cities, villages, and towns to develop an updated comprehensive plan covering the County and most of its municipalities. The intergovernmental approach to comprehensive planning included a series of outreach meetings with participating municipalities to develop a plan that will appropriately meet the needs of multiple towns, village, and cities.

Key efforts throughout the process included the development of a planning document that is useful and understandable to a wide range of the community, including elected officials, governmental staff, and the general public.

The plan development process was supported by a broad range of engagement activities, including multiple survey's, pop-up events at key county events, and open houses to help in gaining community buy-in and to ensure the plan reflects the overall goals of the community.

The final planning document utilizes an ArcGIS Storymap to effectively communicate key plan information through the use of interactive maps, graphics, and data tools. The final, streamlined, and graphic heavy planning document includes only the most pertinent information, with supporting documentation included in an appendix.

Development of implementation actions reflected SMART (specific, measurable, achievable, realistic, and time-bound) goal setting principles to ensure that actions can be accomplished.

The final plan includes a maintenance plan that will guide future plan updates to ensure it remains relevant to all communities.

KEY PERSONNEL
Mitch Brouse, Alexandria Coffman

REFERENCE
Matt Halada, Planner
Matthew.halada@calumetcounty.org | 920.849.1493

BUDGET: $160,000 | **SCHEDULE:** 2023-Present

CLICK HERE OR SCAN TO VIEW THE ACTIVE PROJECT WEBSITE

METROPOLITAN TRANSPORTATION PLAN UPDATE PUBLIC ENGAGEMENT

La Crosse Area Planning Committee, La Crosse, Wisconsin

SRF was hired to provide engagement, communications, and data analysis services to support the La Crosse Area Planning Committee (LAPC) in their effort to update their Metropolitan Transportation Plan. The SRF teamdesigned and implemented an engagement strategy to connect with stakeholders and diverse components of the public throughout the LAPC area, in both urban and rural areas. SRF designed communications materials, engagement activities, survey questions, and meeting presentations. The team gathered thousands of points of feedback on transportation issues, existing experiences, and future needs to help inform the Metropolitan Transportation Plan update.

KEY PERSONNEL
Dan McNiel

REFERENCE
Erin Duffer, Transportation Planner | LAPC
eduffer@lacrossecounty.org | 608.785.5597

BUDGET: $74,719 | **SCHEDULE:** 2024 - 2025

FOCUS RIVER FALLS 2045 COMPREHENSIVE PLAN | River Falls, Wisconsin

The Focus River Falls Process was an opportunity for the River Falls community to assess community needs and update their future vision. The community has a long history of active engagement with residents and stakeholders to inform decision making and was a key focus of the planning process. The Focus River Falls process included updates to the Comprehensive Plan and Comprehensive Outdoor Recreation Plan, along with the addition of the community's first Bicycle and Pedestrian Plan. These three plans were completed together to ensure their goals and outcomes aligned with one another and also allowed engagement activities to support all efforts. Broad engagement to support these three plans included an online engagement platform, open houses, focus groups, pop-up events, walking/biking tours, and three steering committees.

FOCUS RIVER FALLS COMPREHENSIVE PLAN

The SRF planning team assisted the City of River falls with an updated to their Comprehensive Plan in alignment with Wisconsin State Statutes and community desires. The plan began with a deep analysis of current conditions to establish a plan foundation. The process set five overarching goals that would apply to all plan elements. The development of a clear and useable implementation plan was a critical element in guiding future actions that also align with other planning efforts.

FOCUS RIVER FALLS COMPREHENSIVE OUTDOOR RECREATION PLAN (CORP)

The SRF teamsupported the city with an updated to their CORP in alignment with Wisconsin Department of Natural Resources guidance, exploring the existing outdoor recreation landscape and future needs. The plan used an existing inventory and community input to analyze future needs and opportunities within the community.

FOCUS RIVER FALLS BICYCLE AND PEDESTRIAN PLAN

SRF supported their subconsultant, Alta Planning + Design, with the development of the community wide Bicycle and Pedestrian Plan. This plan explored spot and corridor improvements within the existing network and future extensions into upcoming growth areas. The plan identified a long list of actions with identified benefit and complexity to assist community leaders in decision making.

KEY PERSONNEL
Mitch Brouse, Dan McNiel

REFERENCE
Amy Peterson, Community Development Director
apeterson@rfcity.org | 715.426.3425

BUDGET: $198,000 | **SCHEDULE:** 2022-2023

WINONA COUNTY 2045 COMPREHENSIVE PLAN | Winona, Minnesota (In progress)

SRF is currently assisting Winona County, Minnesota in updating its comprehensive plan. The basis for the plan is built from robust engagement with key stakeholders from the county's 19 townships to understand community needs, develop a community vision, and increase community support for the plan. At the beginning of the planning process, SRF developed a public participation plan that established a toolbox of engagement strategies designed to engage a diversity of stakeholders throughout the planning process.

The initial phase of public involvement included the launch of the project website (WinonaCounty2045.com) a steering committee meeting, two pop-up booths at community events, two workshops with special interest groups, an open house, and an extensive community survey available online and on paper. Over 500 community members participated in involvement activities during the first public involvement stage. This feedback shaped the vision and goals of the comprehensive plan, in addition to providing valuable insight into existing conditions and community concerns. Community members also expressed appreciation for the engagement opportunities and a better understanding of the comprehensive planning process.

Currently, SRF is gathering additional community input through an interactive mapping tool and outreach to township officers utilizing land use worksheets. Engagement will continue throughout the completion of the plan to identify implementation actions, gather feedback on the Preferred Future Land Use Map, and present the draft plan to the public for comment.

KEY PERSONNEL
Dan McNiel, Alexandria Coffman

BUDGET: $148,000 | **SCHEDULE:** 2025 to present

LONG-RANGE TRANSPORTATION PLAN UPDATE (In progress)

Janesville Area Metropolitan Planning Organization, Wisconsin

SRF is assisting the Janesville Area Metropolitan Planning Organization (JAMPO) in updating its Long-Range Transportation Plan (LRTP). As part of this update, SRF is implementing a robust public engagement process grounded in best practices utilizing both in-person and virtual strategies. During the summer of 2025, SRF hosted "pop-up" engagement at community events in Janesville and Milton, engaging residents early in the planning process to identify key transportation issues for the LRTP to address. SRF also developed an online community survey available in English and Spanish to broaden participation. Later in the process, SRF convened a focus group to explore ways to incorporate active transportation and public health into the LRTP. For stakeholders unable to attend in person, SRF provided an interactive online map to crowdsource feedback on the proposed active transportation network. Upcoming engagement activities include a public open house in January 2026 and virtual opportunities for residents to review and comment on the draft plan.

KEY PERSONNEL
Alexander Brown, Dan McNiel, Alexandria Coffman

BUDGET: $124,000 | **SCHEDULE:** 2024 to 2026

Work Program and Project Schedule

The following section outlines our approach to the project and details the proposed scope of work that fully engagement key stakeholders and community members.

TASK 1 (JANUARY - APRIL) | PROJECT MANAGEMENT:

Mitch will work closely with Village staff to establish a project management plan, timeline, and a cadence of regular check-ins tailored to the project. These frequent meetings will serve to provide progress updates, coordinate efforts, receive direction from staff, and discuss any needed adjustments to the schedule, engagement program activities, or scope of work. We understand that there may need to be shifts to align with the project process as it moves forward.

Mitch is a highly responsive project manager and will work collaboratively to build a management plan that makes this engagement seamless and worry-free for Village staff. This work includes preparing and implementing engagement activities and associated logistics, such as scheduling and securing permissions for all required facilities, equipment, websites, and social media sites. The SRF team will ensure all engagement-related tools, products, materials, images, graphics, content, websites, and promotional items are effectively branded, presented in plain language and approved by the Village staff. Additionally, regular and timely invoices will be delivered based on a mutually acceptable timeframe, providing a breakdown of time spent on each task and percentage of work completed.

TASK 2 (JANUARY 2026): CONDUCT INTRODUCTION MEETINGS WITH VILLAGE OFFICIALS AND STAFF TO DEVELOP THE COMMUNITY ENGAGEMENT PROGRAM

The SRF team will collaborate with Village staff and the Village Board to craft a comprehensive Community Engagement Plan that broadly reaches Germantown residents and actively engages key stakeholders and adjacent property owners. Our team is well-versed in developing both traditional and creative engagement approaches. We believe meaningful engagement requires intentional outreach to underrepresented groups, ensuring a diverse range of voices shapes the project outcome. This includes using a variety of formats, locations, and languages to remove barriers to participation.

Our initial efforts will involve facilitating a workshop with Village officials and staff to identify project goals, communication priorities, and necessary resources, which will inform the final scope of engagement. The workshop will help finalize a Community Engagement Plan (CEP) that will define all methods, audiences, and public input opportunities based on staff feedback and workshop recommendations. The CEP will also define branding, communications, and workback schedules for engagement tasks.

We will create a shared tracking document for all deliverables, allowing Village staff to stay up to date with all materials in an easy format at their fingertips. This live document will include a schedule of all activities, target participants for each event, the specific feedback intended to be collected, and the media/technology being used for promotion and execution. This transparency ensures real-time project monitoring and facilitates quick collaboration between our team and Village staff.

TASK 3 (FEBRUARY – APRIL 2026): FACILITATE THE COMMUNITY ENGAGEMENT PROCESS

A toolbox of community and stakeholder engagement activities will be facilitated and actively promoted from February through late March 2026.

The engagement process will be designed to raise awareness and solicit feedback from residents, businesses, developers and Village staff. We understand that engagement needs to be user-friendly, educational, and responsive to community needs. Our approach will work to inform the community broadly as well as strategically connect with key audiences across the Village of Germantown regarding priorities for future land use plans.

The detailed project schedule on the following page outlines a phased approach to engagement and identifies tools for engaging key audiences. Additionally, we have identified opportunities to use innovative engagement tools and work collaboratively with Village staff to provide project updates and input opportunities.

TASK 4 (APRIL – MAY 2026): PREPARE A FINAL COMMUNITY ENGAGEMENT OUTCOMES REPORT

The culmination of the engagement process will be the Final Report, designed as a clear, concise, and easily reproducible document of the collective feedback received. This report will be specifically geared toward use by Village officials and staff, highlighting the findings from feedback gathered from residents, businesses, and local partners.

To effectively present the qualitative and quantitative information gathered, we will utilize highly visual elements, including color maps, graphics, images, plans, and renderings. The core of the report will be a structured list of key findings, feedback, and recommendations. This content will be presented using terminology and a level of detail that is easily explained to the public while remaining actionable for Village staff and future consultants. This detail will be sufficient to be directly applied to the development of site-specific land use plans, zoning regulations, and design guidelines for the three Village-owned properties within the "Village Center District." To ensure accuracy and alignment, we will first provide a comprehensive Draft Final Report to Village staff for review and approval. Following staff feedback, we will prepare the conclusive Final Report and present it publicly to the Village Board at a mutually acceptable public meeting.

Value Add:

"Meeting in a box". We propose working with Village staff to prepare a "meeting in a box" engagement materials that can be provided to neighborhood organizations. These materials are easy to use and convenient feedback methods will be used that funnel all comments to a central portal for analysis and tracking purposes.

Awareness and promotion can drive success. Paid advertising, yard signs, sidewalk decals and offering an incentive for survey responses (e.g. chance to win a gift card to local business) can help to build community participation.

Targeted outreach to under-served populations. Providing paper surveys at senior centers, providing translated materials, door knocking and outreach to neighborhood groups, community-based organizations, faith-based organizations, student groups.

Interactive comment map. We can provide an interactive comment map to gather feedback in an intuitive method, providing rich geocoded community feedback.

Example engagement campaign materials used for River Falls.

JANUARY 2026: Project Introduction Meetings to develop Community Engagement Strategy

Our team will work closely with the Village of Germantown staff to design and implement the public engagement strategy.

Communications and Engagement Deliverables:

- Workshop Agenda and Meeting Notes
- Community Engagement Plan (CEP)

Dan McNiel at a public meeting for the New London, MN Interchange project.

FEBRUARY - APRIL 2026: Community Engagement

We will build upon initial feedback from the workshop to deploy a community survey and develop in-person engagement to have in-depth conversations with stakeholders and conduct targeted outreach with key audiences that are typically underrepresented in community and development planning.

Online Engagement

- Establish a project webpage on Village of Germantown website
- Community visioning survey
- Online input map - Interactive comment map. We can provide an interactive comment map to gather feedback in an intuitive method, providing rich geocoded community feedback.

In Person Engagement

- Community Open House (mid-March) – Ideally this public input opportunity could be aligned with an existing event, such as Germantown Village Board meeting or Germantown Community Coalition event.
- Focus group / Site tour – convene key stakeholders for a visioning session.
- Pop-up engagement at a popular community event, such as the Germantown Area Chamber of Commerce Leadership Luncheon (February 2026) or Family Trivia Night hosted by the Germantown Community Coalition (mid-March 2026)
- We will work closely with Village staff to encourage meaningful public participation and actively promote public input opportunities. Strategies to raise awareness and drive local participation may include:
  - » Develop media and communications publicity materials to provide direct advertisements in local media outlets.
  - » Support the coordination of stakeholder meetings and interviews with local businesses and other key community members.
  - » Provide translation services as needed to support translation of key materials to be accessible to all residents.
  - » Awareness and promotion can drive success. Paid advertising, yard signs, sidewalk decals and offering incentive survey responses (e.g. chance to win a gift card to local businesses) can help to build community participation.
  - » Targeted outreach to underserved populations. Providing paper surveys at senior centers and on transit routes, providing translated materials, door knocking and outreach to neighborhood groups, community-based organizations, faith-based organizations, and student groups.

APRIL - MAY 2026: Presentations and Project Reporting

We will conduct wrap up activities including the development of a draft and final Outcomes Report outlining the feedback received throughout the process. The final report will then be presented to the Village Board.

Communications and Engagement Deliverables:

- Draft and Final Report

Cost Proposal

	Hours	Cost
TASK 1 - Project Management		
General Project Management	14	$2,628
Task 1 Total Labor Cost	*14*	*$2,628*
TASK 2 - Conduct Introductory Meetings with Village Officials and Staff to Develop the Community Engagement Program		
Village Staff and Board Workshop *Assumes one trip to Germantown with two SRF Staff*	22	$3,198
Develop the Community Engagement Plan	26	$3,942
Phase 2 Total Labor Cost	*48*	*$7,140*
TASK 3 - Facilitate the Community Engagement Process		
Project Webpage Creation and Maintenance	16	$2,064
Promotional Material Development	18	$2,406
One Community Visioning Survey	10	$1,334
Online Input Map	10	$1,334
One Community Open House *Assumes one trip to Germantown with three SRF Staff*	30	$4,376
Two Focus Group Meetings *Assumes one trip to Germantown with two SRF Staff*	24	$3,540
Two Popup Events *Assumes two trips to Germantown with two SRF Staff*	32	$4,720
Task 3 Total Labor Cost	*140*	*$19,774*
TASK 4 - Prepare a Final Community Engagement Outcomes Report		
Develop the Draft Outcomes Report *Assumes one complete review by Germantown Staff*	30	$4,250
Develop the Final Outcomes Report	14	$2,252
Present the Final Report to the Village Board *Assumes one trip to Germantown with one SRF Staff*	14	$2,206
Task 4 Total Labor Cost	*58*	*$8,708*
All Tasks Total Labor Cost	**260**	**$38,250**
Direct Expenses	**Unit**	**Cost**
Mileage (at $0.70 per mile)	1110	$777.00
Meals (at $20 per meal)	10	$200
Total		$977.00
Total Labor and Expenses		**$39,227.00**

Hourly Rates

Classification	Staff	Rate
Professional VIII-VII	Jeff Knudson	$288.00
Professional VI	--	$232.00
Professional V	Paul Schroeder	$215.00
Professional IV	Mitch Brouse Dan McNiel	$171.00
Professional III	Alexander Brown	$164.00
Professional II	--	$136.00
Professional I	Alexandria Coffman	$124.00
Tech.	Brooke MacInnes	$134.00