

Wednesday, September 17, 2025**6:00 PM****McFarland Municipal Center**
5915 Milwaukee St, McFarland
Community Room

AGENDA

The public may attend in-person or remotely through the Zoom webinar or telephone options listed below. *Please Note: Virtual attendance is offered as a convenience, but technical difficulties beyond the Village's control may prevent or limit its availability at any meeting. The public is encouraged to attend the meeting in person to assure full access to the proceedings.*

PLEASE CLICK THE LINK BELOW TO JOIN THE ZOOM WEBINAR:

<https://us02web.zoom.us/j/83788865413>

Or by Telephone: +1 (312) 626-6799

Webinar ID: 837 8886 5413

Press *9 to raise/lower hand. Press *6 to mute/unmute.

1. CALL TO ORDER, ROLL CALL.
2. PUBLIC APPEARANCES.
 - a. This is an opportunity for members of the public to address the Public Works and Utilities Committee for items that are not on the agenda. Please remember this is a hybrid meeting conducted in person and through the Zoom online meeting platform. Meeting attendees wishing to address the Committee about items not on the agenda may do so at this time. Zoom attendees should type their name and address in the Question and Answer feature within the Zoom online meeting platform at this time. Members of the public who are present in person and wish to address the Committee should fill out a public comment form and turn into the meeting chairperson. When you are called upon to speak, state your name, address, and provide your comments to the Committee for their consideration. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to public.works@mcfarland.wi.us to be included as part of the meeting.

Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.
3. APPROVAL OF MINUTES.
 - a. Motion to approve the minutes of the August 27, 2025, Public Works & Utilities Committee meeting.
4. BUSINESS.
 - a. Discussion and action to make a recommendation to the Village Board regarding the conventional rate case for test year 2026 for submittal to the Public Service Commission.
 - b. Discussion and action to make a recommendation to the Village Board regarding Well 5 drilling and authorize the project for bid.
 - c. Discuss and action to make a recommendation to the Village Board regarding the Final Plat for Sperle Corners submitted by Lakestone Properties for a 147-unit residential subdivision located at parcel 0610-024-9691-1.
5. SCHEDULE NEXT MEETING DATE.

a. Monday, October 27, 2025 at 6:00 p.m.

6. ADJOURNMENT.

Any person who has a qualifying disability as defined by the Americans with Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format should contact the McFarland Municipal Center at (608)838-3153, 5915 Milwaukee Street, McFarland, Wisconsin, or village.clerk@mcfarland.wi.us by 2:00 p.m. at least 5 business days prior to the meeting so that any necessary arrangements can be made to accommodate each request. If the meeting or request is less than 5 business days from the meeting, requests for accommodations may still be made and reasonable efforts will be made to accommodate each request.

VILLAGE OF MCFARLAND

Public Works & Utilities Committee Minutes

Wednesday, August 27, 2025 - 6:00 PM

1. CALL TO ORDER, ROLL CALL.

Village President Brassington called the regular meeting of the Public Works & Utilities Committee to order at 6:00 PM in the community room of the Municipal Center. This meeting was also held via Zoom webinar.

Members present: President Brassington, Trustee Prill, Chris Fredrick, Zach Freeman, Eric Kindschi

Members not present: Pauline Boness, Timothy Goers

Staff Present: Public Works Director Lee Igl, Village Administrator Matt Schuenke, Assistant to the Public Works Director Aimee Irwin

2. PUBLIC APPEARANCES.

This is an opportunity for members of the public to address the Public Works and Utilities Committee for items that are not on the agenda. Please remember this is a hybrid meeting conducted in person and through the Zoom online meeting platform. Meeting attendees wishing to address the Committee about items not on the agenda may do so at this time. Zoom attendees should type their name and address in the Question and Answer feature within the Zoom online meeting platform at this time. Members of the public who are present in person and wish to address the Committee should fill out a public comment form and turn into the meeting chairperson. When you are called upon to speak, state your name, address, and provide your comments to the Committee for their consideration. Please adhere to the 3-minute time limit. Additionally, you may send your public comments to public.works@mcfarland.wi.us to be included as part of the meeting.

Members of the public may also speak during their selected agenda item as they designate on the public comment form or in the Question and Answer feature on Zoom.

None.

3. APPROVAL OF MINUTES.

Motion to approve the minutes of the July 28, 2025 Public Works & Utilities Committee meeting.

Motion by President Brassington, seconded by Fredrick, to approve the minutes of the July 28, 2025, Public Works & Utilities Committee meeting. Motion carries 5 - 0 - 0.

4. BUSINESS.

Introduction and discussion regarding the Well 5 project and conventional water rate case

Brian Berquist of Town & Country Engineering provided an overview of the Well 5 project, including details regarding the well site, DNR sanitary survey letter from 2022, and the 2023 Public Facilities Needs Assessment.

- Fredrick asked how water impact fees would be utilized for this project. Berquist provided an explanation of impact fees and stated existing funds would have been included in Baker Tilly's calculations for the rate case. Fredrick suggested evaluating and increasing the impact fees.
- President Brassington asked why Well 2 was abandoned. Berquist explained that a chemical found in Well 2 caused the well to be abandoned.
- President Brassington asked if there were ways to filter out PFAS from Well 1. Berquist stated that while there are filtration options, they are not cost-effective.
- President Brassington asked how long it would take to obtain the DNR funding for the project. Berquist explained that the process for obtaining funding began last year and the overall process takes two years. Brassington asked if the DNR funding was 100% of the funding. Berquist responded that the DNR funding is a loan for 100% of the cost of the project.
- President Brassington asked if an increase to the impact fees occurs, those would support future development. Berquist agreed that an increase to the impact fee would support future needs.

Schuenke spoke about the Public Information Meeting scheduled for Wednesday, September 3rd.

Igl reviewed the enclosed handout regarding the two-phase water rate case prepared by Baker Tilly. Igl explained that Town & Country will present a similar overview during the Public Information Meeting and Baker Tilly will provide an overview of the water rate case.

b. Discussion and action to make a recommendation to the Village Board regarding an award of contract for yard waste and drop-off site services.

Igl provided an overview of the proposals received from Barnes Inc and Pellitteri for yard waste and drop-off site services.

- Fredrick asked if the rates were per hour or per person. Igl stated that both were per person rates.
- President Brassington asked if there was a comparison to the current rate for Barnes. Igl explained it was about a 3% increase.
- Freedman asked for clarification regarding the time projections between Barnes & Pellitteri. Igl explained that the difference in hours is likely due to Barnes' process with trailers versus Pellitteri's process with dumpsters.

Motion by President Brassington, seconded by Trustee Prill, to recommend approval to the Village Board for the award of contract to Barnes Inc. of Madison for yard waste and drop-off site services for a three-year term. Motion carries 5 - 0 - 0.

c. Discussion and action to make a recommendation to the Village Board regarding issuing a Request for Proposals for installation of a photovoltaic system for Lift Station #2.

Igl provided an overview to issue a Request for Proposals for Lift Station 2 solar.

- Fredrick asked if this was being funded by the utility. Igl responded that it is funded by the utility. Fredrick provided comments regarding the duty of the utility and requested that data be provided to show that solar would lower costs.

Motion by President Brassington, seconded by Fredrick, to recommend to the Village Board issuing a Request for Proposals for installation of a photovoltaic system for Lift Station #2. Motion carries 5 - 0 - 0.

5. SCHEDULE NEXT MEETING DATE.

a. Wednesday, September 17, 2025, at 6:00 p.m.

6. ADJOURNMENT.

Motion by Fredrick, seconded by Trustee Prill, to adjourn at 6:51 PM.

Pursuant to law, written notice of this meeting was given to the public and posted on the public bulletin board in accordance with Open Meetings Law.

Respectfully submitted,
Aimee Irwin
Assistant to the Public Works Director



VILLAGE OF
McFarland
SUMMARY SHEET

MEETING DATE: Wednesday, September 17, 2025

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director, Matt Schuenke, Village Administrator, Aimee Irwin, Assistant to the Public Works Director

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding the conventional rate case for test year 2026 for submittal to the Public Service Commission.

PREVIOUS ACTION:

The Public Works and Utilities Committee recommended approval of a proposal from Baker Tilly to conduct a conventional rate case for the water utility during their March 24, 2025, meeting. The Village Board approved the proposal from Baker Tilly during their April 8, 2025, meeting.

ISSUE SUMMARY:

In conjunction with the Well 5 project, a conventional rate case would be required in order to develop the water utility rates that would pay back the low-interest loan for the project. A proposal from Baker Tilly was presented and approved for recommendation by the Public Works & Utilities committee in March 2025 and approval by the Village Board in April 2025. Baker Tilly and village staff correlated to provide the required data for the rate case and conclusions are enclosed from Baker Tilly. Due to the type of project, a two-step increase is recommended. The first step increase could go into effect in early to mid 2026 and the second increase would occur after the well is put into service, around September 2027. The cumulative increase in water rates, as calculated by Baker Tilly, would be 46.44%. If the committee and Village Board recommend approval of the Well 5 project, the rate case will be filed with the Public Service Commission (PSC), who will have the final approval on the water rate design. Additional steps that will need to occur as part of the water rate case include review by the PSC, reviewing rate design proposals from the PSC, a public hearing hosted by the PSC, and determining the date for the first phase rate increase.

As part of the Communication Plan around Well No. 5 Project and Water Rate Case, a [blog](#) post has been created and published to provide additional details.

A Public Information meeting was held on September 3rd regarding the Well 5 project and associated water rate case, allowing residents the opportunity to learn about the project's history and the financial impacts. There were approximately 20 people in attendance at the meeting, including three Village Board trustees. Information regarding the project and rate case was introduced to the Village Board during their September 9th meeting.



The objective of this business item is to determine if the committee would recommend approval of the conventional rate case for submittal to the Public Service Commission. By the committee recommending approval to file the rate case, the committee would then entertain the next business item, which involves authorizing the Well 5 project for bid. If the rate case is submitted, staff will provide updates to the committee during future meetings regarding the PSC review and next steps, including when the Public Hearing will be scheduled.

FINANCIAL/BUDGET IMPACT:

The total estimated cost of Well No. 5 is \$4.2 million. The primary proposed funding is a low-interest loan through the state's Safe Drinking Water program, which will be paid back through utility revenues. In order to bring in enough revenue, a two-phase increase to the Village's water utility rates would be required. The first increase is calculated to raise rates by 26.9% or an estimated increase of \$9.94 per month for residential customers. The second increase is calculated to raise rates by an additional 19.54%. The cumulative increase would estimate an increase of approximately \$16.94 per month or \$33.88 per bimonthly billing cycle.

VILLAGE PLAN REFERENCE:

[2023 Public Facilities Needs Assessment](#)
[2025-2029 Capital Improvement Plan](#)

ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended Motion:

Motion, second to recommend approval to the Village Board regarding the conventional rate case for test year 2026 as presented and for submittal to the Public Service Commission.

ATTACHMENTS:

1. McFarland Water Rate Study Handout.pdf (003)
2. McFarland Utilities Water Rate Study TY26 FINAL
3. Rate Chart 2025
4. New well timeline Updated 7.25.2025

**Village of McFarland Water Utility
Water Rate Study - Test Year 2026**

	2024 Rate Order	Increase 2024-2026	TY 26 Phase I	Increase Well Project	TY 26 Phase II
Revenue Requirement					
Operation & Maintenance Expenses	\$ 897,345	\$ 101,686	\$ 999,031	\$ -	\$ 999,031
Depreciation expense	322,671	64,379	387,050	114,325	501,375
Taxes (including PILOT)	300,998	119,993	420,991	61,435	482,426
Return on Rate Base	<u>593,883</u>	<u>178,406</u>	<u>772,289</u>	<u>185,235</u>	<u>957,524</u>
Total	2,114,897		2,579,361		2,940,356
Operating Revenues - at 2024 rates	2,114,897		2,082,367		2,082,367
Increase needed	n/a		27%	20%	46%
Rate Base					
Utility Plant in Service	13,137,998	2,881,755	16,019,753	2,964,100	18,983,853
Materials & Supplies	19,450	-	19,450	-	19,450
Accumulated Depreciation	<u>(3,878,023)</u>	<u>(279,810)</u>	<u>(4,157,833)</u>	<u>(114,325)</u>	<u>(4,272,158)</u>
Total	9,279,425		11,881,370		14,731,145
<i>Rate of return on rate base</i>	6.4%		6.5%		6.5%
Average Residential Bill - Estimated					
Bi-monthly bill including fire protection	\$ 73.65		\$ 93.54		\$ 107.53
<i>Increase over current rates - estimated</i>			\$ 19.89		\$ 33.88
<i>Monthly increase in water costs</i>			\$ 9.94		\$ 16.94

Notes:

- O&M increased at 5.5% per year which is in line with inflation, power, chemical and labor costs in the industry
- O&M increase is 22% of the phase I increase and 12% of the overall increase
- Remaining increase is the carrying costs (depreciation, PILOT and return on rate base) related to ongoing capital improvements
- Utility plant in service increased 22% from 2024-2026 and 44% when the Well #5 project is included (phase II)
- Well #5 project is needed to provide additional capacity as well as allow flexibility with future Well #1 decisions
- Well #5 is to be funded with Safe Drinking Water Loan but that requires rates in place by June 2026 to close on loan

McFarland Water Utility

Forecasted Revenue Requirement

Test Year 2026

Prepared as of

July 22, 2025

McFarland Water Utility

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McFarland Water Utility

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Accountants' Compilation Report

To the Village Board
McFarland Water Utility

Management is responsible for the accompanying forecasted Attachments 1 through 22 (Attachments) as identified in the table of contents of McFarland Water and Sewer Utility, an enterprise fund of the Village of McFarland for the years ending December 31, 2025 and 2026, including the related summaries of significant assumptions and accounting policies in accordance with guidelines for the presentation of a forecast established by the American Institute of Certified Public Accountants (AICPA). We have performed a compilation engagement in accordance with *Statements on Standards for Accounting and Review Services* promulgated by the Accounting and Review Services Committee of the AICPA. We did not examine or review the forecasted Attachments nor were we required to perform any procedures to verify the accuracy or completeness of the information provided by management. Accordingly, we do not express an opinion, a conclusion, nor provide any form of assurance on this forecasted Attachments.

There will usually be differences between the forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material. We have no responsibility to update this report for events and circumstances occurring after the date of this report.

The accompanying supplementary information, identified as historical financial information for the years ended December 31, 2022 through 2024 and nonfinancial information, contained in the Attachments is presented for purposes of additional analysis and is not a required part of the forecast. Such information is the responsibility of management. The supplementary information was subject to our compilation engagement. We have not examined or reviewed the supplementary information and do not express an opinion, a conclusion nor provide any assurance on such information.

Baker Tilly US, LLP

Madison, Wisconsin
July 22, 2025

McFarland Water Utility

Summary of Significant Accounting Policies and Significant Assumptions Test Year 2026

Nature of Forecast

This financial forecast presents, to the best of management's knowledge and belief, McFarland Water Utility's (Utility's) expected results of operations for the forecast period. Accordingly, the forecast reflects its judgment as of July 22, 2025, the date of this forecast, of the expected conditions and its expected course of action. The assumptions disclosed herein are those that management believes are significant to the forecast. There will usually be differences between the forecasted and actual results because events and circumstances frequently do not occur as expected, and those differences may be material.

Nature of Operations

The Utility is an enterprise fund of the Village of McFarland (Village). The Utility is managed by the Public Works and Utilities Committee and the Village Board. The Utility is subject to regulation by the Public Service Commission of Wisconsin (PSCW) in matters of rates, financial reporting and other procedures.

Revenue Recognition

Water revenues are recorded for service rendered based on water meter readings, with billings made to customers bi-monthly. The Utility does not accrue beyond billing dates.

Expenses

Historical operation and maintenance expenses are reported on the accrual basis. Forecasted 2025 and 2026 expenses are also generally reported on the accrual basis with the exception of certain nonrecurring major expenses which are normalized for rate-making purposes. This accounting for nonrecurring expenses differs from generally accepted accounting principles. Expenses related to pensions are based on cash contributions, rather than Governmental Accounting Standards Board Statement No. 68 expenses, as required by the PSCW.

Plant

Additions to and replacements of Utility plant are recorded at original cost, which includes material, labor and overhead. The cost of renewals and betterments relating to retirement units is added to plant accounts. The cost of property replaced, retired or otherwise disposed of, is deducted from plant accounts and, generally, together with removal costs less salvage, is charged to accumulated depreciation.

Depreciation

Depreciation is computed using straight-line rates authorized by the PSCW applied to the average plant investment balances for the calendar year.

Accumulated Depreciation

Salvage and cost of removal are projected based on historical trends and estimates from Utility management. A summary of forecasted salvage and cost of removal is shown on Attachment 13.

Depreciation expense charged to sewer is determined based on 1/2 of meters depreciation computed on Attachment 12.

Materials and Supplies

Materials and supplies are generally used for construction and for operation and maintenance work - not for resale. They are valued at lower of cost or market based on average prices and charged to construction or operation and maintenance expense when used.

McFarland Water Utility

Summary of Significant Accounting Policies and Significant Assumptions
Test Year 2026

Contributions in Aid of Construction

Contributions in aid of construction represent contributions received from customers for construction of plant. These amounts are not subject to repayment. Contributions are based on historical trends and estimates provided by Utility management on Attachment 11a.

Increased depreciation expense resulting from contributed plant cannot be recovered through user fees due to changes in the accounting and ratemaking treatment of contributions in aid of construction approved by the PSCW as of January 1, 2003. To ensure rates are adequate to meet debt coverage, an analysis of the 2026 estimated coverage is provided on Attachment 14b.

Taxes

Taxes included in the forecast include the PSCW remainder assessment and social security taxes. Municipal utilities are exempt from income taxes and therefore no income tax liability is recorded by the Utility.

In 2024 the Village reassessed the value of all property subject to general property tax. Property tax equivalent for 2025 is based on the actual 2024 mill rates inflated by the PSCW inflationary rate and the 2024 assessment ratio. Property tax equivalent for 2026 is based on the estimated 2025 mill rates inflated by the PSCW Inflationary rate and the assessment ratio was kept consistent. Social security expenses and PSCW remainder assessment tax in 2025 and 2026 are increased by PSCW inflationary rate.

Financing

Forecasted debt issues were determined by management and management's registered municipal advisor.

Operating Revenues

The following assumptions are based on discussions with Utility management, analysis of historical data for 2022 through 2024 and expected changes for 2025 and 2026.

Metered Sales

Forecasted metered sales are based on average consumption per customer times the number of customers. The number of customers is forecasted based on current levels and analysis of prior years. Total consumption is based on an analysis of the most recent historical consumption. Please refer to Attachments 3A and 3B for a summary of forecasted volume and customer changes.

Public Fire Protection

Public fire protection is forecasted based on the number of customers forecasted on Attachment 3B. The public fire protection computation is shown on Attachment 5.

Private Fire Protection

Private fire protection was forecasted based on actual 2025 connections. The calculation is shown on Attachment 6.

Other Water Revenues

Refer to Attachment 7 for expected changes in other water revenues.

McFarland Water Utility

Summary of Significant Accounting Policies and Significant Assumptions
Test Year 2026

Operating Expenses

Operation and maintenance expenses are forecasted based on the following:

1. Actual costs incurred from January 1, 2025 through May 31, 2025.
2. Historical trends from 2022 – 2024.
3. Specific knowledge of expenses the Utility will incur as outlined on Attachment 19.
4. Significant nonroutine maintenance and other costs are normalized for rate making purposes.



Application to Increase Rates
Public Service Commission of Wisconsin
 Division of Water Utility Regulation and Analysis
 Hill Farms State Office Building - 6th Floor
 4822 Madison Yards Way

3024 (1-1-2014)

(Filling this form out is in accordance with Wis. Stat. § 196.25)

The Public Service Commission of Wisconsin does not discriminate on the basis of disability in the provision of programs, services, or employment. If you are speech, hearing, or visually impaired and need assistance, call (608) 266-5481 or TTY (608)267-1479. We will try to find another way to get the information to you in a usable form.

Name of Utility:
 McFarland Water and Sewer Utility

Type of rate increase requested:
 Water Sewer Both

Contact Personnel Information

	Utility	Consultant
Name	McFarland Water and Sewer Utility	Baker Tilly US, LLP
Contact Person (1)	Aimee Irwin - Assistance to the Public Works Director	
Contact Person (2)	Lee Igl - Public Works Director	Jodi Dobson, CPA, Principal
Street or P.O. Box	5115 Terminal Drive, PO Box 110	4807 Innovate Lane
City and Zip Code	McFarland 53558-0110	Madison, WI 53707
County or Counties	Dane	
Telephone Number (1)	608-838-7287	608-240-2571
Telephone Number (2)	608-838-3153	
E-Mail Address	aimee.irwin@mcfarland.wi.us	Jodi.Dobson@bakertilly.com
Fax Number	n/a	
Best Hours between 7:30 am & 5:00 pm	7:30 am to 3:30 pm	8 am - 4 pm
Days Available	Monday-Friday	Monday - Friday

Reason for Rate increase:

- Recent Construction
- Debt Service Coverage
- Increasing O&M Costs
- Other

Please select the reasons for requesting a rate increase from the drop down and provide additional information such as project information, debt service schedules, and other relevant information supporting the request for a rate increase:

Debt coverage (see provided debt information as required by rate case). Increasing O&M costs (salaries, supplies, etc). Future new Well #5 and rehabilitation to existing Wells #3 & #4.

Goals for Rate Proceeding:

- Affordability
- Conservation
- Particular Customer Class (provide detail)
- Change to block rate structure
- Change to PFP
- Other

Please describe any goals the utility would like to see addressed as part of this rate proceeding.

Establish rates to provide adequate revenue to cover increasing operating and capital expenses for aging infrastructure. Also, rates to cover the future well construction (Well #5).

Required Approvals:

Please describe what governing body the utility must receive approval from in order to request this rate proceeding. Has the utility received such approval? Please provide documentation to demonstrate the approvals and any specific changes approved (amount of increase, PFP change, specific ROR, etc.)

The Public Works & Utilities Committee along with Village Board approved a proposal from Baker Tilly to conduct a conventional rate case on March 24, 2025 and April 8, 2025, respectively. The Public Works & Utilities Committee will consider and provide their recommendation to file the rate case on July 28, 2025. The Village Board will provide their recommendation for filing on August 12, 2025.

Public Involvement:

Please describe the measures taken to date to inform customers of the rate increase you are applying for. Please detail how the utility informed them, if the utility provided an estimated rate increase and any other information the utility has provided to the customer regarding the need for a rate increase.

Business items related to rates and the conventional rate case have been discussed at various Public Works & Utilities Committee meetings and along with Village Board meetings. There will be an upcoming Public Hearing as required. Information about this public hearing will be shared on the village's website, social media channels and applicable publications (The Outlook or The Lookout) depending on timing and availability.

Affordability:

Does the utility anticipate there will be customers with affordability concerns as a result of the rate increase? If yes, please describe any conversations the utility may have had with customers and/or local decision makers about this issue.

At this time, the utility is not aware of any affordability concerns.

Has the utility considered requesting reductions to its PILOT payment, shifting a portion of PFP to municipal charge, or altering its rate structure to try to address affordability.

The Utility could consider freezing the PILOT payment, if desired. The previous rate file shifted the PFP charge from municipal charge to customers due to levy limits and a portion of the charge being offset through fund balance. The utility does not plan to shift the PFP back to municipal charge at this time.

If the utility checked "Affordability" in Question 2 above. Please answer the following questions.

Please explain in more detail the concerns the utility has about affordability, and the affordability goals it would like to achieve. Has the utility had any conversations with Residential customers, businesses, or local decision makers about the affordability issue? Would the utility consider any changes to the rate design that might be relevant to affordability concerns, such as establishing class-based rates, adjusting the rate block sizes, or adding uniform or inclining block rates for Residential customers?

Mcfarland Water and Sewer Utility
Hearing Location Questionnaire

Requests to adjust rates require Commission approval. Pursuant to state statutes, a rate increase can only be authorized after a public hearing. A hearing may be conducted in one of the ways indicated below:

Hearing Options	Participant Type			
	Utility	Public	Commission Staff	Administrative Law Judge
1. Over Zoom with no physical location	Zoom	Zoom	Zoom	Zoom
2. Over Zoom and at a location hosted by the utility.	Zoom and a host from the utility must be in-the hearing room.	Zoom or in-the utility hosted hearing room	Zoom	Zoom
3. Over Zoom and at the Commission's office in Madison.	In-the hearing room. Utility must travel to Madison.	Zoom or in-the hearing room	Zoom or in-the hearing room	In-the hearing room

For options one and two, all utility representatives who plan to participate at the hearing must have adequate audio and visual connections to Zoom.

For option two, any utility hosted hearing location must meet the following requirements:

1. Sufficiently sized to accommodate the number of expected persons.
2. Accessible to persons with a disability; and
3. Configured so that all hearing location attendees can adequately see and hear the participants connected by Zoom and vice versa.

For option three utility representatives must travel to Madison to participate at the Commission's office.

The Zoom connection will be livestreamed and retained on the Commission's hearings YouTube channel; <https://www.youtube.com/@PSCWI-Hearings>.

More details will be provided concerning the scheduling and administrating the hearing when Commission staff has completed processing your application to adjust rates.

Please check the hearing option requested:

Over Zoom with no physical location.

Over Zoom and at a location hosted by the utility. Location must meet the requirements.

Building Name:	Mcfarland Municipal Center
Room No. or Name:	Community Room
Address:	5915 Milwaukee St, McFarland WI 53558
Phone No.	608-838-3153

Over Zoom and at the Commission's office in Madison. Utility must travel to Madison.

ATTACHMENTS

PART 1:

Provide consumption data for the four largest customers in each customer class.

1. List the billing units consistent with Schedule Mg-1 in your tariff sheets.

1000 Gallons (Mgal)

2. During the last 12-month period, list the highest consumption billed for each of the four largest customers in each class. Please select four different customers in each class and not multiple bills from the same customer. A customer may be listed more than once only if they are served by more than one meter and the meter sizes are different.

3. List the meter size, billing date, and the billed consumption.

* For privacy reasons, do not list any customer names.

LISTING OF LARGEST CUSTOMERS BILLED

Customer Name	Class	Meter Size	Billing Date	Billed Consumption	Specify Units	No. of Month(s) of Consumption
Residential 1	Res.	5/8"	7/31/2024	33	Mgal	2 months
Residential 2	Res.	5/8"	8/31/2024	45	Mgal	2 months
Residential 3	Res.	5/8"	8/31/2024	34	Mgal	2 months
Residential 4	Res.	5/8"	6/30/2024	35	Mgal	2 months

Multifamily Residential 1	MF	2"	9/30/2024	337	Mgal	2 months
Multifamily Residential 2	MF	3"	7/31/2024	260	Mgal	2 months
Multifamily Residential 3	MF	3"	10/31/2024	216	Mgal	2 months
Multifamily Residential 4	MF	2"	8/31/2024	221	Mgal	2 months

Commercial 1	Com.	2"	8/31/2024	761	Mgal	2 months
Commercial 2	Com.	1 1/2"	8/31/2024	897	Mgal	2 months
Commercial 3	Com.	1 1/2"	3/31/2025	485	Mgal	2 months
Commercial 4	Com.	2"	8/31/2024	674	Mgal	2 months

Industrial 1	Ind.					
Industrial 2	Ind.					
Industrial 3	Ind.					
Industrial 4	Ind.					

Public Authority 1	P.A.	1"	3/31/2025	3,917	Mgal	2 months
Public Authority 2	P.A.	4"	5/31/2025	808	Mgal	2 months
Public Authority 3	P.A.	3"	11/30/2024	126	Mgal	2 months
Public Authority 4	P.A.	3"	6/30/2024	89	Mgal	2 months

Irrigation 1	Irr.					
Irrigation 2	Irr.					
Irrigation 3	Irr.					
Irrigation 4	Irr.					

PART 2:

Please answer each question about billing procedures.

1. How do you send your water bills?			
Envelopes			
2. What is your current billing frequency for residential customers?			
Other		6	Number of bills per year?
2a. Would you prefer to change the current billing frequency?			
2b. If so, which billing frequency would be preferred?			
No Change			
3. How frequently do you read residential customer meters?			
Other	Please explain	Bi-monthly	6
4. Which of the following best describes the manner in which you read meters each billing period?			
All meters are read within one 24-hour period			
Please explain if meters read in cycles:			
One half of the customers are read each month.			
5. What is the estimated start date for reading meters for your next billing period?		July 9th for the upcoming July 31st billing (June 1 through July 31) and August 13th for the August 31st billing.	

Notes	

Mcfarland Water and Sewer Utility
VOLUME SALES

1. Provide the authorized rates for volume consistent with Schedule Mg-1.
2. Complete Attachment 2A using actual data from the latest 12 months for each customer class.
3. Provide the actual total volume for the most recent 12 months for each class.

Billing Periods per Year: Actual Latest 12 Months Ending:

Does the utility have class-based volume rates?

Class-based rates are separate rate schedules for residential, multifamily, nonresidential (commercial, industrial, public authority) or irrigation classes. If the Utility had a rate change within the past year, be sure to use prorated rates. See instructions for more detail.

No

	Volume Block	Rate
First	67,000	\$3.67
Next	-	
Next	-	
Next	-	
Over	67,000	

	Residential Units	Multifamily Residential Units	Commercial Units	Industrial Units	Public Authority Units	Irrigation Units	Total
First 67,000	139,758	21,562	26,262	0	8,939	0	196,521
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
Over 67,000	0	0	0	0	0	0	0
Total Units	139,758	21,562	26,262	0	8,939	0	196,521
Unit Revenues	\$ 512,912	\$ 79,133	\$ 96,382	\$ -	\$ 32,806	\$ -	\$ 721,232

Notes

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility

2026 Test Year

SERVICE CHARGES

ATTACHMENT 2B

1. Provide the authorized meter charges consistent with Schedule Mg-1.
2. Complete Attachment 2B using actual data from the latest 12 months for each customer class.
3. Provide actual total billed revenues for the same 12 months. If variance between total revenues and actual billed revenue is greater than 3 percent for any customer class, the variance must be explained with a reason and any corrective plan to address the variance in the Notes.
4. Include Am-1 revenue(s) from additional rates on Attachment 7 - Account 474 (Other Water Revenues), not on Attachment 2B.

Billing Periods per Year: 6 Actual Latest 12 Months Ending: May 31, 2025

Meter Size	Charge	Residential	Multifamily Residential	Commercial	Industrial	Public Authority	Irrigation	Totals
		Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters	
5/8"	\$24.00	3,230	3	166	0	12	0	3,411
3/4"	\$24.00	0	0	0	0	0	0	0
1"	\$36.00	1	21	30	0	3	0	55
1 1/4"	\$49.00	0	0	0	0	0	0	0
1 1/2"	\$62.00	1	27	10	0	7	0	45
2"	\$95.00	0	11	8	0	4	0	23
2 1/2"	\$0.00	0	0	0	0	0	0	0
3"	\$158.00	0	2	1	0	5	0	8
4"	\$242.00	0	0	0	0	1	0	1
6"	\$442.00	0	0	0	0	0	0	0
8"	\$677.00	0	0	0	0	0	0	0
10"	\$988.00	0	0	0	0	0	0	0
12"	\$1,298.00	0	0	0	0	0	0	0
Total Meters		3,232	64	215	0	32	0	3,543
Fixed Revenues		\$ 465,708	\$ 23,178	\$ 39,612	\$ -	\$ 13,452	\$ -	\$ 541,950
Total Volume Revenue		\$ 512,911.86	\$ 79,132.54	\$ 96,381.54	\$ -	\$ 32,806.13	\$ -	\$ 721,232
Surcharges, etc.		\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Revenues Per Analysis		\$978,620	\$102,311	\$135,994	\$0	\$46,258	\$0	\$1,263,182
Total Actual Billed Revenues		\$969,527	\$100,673	\$134,169	\$0	\$45,318	\$0	\$1,249,687
Dollar Variance		\$9,092	\$1,638	\$1,825	\$0	\$941	\$0	\$13,495
Percent Variance		0.93%	1.60%	1.34%	0.00%	2.03%	0.00%	1.07%

(A) The annual revenues from meter charges are based upon the number of bills issued annually.

Notes

Mcfarland Water and Sewer Utility

2026 Test Year

Sales Forecast Historical

Attachment 2C

Residential				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	3,291	156,160	11.86	0
2022	3,185	147,467	11.58	-106
2023	3,206	153,029	11.93	21
2024	3,209	139,110	10.84	3
2025	3,232	139,758	10.81	23
2026	3,248	140,450	10.81	16
Averages:				
5-year avg	3,225	147,105	11.40	0.00
4-year avg	3,208	144,841	11.29	-14.75
3-year avg	3,216	143,966	11.19	15.67
2-year avg	3,221	139,434	10.82	13.00
2025	3,232	139,758	10.81	23.00

Commercial				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	221	27,608	31.23	0
2022	214	24,497	28.62	-7
2023	216	28,287	32.74	2
2024	220	30,515	34.68	4
2025	215	26,262	30.54	-5
2026	215	26,262	30.54	0
Averages:				
5-year avg	217	27,434	31.58	0.00
4-year avg	216	27,390	31.67	-1.50
3-year avg	217	28,355	32.67	0.33
2-year avg	218	28,389	32.63	-0.50
2025	215	26,262	30.54	-5.00

Multifamily Residential				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	58	17,640	76.03	0
2022	63	19,413	77.04	5
2023	63	21,908	86.94	0
2024	64	22,082	86.26	1
2025	64	21,562	84.23	0
2026	64	21,562	84.23	0
Averages:				
5-year avg	62	20,521	82.22	0.00
4-year avg	64	21,241	83.63	1.50
3-year avg	64	21,851	85.80	0.33
2-year avg	64	21,822	85.24	0.50
2025	64	21,562	84.23	0.00

Public Authority				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	26	4,744	45.62	0
2022	28	9,873	88.15	2
2023	29	9,959	85.85	1
2024	32	7,937	62.01	3
2025	32	8,939	69.84	0
2026	33	9,218	69.84	1
Averages:				
5-year avg	29	8,290	70.50	0.00
4-year avg	30	9,177	75.84	1.50
3-year avg	31	8,945	72.14	1.33
2-year avg	32	8,438	65.92	1.50
2025	32	8,939	69.84	0.00

Irrigation				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	0	0	#DIV/0!	0
2022	0	0	#DIV/0!	0
2023	0	0	#DIV/0!	0
2024	0	0	#DIV/0!	0
2025	0	0	#DIV/0!	0
2026	0	0	0.00	0
Averages:				
5-year avg	0	0	#DIV/0!	0.00
4-year avg	0	0	#DIV/0!	0.00
3-year avg	0	0	#DIV/0!	0.00
2-year avg	0	0	#DIV/0!	0.00
2025	0	0	#DIV/0!	0.00

Industrial				
Year	Avg. # Customers	Usage (Mgals)	Avg/Cust/Qtr (Mgals)	Change in Customer Ct
2021	0	0	#DIV/0!	0
2022	0	0	#DIV/0!	0
2023	0	0	#DIV/0!	0
2024	0	0	#DIV/0!	0
2025	0	0	#DIV/0!	0
2026	0	0	0.00	0
Averages:				
5-year avg	0	0	#DIV/0!	0.00
4-year avg	0	0	#DIV/0!	0.00
3-year avg	0	0	#DIV/0!	0.00
2-year avg	0	0	#DIV/0!	0.00
2025	0	0	#DIV/0!	0.00

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility
VOLUME SALES

2026 Test Year

Estimates for Test Year

ATTACHMENT 3A

1. Provide the meter charges for the estimated test year.
2. Use the Utility's most current rates.
3. Provide complete details in Notes section concerning the gain or loss of any large customer, 20 percent change in usage from a customer class, or customers being reclassified to a different customer class.
4. If necessary, please describe any unusual situations in the Notes section.

Billing Periods per Year:

Does the utility have class-based volume rates? No

Note: Only change these rates if there has been an SRC or adjustment for purchased water in the last 12 months

	Volume Block	Rate
First	67,000	\$3.67
Next	-	\$0.00
Next	-	\$0.00
Next	-	\$0.00
Over	67,000	\$0.00

	Residential Units	Multifamily Residential Units	Commercial Units	Industrial Units	Public Authority Units	Irrigation Units	Total
First 67,000	140,450	21,562	26,262	0	9,218	0	197,492
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
	0	0	0	0	0	0	0
Over 67,000	0	0	0	0	0	0	0
Total Units	140,450	21,562	26,262	0	9,218	0	197,492
Unit Revenues	\$ 515,451	\$ 79,133	\$ 96,382	\$ -	\$ 33,831	\$ -	\$ 724,796

Notes

Mcfarland Water and Sewer Utility
WATER UTILITY CONSUMER ANALYSIS

2026 Test Year

Estimates for Test Year

ATTACHMENT 3B

1. Provide the meter charges for the estimated test year.
2. Use the Utility's most current rates.
3. Provide complete details in Notes section concerning the gain or loss of any large customer, 10 percent change in customer count for a customer class, or customers being reclassified to a different customer class

Billing Periods per Year: 6

Meter Size	Charge	Multifamily					Totals
		Residential	Residential	Commercial	Industrial	Public Authority	
		Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters	Average No. of Meters
5/8"	\$24.00	3,247	3	166	0	13	3,429
3/4"	\$24.00	0	0	0	0	0	0
1"	\$36.00	1	21	30	0	3	55
1 1/4"	\$49.00	0	0	0	0	0	0
1 1/2"	\$62.00	0	27	11	0	7	45
2"	\$95.00	0	11	7	0	3	21
2 1/2"	\$0.00	0	0	0	0	0	0
3"	\$158.00	0	2	1	0	6	9
4"	\$242.00	0	0	0	0	1	1
6"	\$442.00	0	0	0	0	0	0
8"	\$677.00	0	0	0	0	0	0
10"	\$988.00	0	0	0	0	0	0
12"	\$1,298.00	0	0	0	0	0	0
Total Meters		3,248	64	215	0	33	3,560
Fixed Revenues		\$ 467,784	\$ 23,178	\$ 39,414	\$ -	\$ 13,974	\$ 544,350.00
Total Volume Revenue		\$ 515,451	\$ 79,133	\$ 96,382	\$ -	\$ 33,831	\$ 724,796
Surcharges, etc.		\$0	\$0	\$0	\$0	\$0	\$0
Total Estimated Revenues		\$983,235	\$102,311	\$135,796	\$0	\$47,805	\$1,269,146

Estimated Customer Growth for the Test Year:

Customer Class	Number of Meter	
	Customers	Sizes
Residential	16	
Multifamily	0	
Commercial	0	
Industrial	0	
Public Auth.	1	
Irrigation	0	
Total	17	

Notes

**Mcfarland Water and Sewer Utility
PUBLIC FIRE PROTECTION REVENUE (SUMMARY)**

Estimated for Test Year 2026

2026 Test Year

ATTACHMENT 4

1. This schedule is a summary of various methods of charging for Public Fire Protection and must be consistent with the Utility's current F-1 or Fd-1 tariff.
2. For a Municipal Charge based upon mains and/or hydrants or Direct Charges to Customers based upon equivalent meters or services, test year estimate is derived from Attachment 5.
3. For all other charges, insert the test year estimate in the amount column.
4. For Direct Charges to Customers based upon a method other than equivalent meters or services, detail must be submitted to the PSC supporting this method.

MUNICIPAL CHARGE

Based upon Mains and Hydrants:

Estimated Test Year Revenue	(Per Attachment 5)	\$0
-----------------------------	--------------------	-----

MUNICIPAL CHARGE

Based upon a Flat Charge to Municipality:

Estimated Test Year Revenue		\$0
-----------------------------	--	-----

DIRECT CHARGE TO CUSTOMERS

Based upon Equivalent Meters or Equivalent Services:

Estimated Test Year Revenue	(Per Attachment 5)	\$573,167
-----------------------------	--------------------	-----------

DIRECT CHARGE TO CUSTOMERS

Based upon a Direct Charge Method other than in number 3 above:

Estimated Test Year Revenue		\$0
-----------------------------	--	-----

Note: Detail Must be Submitted to PSC Supporting this Method.

CHARGES TO WHOLESALE CUSTOMERS

Estimated Test Year Revenue	(Per attachment 3A)	\$0
-----------------------------	---------------------	-----

OTHER PUBLIC FIRE PROTECTION CHARGES TO CUSTOMERS FOR FIRE PROTECTION

Based upon Charges for Water Used for Fire Protection (i.e., using Tariff Schedules F-2 or BW-1)

Estimated Test Year Revenue		\$0
-----------------------------	--	-----

TOTAL ESTIMATED TEST YEAR PUBLIC FIRE PROTECTION REVENUE		\$573,167
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TOTAL ESTIMATED TEST YEAR WHOLESALE FIRE PROTECTION REVENUE		\$0
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Notes

Mcfarland Water and Sewer Utility
PUBLIC FIRE PROTECTION REVENUE (SUPPORTING DETAIL)
 Estimated for Test Year 2026

2026 Test Year

ATTACHMENT 5

1. For a Municipal Charge based upon mains and/or hydrants, complete the Municipal Charge section.
 - i. Base units and charges are obtained from the current tariff sheet, typically Schedule F-1.
 - ii. Net additions for mains and hydrants units are derived from Attachment 17, Part One.

Municipal Charge

If Public Fire Protection Revenue is a Municipal Charge based upon mains and/or hydrants, complete the following.

Base annual charge (dollars)	
Base estimated transmission and distribution main (number of feet)	
Main size larger than (typically 4 or 6 inches)	
Charge per foot of main over base (dollars)	
Base number of hydrants	
Charge per hydrant over base (dollars)	

Based upon Mains and/or Hydrants:	Mains Inches & Larger	Number of Hydrants	Dollar Amount
Base Units and Charge (Per tariff schedule)	0 feet	0 hyd	\$0
Balance - 12/31/2024	<input type="text" value="0"/>	<input type="text" value="0"/>	
2025 NET additions	1,742	3	
1/2 of test year 2026 NET Routine units added	168	0	
All of Test Year 2026 Major Units Added	0	0	
Test Year Average Units	<u>1,910</u>	<u>3</u>	
Test Year Units Over Base Units	1,910 feet	3 hyd	
times Authorized Rates per Unit (per tariff schedule)	<u>\$0.00</u>	<u>\$0.00</u>	
Increase in Revenue Over Base Amount	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Estimated Total Test Year Revenue			<u>\$0</u>

2. For Direct Charges to Customers based upon equivalent meters or equivalent services, complete Direct Charge to Customers section.
 - i. The Authorized Rates are obtained from the current tariff sheet, typically Schedule F-1 or Fd-1

Direct Charge to Customers

Based upon Equivalent Meters or Equivalent Services:

Insert Billings per Year if Different	6
---------------------------------------	---

Meter Size	Authorized Rate	Average No. of Meters (per Attachment 3)	Annual Revenue
5/8"	\$23.20	3,429	\$477,317
3/4"	\$23.20	0	\$0
1"	\$58.00	55	\$19,140
1 1/4"	\$86.00	0	\$0
1 1/2"	\$116.00	45	\$31,320
2"	\$184.00	21	\$23,184
2 1/2"	\$0.00	0	\$0
3"	\$347.00	9	\$18,738
4"	\$578.00	1	\$3,468
6"	\$1,158.00	0	\$0
8"	\$1,854.00	0	\$0
10"	\$2,782.00	0	\$0
12"	\$3,710.00	0	\$0
SUBTOTALS		<u>3,560</u>	<u>\$573,167</u>
Surcharges or Rounding			<input type="text" value="\$0"/>
CALCULATED ANNUAL REVENUE			<u><u>\$573,167</u></u>

Notes

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility

PRIVATE FIRE PROTECTION REVENUE

Estimated for Test Year 2026

1. To compute the test year Private Fire Protection Revenue, complete the applicable sections.
2. The Authorized Rates are obtained from the current tariff sheet, typically Schedule Upf-1.
3. Enter the test year Average Number of Connections based on size of the connection.

Insert Billings per Year if Different

Fire Connections:	Connection Size	Average Number of Connections		Authorized Rates	Annual Revenue
		Each Billing	Annually		
	2" or smaller	12	72	\$20.00	\$1,440
	3"	0	0	\$36.00	\$0
	4"	6	36	\$60.00	\$2,160
	6"	52	312	\$120.00	\$37,440
	8"	14	84	\$180.00	\$15,120
	10"	2	12	\$280.00	\$3,360
	12"	0	0	\$380.00	\$0
	14"	0	0	\$480.00	\$0
	16"	0	0	\$560.00	\$0
		86	516		
Total Connection Revenue					\$59,520

General Service Branches Off The Private Fire Connections	Meter Sizes	Average Number of Meters		Authorized Rates	Annual Amount
		Each Billing	Annually		
	5/8"	0	0	\$24.00	\$0
	3/4"	0	0	\$24.00	\$0
	1"	0	0	\$36.00	\$0
	1 1/4"	0	0	\$49.00	\$0
	1 1/2"	0	0	\$62.00	\$0
	2"	0	0	\$95.00	\$0
	2 1/2"	0	0	\$0.00	\$0
	3"	0	0	\$158.00	\$0
	4"	0	0	\$242.00	\$0
	6"	0	0	\$442.00	\$0
	8"	0	0	\$677.00	\$0
		0	0		
Total General Branch Connection Revenues					\$0

If Applicable, the Authorized Credit is Usually 30% of Total General Branch Revenues.
(However, the credit may be at a different percentage or if N/A, enter zero)

Insert Authorized Credit Percentage in this box (if applicable): \$0

Total Estimated Test Year Revenue (Connection Revenue less Credit Amount) \$59,520

Notes

Mcfarland Water and Sewer Utility

OPERATING REVENUES
Estimated for Test Year 2026

1. Test year revenue estimated amounts are derived for the following:
Metered Sales to General Customers; Private Fire Protection; and Public Fire Protection.
2. "Interim year" and other test year estimates should be based upon historical trends and other relevant information.
3. Test year revenue from additional rates or Am-1 meters should be included in Account 474 (Other Water Revenues) on this attachment, not Attachment 2B.
4. Any unusual situations that cause a variance in an account must be explained in the Notes.

Account Number	Description	2022	2023	2024	Estimated 2025	Test Year 2026
460	Unmetered Sales to General Customers					
	Residential	\$4,119	\$5,124	\$5,501	\$4,915	\$5,180
	Multifamily Residential	0	0	0	0	0
	Commercial	0	0	0	0	0
	Industrial	0	0	0	0	0
	Public Authority	0	0	0	0	0
	Irrigation	0	0	0	0	0
	Total unmetered sales	\$4,119	\$5,124	\$5,501	\$4,915	\$5,180
461	Metered Sales to General Customers					
	Residential	\$705,969	\$727,166	\$865,674	\$969,527	\$983,235 (A)
	Multifamily Residential	61,750	69,102	87,660	100,673	102,311 (A)
	Commercial	86,433	92,572	120,542	134,169	135,796 (A)
	Industrial	0	0	0	-	0 (A)
	Public Authority	29,477	31,274	28,854	45,318	47,805 (A)
	Irrigation	0	0	0	-	0 (A)
	Total metered sales	\$883,629	\$920,114	\$1,102,730	\$1,249,687	\$1,269,146
462	Private fire protection service	\$52,161	\$56,069	\$59,279	\$59,520	\$59,520 (B)
463	Public fire protection service	472,300	472,250	538,285	564,237	573,167 (C)
465	Other water sales	0	0	0	-	0
466	Sales for resale	0	0	0	-	0
467	Interdepartmental sales	0	0	0	-	0
	Total sales of water	\$1,412,209	\$1,453,557	\$1,705,795	\$1,878,358	\$1,907,013
	Other Operating Revenues:					
470	Forfeited discounts	\$3,546	\$5,674	\$6,978	\$5,399	\$6,017
472	Rents from water property	109,291	134,209	119,625	123,589	128,092
473	Interdepartmental rents	0	0	0	-	0
474	Other water revenues	14,623	44,898	59,416	44,487	41,245
	Total other operating revenues	\$127,460	\$184,781	\$186,019	\$173,475	\$175,354
	Total Operating Revenues	\$1,539,669	\$1,638,338	\$1,891,814	\$2,051,834	\$2,082,367

NOTE: (A) 2026 test year General Service Revenue estimates must come from ATTACHMENT 3.
 (B) 2026 test year Private Fire Protection Revenue estimates must come from ATTACHMENT 6.
 (C) 2026 test year Public Fire Protection Revenue estimates must come from ATTACHMENT 4.

Notes

Mcfarland Water and Sewer Utility

Taxes (Account 408)
Estimated for Test Year 2026

1. The test year and interim year amounts are derived for the Property Tax Equivalent Payable for the Year, and the Local and School Tax Equivalent on Meters Charged to the Sewer Department (sewer meter allocation).
2. The test year and interim year meter allocations to the sewer department are based upon 50 percent of the beginning of year meter balance (Attachment 11, Account 346), the assessment ratio (Attachment 9) and the current year net local and school mill rate (Attachment 9).
 - i. If the meter allocation is other than 50 percent, insert the appropriate percentage in the cell formula.
3. If necessary, please describe unusual situations in the Notes.

Instructions for Taxes (Account 408)

The summary should be completed as follows:

- 1) For the years 2023 and 2024 the information is from the PSC Annual Reports, page W-6.
- 2) For Estimated 2025 and Test Year 2026, the Property Tax Equivalent must agree with the Property Tax Equivalent Computation on Attachment 9.
- 3) If the sewer department DOES NOT USE the meter reading of the water utility for determining the sewer bill, then the Meter Balance allocation should not be deducted. **Insert if other than 50%. ==>**

50

Description	Instructions Reference	Actual 2023	Actual 2024	Estimated 2025	Test Year 2026
Property Tax Equivalent Payable for the Year (from Attachment 9)	1) & 2)	\$257,048	\$291,721	\$311,776	\$402,609
Less: Local and school tax equivalent on meters charged to sewer dept.	1) & 3)	\$9,691	\$13,605	\$12,995	\$13,409
Net Property Tax Equivalent-Water Utility		\$247,357	\$278,116	\$298,781	\$389,200
Social Security Taxes	1)	\$28,667	\$27,929	\$28,767	\$29,630
PSC Remainder Assessment Tax	1)	\$1,392	\$2,031	\$2,100	\$2,161
Other (specify):	1)	\$0	\$0	\$0	\$0
Total Taxes		\$277,416	\$308,076	\$329,648	\$420,991

Notes

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility
Property Tax Equivalent Computation
 Estimated for Test Year 2026

1. For the years 2023-2024, use actual information reported in the PSC Annual Reports.
2. For estimated 2025 and test year 2026:
 - a) Plant - January 1 must come from Attachment 11 (Utility/Municipal Financed Plant) and Attachment 11a (Contributed Plant).
 - b) Major Plant Additions (Both Utility Financed and Contributed) are included for the Test Year for rate case purposes.
 - c) Construction Work In Progress (CWIP) and Plant Held for Future Use - January 1; excluding any amounts included as Major Plant Additions in Test Year.
 - d) Materials and Supplies - January 1 must come from Attachment 13.
 - e) Plant Outside Limits-January 1 - State the basis for any change from prior year.
 - f) The utility must state what assumptions it made with regard to projecting the tax rates and assessment ratio.
3. If the municipality has authorized an amount as allowed by Wis. Stat. § 66.0811(2) [formerly § 66.069 (1)(c)], then place that amount on this line. If no authorization, leave blank. Fully explain the circumstances in Notes.
4. If the municipality has authorized an amount as allowed by Wis. Stat. § 66.0811(2), then that amount is the tax equivalent payable for the current year. If not, then the tax equivalent payable for the current year is the larger of either the tax equivalent computed for the current year or the 1994 tax equivalent payable in 1995.
5. The property tax equivalent is not applicable to Water Sanitary Districts.
6. If the local government adopted a resolution to set the PILOT lower, the Utility must provide a copy of the resolution along with Notes.
7. Describe unusual situations in the Notes.

Description	Instr.	Actual 2023	Actual 2024	Estimated 2025	Test Year 2026
Add:					
Utility Plant - January 1	1	\$19,635,426	\$21,426,175		
Utility/Municipal Financed Plant - January 1	2a)			\$13,042,959	\$15,695,759
Contributed Plant - January 1	2a)			\$8,115,230	\$8,481,000
Major Plant Additions in Test Year	2b)				\$0
CWIP & Held for Future Use - January 1	2c)		\$2,615,868	\$914,800	\$3,453,300
Materials & Supplies - January 1	1,2d)	\$19,450	\$19,450	\$19,450	\$19,450
Less: Plant Outside Limits - January 1	1,2e)	\$0	\$0	\$0	\$0
Net Taxable Plant		\$19,654,876	\$21,445,625	\$22,092,439	\$27,649,509
Assessment Ratio (show as a decimal)	1,2f)	0.9581	0.9983	0.9983	0.9983
Assessed Plant Value		\$18,830,590	\$21,408,202	\$22,054,882	\$27,602,505
Current Year Net Local & Schools (L&S)					
Mill Rate (Line R below)	1,2f)	13.650566	13.626626	14.136381	14.585955
Tax Equivalent Computed for the Current Year (Plant Value times L&S Rate/1000)					
1994 Tax Equivalent Payable in 1995	1	\$78,428	\$78,428	\$78,428	\$78,428
Tax Equivalent Authorized by Municipality	1,3	\$0	\$0		
Tax Equivalent Payable for the Current Year	1,4	\$257,048	\$291,721	\$311,776	\$402,609

	Line Ref.	Actual 2023 Total	Actual 2024 Total	Estimated 2025 Total	Test Year 2026 Total
Mill Rate Detail					
State tax rate	(A)	0.000000	0.000000	0.000000	0.000000
County tax rate	(B)	2.876200	2.603178	2.691686	2.769745
Local tax rate	(C)	6.088390	5.976624	6.179829	6.359044
School tax rate	(D)	8.280860	8.381190	8.666150	8.917469
Voc. school tax rate	(E)	0.690740	0.634985	0.656574	0.675615
Other tax rates-Local	(F1)	0.000000	0.000000	0.000000	0.000000
Other tax rates-Non-Local	(F2)	0.000000	0.000000	0.000000	0.000000
Total Tax Rate	(G)	17.936190	17.595977	18.194240	18.721873
Less: State Credit	(H)	1.678600	1.603380	1.603380	1.603380
Net Tax Rate	(I)	16.257590	15.992597	16.590860	17.118493
Utility					
Local tax rate (Line C above)	(J)	6.088390	5.976624	6.179829	6.359044
School tax rate (Line D above)	(K)	8.280860	8.381190	8.666150	8.917469
Voc. school tax rate (Line E above)	(L)	0.690740	0.634985	0.656574	0.675615
Other tax rates-Local (Line F1 above)	(M)	0.000000	0.000000	0.000000	0.000000
Total local & schools tax rates	(N)	15.059990	14.992799	15.502554	15.952128
Total tax rate (Line G above)	(O)	17.936190	17.595977	18.194240	18.721873
Ratio of local & school tax rate to total tax rate (Line N divided by O)					
Net Tax Rate (Line I above)	(Q)	16.257590	15.992597	16.590860	17.118493
Net local and school rate: (Line P times Q)	(R)	13.650566	13.626626	14.136381	14.585955

Notes

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility

OPERATING EXPENSES

Estimated for Test Year 2026

1. A historical three-year average is provided. If expenses fluctuate from year to year, the average can be helpful when determining the interim and test year estimates.
2. If either the interim or test year estimate varies from the three-year average by more than plus or minus 15 percent, the cause(s) must be explained in the Notes.
3. The Utility must describe unusual situations in the Notes.

Acct. No.	Description	2022	2023	2024	2022, 2023, 2024			Estimated 2025	Test Year 2026	Estimated 2025	Test Year 2026
					Estimated 2025	Test Year 2026	3 Year Average				
600	Operation labor	\$0	\$0	\$0	\$0	\$0	\$0				
601	Purchased water	0	0	0	0	0	0				
602	Operation supplies and expenses	0	0	0	0	0	0				
605	Maintenance of water source plant	0	0	0	0	0	0				
	Total Source of Supply Expenses	\$0	\$0	\$0	\$0	\$0	\$0				
620	Operation labor	\$10,751	\$17,700	\$15,088	\$15,679	\$16,150	\$14,513				
621	Fuel for power production	0	0	0	0	0	0				
622	Fuel or power purchased for pumping	49,119	48,367	46,042	49,207	50,634	47,843				
623	Operation supplies and expenses	29,716	12,977	12,539	10,245	10,542	18,411	Explain		Explain	
625	Maintenance of pumping plant	70,674	10,522	13,350	1,498	1,541	31,515	Explain		Explain	
	Total Pumping Expenses	\$160,260	\$89,566	\$87,019	\$76,629	\$78,867	\$112,282				
630	Operation labor	\$10,390	\$9,709	\$8,781	\$11,170	\$11,505	\$9,627	Explain		Explain	
631	Chemicals	17,481	16,980	15,882	24,432	25,141	16,781	Explain		Explain	
632	Operation supplies and expenses	0	0	0	0	0	0				
635	Maintenance of water treatment plant	3,056	1,496	1,898	190	195	2,150	Explain		Explain	
	Total Water Treatment Expenses	\$30,927	\$28,185	\$26,561	\$35,792	\$36,841	\$28,558				
640	Operation labor	\$46,892	\$105,287	\$74,828	\$102,043	\$105,105	\$75,669	Explain		Explain	
641	Operation supplies and expenses	27,768	6,193	5,258	4,773	4,912	13,073	Explain		Explain	
650	Maintenance of distr. reservoirs	0	210,771	0	11,710	30,941	70,257	Explain		Explain	
651	Maintenance of mains	19,365	39,621	14,036	25,000	25,725	24,341				
652	Maintenance of services	4,106	20,534	8,449	9,500	9,776	11,030				
653	Maintenance of meters	4,322	6,247	7,006	2,823	2,904	5,858	Explain		Explain	
654	Maintenance of hydrants	9,115	5,114	11,857	20,000	20,580	8,695	Explain		Explain	
655	Maintenance of other plant	75	0	206	97	100	94				
	Total Trans. & Distribution Expenses	\$111,643	\$393,767	\$121,640	\$175,946	\$200,043	\$209,017				

See summary of significant accounting policies and significant assumptions

OPERATING EXPENSES
Estimated for Test Year 2026

Acct. No.	Description	2022	2023	2024	2022, 2023, 2024			Estimated 2025	Test Year 2026
					Estimated 2025	Test Year 2026	3 Year Average		
901	Meter reading labor	\$13,986	\$18,471	\$1,199	\$0	\$0	\$11,219	Explain	Explain
902	Accounting and collecting labor	30,085	43,397	68,833	65,894	67,871	47,438	Explain	Explain
903	Supplies and expenses	5,862	46,121	29,835	27,273	28,064	27,273		
904	Uncollectible accounts	0	0	0	0	0	0		
906	Customer service and informational expense	0	0	0	10,000	10,500	0		
	Total Customer Accounts Expenses	\$49,933	\$107,989	\$99,867	\$103,167	\$106,435	\$85,930		
910	Sales Expenses	\$0	\$0	\$0	\$0	\$0	\$0		
920	Administrative and general salaries	\$185,473	\$173,839	\$211,540	\$207,921	\$214,159	\$190,284		
921	Office supplies and expenses	11,948	21,747	15,478	11,729	12,069	16,391	Explain	Explain
922	Administrative expenses transferred -- credit	0	0	0	0	0	0		
923	Outside services employed	38,427	103,377	78,868	94,063	96,619	73,557	Explain	Explain
924	Property insurance	38,528	52,989	46,387	47,964	49,355	45,968		
925	Injuries and damages	0	0	0	0	0	0		
926	Employee pensions and benefits	30,038	86,412	86,244	109,998	113,298	67,565	Explain	Explain
928	Regulatory commission expenses	0	0	0	7,000	7,000	0		
930	Miscellaneous general expenses	58,783	58,404	61,814	61,039	62,809	59,667		
933	Transportation expenses	19,031	40,173	12,914	20,929	21,536	24,039		
935	Maintenance of general plant	0	0	0	0	0	0		
	Total Admin. And General Expenses	\$382,228	\$536,941	\$513,245	\$560,643	\$576,845	\$477,471		
	Total Oper. And Maint. Expenses	\$734,991	\$1,156,448	\$848,332	\$952,177	\$999,031	\$913,257		

NOTE: All 2025 and test year 2026 estimates that vary from the three year average by more than (plus or minus) 15 percent **must** be explained in detail in the Notes.

Notes

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility

UTILITY PLANT IN SERVICE
Estimated for Test Year 2026
Utility or Municipal Financed Transactions Only

1. If any Plant Additions require Construction Approval by the PSC, a request for approval must be submitted to the Commission for this rate increase application to be processed. Please list the construction docket number(s):
2. Do not include Plant financed by Contributions. Contributed Plant is shown in Attachment 11a.

Acct. No.	Plant account	Actual Balance 12/31/2024	2025		Adjustments	Estimated Balance 12/31/2025	Estimate 2026		Estimated Balance 12/31/2026	Test Year Average Balance		
			Additions Notes (A,B)	Retirements Note (B)			Major Construction Notes (A,B)	Retirements Note (B)			Routine Construction Notes (A,B)	Retirements Note (B)
Intangible Plant												
301	Organization	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
302	Franchises and consents	0	0	\$0	0	0	0	0	0	0	0	
303	Miscellaneous intangible plant	0	0	\$0	0	0	0	0	0	0	0	
	Total Intangible Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Source of Supply												
310	Land and land rights	\$1,300	\$0	\$0	\$0	\$1,300	\$0	\$0	\$0	\$0	\$1,300	\$1,300
311	Structures and improvements	0	0	0	0	0	0	0	0	0	0	0
312	Collecting and impounding reservoirs	0	0	0	0	0	0	0	0	0	0	0
313	Lake, river, and other intakes	0	0	0	0	0	0	0	0	0	0	0
314	Wells and springs	211,239	0	0	0	211,239	0	0	0	0	211,239	211,239
316	Supply mains	0	0	0	0	0	0	0	0	0	0	0
317	Other water source plant	0	0	0	0	0	0	0	0	0	0	0
	Total Source of Supply Plant	\$212,539	\$0	\$0	\$0	\$212,539	\$0	\$0	\$0	\$0	\$212,539	\$212,539
Pumping Plant												
320	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
321	Structures and improvements	145,092	0	0	0	145,092	0	0	0	0	145,092	145,092
323	Other power production equipment	0	0	0	0	0	0	0	0	0	0	0
325	Electric pumping equipment	220,839	0	0	0	220,839	0	0	0	0	220,839	220,839
326	Diesel pumping equipment	0	0	0	0	0	0	0	0	0	0	0
328	Other pumping equipment	22,216	0	0	0	22,216	0	0	0	0	22,216	22,216
	Total Pumping Plant	\$388,147	\$0	\$0	\$0	\$388,147	\$0	\$0	\$0	\$0	\$388,147	\$388,147
Water Treatment Plant												
330	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
331	Structures and improvements	0	0	0	0	0	0	0	0	0	0	\$0
332	Sand or Other Media Filtration Equip	0	0	0	0	0	0	0	0	0	0	\$0
333	Membrane Filtration Equipment	0	0	0	0	0	0	0	0	0	0	\$0
334	Other Water Treatment Equipment	4,498	0	0	0	4,498	0	0	0	0	4,498	\$4,498
	Total Water Treatment Plant	\$4,498	\$0	\$0	\$0	\$4,498	\$0	\$0	\$0	\$0	\$4,498	\$4,498

See summary of significant accounting policies and significant assumptions

UTILITY PLANT IN SERVICE
Estimated for Test Year 2026
Utility or Municipal Financed Transactions Only

Acct. No.	Plant account	Actual Balance 12/31/2024	2025		Estimated Balance 12/31/2025	Estimate 2026				Estimated Balance 12/31/2026	Test Year Average Balance	
			Additions Notes (A,B)	Retirements Note (B)		Adjustments	Major Construction		Routine Construction			
						Additions Notes (A,B)	Retirements Note (B)	Additions Notes (A,B)	Retirements Note (B)			
Transmission and Distribution Plant												
340	Land and land rights	\$8,314	\$0	\$0	\$0	\$8,314	\$0	\$0	\$0	\$0	\$8,314	\$8,314
341	Structures and improvements	104,922	0	0	0	104,922	0	0	0	0	104,922	104,922
342	Distribution reservoirs and standpipes	362,300	0	0	0	362,300	0	0	0	0	362,300	362,300
343	Transmission and distribution mains	7,221,555	1,780,722	123,500	0	8,878,777	0	0	579,833	94,815	9,363,795	9,121,286
345	Services	1,549,591	753,455	54,600	0	2,248,446	0	0	22,913	5,100	2,266,259	2,257,353
346	Meters	1,841,706	0	0	0	1,841,706	0	0	0	0	1,841,706	1,841,706
348	Hydrants	654,300	192,323	11,900	0	834,723	0	0	97,154	5,598	926,279	880,501
349	Other transmission and distr. plant	0	0	0	0	0	0	0	0	0	0	0
Total Transmission and Distr. Plant		\$11,742,688	\$2,726,500	\$190,000	\$0	\$14,279,188	\$0	\$0	\$699,900	\$105,513	\$14,873,575	\$14,576,382
General Plant												
389	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390	Structures and improvements	0	0	0	0	0	0	0	0	0	0	0
391	Office furniture and equipment	0	0	0	0	0	0	0	0	0	0	0
391.1	Office furniture & equip - Computers	9,946	0	0	0	9,946	0	0	0	0	9,946	9,946
392	Transportation equipment	312,307	109,000	19,700	0	401,607	0	0	50,250	29,900	421,957	411,782
393	Stores equipment	0	0	0	0	0	0	0	0	0	0	0
394	Tools, shop and garage equipment	75,432	23,500	0	0	98,932	0	0	18,250	0	117,182	108,057
395	Laboratory equipment	6,649	0	0	0	6,649	0	0	0	0	6,649	6,649
396	Power operated equipment	110,608	0	0	0	110,608	0	0	0	0	110,608	110,608
397	Communication equipment	179,843	3,500	0	0	183,343	0	0	15,000	0	198,343	190,843
397.1	SCADA equipment	0	0	0	0	0	0	0	0	0	0	0
398	Miscellaneous equipment	302	0	0	0	302	0	0	0	0	302	302
Total General Plant		\$695,087	\$136,000	\$19,700	\$0	\$811,387	\$0	\$0	\$83,500	\$29,900	\$864,987	\$838,187
Total Plant In Service		\$13,042,959	\$2,862,500	\$209,700	\$0	\$15,695,759	\$0	\$0	\$783,400	\$135,413	\$16,343,746	\$16,019,753

Please enter the construction docket(s) below:

Notes

The significant capital assets for 2025 relate to the reconstruction projects on Exchange St, Larson St, Glen Rd, Badger St, Dale St, Lakeview Ave, Severson Rd, Yahara Dr, and South Ct. The significant capital assets for 2026 relate to the reconstruction projects on Creamery, Elvehjem Road, Bashford Street, USH 51 WM Crossing (Dale-Dale) and Babcock Channel WM Crossing.

**Contributed Plant
Estimated for Test Year 2026
Contributed Plant Transactions Only**

1. If any Plant Additions require Construction Approval by the PSC, a request for approval must be submitted to the Commission for this rate increase application to be processed. Please list the construction docket number(s):

Acct. No.	Plant account	Actual Contributed Plant 12/31/2024	Estimated 2025			Estimated Balance 12/31/2025	Estimate 2026				Estimated Balance 12/31/2026
			Additions Note (A)	Retirements	Adjustments		Major Construction Note (A)	Retirements	Routine Construction Note (A)	Retirements	
<u>Intangible Plant</u>											
301	Organization	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
302	Franchises and consents	0	0	0	0	0	0	0	0	0	0
303	Miscellaneous intangible plant	0	0	0	0	0	0	0	0	0	0
	Total Intangible Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Source of Supply</u>											
310	Land and land rights	\$31,000	\$0	\$0	\$0	\$31,000	\$0	\$0	\$0	\$0	\$31,000
311	Structures and improvements	0	0	0	0	0	0	0	0	0	0
312	Collecting and impounding reservoirs	0	0	0	0	0	0	0	0	0	0
313	Lake, river, and other intakes	0	0	0	0	0	0	0	0	0	0
314	Wells and springs	0	0	0	0	0	0	0	0	0	0
316	Supply mains	0	0	0	0	0	0	0	0	0	0
317	Other water source plant	0	0	0	0	0	0	0	0	0	0
	Total Source of Supply Plant	\$31,000	\$0	\$0	\$0	\$31,000	\$0	\$0	\$0	\$0	\$31,000
<u>Pumping Plant</u>											
320	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
321	Structures and improvements	0	0	0	0	0	0	0	0	0	0
323	Other power production equipment	0	0	0	0	0	0	0	0	0	0
325	Electric pumping equipment	0	0	0	0	0	0	0	0	0	0
326	Diesel pumping equipment	0	0	0	0	0	0	0	0	0	0
328	Other pumping equipment	0	0	0	0	0	0	0	0	0	0
	Total Pumping Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>Water Treatment Plant</u>											
330	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
331	Structures and improvements	0	0	0	0	0	0	0	0	0	0
332	Sand and other media filtration Equip	0	0	0	0	0	0	0	0	0	0
333	Membrane Filtration Equipment	0	0	0	0	0	0	0	0	0	0
334	Other Water Treatment Equipment	0	0	0	0	0	0	0	0	0	0
	Total Water Treatment Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility
Contributed Plant
 Estimated for Test Year 2026
Contributed Plant Transactions Only

Acct. No.	Plant account	Actual Contributed Plant 12/31/2024	Estimated 2025			Estimated Balance 12/31/2025	Estimate 2026				Estimated Balance 12/31/2026
			Additions	Retirements	Adjustments		Major Construction		Routine Construction		
			Note (A)			Note (A)		Note (A)			
Transmission and Distribution Plant											
340	Land and land rights	\$46,936	\$0	\$0	\$0	\$46,936	\$0	\$0	\$0	\$0	\$46,936
341	Structures and improvements	0	0	0	0	0	0	0	0	0	0
342	Distribution reservoirs and standpipes	868,805	0	0	0	868,805	0	0	0	0	868,805
343	Transmission and distribution mains	5,205,111	274,770	0	0	5,479,881	0	0	0	0	5,479,881
345	Services	1,281,894	70,000	0	0	1,351,894	0	0	0	0	1,351,894
346	Meters	0	0	0	0	0	0	0	0	0	0
348	Hydrants	680,384	21,000	0	0	701,384	0	0	0	0	701,384
349	Other transmission and distr. plant	0	0	0	0	0	0	0	0	0	0
Total Transmission and Distr. Plant		\$8,083,130	\$365,770	\$0	\$0	\$8,448,900	\$0	\$0	\$0	\$0	\$8,448,900
General Plant											
389	Land and land rights	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390	Structures and improvements	0	0	0	0	0	0	0	0	0	0
391	Office furniture and equipment	0	0	0	0	0	0	0	0	0	0
391.1	Office furniture & equip - Computers	0	0	0	0	0	0	0	0	0	0
392	Transportation equipment	0	0	0	0	0	0	0	0	0	0
393	Stores equipment	0	0	0	0	0	0	0	0	0	0
394	Tools, shop and garage equipment	0	0	0	0	0	0	0	0	0	0
395	Laboratory equipment	0	0	0	0	0	0	0	0	0	0
396	Power operated equipment	0	0	0	0	0	0	0	0	0	0
397	Communication equipment	1,100	0	0	0	1,100	0	0	0	0	1,100
397.1	SCADA equipment	0	0	0	0	0	0	0	0	0	0
398	Miscellaneous equipment	0	0	0	0	0	0	0	0	0	0
Total General Plant		\$1,100	\$0	\$0	\$0	\$1,100	\$0	\$0	\$0	\$0	\$1,100
Total		\$8,115,230	\$365,770	\$0	\$0	\$8,481,000	\$0	\$0	\$0	\$0	\$8,481,000

Please list the construction docket(s) below:

Notes

The additions of capital assets in 2025 pertain to the developer's contributed assets from the Sperle Corners Development.

Mcfarland Water and Sewer Utility
DEPRECIATION ACCRUAL AND EXPENSE
 Estimated for Test Year 2026

1. The Estimated 2025 Depreciation Accrual in Column (A) is to be calculated based upon the current depreciation rates.
2. The Test Year 2026 Depreciation Accrual in Column (B) is to be based upon the PSC Recommended Depreciation Benchmark Rates (revised March 2, 2000) or upon the Utility Proposed Rates for the test year.
 - i. If any rate other than the benchmark will be used for the test year, the rate should be entered. If an account is fully depreciated, a depreciation rate of 0% must be inserted.
3. Enter the appropriate adjustment information at the bottom of the schedule to reconcile the depreciation accrual to the estimated depreciation expense.
4. In the Notes, the Utility must describe unusual situations such as Miscellaneous Credits or adjustments

Acct. No.	Plant account	Estimated 2025 (per Attach. 11)			Test Year 2026 (per Attachment 11)					Test Year Total
		Depr. Rate (A)	Avg. Depreciable Balance	Depreciation Accrual	Depr. Rate (B)	Average Depreciable Balance		Depreciation Accrual		
						Major	Routine	Major	Routine	
301-303	Total Intangible Plant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	<u>Source of Supply</u>									
310	Land and land rights	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
311	Structures and improvements	0.00%	\$0	\$0	3.20%	\$0	\$0	\$0	\$0	\$0
312	Collecting and impounding reservoirs	0.00%	\$0	0	1.70%	0	0	0	0	0
313	Lake, river, and other intakes	0.00%	\$0	0	1.70%	0	0	0	0	0
314	Wells and springs	2.90%	\$211,239	6,126	2.90%	0	211,239	0	6,126	6,126
316	Supply mains	0.00%	\$0	0	1.80%	0	0	0	0	0
317	Other water source plant	0.00%	\$0	0	4.50%	0	0	0	0	0
	Total Source of Supply Plant			\$6,126						\$6,126
	<u>Pumping Plant</u>									
320	Land and land rights	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
321	Structures and improvements	3.20%	\$145,092	\$4,643	3.20%	\$0	\$145,092	\$0	\$4,643	\$4,643
323	Other power production equipment	0.00%	\$0	0	4.40%	0	0	0	0	0
325	Electric pumping equipment	4.40%	\$220,839	9,717	4.40%	0	220,839	0	9,717	9,717
326	Diesel pumping equipment	0.00%	\$0	0	4.40%	0	0	0	0	0
328	Other pumping equipment	4.40%	\$22,216	978	4.40%	0	22,216	0	978	978
	Total Pumping Plant			\$15,338						\$15,338
	<u>Water Treatment Plant</u>									
330	Land and land rights	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
331	Structures and improvements	0.00%	\$0	\$0	3.20%	\$0	\$0	\$0	\$0	\$0
332	Sand or Other Media Filtration Equip	0.00%	\$0	0	3.30%	0	0	0	0	0
333	Membrane Filtration Equipment	0.00%	\$0	0	6.00%	0	0	0	0	0
334	Other Water Treatment Equipment	6.00%	\$4,498	270	6.00%	0	4,498	0	270	270
	Total Water Treatment Plant			\$270						\$270

See summary of significant accounting policies and significant assumptions

Mcfarland Water and Sewer Utility
DEPRECIATION ACCRUAL AND EXPENSE
 Estimated for Test Year 2026

Acct. No.	Plant account	Estimated 2025 (per Attach. 11)			Test Year 2026 (per Attachment 11)					
		Depr. Rate (A)	Avg. Depreciable Balance	Depreciation Accrual	Depr. Rate (B)	Average Depreciable Balance		Depreciation Accrual		Test Year Total
						Major	Routine	Major	Routine	
Transmission and Distribution Plant										
340	Land and land rights	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
341	Structures and improvements	3.20%	\$104,922	\$3,358	3.20%	\$0	\$104,922	\$0	\$3,358	\$3,358
342	Distribution reservoirs and standpipes	1.90%	\$362,300	6,884	1.90%	0	362,300	0	6,884	6,884
343	Transmission and distribution mains	1.30%	\$8,050,166	104,652	1.30%	0	9,121,286	0	118,577	118,577
345	Services	2.90%	\$1,899,019	55,072	2.90%	0	2,257,353	0	65,463	65,463
346	Meters	5.50%	\$1,841,706	101,294	5.50%	0	1,841,706	0	101,294	101,294
348	Hydrants	2.20%	\$744,512	16,379	2.20%	0	880,501	0	19,371	19,371
349	Other transmission and distr. plant	0.00%	\$0	0	5.00%	0	0	0	0	0
	Total Transmission and Distr. Plant			\$287,639						\$314,947
General Plant										
389	Land and land rights	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
390	Structures and improvements	0.00%	\$0	\$0	2.90%	\$0	\$0	\$0	\$0	\$0
391	Office furniture and equipment	0.00%	\$0	0	5.80%	0	0	0	0	0
391.1	Office furniture & equip - Computers	26.70%	\$9,946	2,656	26.70%	0	9,946	0	2,656	2,656
392	Transportation equipment	13.30%	\$356,957	47,475	13.30%	0	411,782	0	54,767	54,767
393	Stores equipment	0.00%	\$0	0	5.80%	0	0	0	0	0
394	Tools, shop and garage equipment	5.80%	\$87,182	5,057	5.80%	0	108,057	0	6,267	6,267
395	Laboratory equipment	5.80%	\$6,649	386	5.80%	0	6,649	0	386	386
396	Power operated equipment	7.50%	\$110,608	8,296	7.50%	0	110,608	0	8,296	8,296
397	Communication equipment	15.00%	\$181,593	27,239	15.00%	0	190,843	0	28,626	28,626
397.1	SCADA equipment	0.00%	\$0	0	9.20%	0	0	0	0	0
398	Miscellaneous equipment	5.80%	\$302	18	5.80%	0	302	0	18	18
	Total General Plant			\$91,127						\$101,016
	Total		\$14,355,248	\$400,500		\$0	\$16,010,139	\$0	\$437,697	\$437,697
	Miscellaneous Credits (Charges) to Accrual			\$0						\$0
Estimated Depreciation Accrual		(To Attachment 13)==>		\$400,500					(To Attachment 13)==>	\$437,697
Meter depr. allocated to sewer (deduction)	50 %	<=Change if different		(50,647)	50 %	<=Change if different allocation to sewer			(50,647)	
Adjustments & Depreciation charged clearing accounts, etc: add (deduct):				0						0
(Specify)				0						0
(Specify)				0						0
Estimated Depreciation Expense				\$349,853					Test Year Depreciation Expense (To Attachment 14)==>	\$387,050
Please enter any full depreciated assets below:										
Notes										

See summary of significant accounting policies and significant assumptions

1. The depreciation accrual totals for 2025 and 2026 must agree with Attachment 12. For rate case purposes, major construction additions are factored into the calculated accrual as if in service the entire year.
2. The plant retirements totals for 2025 and 2026 must agree with Attachment 11. If test year retirements are being retired as a result of major construction project, indicate that portion in the major projects column.
3. If there is a variance to the prior year balance of more or less than 15%, please state the basis used for developing the M & S estimates for 2025 & 2026.
4. Explain adjustments in Notes section.

Accumulated Depreciation (Account 111.1)				Major Projects	Routine	Total	Test Year Average Balance
January 1, 2025 Balance	(Estimated)					\$3,815,891	
Add: Annual Accrual	(per Attachment 12)	(A)				400,500	
Salvage	(Estimated)			\$0		0	
Less: Retirements	(per Attachment 11)	(B)				209,700	
Cost of Removal	(Estimated)			\$0		0	
Adjustments	increase (decrease)	(C)		0		0	
December 31, 2025 Balance	(Estimated)					\$4,006,691	\$4,006,691
Add: Annual Accrual	(per Attachment 12)	(A)	\$0	\$437,697		437,697	218,849
Salvage	(Estimated)		0	0		0	0
Less: Retirements	(per Attachment 11)	(B)	0	135,413		135,413	67,707
Cost of Removal	(Estimated)		0	0		0	0
December 31, 2026 Balance	(Estimated)					\$4,308,975	
						Test Year Average Balance	\$4,157,833

Materials and Supplies Inventory				Test Year Average Balance
Account Balances:				
December 31, 2022	(Actual)		\$19,450	
December 31, 2023	(Actual)		19,450	
December 31, 2024	(Actual)		19,450	
December 31, 2025	(Estimated)	(D)	19,450	\$9,725
December 31, 2026	(Estimated)	(D)	19,450	9,725
				Test Year Average Balance
				\$19,450

Notes

Mcfarland Water and Sewer Utility

Estimated for Test Year 2026

1. Part One calculates the Net Operating Income (loss) for the test year. All amounts are derived from other attachments except Amortization Expense, Account 404, which, if applicable, must be entered and the purpose specified.
 2. Part Two is a calculation of Average Net Investment Rate Base for the test year. All amounts are derived from other attachments
 3. Part Three calculates the estimated requested increase.
 i. Enter a requested rate of return (ROR) in the highlighted box and the estimated increase is calculated.
 ii. Generally, the current benchmark rate is used for most situations. If the Utility requests a different ROR, please describe the reasons in the Notes. An example of supporting detail would be a Cash Flows statement.

Part One:	Total Operating Revenues	(per Attachment 7)	\$2,082,367
	Total Operation and Maintenance Expenses	(per Attachment 10)	\$999,031
	Depreciation Expense	(per Attachment 12)	387,050
	Amortization Expense--Account # 404 (specify):		0
	Taxes	(per Attachment 8)	420,991
	Total Operating Expenses		\$1,807,072
	Net Operating Income (Loss)-Test Year 2026		\$275,295

Part Two:	Utility Plant In Service--Financed by Utility or Municipality: Test Year Average Balance	(per Attachment 11)	\$16,019,753
	Materials and Supplies: Test Year Average Balance	(per Attachment 13)	19,450
	Less: Accumulated Depreciation: Test Year Average Balance	(per Attachment 13)	4,157,833
	Average Net Investment Rate Base (NIRB)		\$11,881,370

Part Three:	Average Net Investment Rate Base	(per Part Two above)	\$11,881,370
	TIMES Rate of Return Requested (Enter requested rate in this box.)	6.50%	6.50%
	Return on Average Net Investment Rate Base (NIRB)		\$772,289
	Total Operation and Maintenance Expenses	(per Part One above)	\$999,031
	TIMES allowance on O&M expenses		6.00%
	Operating Allowance		\$59,942
	Enter the larger of either: The Return on NIRB (A) or the Operating Allowance (B)		\$772,289
	Less: Estimated Net Operating Income (Loss)	(per Part One above)	275,295
	Increase Requested-Test Year 2026		\$496,994
	Overall Percentage Increase in Total Sales of Water at Current Rates:	26.90%	

Notes

See summary of significant accounting policies and significant assumptions

McFarland Water Utility

**CASH FLOW
Forecasted 2026 - With Full Debt Service**

	Without Increase Forecasted 2026	With Increase Forecasted 2026
Operating Income/(Loss)	\$ 275,295	\$ 275,295
Sewer Operating Income/(Loss) (Excluding Depreciation)	286,163	286,163
Rate Increase	-	496,994
Add:		
Depreciation	387,050	387,050
Investment Income	69,932	69,932
Impact Fees	35,166	35,166
Debt proceeds	2,964,100	2,964,100
Less:		
Bond Debt Payments (Principal & Interest)*	(3,283,503)	(3,283,503)
Contingencies or Reserves	\$ 734,203	\$ 1,231,196
Average Capital Additions Funded with Utility Earnings	7,000	7,000
Net Cash Flows	\$ 727,203	\$ 1,224,196
* - Forecasted Bond Debt Payments include the first year of 2026 Revenue Bonds payments.		

McFarland Water Utility

**DEBT COVERAGE
Forecasted 2026**

	Without Increase Forecasted 2026	With Increase Forecasted 2026
<u>Actual Net Earnings</u>		
Operating revenues	\$ 2,082,367	\$ 2,082,367
Rate Increase	-	496,994
Interest income	69,932	69,932
Operation and maintenance expenses	(999,031)	(999,031)
Taxes other than equivalent	(18,382)	(18,382)
Actual Net Earnings	\$ 1,134,886	\$ 1,631,880
<u>Required Net Earnings</u>		
Minimum Earnings Required:		
Debt service - revenue bonds*	\$ 719,553	\$ 719,553
Coverage factor	1.25	1.25
Minimum Earnings Required	\$ 899,441	\$ 899,441
Estimated Debt Coverage - as Defined in Bond Resolutions	1.26	1.81
DEBT COVERAGE WITH PILOT		
Defined Earnings (above)	\$ 1,134,886	\$ 1,631,880
Less: Tax Equivalent	(402,609)	(402,609)
Adjusted Defined Earnings	\$ 732,277	\$ 1,229,271
Revenue Bond Debt Service Above	\$ 719,553	\$ 719,553
True Total Debt Coverage	1.02	1.71
* Includes proposed debt issuance for 2025 and 2026		

Mcfarland Water and Sewer Utility

IMPACT FEES

A. This attachment requests information about impact fees. If the utility has impact fees, please complete the schedule and supply the impact fee study and impact fee ordinance as a separate file on ERF.

Is the utility currently collecting impact fees, capacity assessments, or other such fees? Yes

If yes, answer the following:

1) Describe the facilities to be constructed using the impact fees.

Towers
Wells

Public Water Impact Fee ordinance language and fees were updated March 2024.

2) Provide the year the impact fees were adopted. 4/1/1998

3) Provide the year the facilities were or will be constructed. 2020 & 2026

4) Provide a copy of the most recent impact fee study and impact fee ordinance.

Note: If more than one water utility impact fee exists, answer the above questions for each project. If more space is needed please include an explanation in the footnotes on Attachment 19.

Notes

[Empty box for notes]

Mcfarland Water and Sewer Utility

MISCELLANEOUS
Test Year 2026

2026 Test Year

ATTACHMENT 17

Part One:

If plant accounts in **Attachment 11 and/or Attachment 11a** (Utility Plant in Service) have transactions for the interim or test year for **Account 343 (Mains)** or **Account 348 (Hydrants)** specify the units added and/or retired for each account.

Year	Attachment 11		Attachment 11a		Net Units	Indicate diameter(s) and length(s) of main added and retired
	Units Added	Units Retired	Units Added	Units Retired		
Feet of Main	2025	4,547	4,477	1,672	1,742	10" & 745 feet 12", and retire 44"
Feet of Main-Routine	2026	2,831	2,496		335	et 8", & 775 feet 10", and retire 7"
Feet of Main-Major Projects	2026				0	
Hydrants	2025	9	9	3	3	
Hydrants-Routine	2026	6	6		0	
Hydrants-Major Projects	2026				0	

Water Service Installation

Does the utility wish to revise Schedule Cz-1, the charge for installing a water service?

Late Fees

The Wisconsin Administrative Code provides alternatives for late payment charges on delinquent bills for service. If the utility is also regulated by the PSC for electric and/or sewer rates, it is recommended that the charge be consistent for all. Please indicate which late payment charge the utility wants to be included in its tariff.

Other Charges (Schedule OC-1)

Non-Sufficient Funds \$
 Is the Utility also regulated for electric and/or sewer rates?
 Amount charged by your financial institution: \$
 Special Billing Charge
 Special Meter Reading Charge
 Missed Appointment Charge
 Real Estate Closing Charge
 Normal: \$ After Hours: \$

Reconnection Charges (Schedule R-1)

Normal Business Hours:	\$ <input type="text" value="35.00"/>	# of Hours	Field Staff	Admin Staff	Vehicle
After Hours:	\$ <input type="text" value="45.00"/>	Hourly Rate			
R-1 Total			\$ -	\$ -	\$ -

Public Fire Protection Charges (Schedule F-1)

How **will** the utility collect the PFP charge?
 Method for calculating direct charges:

Will direct charges also be applied to non-customers who own property in the municipality?
 Number of lots

If your utility collects PFP through a **municipal** charge, please answer the following question.

- Does the utility have water customers that reside outside the municipal limits?
- If **yes**, does the utility wish to provide an outside utility rate to recover public fire protection costs through a Schedule Mq-2?

Schedule X-4: Deferred Payment Agreements (DPA)

Do you request to amend the utility's tariff related to DPA's for residential customers?

Schedule X-4: Continued

1. Do you currently offer leak credits to water customers? If so, please provide your policy on Attach19. No
Select the rate **option** for billing excess usage due to leak:
Option 1) the lowest volumetric rate provided in the utility's Schedule Mg-1. No
Option 2) \$X.YZ per [1,000 gallons/100 cubic feet]. See your records or most recent cost study. Yes
2. Do you currently offer budget billing to water customers? If so, please provide your policy on Attach19. No

General Service Rate Design (Schedule Mg-1)

Please indicate the preferred rate design for each customer class:

General/Residential	<input type="checkbox"/> Uniform Rate
Multifamily Residential	<input type="checkbox"/> Uniform Rate
Non-Residential	<input type="checkbox"/> Uniform Rate

Please indicate if you would like an irrigation rate or an additional meter charge (choose one or none).

Irrigation Rate	<input type="checkbox"/> No
Additional Meter Charge (Am-1)	<input type="checkbox"/> Yes

Are you interested in rate design to promote conservation goals? Yes

If you decide to pursue an irrigation rate, then please provide the following information:

The Public Service Commission of Wisconsin defines the irrigation customer class as "customers who have water service provided primarily for landscape irrigation. For the purpose of this schedule, landscape irrigation includes the use of water to sustain crops, lawns, or landscapes on any residential, commercial, industrial, or public authority property, including water used for irrigating athletic fields, parks, and golf courses. Irrigation customers include those customers that have multiple meters installed on a single lateral for the purpose of measuring water that is not discharged to the sanitary sewer system. The utility shall classify each additional meter as an irrigation meter and treat each meter as a separate general service customer."

- 1) We will eliminate Schedule Am-1 from your tariff. All existing Am-1 deduct meters will become irrigation meters and
- 2) Please identify all of your irrigation customers. This will become your new irrigation customer class that will receive its own unique uniform water rate. Water for irrigation will have higher volume rates than general service volume rates due
- 3) Update the meter count, fixed revenues, volume revenues, and total actual billed revenues for the irrigation customer class as shown in Attachment 2B. Remember that as you add a meter to the irrigation class, you must subtract it from one of the other customer classes.
- 4) Please identify the annual combined consumption of the irrigation meters by rate block. Update Attachment 2A accordingly. Remember that as you add consumption to the irrigation customer class, you must subtract it from some of the other customer classes. The irrigation usage must be based on your customers that will be reclassified as irrigation customers.

Describe any proposed modifications to the general service rates or list any other proposed tariff or schedule changes below: Also, please indicate any tariff language the Utility currently has that is considered non-standard. (e.g. X-1, Mg-1, F-1, etc.)

NOTE: Utilities proposing a modified rate structure should submit detailed customer billing information for the most recent 12 months. For each billing period, include an analysis by customer class of the number of customer bills ending in each 1,000 gallon or 100 cubic foot increment, the total number of bills in the billing period, and the total volume of sales in the billing period. For residential customers, it is suggested that the increments be in 1,000's of gallons, up to 25,000 gallons per month (75,000 gallons per quarter), and then by 5,000 gallon increments.

Utility COSS/RD Exhibit

Does the Utility plan to issue its own cost-of-service study and rate design?

No

If yes, please submit the proposed cost-of-service study and rate design exhibit within 20 Days of accepting the Revenue Requirement (Ex.-PSC-Revenue Requirement).

Rebate Programs

Does the Utility wish to establish a new rebate or incentive program for water saving fixtures and/or water efficiency process changes?

No

If yes, the Utility must obtain PSC approval before spending additional ratepayer-generated funds on these efforts. In general, the PSC allows utilities to spend one to two percent of total operating revenues on water conservation programs. Please provide the PSC with an implementation plan that is consistent with "Implementing Toilet Rebates and Other Incentive Programs" found on our website:

<http://psc.wi.gov/conservation/documents/wc-RebateProgram.pdf>

Once a conservation program is approved, the Utility will be required to report annually on the costs, gallon savings, and other supporting information about its program by completing page W-27 in the WECS Annual Reporting System.

Are there any specific timing constraints that this case is depending on? Are there any external deadlines related to funding or other issues (DNR or safe drinking water) that Commission staff should be aware of?

Footnotes

**Mcfarland Water and Sewer Utility
WATER CONSERVATION SPENDING**

Test Year 2026

1. This attachment requests information about the utility's water conservation spending. The utility only needs to complete this schedule if it has a PSC approved water conservation program.

2. If the utility has a conservation program that was authorized by the PSC, please complete the deferred expense schedule below.

Deferred Expense Schedule:

Program Year Ending (a)	Beginning Balance (b)	Account 186 Expenditures (c)	Account 253 Collections (d)	End of Year Expenses (e)
December 31,				
December 31,				
December 31,				
December 31,				
Net Balance of Acct. 186 (debit) and Acct. 253 (credit) Last Actual Year				\$0
Amortization Expense (Net Balance Divided by 3)				\$0
Estimated Future Annual Expenditures				\$0
Total Expenses (To be Recorded in Account 906)				\$0

What are the estimated effects of the utility's planned water conservation and efficiency program on water sales for the test year? Estimate the reduction in volumetric sales, by customer class, for the test year. Test year sales in Attachment 3 should reflect adjustments for conservation.

Customer Class	Test Year Sales Without Conservation	Conservation Adjusted Test Year Sales
Residential		
Multifamily		
Commercial		
Industrial		
Public Authority		
Other		

Additional Comments:

Attachment 3A:
Commerical - Forecasted consumption to be consistent with the consumption per customer for the previous 12 months.

Attachment 10C:

623, 641 - Operation supplies and expenses:
The decrease is due to a general decrease in necessary supplies following prior years' maintenance efforts to correct aging infrastructure.

625 - Maintenance of Pumping Plant:
Maintenance is anticipated to decrease due to prior years well maintenance and rehab projects.

630 & 640 - Operation labor:
Increase related to an additional staff member being hired in 2024 and general wage increases.

631 - Chemicals:
Increase in chemical costs related to a change in vendors.

635 - Maintenance of water treatment plant:
Decrease in forecasted required maintenance due to prior year chemical pump replacements.

650 - Maintenance of distr. reservoirs:
Estimate of the normalized water tower painting costs for the Holscher road water tower, estimated to be completed in 2026, and the Burma road tower, completed in 2023.

653 - Maintenance of meters:
Decrease in forecasted meter maintenance due to a system wide meter change out.

654 - Maintenance of hydrants:
Increase in hydrant maintenance and repairs.

901 - Meter reading labor:
Decrease due to no longer having a position required for reading meters.

902 - Accounting and collecting labor:
Increase mostly relates to an increase in wage expenses and allocation of additional staff member costs hired in 2024.

921 - Office supplies and expenses:
Decrease due to a change in employee training providers and reduced amounts of employee training.

923 - Outside services employed:
Increase in required support services for IT and software products.

926 - Employee pension and benefits:
Increase in benefits to employees and cost for the new staff member in 2024..

Mcfarland Water and Sewer Utility
2026

2026 Test Year

Required Supplemental Information

ATTACHMENT 19a

Pensions and Benefits Expense

a. Pension and Benefits Expense should include Pensions, Health Insurance, Life Insurance, and other employee benefits. It should not include employee payroll taxes and employee reimbursement expenses such as phone and transportation. The totals on this schedule should equal the total Pensions and Benefits Expense listed on Attachment 10.

b. Expense details should be provided for the test year and three prior years for Account 686 (Class D) or Account 926 (Classes AB and C).

	2023	2024	2025	2026
Pensions	20,436	20,790	25,923	26,701
Health Insurance	65,372	64,832	83,182	85,677
Life Insurance	604	622	893	920
Retirement Fund				
Total for Account 686 or 926	86,412	86,244	109,998	113,298

These totals should agree with Attach10

Membership Dues

a. Membership Dues should include each organization the Utility belongs to as well as the account number that Membership Dues are recorded in.

b. For each organization the utility belongs to, identify the amount of the dues for the years noted below and indicate what expense account is charged.

	Account	2025	2026
AWWA	923	65	65
WRWA			
MEG - water			
Alliance for Water Efficiency			
APWA Membership	923	62	62
Other-Explain			

Water Tower Painting

a. Water Tower Painting should include each water tower painting. Please provide an explanation on the Current Cost in the Notes.

b. The normalized cost of water tower painting should be included in the forecast for Account 650 (Class C&D utilities) or Account 672 (Class AB utilities). Also, see Instructions - Attachment 10.

Description	Year Last Painted	Next Date To Be Painted	Prior Cost	Current Cost	Number of Years Between Paintings	Annual Normalization
Holscher Road Tower	2000	2026	325,000	500,000	26	19,231
Burma Road Tower	2023	2041	205,000	210,770	18	11,709

Other Normalizations

See Instructions for Attachment 10.
Explain on Attachment 19.

Second Meters

a. Does the utility have any customers with second meters to measure water not discharged to the sanitary sewer system?

Yes

b. Does the utility have rate schedule Am-1, Additional Meter Rental Charge?

Yes

For more information about second meters, please visit the "What are the allowable configurations and applicable charges for additional meters?" on the Commission's website using the following link.

[FAQs: Meters](#)

If yes, fill out the summary below.

Revenues from additional meters should be reported in Account 474, Other Water Revenue on Attachment 7.

Last Actual
Year End Count

	Residential	Multifamily	Commercial	Industrial	Public Authority
General Service Meters	3,232	64	215	0	32
Additional Meters	50	1	1	0	1
Total	3282	65	216	0	33

Columns H to L on W-23
Columns I or Q on W-23

The totals should agree with the meter counts reported on page W-23 of Annual Report.

If the utility does not have Schedule Am-1 but has customers with seconds meters, how are these customers billed for the second meter?

[Empty text box for billing information]

Payroll Allocations

If employees perform work for more than one function, please explain how costs are assigned to the water utility. For example, when an employee performs work for municipal parks, sewer, water, and private lead service lines, describe how the salary and wages dollars are assigned to the regulated water utility.

Staff are instructed and record their time based on the job function they perform. If multiple job functions occur in one day, they must split their time between the various functions. Each staff timecard has a large amount of tasks available to code their time to and those selections then proportionally charge the various accounts.

Notes

[Empty text box for notes]

Required Supplemental Information

On January 25, 2019, the PSC sent communication to all municipal utilities outlining recent decisions to allow utilities to recover credit card processing fees through rates. As stated in that letter, municipal utilities may now request recovery of credit cards fees in a conventional rate case. If the Utility currently allows customers to pay utility bills using a credit card, please answer Question #1. If the Utility currently wants to include the cost to process credit cards payments in the estimated test year O&M expenses, please answer Question #2.

1. Does the Utility currently offer credit card billing? If yes, provide the following: Yes

A. Does the Utility or customer currently pay the transaction fee?

Utility

B. What expense account(s) does the Utility use to record credit card fees?

C. Provide the most recent three years of credit card fee expense.

Year	\$
2024	9510
2023	9211
2022	7807

D. Identify either the vendor or the third party company used by the utility.

Payment Service Network (PSN)

E. Provide a breakdown of the cost per transaction and any other fees that are incurred by the Utility.

Credit Cards fee 2.9%, Checking/Savings account fee \$1.05 per transaction, BillPay \$0.30 per transaction. Each of these charges is determined based on the type of payment method utilized by the customer. Not all three would be charged on a single transaction.

2. Did the Utility include any expenses related to accepting credit cards in the test year O&M forecast? If not, does the Utility want to include such expenses in the current application? If yes to either question, please provide further information on the Yes

A. Provide the test year estimate and methodology used to determine the forecast?

Water Utility share: 2025- Estimate \$10,000, 2026 - \$10,500. Based on general increase each year. Not anticipating any rate increases from our 3rd party vendor PSN.

B. Provide the allocation percentage(s) and methodology used to allocate credit card fees across utilities or shared services.

Fees are split evenly between three accounts (water, sewer, and stormwater).

C. What O&M account did the Utility use for the test year estimate?

906

D. Identify the vendor the Utility will be using.

Payment Service Network (PSN)

E. Provide a breakdown of the cost per transaction and any other fees that will be incurred by the Utility.

Credit Cards fee 2.9%, Checking/Savings account fee \$1.05 per transaction, BillPay \$0.30 per transaction. Each of these charges is determined based on the type of payment method utilized by the customer. Not all three would be charged on a single transaction.

F. What percentage of customers currently pay by credit card?

2022 -31.4%, 2023 - 34.2%, 2024-36.6%

G. Does the Utility expect more customers to use credit cards if this payment option is offered at no charge to the customer? If so, what percentage of customers do you estimate will pay by credit card?

The utility does not expect an increase in usage.

H. Has the utility worked with vendor(s) to negotiate lower fees?

H1: Identify utility efforts to minimize fees.

H2: Provide name of vendor(s) contacted.

H3: Provide quoted amount(s) from each vendor contacted.

The utility evaluates any potential rate increases as they occur. At this time the utility has not explored other vendors.

Mcfarland Water and Sewer Utility
STEP II MAJOR PLANT DETAIL
 Test Year 2026

NOTE: Only applies to utilities requesting a two step rate case

USE ONLY FOR "MAJOR" PLANT NOT COMPLETED NOR PLACED IN SERVICE BY THE END OF THE TEST YEAR

1. If a utility has a major project that will not be completed in the current test year but will be completed by December 31st of the following year, filing a Two Step Rate Application may be appropriate. The utility excludes the project in preparing its Step I test year revenue requirement and includes the project in its revenue requirement for a Step II test year.
2. If a part or all of a major project will start during the test year and be placed into service by December 31st in the year following the test year, that portion of the project must be considered in Step II.
3. Summary of Step II major plant additions:
 - i. Summarize, by plant account, the Step II plant additions.
 - ii. Insert the applicable depreciation rates (from Attachment 12).
 - iii. The depreciation expense will be calculated based upon the estimated plant and depreciation rates.
4. If necessary, please describe unusual situations in the Step II Notes.

A Two Step rate increase requires construction approval.

Please enter the construction docket below:

3490-CW-102

Summary of Plant Additions (Retirements) in Step II

Account Number	Description	Addition (Retirement) Amount	Depreciation	
			Rate	Expense
Financed by Utility or Municipality:				
see Attach20A		2,964,100	3.86%	\$114,325
			0.00%	0
			0.00%	0
			0.00%	0
			0.00%	0
Total Financed by Utility or Municipality		2,964,100	Depreciation Total	\$114,325
Contributed Plant:				
see Attach20A		\$1,255,000		
Total Contributed Plant		1255000		
Total Step II NET Plant Additions		\$4,219,100		
Less: Plant Outside Municipality		0		
Net Taxable Plant		\$4,219,100		

Times Assessment Ratio (per Attachment 9) 0.998300
 Times Net Local and School Rate (per Attachment 9) 14.585955

Calculated Tax Equivalent--Step II \$61,435
 Calculated Tax Equivalent - Step I (per Attachment 9) 402,609
 Tax Equivalent Computed (Combined Total Step I and II) \$464,044
 1994 Tax Equivalent Payable in 1995 (per Attachment 9) \$78,428

If the municipality has authorized a lower amount as allowed by Wis. Stat. § 66.0811(2), then place that amount on this line. **If no authorization, leave blank.** ==>

Step I and Step II Combined:
 Tax Equivalent Payable for the Test Year (See Attachment 9, Instruction 4 for criteria) \$464,044
 Less: Meter Allocation to Sewer (Attachment 8) 13,409
 Step I and Step II Combined Net Property Tax Equivalent-Water Utility \$450,635

If mains or hydrant plant accounts have Step II transactions above, specify the net units added for each.	Units Added
	See Notes
Feet of Main	See Notes
Hydrants	See Notes

Notes

Approximately 66 feet of new 12" water main, 80 feet of new 2" water lateral, 8 feet of 6" hydrant lead.
 The Utility is moving an existing hydrant so there will not be any additional hydrants as part of the project.

McFarland Water Utility

Step II Major Plant Detail by PSC Account

PSC acct	Total Cost	Depreciation Rate	Additions Financed by Utility or Municipality	Depreciation Expense	Contributed Plant
311	1,269,600	1.70%	891,950	15,163	377,650
314	873,600	2.90%	613,742	17,799	259,858
321	1,361,200	3.20%	956,302	30,602	404,898
323	101,700	4.40%	71,449	3,144	30,251
325	317,500	4.40%	223,057	9,815	94,443
334	26,100	6%	18,336	1,100	7,764
343	48,300	1.30%	33,933	441	14,367
345	10,800	2.90%	7,587	220	3,213
348	19,800	2.20%	13,910	306	5,890
397.1	<u>190,500</u>	26.70%	<u>133,834</u>	<u>35,735</u>	<u>56,666</u>
	4,219,100		2,964,100	114,325	1,255,000
Composite Depreciation Rate		3.86%	2,964,100	114,325	

2026
STEP II SUMMARY

NOTE: Only applies to utilities requesting a two step rate case

2026 Test Year

ATTACHMENT 21

		Step I Total Per Attachment 14	Step II Additional	Combined Total
Part One:	Total Operating Revenues	\$2,082,367	\$0	\$2,082,367
	Total Operation and Maintenance Expenses	\$999,031	\$0	\$999,031
	Depreciation Expense	387,050	114,325	501,375
	Amortization Expense--Acct # 404 (If Step II--specify):	0	0	0
	Taxes	420,991	61,435	482,426
	Total Operating Expenses	\$1,807,072	\$175,760	\$1,982,832
	Net Operating Income (Loss)-Test Year 2026	<u>\$275,295</u>	<u>(\$175,760)</u>	<u>\$99,535</u>
Part Two:	Plant In Service--Financed by Utility or Municipality	\$16,019,753	\$2,964,100	\$18,983,853
	Materials and Supplies	19,450	0	19,450
	Less: Accumulated Depreciation	4,157,833	114,325	4,272,158
	Less: Regulatory Liability and Other	0	0	0
	Net Investment Rate Base (NIRB)	<u>\$11,881,370</u>	<u>\$2,849,775</u>	<u>\$14,731,145</u>
Part Three:	Average Net Investment Rate Base		(per Part Two above)	\$14,731,145
	TIMES Rate of Return Requested for Step II: The requested return can be different than in Step I. Enter the Step II requested rate in this box.	6.50%		6.50%
	Return on Average Net Investment Rate Base (NIRB)			<u>\$957,524</u> (A)
	Total Operation and Maintenance Expenses		(per Part One above)	\$999,031
	TIMES allowance on O&M expenses			6.00%
	Operating Allowance			<u>\$59,942</u> (B)
	Enter the larger of either: The Return on NIRB (A) or the Operating Allowance (B)			\$957,524
	Less: Estimated Net Operating Income (Loss)--Combined Step I and II		(per Part One above)	\$99,535
	Increase Requested-Test Year 2026--Combined Step I and II			<u>\$857,989</u>
	Overall Percentage Increase in Total Sales of Water at Current Rates:	46.44%		

See summary of significant accounting policies and significant assumptions

**STEP II
NOTES**

Test Year 2026

NOTE: Only applies to utilities requesting a two step rate case

1. This attachment is to be used to describe any assumptions used by the utility in forecasting or describing any Step II items in Attachments 20 and 21.
2. Describe, in particular, Step II additional revenue or operation and maintenance expense forecasted in Attachment 21.
3. If necessary, include other general discussion that may be helpful regarding Step II items.

Step II Major Project(s) Authorization Docket Number(s)==>

3490-CW-102

Briefly Describe the Major Project(s) Below:

Construction of a new municipal well (Well No. 5) on the southeast side of the Village, north of the intersection of Prairie Wood Drive and Wiowash Way. The project includes drilling of a test well and a permanent well, construction of a wellhouse, and utility connections to the new wellhouse from Prairie Wood Drive. The project is scheduled to commence in 2025, with the new well expected to be put into service in 2027. Well drilling and testing are expected to be completed in 2025. Most of the well and wellhouse construction is expected to be completed by the end of 2026. The remaining construction will be completed, and Well #5 is expected to be put into service in 2027. The costs associated with this project are detailed in Attachment #9 as the Construction Work in Progress (CWIP) balance.

Other assumptions relating to Step II Major Project(s) -- Describe below:

[Empty box for describing other assumptions]

Utility Rates

The current Water Utility, Sewer Utility and Stormwater Utility rates are summarized below.

	Water Rates	Sewer Rates	Stormwater Utility Rates
	Current Rate	Current Rate	Current Rate
	May 15, 2024	April 10, 2025	January 1, 2024
Volume Charges			
Charge per 1,000 Gallons	\$ 3.67	\$ 7.15	Per ERU
			<i>Annual Rate</i>
			\$ 120.00
Bi-Monthly Base Charge			
5/8 Inch Meter	\$ 24.00	\$ 42.90	Per ERU
3/4 Inch Meter	\$ 24.00	\$ 42.90	Bi-Monthly
1 Inch Meter	\$ 36.00	\$ 64.36	\$ 20.00
1.25 Inch Meter	\$ 49.00	\$ 75.08	
1.5 Inch Meter	\$ 62.00	\$ 85.80	
2 Inch Meter	\$ 95.00	\$ 128.70	
3 Inch Meter	\$ 158.00	\$ 214.50	
4 Inch Meter	\$ 242.00	\$ 343.20	
6 Inch Meter	\$ 442.00	\$ 645.00	
Unmetered Sewer Base Charge			
Per billing cycle		\$ 132.28	
Bi-Monthly Public Fire Protection Service*			
5/8 Inch Meter	\$ 23.20		
3/4 Inch Meter	\$ 23.20		
1 Inch Meter	\$ 58.00		
1.25 Inch Meter	\$ 86.00		
1.5 Inch Meter	\$ 116.00		
2 Inch Meter	\$ 184.00		
3 Inch Meter	\$ 347.00		
4 Inch Meter	\$ 578.00		
6 Inch Meter	\$ 1,158.00		
Bi-Monthly Additional Meter Charge (if applicable)			
5/8 Inch Meter	\$ 12.00		
3/4 Inch Meter	\$ 12.00		
1 Inch Meter	\$ 18.00		
1.25 Inch Meter	\$ 24.50		
1.5 Inch Meter	\$ 31.00		
2 Inch Meter	\$ 47.50		
Reconnection Charges (if applicable)			
Reinstalling a meter / turning on a valve	\$ 35.00		
Reinstalling a meter / turning on a valve <i>after hours</i>	\$ 45.00		
Private Fire (if applicable)			
2 inch or smaller connection	\$ 20.00		
3 inch connection	\$ 36.00		
4 inch connection	\$ 60.00		
6 inch connection	\$ 120.00		
8 inch connection	\$ 180.00		
10 inch connection	\$ 280.00		
12 inch connection	\$ 380.00		
14 inch connection	\$ 480.00		
16 inch connection	\$ 560.00		

*New charge in 2024 based on meter size and will include non-water utility customers. Previously this was charged to the Village by the utility and included as part of property taxes.

Water Well No. 5 - Construction and Funding Timeline
Updated 7/25/2025

Schedule Item	Duration (Days)	Date(s)	Comments
ITA Submittal		October 31, 2023	
Well Site Investigation Submittal		January 16, 2024	Approved 3/18/24
Test Well Installation		Fall 2024	Done, though final results were not in until Jan 2025
Preliminary Design Preparation		Winter/Spring 2025	
DNR Well Drilling Submittal		May 27, 2025	Approved 6/14/25
PSC Construction Authorization Submittal		June 4, 2025	
SDWLP Loan Application		June 30, 2025	
DNR Plan and Spec Submittal - Wellhouse		June 30, 2025	
Approval for Bidding - Well Drilling		September 22, 2025 (PW) October 14, 2025 (Board)	
Bidding - Well Drilling		October 16, 2025 (Publish) November 13, 2025 (Open Bids)	
Approval of Bid - Well Drilling		November 24, 2025 (PW) December 9, 2025 (Board)	
PSC Rate Case Submittal		October 15, 2025	
DNR Plan and Spec Approval - Wellhouse	90	September 28, 2025	
PSC Construction Authorization Approval	120	October 20, 2025	Per the Completeness Determination 7/22/25
Well Drilling and Test Pumping		Winter 2025/2026	Pending driller availability and PSC CA
Final Well Test Results		March, 2026 - April, 2026	
Approval for Bidding - Wellhouse		January 26, 2026 (PW) February 10, 2026 (Board)	
Project Bidding - Wellhouse		March 12, 2026 (Publish) April 9, 2026 (Open Bids)	
Approval of Bid - Wellhouse		April 27, 2026 (PW) April 28, 2026 (Board)	
Executed Wellhouse Contracts		May 15, 2026	
May 31, 2026 Float	5/31/2026	16	
PSC Rate Case Complete	180	April 13, 2026	
Start Wellhouse Construction		June 1, 2026	Pending contractor availability
SDWLP Loan Closing		August, 2026 - September, 2026	
First Interest Payment Due		November 1, 2026	
End Construction - Well in Service	540	November 23, 2027	(18-24 Mo)
Update Wellhead Protection Plan		Winter/Spring 2027	
First Principal Payment Due		May 1, 2028	


VILLAGE OF
McFarland
SUMMARY SHEET

MEETING DATE: Wednesday, September 17, 2025

SECTION: Business

DEPARTMENT: Public Works

CONTACT: Lee Igl, Public Works Director, Matt Schuenke, Village Administrator

AGENDA ITEM: Discussion and action to make a recommendation to the Village Board regarding Well 5 drilling and authorize the project for bid.

PREVIOUS ACTION:

The Public Works & Utilities Committee recommended approval of a proposal from Town & Country Engineering for design and bidding services for Well #5 during their April 28, 2025, meeting.

The Village Board approved the proposal from Town & Country Engineering during their May 13, 2025, meeting.

ISSUE SUMMARY:

When the Park View Estates neighborhood was created, the Village secured land to accommodate a future drinking water well. The Village-owned Lots 87 & 88 in the subdivision for the well site. Continued growth within the village has led to the need to construct the well in the near future. The Wisconsin Department of Natural Resources permitted the site for the new well in 2007, and the Village's capital plan calls for constructing the well and well house in 2026. The site of the well was relocated to Outlot 10 and additional square footage was obtained from the School District in order to accommodate the well site. Lots 87 & 88 were purchased by Urso to develop two new single-family homes. The adjustment of lots was discussed during the July 22, 2024, committee meeting, with the committee recommending approval of these adjustments. A test well was completed to confirm the characteristics of the aquifer and area geology in 2024 at the newly identified well site. The new Well 5 is planned to have an estimated capacity of 1,000 gallons per minute (gpm).

Town & Country Engineering completed a Public Facilities Needs Assessment in February 2023, which evaluates the water utility's current facilities, identifies and evaluates existing deficiencies, and evaluates future needs. The assessment concluded that the existing wells were approaching their combined maximum pumping capacity. The existing wells were also found to be in need of upgrades to meet current code requirements, extend the life of the facility, and provide reliable back-up generator power in the event of a power failure. Due to these conclusions, discussion began about the construction of a new well. Discussions also occurred regarding the possible retirement of Well 1 due to the well being the oldest and lowest capacity well in the Village, along with the cost of required upgrades.

The construction of a new well requires several approvals, along with approval from the



committee and Village Board.

- A construction authorization was required to be filed with the Public Service Commission (PSC), which regulates the water utility.
- It was decided to pursue a low-interest loan through the state's Safe Drinking Water program to be paid back over time through utility revenues.
- An application for a new facility was sent to the Wisconsin DNR.

In conjunction with this project, a conventional rate case would be required in order to develop the water utility rates that would pay back the low-interest loan for the project.

As part of the Communications Plan around Well No. 5 Project and Water Rate Case, a [blog](#) post has been created and published to provide additional details.

To date, the Public Works and Utilities Committee hosted a meeting on August 27th to discuss the project implications in line with impacts on the water rates. Additionally, a Public Information Meeting was held on September 3rd to allow residents the opportunity to learn about the project history and the financial effect it creates. We are hosting this meeting for the Village Board and the public to learn as well, but there will remain additional opportunities for discussion after this meeting as well.

- Public Works & Utilities Committee meeting on September 17 — the committee will resume and conclude their discussion and may make a recommendation on this item to the Village Board.
- Village Board meeting on October 16 — the board will resume and conclude their discussion and may vote on whether to advance the proposed project and submittal of the water rate case.

The objective of this item is for the committee to ask questions and provide recommendation to the Village Board regarding the next step in the project's plan, which would involve the drilling of the well. This part of the project would be separately bid from the well house construction. Following approval by the Village Board, the bid will be advertised and the tentative bid opening date is scheduled for November 20, 2025. Bid results would return to the committee for award recommendation during the committee's November 24, 2025, meeting.

FINANCIAL/BUDGET IMPACT:

The total estimated cost of Well No. 5 is \$4.2 million. The primary proposed funding is a low-interest loan through the state's Safe Drinking Water program, which will be paid back through utility revenues. Of the total project cost, the estimate for the well drilling portion is \$515,000.

VILLAGE PLAN REFERENCE:

[2023 Public Facilities Needs Assessment](#)
[2025-2029 Capital Improvement Program](#)



ORDINANCE REFERENCE:

None.

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:

Recommended Motion:

Motion, second to recommend approval to the Village Board regarding Well 5 drilling and authorizing the project for bid.

ATTACHMENTS:

1. Contract A - Specifications for PW Packet 09.17.25
2. New well timeline Updated 7.25.2025

Bidding Documents and
Technical Specifications

CONTRACT A
2025 WELL 5 CONSTRUCTION

Village of McFarland, Wisconsin

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00 30 00 Bidder's Proof of Responsibility	3
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ADVERTISEMENT FOR BIDS

PROJECT: **CONTRACT A – 2025 WELL 5 CONSTRUCTION**

OWNER: Village of McFarland
 5915 Milwaukee Street, P.O. Box 110
 McFarland, WI 53558

CONTRACTS AND BID DEADLINE:

Sealed bids for single contract for construction of a new water supply well (Well No. 5) in the Village of McFarland, 5915 Milwaukee Street, McFarland, Wisconsin will be received until PM local time, , at the office of the Village Clerk. The bids will be publicly opened and read aloud immediately thereafter in the Village Hall meeting room. A pre-bid conference or site visit will only be held upon request and is not mandatory.

CONTRACT DOCUMENTS:

The Contract Documents, consisting of Advertisement for Bids, Instructions to Bidders, Bidder's Proof of Responsibility, Bid Proposal Form, Affidavit of Organization and Authority, Bid Bond (in the amount of 5% of the maximum amount of the bid), Notice of Award Form, Agreement Form, Notice to Proceed Form, Performance/Payment Bond (100%), Certificate of Insurance, General Conditions, Supplementary Conditions, Technical Specifications, Drawings and Addenda (if any) may be examined at the following locations:

Village of McFarland
5915 Milwaukee Street, P.O. Box 110
McFarland, WI 53558

Town & Country Engineering, Inc.
6264 Nesbitt Road
Madison, WI 53719

Copies of the Contract Documents and the Construction Plans may be obtained at the office of Town & Country Engineering, Inc., 6264 Nesbitt Road, Madison, WI 53719 via appointment only. There is a **\$75 non-refundable** copying and distribution charge for these documents. Electronic bidding documents are available on-line at Questcdn.com, Project No. _____ for \$42. This fee includes access to submit a bid on-line via Questcdn.

QUALIFICATIONS:

Bidders must be pre-qualified with the Village of McFarland within the last year or must be pre-qualified for this work 5 days prior to the bid deadline in accordance with Section 66.0901 of the Wisconsin Statutes.

Each bidder must deposit, with his bid, security in the amount of 5% of the maximum bid amount. Bidders must be experienced in municipal pipeline construction.

SPECIAL CONTRACT REQUIREMENTS:

This project will be funded in part by the Safe Drinking Water Loan Program (SDWLP) established under Wisconsin State Statutes, as administered by the Wisconsin Department of Natural Resources. Neither the State of Wisconsin nor any of its departments, agencies, or employees is or will be party to this invitation for bids or any resulting contract.

Disadvantaged Business Enterprises (DBE), including minority business enterprises (MBE) and women business enterprises (WBE) are encouraged to apply and be used to the greatest extent feasible. Qualified DBEs will be included in the Unified Certification Program WisDOT UCP list. Program policy requires all bidders to show good faith efforts to solicit proposals from DBEs. Contractors with a DBE classification are strongly encouraged to bid as the Prime Contractor on this project provided they are qualified to do the work. Award of the contract will be subject to the Federal government's policy of good faith effort for increased use of DBE businesses. A description of the policy and forms to be used are included in specifications.

Funding under the SDWLP program also requires all iron and steel products used in the construction of the project be produced in the United States (Section 1452(a)(4) of the Safe Drinking Water Act) including lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

WAGE RATES:

The successful bidder will be required to conform to the wage requirements prescribed by the federal Davis-Bacon and Related Acts which requires that all laborers and mechanics employed by contractors and sub-contractors performing on contracts funded in whole or in part with federal funds in excess of \$2,000 pay their laborers and mechanics not less than the prevailing wage rates and fringe benefits, as determined by the Secretary of Labor, for corresponding classes of laborers and mechanics employed on similar projects in the area, per the U.S. Department of Labor Wage and Hour Division May 29, 2009 Guidance.

RIGHTS RESERVED:

The Village of McFarland reserves the right to reject any and all bids and to waive informalities in any bid.

Published by the authority of:

Matthew Schuenke, Administrator
Village of McFarland

PART 3 – BID SUMMARIES

1.	Mobilization & Demobilization - Permanent Well	1 lump sum	(\$ _____)	\$ _____
2.	24" Outer/Surface Casing	50 vert. ft.	(\$ _____)	\$ _____
3.	23" Upper Drill Hole	375 vert. ft.	(\$ _____)	\$ _____
4.	18" Inner Casing	375 vert. ft.	(\$ _____)	\$ _____
5.	17" Lower Drill Hole	360 vert. ft.	(\$ _____)	\$ _____
6.	Grout	450 bags	(\$ _____)	\$ _____
7.	Well Development Preparation	1 lump sum	(\$ _____)	\$ _____
8.	Well Development	12 hours	(\$ _____)	\$ _____
9.	Install and Remove Test Pump Equipment	1 lump sum	(\$ _____)	\$ _____
10.	Test Pumping & Water Level Measurements	28 hours	(\$ _____)	\$ _____
11.	Well Recovery Measurements	4 hours	(\$ _____)	\$ _____
12.	Sampling and Chemical Analysis	1 lump sum	(\$ _____)	\$ _____
13.	Televising Log	1 lump sum	(\$ _____)	\$ _____
14.	Caliper Log	1 lump sum	(\$ _____)	\$ _____
15.	Plumbness and Alignment Tests	1 lump sum	(\$ _____)	\$ _____
16.	Well Disinfection	1 lump sum	(\$ _____)	\$ _____

TOTAL BID ITEMS

\$

SCHEDULE B: Supplemental Bid Item

S-1	Geophysical Logging	1 lump sum	(\$ _____)	\$ _____
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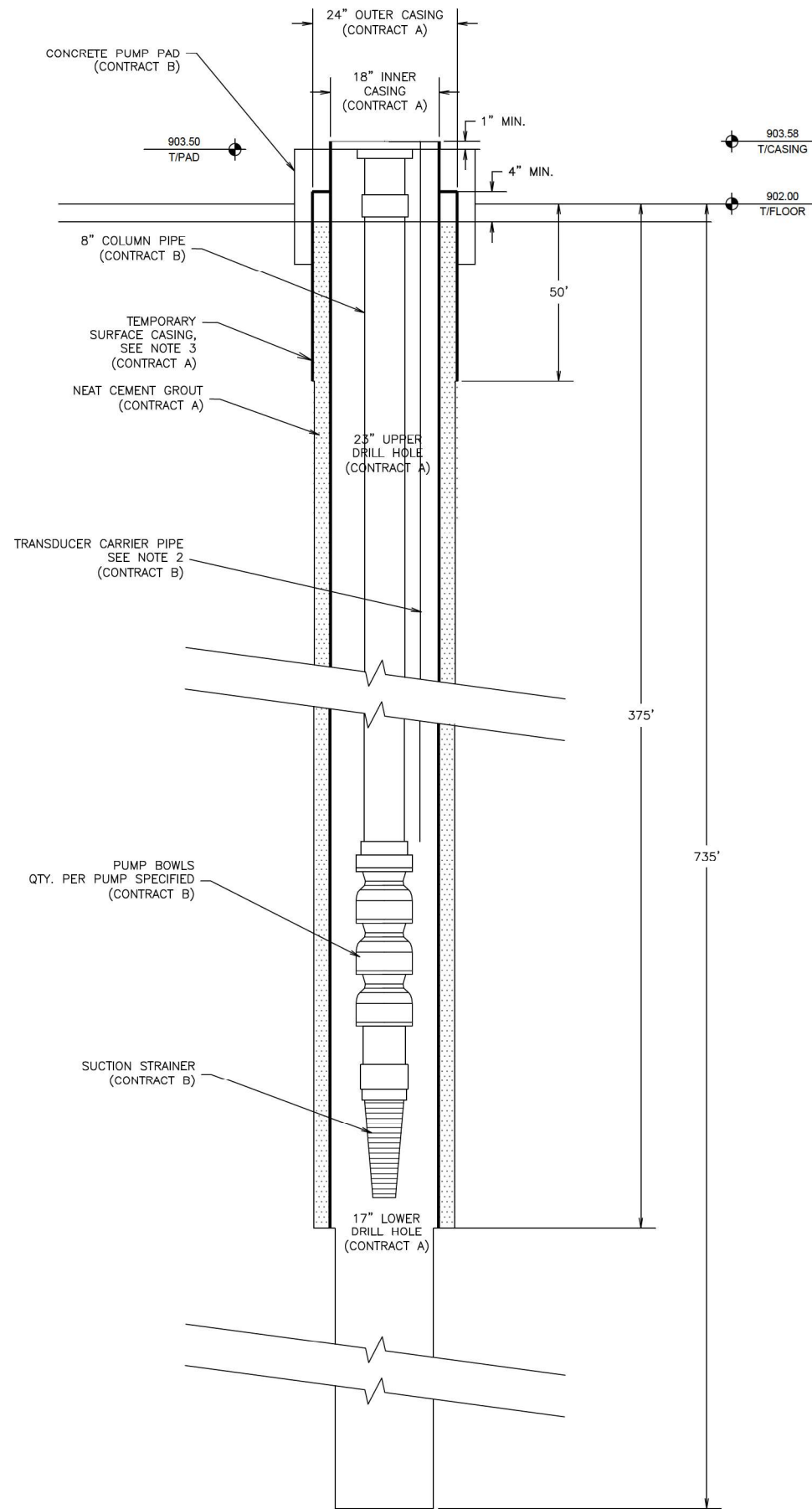
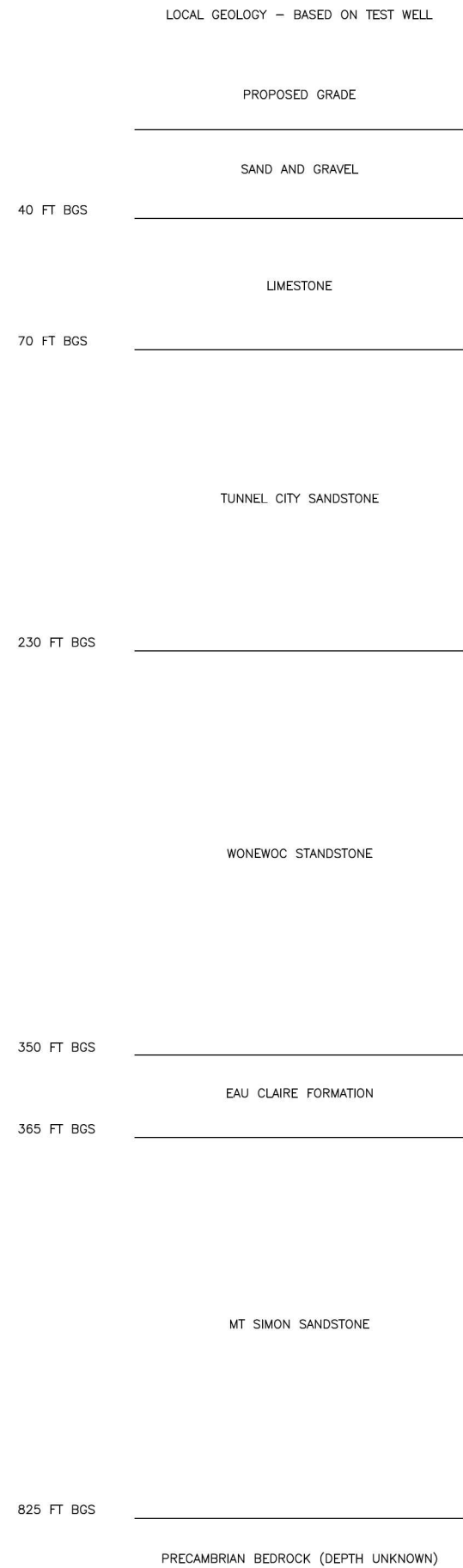
SCHEDULE C: Additive Bid Items

A-1	Open Borehole Blasting and Redevelopment	1 lump sum	(\$ _____)	\$ _____
A-2	Second Test Pumping Event	1 lump sum	(\$ _____)	\$ _____

SCHEDULE D: Alternate Bid Items

CONTRACTORS ALTERNATE BID (Not required to be filled in)

Contractor may submit an Alternate for items that would be beneficial to the Owner. Any alternate submitted must meet the requirements and intentions of the project specifications, the Engineer will make that determination.

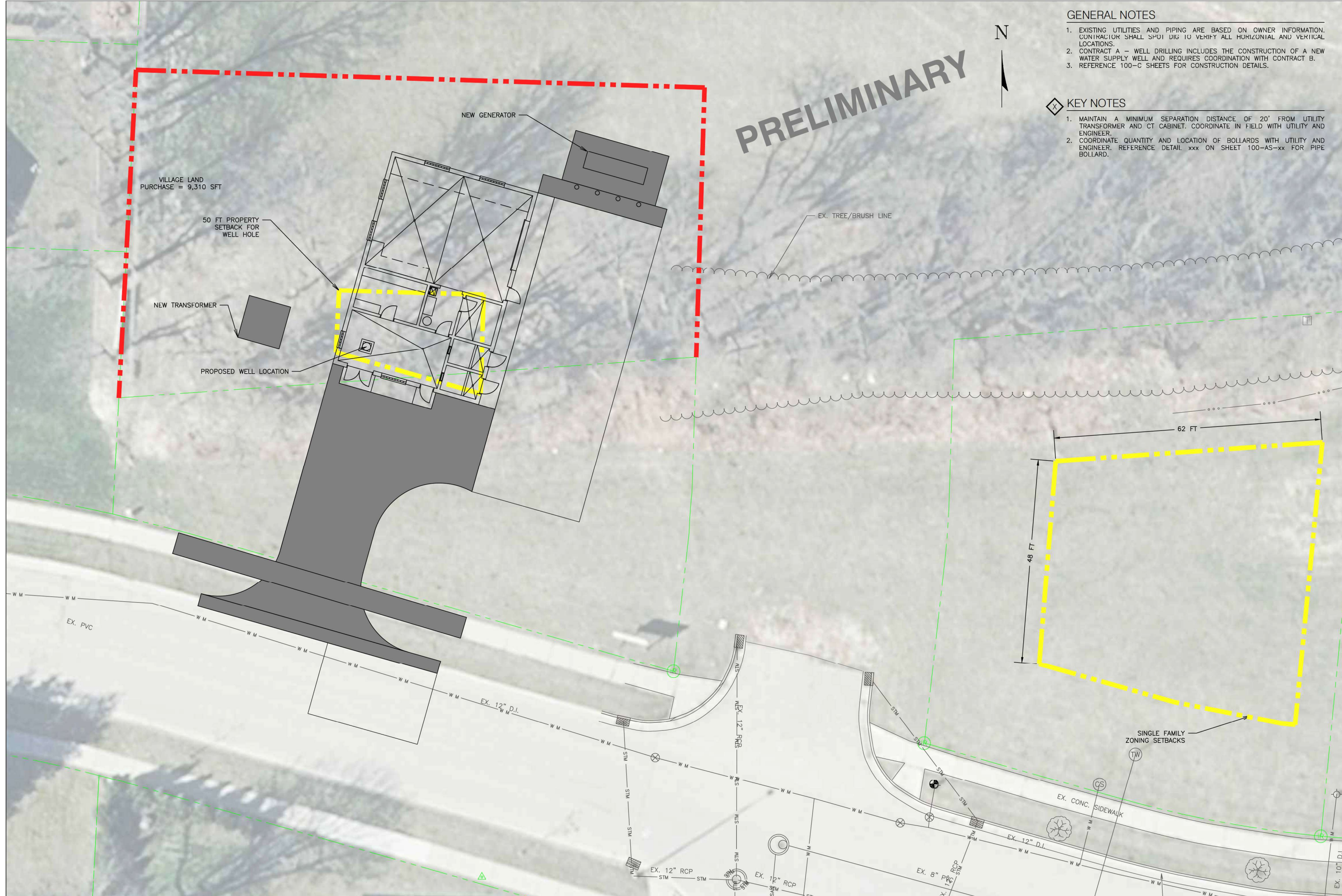


NEW WELL CONSTRUCTION
CONTRACT A

GENERAL NOTES

1. CONTRACT A - WELL DRILLING INCLUDES THE CONSTRUCTION OF A NEW WATER SUPPLY WELL AND REQUIRES COORDINATION WITH CONTRACT B.
2. CONTRACT B - INSTALL WELL LEVEL TRANSDUCER WITHIN 1-1/2" PVC OR POLYETHYLENE ENCLOSURE CONDUIT TO THE TOP OF THE PUMP BOWLS AND ATTACH CONDUIT TO COLUMN PIPE. EXTEND PIPE THROUGH PUMP DISCHARGE HEAD BUT DO NOT EXTEND PIPE ABOVE PUMP BASE PLATE. PROVIDE RECESSED TOP COVER.
3. CONTRACT A - THE DEPTH OF TEMPORARY OUTER SURFACE CASING SHALL BE AT THE DISCRETION OF THE DRILLER. THE CONTRACTOR SHALL GIVE A GOOD HONEST ATTEMPT AT PULLING THE OUTER SURFACE CASING, WHICH IS INTENDED TO BE TEMPORARY. IF THE OUTER CASING CANNOT BE REMOVED, THEN IT SHALL BE GROUTED IN PLACE PER NR 811 CODE REQUIREMENTS.

PROJECT NO.:	MC-220
DRAWING FILE:	WELL #5-M
DRAWN BY:	R.T.G.
CHECKED BY:	A.M.B.
DATE:	5-14-25
REVISIONS:	
SCALE:	N.T.S.
SHEET:	1



PRELIMINARY



GENERAL NOTES

1. EXISTING UTILITIES AND PIPING ARE BASED ON OWNER INFORMATION. CONTRACTOR SHALL SPOT DIG TO VERIFY ALL HORIZONTAL AND VERTICAL LOCATIONS.
2. CONTRACT A - WELL DRILLING INCLUDES THE CONSTRUCTION OF A NEW WATER SUPPLY WELL AND REQUIRES COORDINATION WITH CONTRACT B.
3. REFERENCE 100-C SHEETS FOR CONSTRUCTION DETAILS.

KEY NOTES

1. MAINTAIN A MINIMUM SEPARATION DISTANCE OF 20' FROM UTILITY TRANSFORMER AND CT CABINET. COORDINATE IN FIELD WITH UTILITY AND ENGINEER.
2. COORDINATE QUANTITY AND LOCATION OF BOLLARDS WITH UTILITY AND ENGINEER. REFERENCE DETAIL xxx ON SHEET 100-AS-xx FOR PIPE BOLLARD.

6264 Nesbitt Road
Madison, WI 53719
(608) 273-3350
www.tceengineers.net

tc
TOWN & COUNTRY
ENGINEERING, INC.

SITE LOCATION PLAN

2025 WELL HOUSE #5 DESIGN
Village of McFarland, Wisconsin

PROJECT NO.:	MC-220
DRAWING FILE:	MC 220 BASE.DWG
DRAWN BY:	R.T.G.
CHECKED BY:	XXX
DATE:	5-27-25
REVISIONS:	
SCALE:	
	0 5 10 20
SHEET:	03-C-02

Water Well No. 5 - Construction and Funding Timeline
Updated 7/25/2025

Schedule Item	Duration (Days)	Date(s)	Comments
ITA Submittal		October 31, 2023	
Well Site Investigation Submittal		January 16, 2024	Approved 3/18/24
Test Well Installation		Fall 2024	Done, though final results were not in until Jan 2025
Preliminary Design Preparation		Winter/Spring 2025	
DNR Well Drilling Submittal		May 27, 2025	Approved 6/14/25
PSC Construction Authorization Submittal		June 4, 2025	
SDWLP Loan Application		June 30, 2025	
DNR Plan and Spec Submittal - Wellhouse		June 30, 2025	
Approval for Bidding - Well Drilling		September 22, 2025 (PW) October 14, 2025 (Board)	
Bidding - Well Drilling		October 16, 2025 (Publish) November 13, 2025 (Open Bids)	
Approval of Bid - Well Drilling		November 24, 2025 (PW) December 9, 2025 (Board)	
PSC Rate Case Submittal		October 15, 2025	
DNR Plan and Spec Approval - Wellhouse	90	September 28, 2025	
PSC Construction Authorization Approval	120	October 20, 2025	Per the Completeness Determination 7/22/25
Well Drilling and Test Pumping		Winter 2025/2026	Pending driller availability and PSC CA
Final Well Test Results		March, 2026 - April, 2026	
Approval for Bidding - Wellhouse		January 26, 2026 (PW) February 10, 2026 (Board)	
Project Bidding - Wellhouse		March 12, 2026 (Publish) April 9, 2026 (Open Bids)	
Approval of Bid - Wellhouse		April 27, 2026 (PW) April 28, 2026 (Board)	
Executed Wellhouse Contracts		May 15, 2026	
May 31, 2026 Float	5/31/2026	16	
PSC Rate Case Complete	180	April 13, 2026	
Start Wellhouse Construction		June 1, 2026	Pending contractor availability
SDWLP Loan Closing		August, 2026 - September, 2026	
First Interest Payment Due		November 1, 2026	
End Construction - Well in Service	540	November 23, 2027	(18-24 Mo)
Update Wellhead Protection Plan		Winter/Spring 2027	
First Principal Payment Due		May 1, 2028	


McFarland
SUMMARY SHEET

MEETING DATE: Wednesday, September 17, 2025

SECTION: Business

DEPARTMENT: Community Development

CONTACT: Andrew Bremer, Comm & Eco Dev Director

AGENDA ITEM: Discuss and action to make a recommendation to the Village Board regarding the Final Plat for Sperle Corners submitted by Lakestone Properties for a 147-unit residential subdivision located at parcel 0610-024-9691-1.

PREVIOUS ACTION:

May 20, 2025 - Plan Commission held public hearing on request for rezone and preliminary plat review.

June 17, 2025 - Plan Commission recommended approval of rezone and preliminary plat review of Sperle Corners.

June 24, 2025 - Village Board approves of rezone and preliminary plat review of Sperle Corners.

September 16, 2025 - Plan Commission public hearing on the Final Plat and Phase 1 Detailed Plan.

ISSUE SUMMARY:

Lakestone Properties is requesting approval of a Final Plat for parcel 0610-024-9691-1 at the northwest intersection of Elvehjem Road and County Hwy AB, to be named Sperle Corners, for a proposed 147-unit residential subdivision. The Preliminary Plat was approved by the Village Board at the June 24, 2025 meeting. The proposed plat will include 18 residential Lots and 2 public Outlots. The proposed plat includes a mix of 2-unit, 4-unit, multifamily buildings, dedicated stormwater (Outlot 1) and parkland (Outlot 2). Lots 3-16 each are designed for zero lot line duplex buildings (14 total units), Lots 1, 2, and 17 each include four-plex buildings (16 total units), and Lot 18 includes two 40-unit multifamily apartments and one 37-unit apartment building (117 total units). Phase 1 construction activities will include Building #1, a 40-unit apartment building on Lot 18 (western building), Devil's Lake Way street and utility construction, extension of public water main along Elvehjem Road to Devil's Lake Way, two stormwater retention systems, and mass grading on the property.

Review Procedures for Final Plat

Per Sec. 56-38(b), *The Plan Commission shall examine the Final Plat as to its conformance with the approved Preliminary Plat, any conditions of approval of the Preliminary Plat, this Chapter and all applicable ordinances, rules, regulations, comprehensive plans, and compressive plan components, which may affect it and shall recommend approval, conditional approval or rejection of the Plat to the Village Board.* Although not required under the Village's Subdivision Ordinance, it is also customary for the Public Works and Utilities Committee to make recommendations to the Village Board and Plan Commission on land development and



redevelopment proposals to the extent they affect public utilities or other public facilities. The Public Works and Utilities Committee will review the Final Plat at their September 17 meeting.

Department Comments

Included in the packet is a staff report from the Village Engineer regarding recommended conditions of approval for the Final Plat, Street and Utility Plan, and Stormwater Management Plan. The packet also includes a staff report from the Village Fire Chief. Noting that it is the intent of the developer to restrict the south and west side of Devil's Lake Way for no on-street parking based on the width of the street as recommended in their [Traffic Impact Analysis Report](#).

The Village Engineer and Fire Chief are recommending the developer submit a plan sheet to illustrate the fire department access plan and on-street parking restrictions to confirm acceptable apparatus maneuver along the curve of Devil's Lake Way prior to the October 21st Plan Commission meeting.

In addition to addressing the Village Engineer and Fire Chief review comments, the prior conditions of approval for the Preliminary Plat included:

1. *Lakestone to include a note on the Final Plat noting the grading and development restrictions in the 75' wetland setback area. This condition has been met.*
2. *Lakestone shall have 24 months after the date of approval of the Preliminary Plat to file the Final Plat for review and approval by the Village Board, otherwise the Preliminary Plat will be considered void unless an extension is requested in writing and granted by the Village prior to the 24 month termination date. The condition has been met.*
3. *Concurrent with the Final Plat, review and approval of a development agreement between Lakestone and the Village. Sec. 56-104 of the Subdivision Code also requires the subdivider to enter into a development agreement with the Village to furnish and construct the proposed improvements in accordance with the final approved plans and specifications. Included in the packet is a draft copy of the development agreement, which is similar to the agreement utilized for Rosewood Fields. The development agreement is still under review by Village staff, Village Attorney, and Lakestone. A final copy will be provided prior to approval of the final plat.*

Public Comments

The Department did not receive any public comments prior to the publication of this packet.

Next Steps

Additional planned meetings are highlighted below. Village staff will work with the Developer on additional plan edits to address initial staff comments.

- October 21 Plan Commission meeting. Recommendation on Final Plat, and approval of Detailed Plan for Phase 1 of Lot 18.
- October 28 Village Board meeting. Approval of Final Plat and Development Agreement.

FINANCIAL/BUDGET IMPACT:

The developer shall be responsible for the costs for the street and utility improvements for the proposed plat in accordance with the development agreement and Village ordinances.



VILLAGE PLAN REFERENCE:

Comprehensive Plan, 2017

The Village Comprehensive Plan Future Land Use Map identifies the proposed development site for future "Neighborhood" uses and wetlands. Page 33 of Volume 2, describes that *areas planned for "Neighborhood" development include a range of housing choices compatible with the Village's current and desired character are permitted, along with parks and smaller-scale institutional uses like senior housing and churches....see the Village's separate East Side Neighborhood Plan for further conceptual guidance for future land uses in this area.*" Figure 4.1 lists the Typical Implementing Zoning Districts in Neighborhood areas include R-1 Residence District, R-2 Single- and Two-Family Residence, R-3 General Residence, R-E Elderly Residence, PD, PD-I Planned Development. The Applicant's approved Planned Unit Development General Plan includes a range of housing choices and a public park.

East Side Plan, 2023

The 2023 East Side Master Plan Concept ([Chapter 4](#)) identifies multiple uses for the property (see image below). The uses include Low Density Residential, Medium Density Residential, Stormwater/Conservation, and Wetlands. The following land use category descriptions are as provided. As stated, *"these policies shall be enforceable through the generalized future land map in the Village's Comprehensive Plan (Chapter 4, Page 65)."*

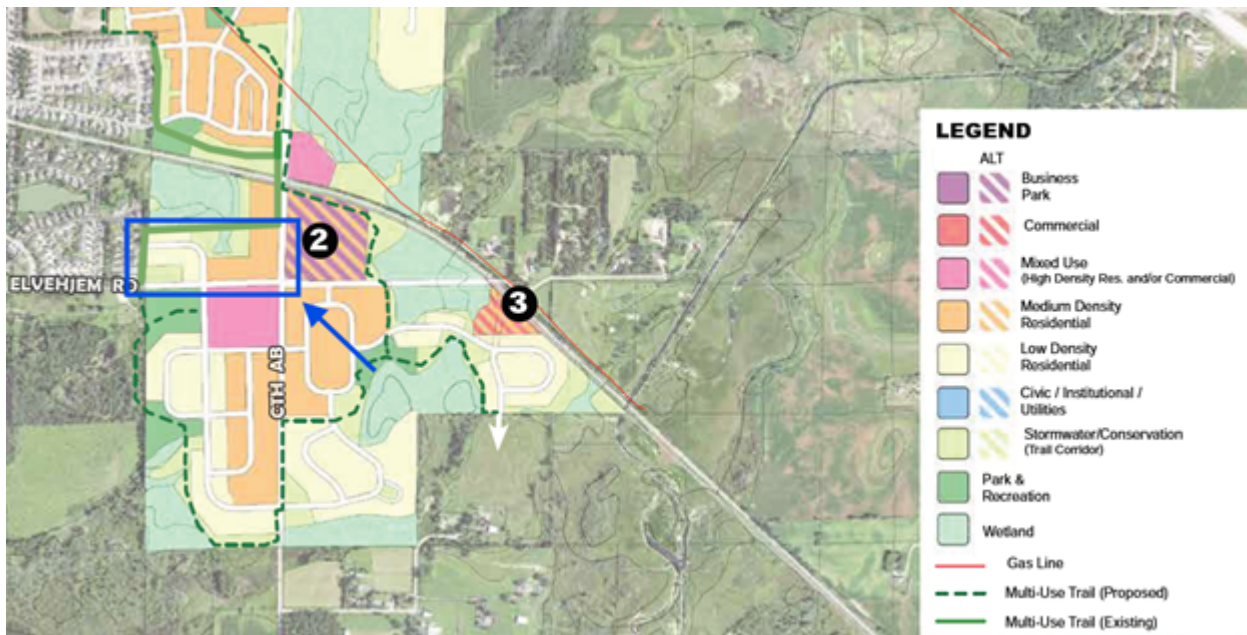
- Stormwater & Conservation (SC) *"areas include conservation areas, cemeteries, stormwater management, greenways, major public trails, and land recommendations for preservation."* The location of wetlands shown in the 2023 East Side Plan was based on available WDNR aerial data. A wetland delineation was completed for the property in October 2022 that showed considerably fewer wetland areas than the WDNR aerial data. The Village requires a minimum 75-foot building setback from wetland boundaries. The Final Plat, Street and Utility Plan and Stormwater Management Plan includes additional detail on wetland and stormwater management areas.
- Low Density Residential (LDR) *primarily consists of single-unit detached homes with strategically located 2-unit attached, 3-/4-unit buildings (triple and fourplex, respectively). Typical net densities should average 2-5 units per acre (throughout the entire neighborhood plan), with individual developments up to 10 units per acre. Three and 4-unit structures are most appropriate as a transition use when facing or next to more intensive institutional, residential or commercial uses. Lots 1-17 are generally aligned with the area mapped as LDR in the 2023 East Side Plan. These lots have net densities ranging from 2.0-8.9 dwelling units per acre with a total net density of 6.1 dwelling units per acre, below the maximum 10 units per acre for individual developments. The 2023 East Side Plan does not mandate that all areas mapped LDR must include single-family dwelling units. The context of each development area should be considered as well. While the Final Plat does not include any single-family homes, it does continue the existing pattern of duplex developments to the west before transitioning to 4-unit buildings and then apartment buildings. In addition, the existing duplex residential buildings on Perrot Place are more than 150 feet from the proposed building footprints on Lots 8 and 9. Physical barriers from the existing bike and pedestrian path, existing tree line, and wetlands, create added separation between the*

existing residential homes and the proposed dwelling units.

- Medium Density Residential (MDR) *"includes detached single-unit homes and attached housing units such as duplexes, triplexes, townhomes, small and mid-sized multi-unit buildings. Developments in MDR areas should provide the greatest diversity of housing unit types, forms, and prices. Typical net densities should average 5-15 units per acre (throughout the entire neighborhood plan), with individual developments up to 20 dwelling units/acre...densities greater than 20 DU/AC for legally restricted affordable housing units."* The net density of Lot 18 is 15.9 DU/AC, below the maximum 20 units per acre for individual developments.

Page 62 of Chapter 4 of the East Side Plan states that *"while the general pattern of land uses and major streets shown in this concept should be reflected in actual development, it is recognized that more detailed elements within the concept, such as the locations of minor streets, location/sizing of stormwater management areas, precise boundaries of land uses, or the specific dimensions of blocks, are only concepts."* Along the west lot line, the concept includes similar scale housing types to the existing neighborhood to the west, transitioning to larger residential type buildings with higher unit counts to the east along CTH AB, consistent with the intent of the 2023 East Side Plan. In Staff's opinion, the Final Plat provides a consistent layout with the intent of the Master Plan Concept from the 2023 East Side Plan and is consistent with the prior approved Preliminary Plat.

East Side Master Plan Future Land Use Map.



ORDINANCE REFERENCE:

[Chapter 56 Subdivisions](#)

BOARD, COMMISSION OR COMMITTEE RECOMMENDATION:



Recommended motion:

Motion, second, to recommend to the Village Board approval of the Final Plat for Sperle Corners with the following conditions of approval:

- 1. Applicant to address those comments raised in the Fire Chief staff report dated September 5, 2025.*
- 2. Applicant to address those comments raised in the Village Engineer's staff report dated September 8, 2025.*
- 3. Applicant to revise the Street and Utility Plans to include stubbing a water lateral to the front property line of Outlot 2 for future public park use.*

ATTACHMENTS:

1. 9.16.25 - Sperle Corners - final plat - Lakestone - newspaper
2. Sperle Corners Final Plat and Street and Utility Plan_08.05.25(rev 08.28.25)
3. Development Agreement for Sperle Corners_09.09.25
4. Sperle Corners Stormwater Submittal (8-18-2025)
5. Sperle Corners PUD - Village Engineer Letter of Review_09.08.2025
6. Sperle Corners PUD Detailed Plan - Fire Chief Letter of Review_09.05.2025

Please publish in the
Leader Independent on
August 28, 2025 and September 4, 2025

**VILLAGE OF MCFARLAND
NOTICE OF PUBLIC HEARING
BEFORE THE PLAN COMMISSION**

NOTICE IS HEREBY GIVEN that there will be a public hearing before the Plan Commission on Tuesday, September 16, 2025 at 7:00 p.m. in the Community Room of the Municipal Center, 5915 Milwaukee St., McFarland, Wisconsin, at which time interested parties and citizens shall have an opportunity to be heard concerning the following:

A request by Lakestone Properties and Management LLC for review and possible recommendation to the Village Board for approval of a Final Plat for Sperle Corners Subdivision, lands located at the northwest corner of Elvehjem Road and County Highway AB, Parcel #154/0610-024-9691-1, Village of McFarland, WI.

A complete copy of the applicant's application is available for review online at www.mcfarland.wi.us/pendingrequests or at the Village of McFarland Municipal Center, Community & Economic Development Department, 5915 Milwaukee Street, McFarland, WI 53558 (Monday-Friday, 8:00 a.m. to 4:30 p.m.).

Residents wishing to attend the meeting can do so in-person at the Municipal Center or via Zoom by visiting <https://us02web.zoom.us/j/85755749643> or Telephone: Dial (for higher quality, dial a number based on your current location): US: +1 (312) 626-6799 Webinar ID: 857 5574 9643. Please Note: Virtual attendance is offered as a convenience, but technical difficulties beyond the Village's control may prevent or limit its availability at any meeting. The public is encouraged to attend the meeting in person to assure full access to the proceedings.

If you cannot attend the meeting, you may submit your written comments to the Plan Commission by email to community.development@mcfarland.wi.us or by mail to Community Development Department, Village of McFarland, P.O. Box 110, McFarland, WI 53558-0110. Submission must be received no later than the Wednesday prior to the meeting date to be included in the packet.

Plan Commission Application – 2025

~Application must be completed in full~

Applicant	Lakestone Properties and Management, LLC	Applicant's Agent	Brett Riemen
Property Owner (if different)	Diana Sperle & Mary Teppo	Name	
Address		Address	5910 Main St, McFarland WI 53558
Email		Email	brett@lakestoneproperties.com
Phone #		Phone #	608-838-1800

Parcel No(s). _____ **Type of Proposal – Please check boxes below that apply**

Requires Public Hearing (Class One)	FEES	Requires Public Hearing (Class Two)	FEES	Public Hearing Not required	FEES
<input type="checkbox"/> Preliminary Plat	\$500+AF	<input type="checkbox"/> Conditional Use	\$425+F	<input type="checkbox"/> Annexation	At cost
<input type="checkbox"/> Preliminary Plat (reapplication)	\$500+BF	<input checked="" type="checkbox"/> Rezoning (map)	\$475+F	<input checked="" type="checkbox"/> Dev. Agreement Including Addendums	\$400+F
<input type="checkbox"/> Certified Survey Map	\$300+FG	<input type="checkbox"/> Zoning Amendment (text)	\$475+F	<input checked="" type="checkbox"/> Final Plat	\$500+CF
<input type="checkbox"/> Condominium	\$300+EF	<input type="checkbox"/> USA/MMSD Annexation	At cost	<input type="checkbox"/> Final Plat (reapplication)	\$400+DF
<input type="checkbox"/> Comprehensive Plan Amendment	\$500+F			<input checked="" type="checkbox"/> Site/Design Review	\$400+F
+ = Plus publication and notification charges A = Plus \$50.00 per lot B = Any preliminary plat which has previously been reviewed/revised within the last 36 months C = Plus \$50.00 for each lot within the final plat D = Any final plat which has been previously reviewed/revised within the last 36 months E = Plus \$40.00 for each unit shown F = Plus actual legal, engineering and financial consulting costs incurred by the Village G = Plus \$25.00 per lot for two or more lots.				Escrow Deposits (covers costs for outside consultants; e.g., engineers, attorneys, etc.) <input type="checkbox"/> R-E, R-3 & PD (up to 50 acres) \$5,000 <input type="checkbox"/> R-E, R-3 & PD (greater than 50 acres) \$10,000 <input type="checkbox"/> Site/Design Review (less than 2,000 sq. ft.) \$1,000 <input type="checkbox"/> Site/Design Review (2,000 sq. ft. or more) \$2,000 <input checked="" type="checkbox"/> All Plats including condominiums \$5,000	

Nature of the development proposal: Must provide address of proposed development, legal description, current zoning and description of proposal/request. (Attach additional papers if needed)

Development of Lot 18, Phase 1 Apartment building, associated drive aisles and parking lots in conformance with the approved planned development.

PLEASE READ AND SIGN AT THE BOTTOM ON THE REVERSE SIDE

Has this specific proposal been previously discussed or acted upon by the Plan Commission?

YES NO (If "yes" state the nature and the date(s) of the previous application.)

Planned Development approved June 6, 2025

Submittal Requirements: One (1) hard copy 8 ½ x 11, except site plan sheets which should be 11 x 17, and one (1) electronic (pdf) copy. A completed in full application can be submitted to the Community Development Department (5915 Milwaukee Street, McFarland, WI 53558, community.development@mcfarland.wi.gov), with fees included with submittal **by *NOON of the deadline day**, according to the schedule below.

Village of McFarland Plan Commission 2025 Schedule

The Village of McFarland Plan Commission normally conducts meetings on the third Tuesday of each month, unless otherwise noted below at 7:00 p.m. at the McFarland Municipal Center in the Community Room. To ensure adequate time for staff review, and publication of legal notices, potential agenda item materials are required to be submitted per the schedule listed below.

<u>*Submittal Deadline Noon on:</u>	<u>For Scheduled 2025 Meeting date of:</u>
December 10 (2024)-----	January 21
January 7-----	February 18
February 4-----	March 18
March 4-----	April 15
April 8-----	May 20
May 5-----	June 17
June 3-----	July 15
July 8-----	August 19
August 5-----	September 16
September 9-----	October 21
October 7-----	November 18
November 4-----	December 16
December 9-----	January 20, 2026

Applications requiring a public hearing will be scheduled for a hearing according to the schedule above. If there is written or verbal public opposition submitted as part of the public hearing the Plan Commission will postpone action on the application to a subsequent meeting so that concerns can be analyzed if concerns can't be addressed during the hearing. If there is no public opposition and no unresolved issues by Village Staff or Plan Commission members, the Plan Commission may take action on the application at the same meeting as the public hearing. Applicants are encouraged to contact the Community & Economic Development Director for a pre-application meeting to review the project and submittal requirements prior to submitting an official application.

Acknowledgements:

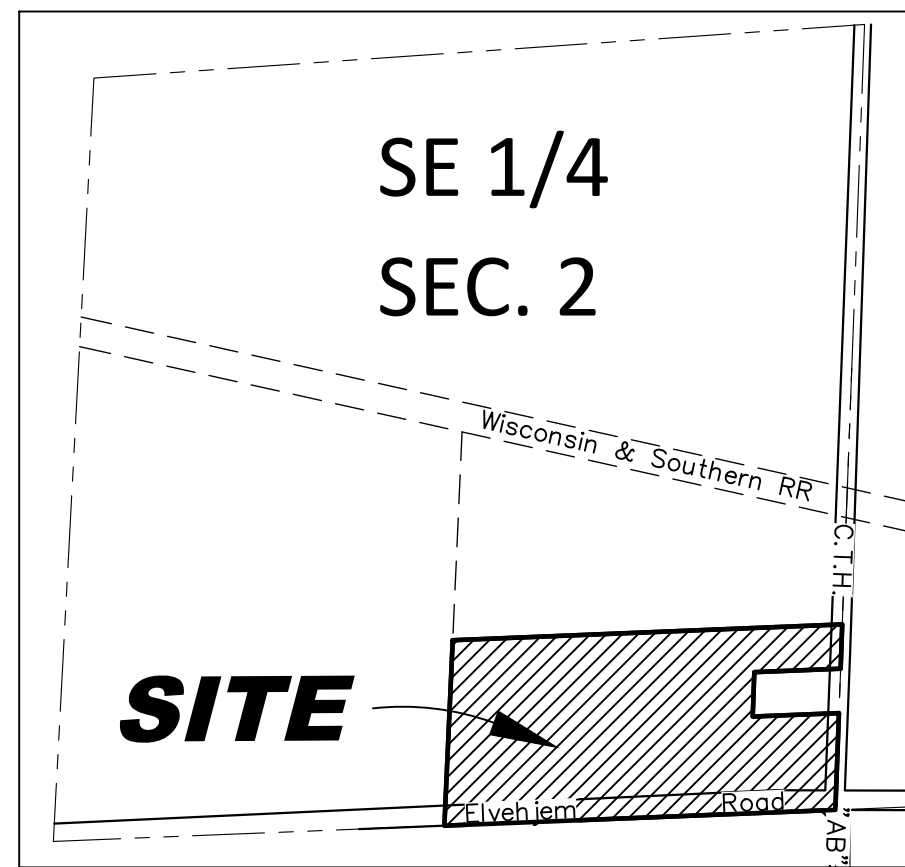
- I understand failure to provide required materials/information/fees by the submittal deadline can result in this application being withdrawn for consideration by the Plan Commission. Materials submitted for review after the submittal deadline date, or incomplete submittals, may be held over until the next scheduled meeting.
- I understand any fees not paid for (i.e. legal notices, mailings, consultant review costs, etc.) will require any permits to be withheld until all payments are made in full. In addition, all application fees are non-refundable.
- I understand Plan Commission applications requiring a Public Hearing may not be acted on the same night as the Public Hearing

X 
Signature of Applicant/Agent

8/5/25
Date

SPERLE CORNERS

Part of the SE 1/4 of the SE 1/4 of Section 2, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin
FINAL PLAT



Vicinity Map

Not to Scale

ENGINEER/SURVEYOR:

Ryan Quam, P.E.
 Matthew E. Hoglund, P.L.S.
 Quam Engineering, LLC
 4604 Siggelkow Road – Suite A
 McFarland, WI 53558
 Ph: (608) 838-7750

OWNER:

Diana Sperle & Mary Teppo
 6027 Canyon Parkway
 McFarland, WI 53558

SUBDIVIDER:

Lakestone Properties & Management, LLC
 c/o Brian Spanos
 5910 Main Street, Suite 1
 McFarland, WI 53558
 Ph: (608) 838-1800

SURVEYOR'S CERTIFICATE:

I, Matthew E. Hoglund, Professional Land Surveyor, do hereby certify to the best of my knowledge and belief:

That I have surveyed, divided, and mapped Sperle Corners, being a part of the Southeast one-quarter of the Southeast one-quarter of Section 2, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin, being more particularly described as follows:

BEGINNING at the Southeast Corner of said Section 2; thence, along the South line of said Southeast 1/4, South 87°41'38" West, 1321.53 feet to the Southwest corner of said Southeast 1/4 of the Southeast 1/4, said point also being the Southeast corner of the plat of Park View Estates, recorded in Volume 57 of Plats on Pages 782 through 785 as Document No. 3459436; thence, along the East line of said plat, North 02°34'49" East, 626.90 feet to the Southwest corner of Lot 3 of Certified Survey Map (CSM) No. 15493, recorded in Volume 111 of CSMs on Pages 284 through 286 as Document No. 5637506;

thence, along the South line of said CSM and its Easterly extension, North 87°40'27" East, 1316.58 feet to the Southeast corner of said CSM, lying on the East line of aforesaid Southeast one-quarter;

thence, along said East line, South 02°07'34" East, 149.72 feet to the Northeast corner of Lot 1 of CSM No. 1455, recorded in Volume 6 of CSMs on Page 144 as Document No. 1400799;

thence, along the North line of last said CSM, South 87°41'15" West, 291.58 feet to the Northwest corner of said Lot 1;

thence, along the West line of said Lot 1, South 02°07'34" West, 150.00 feet to the Southwest corner of said Lot 1;

thence, along the South line of said Lot 1, North 87°41'15" East, 291.58 feet to the Southeast corner of said Lot 1, lying on said East line of the Southeast one-quarter;

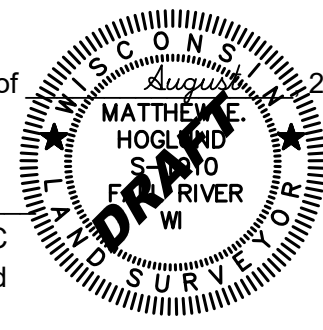
thence, along said East line, South 02°07'34" East, 327.23 feet to the **POINT OF BEGINNING**.

The above-described parcel contains 780,586 sq. feet or 17.9198 acres, more or less, and is **SUBJECT TO** easements for Public road right-of-way purposes for Elvehjem Road and County Trunk Highway "AB" and is **ALSO SUBJECT TO** all other matters of record and/or fact.

That I have made such survey, land division, and plat by the direction of Brian Spanos of _____, LLC, owner of said land. That such plat is a correct representation of all of the exterior boundaries of the land surveyed and the subdivision thereof made; that I have fully complied with the provisions of Chapter 236 of the Wisconsin State Statutes and Chapter 56 of the Village of McFarland Subdivision Ordinance in surveying, dividing, and mapping the same.

Dated this 28th day of August, 2025.

Quam Engineering, LLC
 By: Matthew E. Hoglund
 P.L.S. S-1910



VILLAGE TREASURER'S CERTIFICATE:

STATE OF WISCONSIN)
 COUNTY (DANE) SS

I, _____, being the duly appointed, qualified and acting Village Treasurer of the Village of McFarland, do hereby certify that in accordance with the records in my office, there are no unpaid taxes or unpaid special assessments as of _____ (date) on any of the land included in the plat of SPERLE CORNERS.

Date: _____

 Village Treasurer

COUNTY TREASURER'S CERTIFICATE:

STATE OF WISCONSIN)
 COUNTY (DANE) SS

I, Adam Gallagher, being the duly elected, qualified and acting treasurer of the County of Dane, do hereby certify that the records in my office show no unredeemed tax sales and no unpaid taxes or unpaid special assessments as of _____ (date) affecting the lands included in the plat of SPERLE CORNERS.

Date: _____
 Adam Gallagher - Treasurer

REGISTER OF DEEDS CERTIFICATE:

Received for recording this _____ day of _____, 20____, at _____ o'clock _____ M. and recorded in Volume _____ of Plats on Pages _____ as Document No. _____.

Kristi Chlebowski, Dane County Register of Deeds

OWNER'S CERTIFICATE:

_____, LLC, a Limited Liability Company duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said company caused the land described on this plat to be surveyed, divided, mapped, and dedicated as represented on this plat. _____, LLC does further certify that this plat is required by s.236.10 or s.236.12 to be submitted to the following for approval or objection:

- 1) Village of McFarland
- 2) Department of Administration

IN WITNESS WHEREOF, the said _____, LLC has caused these presents to be signed by _____, Member and _____, Member at _____, Wisconsin,

and its company seal to be hereunto affixed on this _____ day of _____, 20____.

In the presence of: _____

STATE OF WISCONSIN)
 COUNTY (DANE) SS

Personally came before me this _____ day of _____, 20____, and _____ of the above named Limited Liability Company, to me known to be the person(s) who executed the foregoing instrument, and to me known to be such _____ and _____ of said Limited Liability Company, and acknowledged that they executed the foregoing instrument as such officer as the deed of said company, by its authority.

(Notary Seal) _____ Notary Public, _____, Wisconsin

My commission expires _____.

NOTES:

1. Outlot 1 is dedicated to the Public for wetland preservation and stormwater management purposes to be owned & maintained by the the Village of McFarland.
2. Outlot 2 is dedicated to the Public for park and recreational purposes to be owned & maintained by the the Village of McFarland.
3. All streets will be dedicated to the Public to be owned & maintained by the Village of McFarland.
4. Current zoning of the property within this plat is A-1 Agricultural Transition, with portions also being in the Dane County Wetland District (inland & Shoreland) 75' buffer and Shoreland District (Secondary) 1000' buffer.
5. Proposed zoning for Lots 1-18 and Outlots 1 and 2 is PD - Planned Development.
6. Wetlands shown were digitized from the October 13, 2022 Wetland Delineation Report by Ruekert-Mielke.
7. Date of boundary field survey: February 6, 2025.
8. See Sheet 2 for Boundary Survey, Lot and easement details.
9. Utility easements set forth herein are for the use of public bodies and private quasi-public utilities having the right to serve this subdivision and for street lighting purposes. Utility easements shown are _____ wide from the _____, unless otherwise noted. No utility pole, pedestal or cable shall be placed so as to disturb any survey monument or obstruct vision along any lot or street line. The unauthorized disturbance of a survey monument is a violation of s.236.32 of Wisconsin Statutes.
10. The Cluster Mailbox Easement, over a part of Lot 2 as shown on Sheet 2 hereof, is for U.S. Postal Service approved, multiple gang, multi-user joint mailboxes. A Cluster Mailbox Easement Agreement will be recorded by separate instrument that will denote the specific lots benefiting from said easement and will set forth the requirements and restrictions for the installation, maintenance, repair and replacement of the cluster mailboxes and associated improvements.

CONSENT OF CORPORATE MORTGAGEE:

_____, a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, mortgagee of the above described land, does hereby consent to the surveying, dividing, mapping, and dedication of the land described on this plat, and does hereby consent to the above certificate of _____, LLC, owner.

IN WITNESS WHEREOF, the said _____ has caused these presents to be signed by _____, its _____, and _____, its _____, at _____, Wisconsin, and its corporate seal to be hereunto affixed on this _____ day of _____, 20____.

In the presence of:

_____ (Corporate Seal)

_____, Date: _____

By: _____ its _____

_____, Date: _____

By: _____ its _____

STATE OF WISCONSIN)
 COUNTY) SS

Personally came before me this _____ day of _____, 20____, and _____ of the above named corporation,

to me known to be the persons who executed the foregoing instrument, and to me known to be such _____ and _____ of said corporation, and acknowledged that they executed the foregoing instrument as such officers as the deed of said corporation, by its authority.

(Notary Seal) _____ Notary Public, _____, Wisconsin

My commission expires _____.

VILLAGE OF MCFARLAND APPROVAL CERTIFICATE:

Resolved that the plat of Sperle Corners, in the Village of McFarland, _____, LLC, owner, is hereby approved and dedications accepted by the Village Board.

Date: _____ Approved _____
 _____ Title:

I hereby certify that the foregoing is a copy of a Resolution adopted by the Village Board of the Village of McFarland.

Date: _____ Signed _____
 _____ Village Clerk

DRAFT

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.
 Certified _____, 20____
 Department of Administration



FINAL PLAT
 SPERLE CORNERS
 PROJECT NO. LS-03-19
 QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants

 www.quamengineering.com
 4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752

There are no objections to this plat with respect to Secs. 236.15, 236.16, 236.20 and 236.21(1) and (2), Wis. Stats. as provided by s. 236.12, Wis. Stats.

Certified _____, 20__

Department of Administration

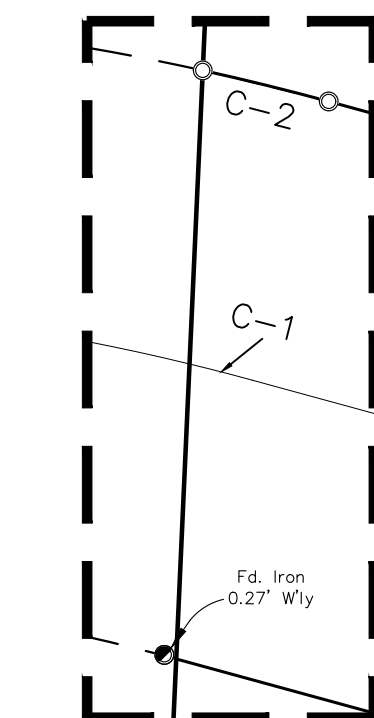


SPERLE CORNERS

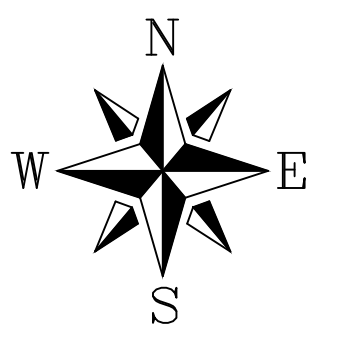
Part of the SE 1/4 of the SE 1/4 of Section 2, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin

FINAL PLAT

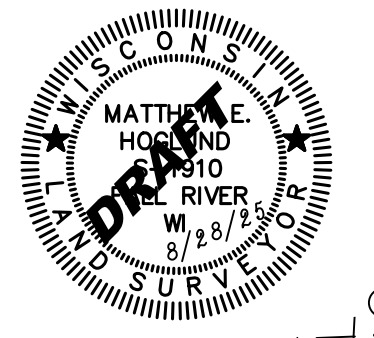
Total Area
780,586 Sq. Ft.
17.9198 Acres ±



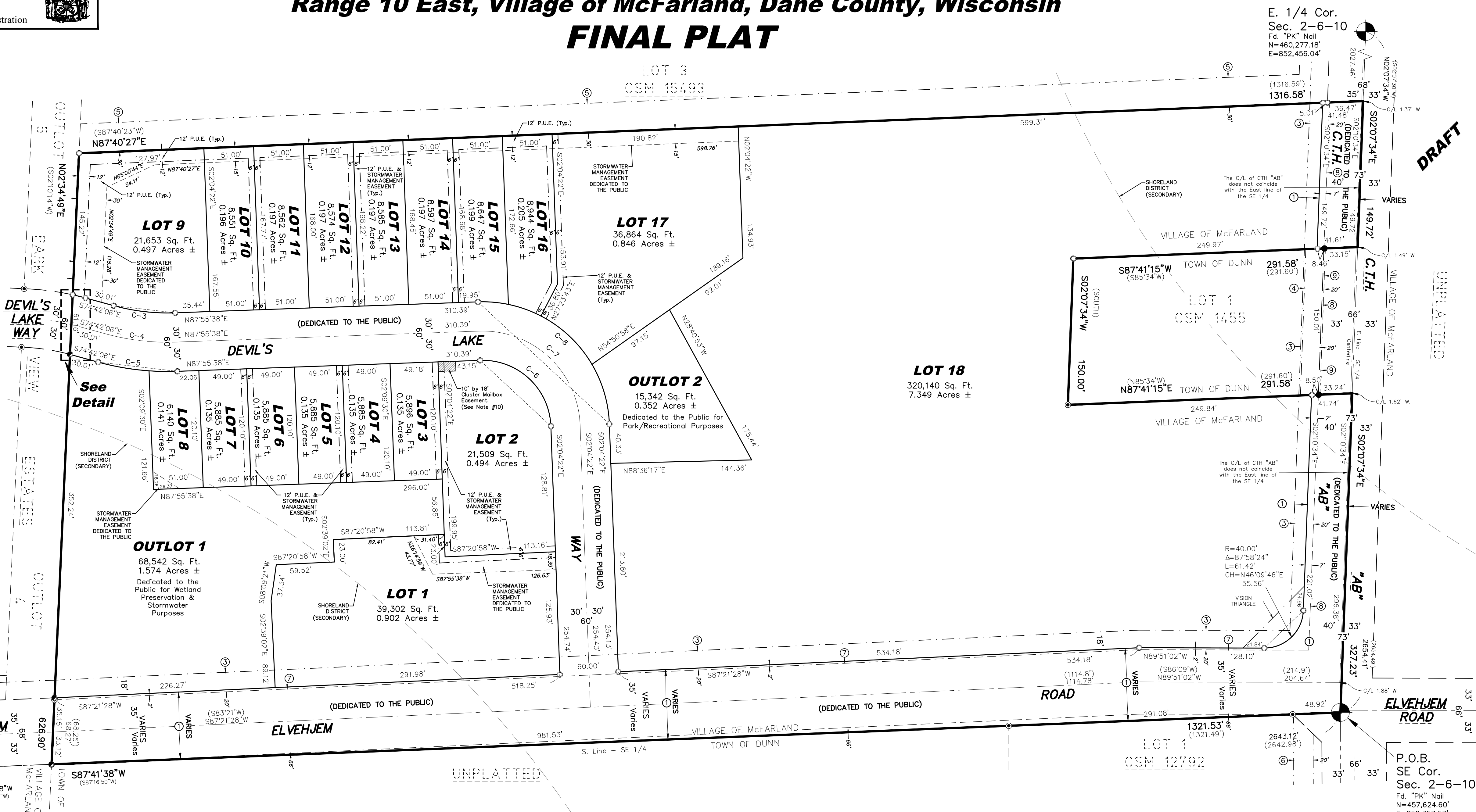
Detail
No Scale



Bearings are referenced to the South line of Section 2, which bears S87°41'38"W on the Dane County Coordinate System - NAD'83 (2011)



S. 1/4 Cor.
Sec. 2-6-10
Fd. Alum. Mon.
N=457,518.24'
E=849,716.59'



- EASEMENT/RIGHT-OF-WAY NOTES**
- Right-of-Way dedicated to the Public as noted hereon.
 - 25' Public Stormwater Easement per Park View Estates.
 - 20' WP&L Gas Main Easement per Vol. 378, P. 577 - Doc. No. 1052660.
 - 20' Utility Easement per CSM 1455.
 - 30' Public Sewer, Water and Bike Path Easement per CSM 15493.
 - 20' WP&L Gas Main Easement per Vol. 397, P. 330 - Doc. No. 1082351.
 - 66' Wide Conveyance of Lands for Highway Purposes to the Town of Dunn per Doc. 1008944 & Dane County Hwy. Survey Proj. No. 61-14.
 - West Line of Conveyance of Lands for Highway Purposes to the Town of Dunn per Doc. 831820 & Survey Plat Map No. 249 by Alex Ely, Dane County Surveyor, dated March 26, 1952.
 - CSM 1455 depicted W. R/W CTH "AB" 33' W. of Section Line vs. prior Doc. 831820 & Survey Plat Map No. 249 used hereon.

DRAFT

- LEGEND**
- 3/4" Rebar Found
 - 1-1/4" Iron Rebar Found
 - 1" Iron Pipe Found (unless noted)
 - 1-1/4" by 18" Iron Rebar Set Weighing 4.30 lbs./ft.
 - All other Lot and Outlot Corners are Set 3/4" by 18" Iron Rebar Weighing 1.50 lbs./ft. (43.12')
 - Record Dimensions (if different) Boundary Lines per this Survey
 - Deed/Survey Line of Record
 - Existing R/W Line
 - Sectional Subdivision Line
 - Existing Easement Line
 - Lot or R/W Line
 - Centerline
 - Public Utility & Stormwater Management Easement (PUE) Dedicated Hereon (12' wide unless noted)
 - Storm Sewer/Stormwater Management Easement Dedicated Hereon

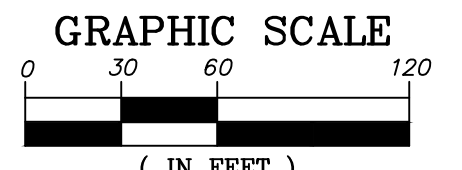
CURVE DATA TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD	TANGENT BEARINGS
C1	240.00'	01°36'50"	6.76'	S75°30'31"E - 6.76'	S76°18'56"E (on map)
C2	270.00'	02°51'39"	13.48'	S76°07'56"E - 13.48'	S77°33'45"E (on map)
C3	210.00'	17°22'16"	63.67'	S83°23'14"E - 63.42'	(on map) (on map)
C4	240.00'	17°22'16"	72.76'	S83°23'14"E - 72.49'	(on map) (on map)
C5	270.00'	17°22'16"	81.86'	S83°23'14"E - 81.55'	(on map) (on map)
OUTLOT 1	11°13'00"	52.86'	S80°18'36"E - 52.77'	-	-
LOT 8	06°09'16"	29.00'	S88°59'44"E - 28.99'	-	-
C6	70.00'	90°00'00"	109.96'	S47°04'22"E - 99.00'	(on map) (on map)
C7	100.00'	90°00'00"	157.08'	S47°04'22"E - 141.42'	(on map) (on map)
C8	130.00'	90°00'00"	204.20'	S47°04'22"E - 183.85'	(on map) (on map)
LOT 15	13°49'15"	31.36'	S85°09'45"E - 31.28'	-	-
LOT 16	15°38'50"	35.50'	S70°25'42"E - 35.39'	-	-
LOT 27	32°08'46"	72.94'	S46°31'54"E - 71.98'	-	-
OUTLOT 2	28°23'09"	64.40'	S16°15'57"E - 63.75'	-	-

ENGINEER/SURVEYOR:
Ryan Quam, P.E.
Matthew E. Hoglund, P.L.S.
Quam Engineering, LLC
4604 Siggelkow Road - Suite A
McFarland, WI 53558
Ph: (608) 838-7750

OWNER:
Diana Sperle & Mary Teppo
6027 Canyon Parkway
McFarland, WI 53558

SUBDIVIDER:
Lakstone Properties & Management, LLC
c/o Brian Spanos
5910 Main Street, Suite 1
McFarland, WI 53558
Ph: (608) 838-1800



SEE SHEET 1 FOR NOTES & CERTIFICATES.
SEE SHEET 3 FOR WETLAND DETAILS.
SHEET 2 OF 3

FINAL PLAT
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DRAFT

UNPLATTED

UNPLATTED

SPERLE CORNERS

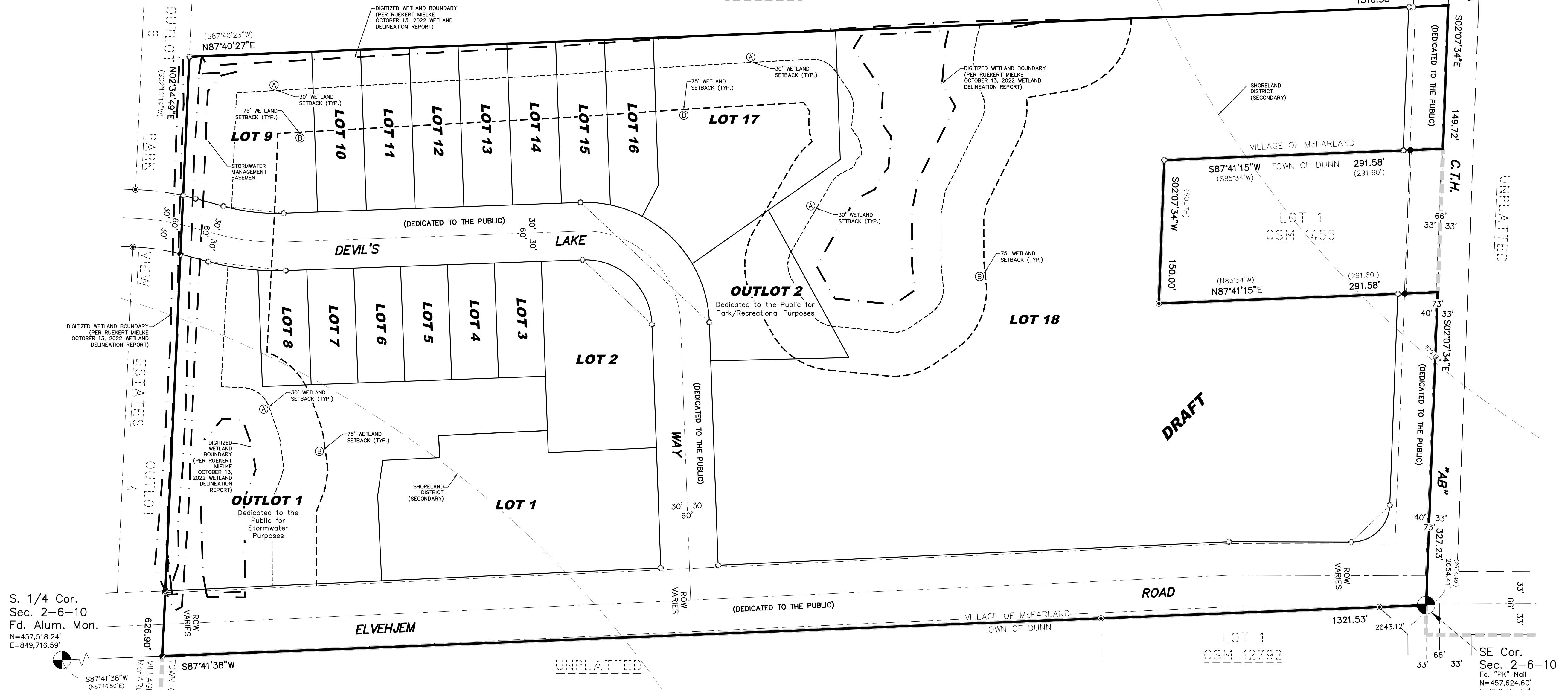
Part of the SE 1/4 of the SE 1/4 of Section 2, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin

FINAL PLAT WETLAND DETAILS

DRAFT

E. 1/4 Cor.
Sec. 2-6-10
Fd. "PK" Nail
N=460,277.18'
E=852,456.04'

LOT 3
CSM 15493



S. 1/4 Cor.
Sec. 2-6-10
Fd. Alum. Mon.
N=457,518.24'
E=849,716.59'

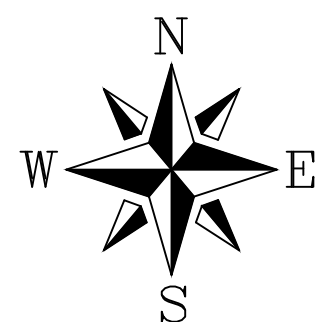
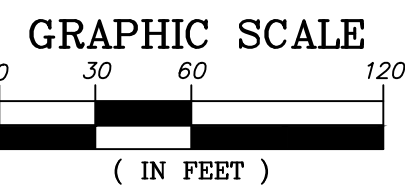
SE Cor.
Sec. 2-6-10
Fd. "PK" Nail
N=457,624.60'
E=852,357.57'

WETLAND SETBACK NOTES

- (A) There shall be no grading within 30' of the delineated wetland boundaries without the written approval of the Village of McFarland in consultation with CARPC.
- (B) There shall be no impervious surfaces within 75' of the delineated wetland boundaries without the written approval of the Village of McFarland in consultation with CARPC.

LEGEND

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- 1-1/4" Iron Rebar Found
- 1" Iron Pipe Found (unless noted)
- 1-1/4" by 18" Iron Rebar Set Weighing 4.30 lbs./ft.
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- Existing R/W Line
- Sectional Subdivision Line
- Wetland Line
- 75' Wetland Buffer
- Lot or R/W Line
- Centerline
- Municipal Boundary



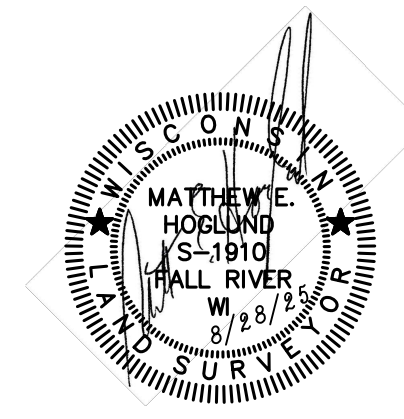
Bearings are referenced to the South line of the Southeast 1/4 of Section 2, which bears S87°41'38"W on the Dane County Coordinate System - NAD'83 (2011)

DRAFT

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Certified _____, 20____
Department of Administration

Total Area
780,586 Sq. Ft.
17.9198 Acres±

SEE SHEET 1 FOR NOTES & CERTIFICATES.
SEE SHEET 2 FOR BOUNDARY SURVEY.
LOT & EASEMENT DETAILS.

SHEET 3 OF 3

FINAL PLAT
SPERLE CORNERS
PROJECT NO. LS-03-19
QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants

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Phone (608) 838-7750; Fax (608) 838-7752

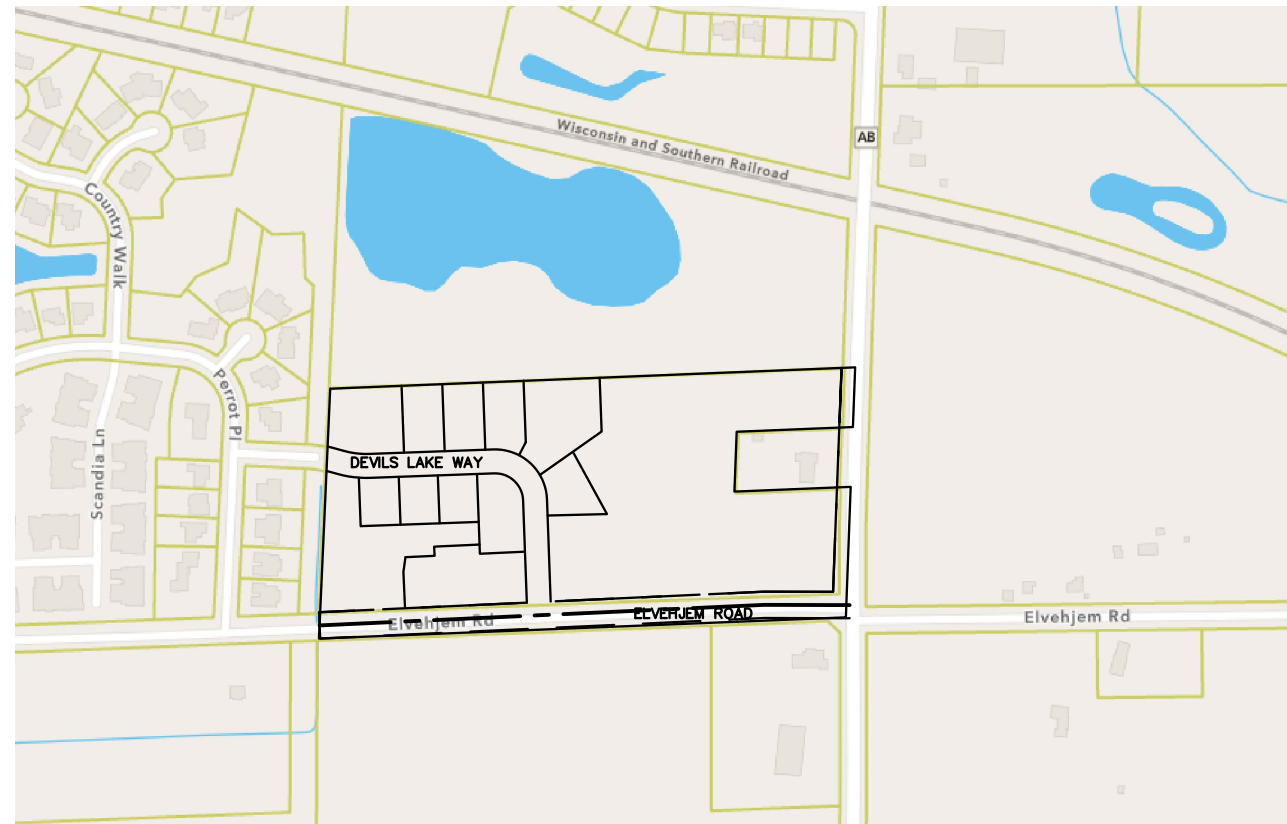
SPERLE CORNERS RESIDENTIAL SUBDIVISION STREET AND UTILITY CONSTRUCTION

VILLAGE OF MCFARLAND DANE COUNTY, WISCONSIN

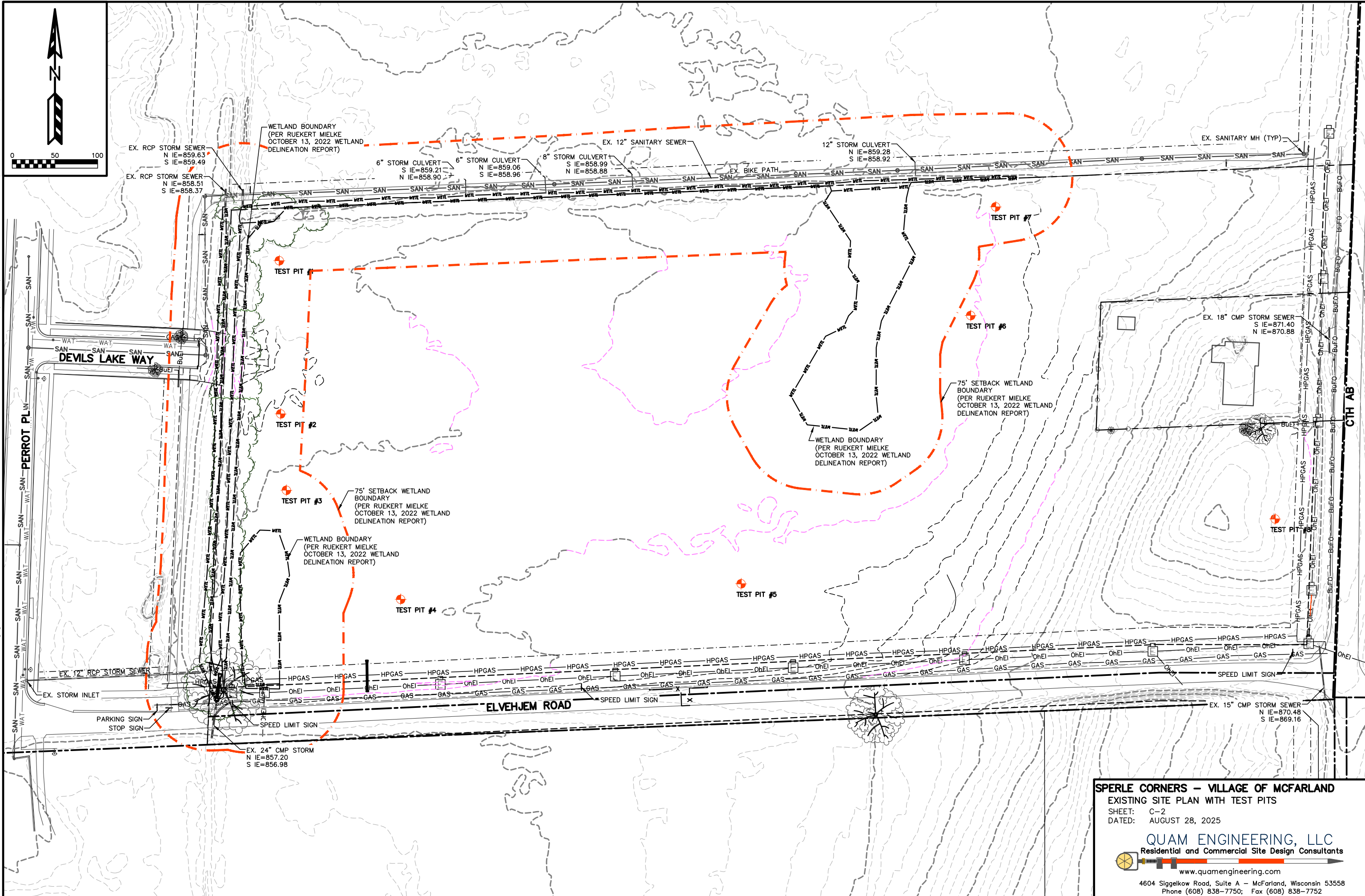
4604 Siggelkow Road, Suite A; McFarland, WI 53558 (608) 838-7750

QUAM ENGINEERING, LLC

INDEX		
SHEET	STATIONS	DESCRIPTION
1		COVER PAGE
2		EXISTING SITE PLAN
3		OVERALL GRADING AND STORM WATER MANAGEMENT PLAN
4		WEST POND PLAN
5		EAST POND PLAN
6	0+00 - 6+00	DEVILS LAKE WAY - PLAN AND PROFILE
7	6+00 - 10+00	DEVILS LAKE WAY - PLAN AND PROFILE
8	20+00 - 27+50	STORM SEWER - PLAN AND PROFILE
9	29+00 - 35+00	STORM SEWER - PLAN AND PROFILE
10	50+00 - 56+00	WATER MAIN - PLAN AND PROFILE
11	56+00 - 62+00	WATER MAIN - PLAN AND PROFILE
12		SIGN & LIGHTING PLAN
13		STREET TREE PLAN
14		DETAILS #1
15		DETAILS #2
16		DETAILS #3
17		DETAILS #4

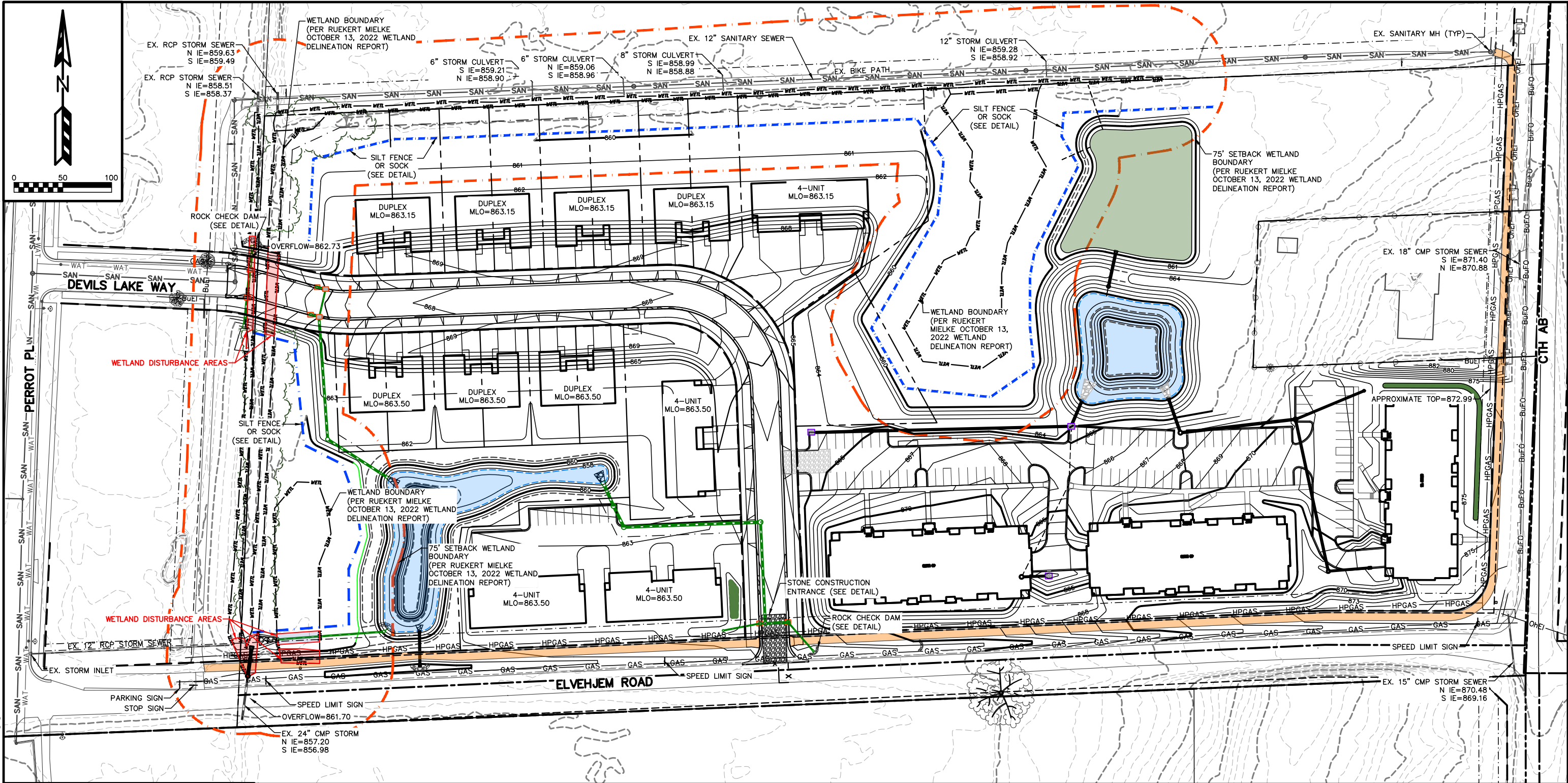


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SPERLE CORNERS - VILLAGE OF MCFARLAND
 EXISTING SITE PLAN WITH TEST PITS
 SHEET: C-2
 DATED: AUGUST 28, 2025

QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants
 www.quamengineering.com
 4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
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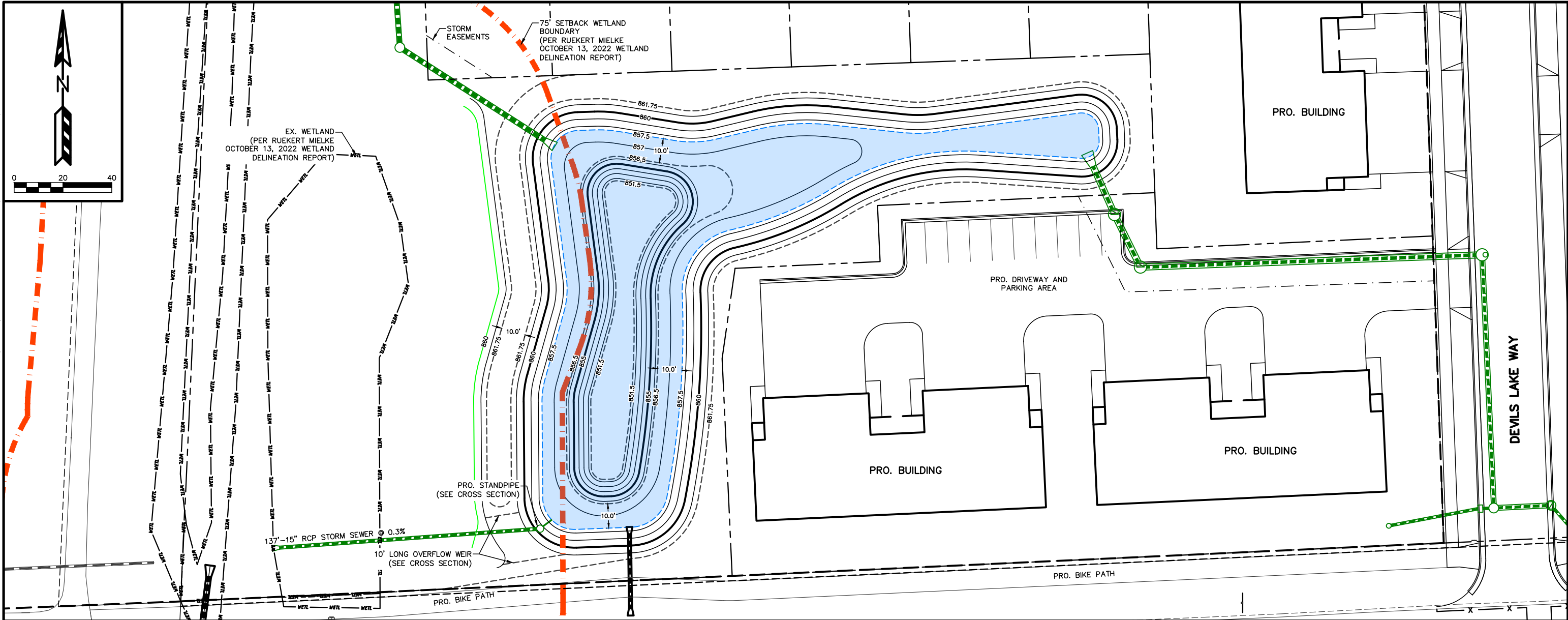


LEGEND FOR COMMON LINES:

--- 964	EXISTING MINOR CONTOUR
--- 965	EXISTING MAJOR CONTOUR
--- 964	PROPOSED MINOR CONTOUR
--- 965	PROPOSED MAJOR CONTOUR
---	PROPERTY LINE
---	ROAD RIGHT-OF-WAY
---	EASEMENT LINE
---	75 FT SHORELINE SETBACK
---	EXISTING FENCE
WAT	EXISTING BURIED WATER MAIN/SERVICE
SAN	EXISTING BURIED SANITARY SEWER/LATERAL
GAS	EXISTING BURIED GAS LINE
BuCom	EXISTING BURIED COMMUNICATION LINE
BuFO	EXISTING BURIED FIBER OPTIC LINE
BuTel	EXISTING BURIED TELEPHONE LINE
BuEl	EXISTING BURIED ELECTRIC LINE
OhUt	EXISTING OVERHEAD UTILITY LINE
OhEl	EXISTING OVERHEAD ELECTRIC LINE
---	PROPOSED SILT FENCE/SOCK (SEE DETAIL)
---	PROPOSED LIMITS OF DISTURBANCE
MLO	MINIMUM LOWEST OPENING
---	FLEXSTORM INLET PROTECTION (SEE DETAIL)

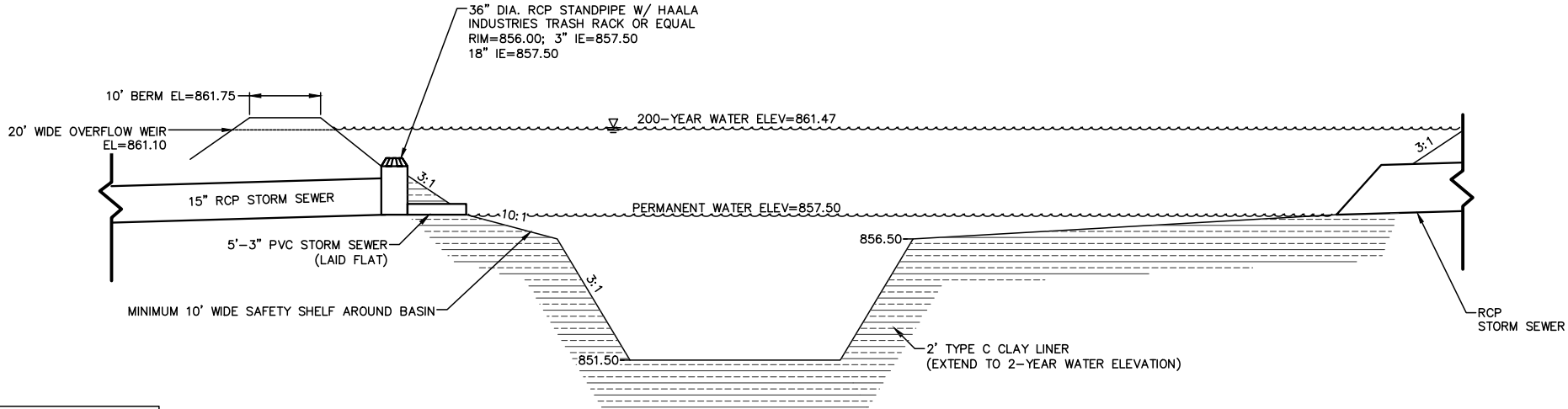
SPERLE CORNERS - VILLAGE OF MCFARLAND
OVERALL GRADING & STORM WATER MANAGEMENT PLAN
 SHEET: C-3
 DATED: AUGUST 28, 2025

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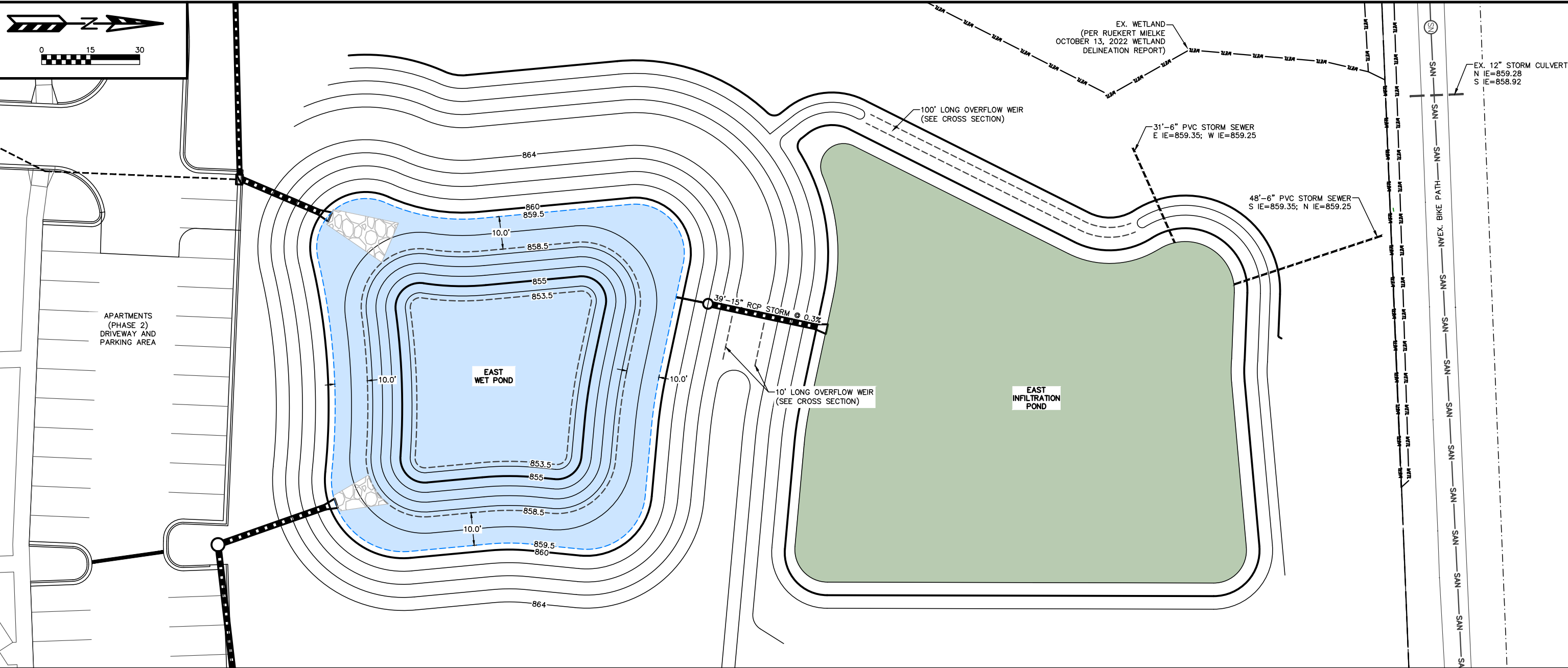
WEST WET POND PEAK ELEVATIONS	
STORM	ELEV
1-YR	859.42
2-YR	859.73
10-YR	860.21
100-YR	861.25
200-YR	861.47

CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.

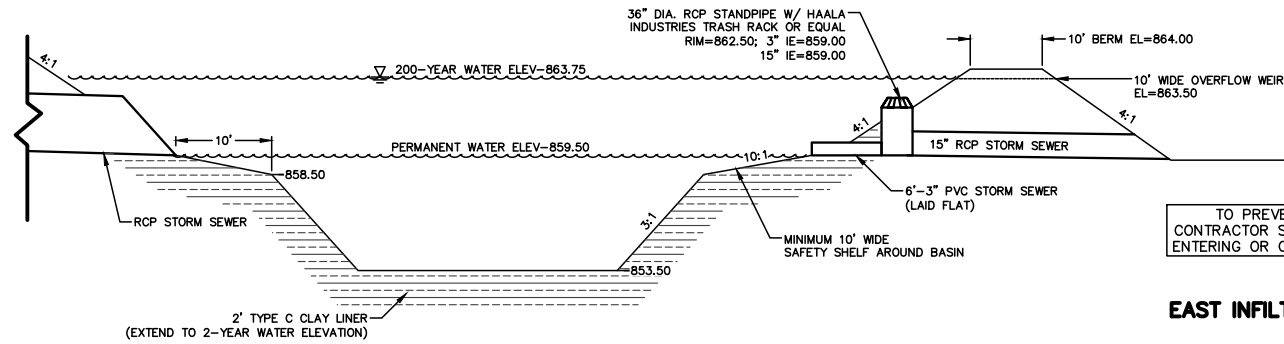


SPERLE CORNERS - VILLAGE OF MCFARLAND
WEST POND PLAN
 SHEET: C-4
 DATED: AUGUST 28, 2025

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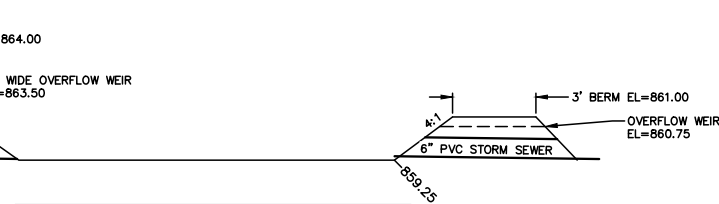


EAST WET POND PEAK ELEVATIONS	
STORM	ELEV
1-YR	861.48
2-YR	861.80
10-YR	862.61
100-YR	863.42
200-YR	863.75



EAST WET DETENTION POND CROSS SECTION

INFILTRATION BASIN CONSTRUCTION SHALL CONFORM TO WISCONSIN DNR TECHNICAL STANDARD #1003



EAST INFILTRATION BASIN CROSS SECTION

CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.

THE SEED MIXTURE FOR THE INFILTRATION BASIN BOTTOM SHALL BE RAINWATER RENEWAL SEED MIX SUPPLIED BY AGRECOL OR EQUIVALENT. MIX 80% SAND, 20% COMPOST WITH THE NATIVE LOAMY FINE SAND SOIL.

EAST INFILTRATION BASIN PEAK ELEVATIONS	
STORM	ELEV
1-YR	859.65
2-YR	859.67
10-YR	859.96
100-YR	860.96
200-YR	861.00

CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.

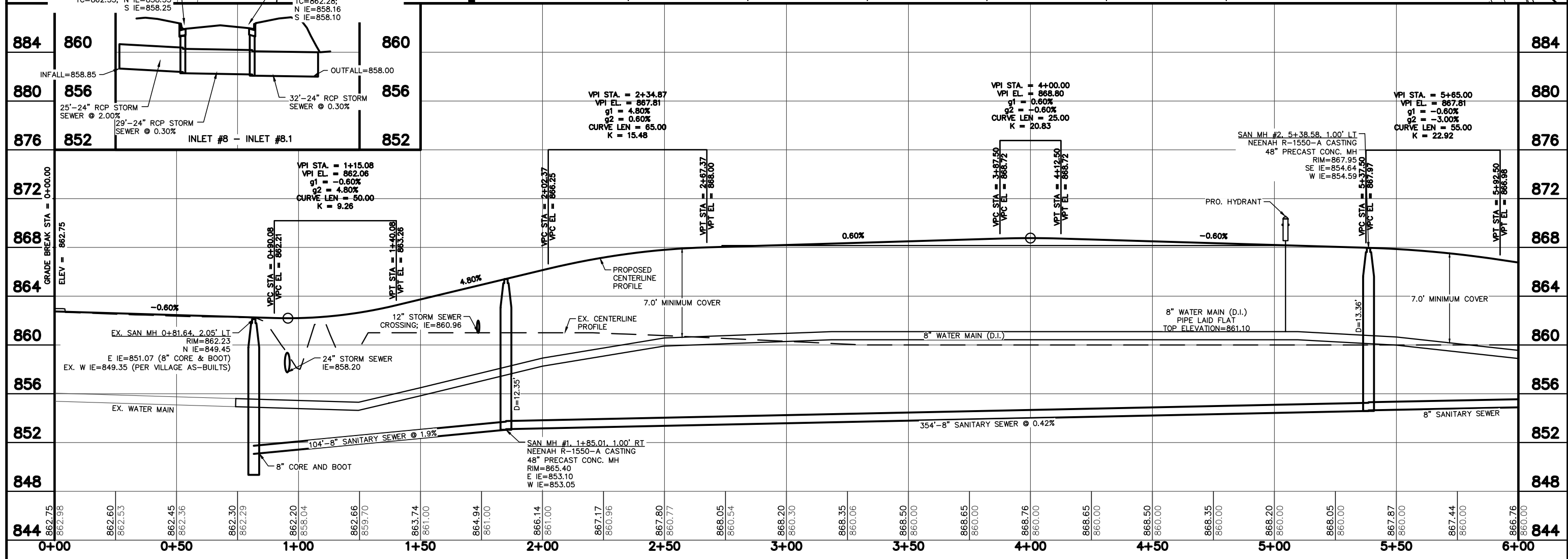
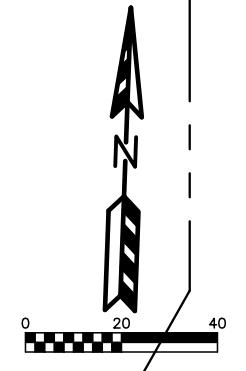
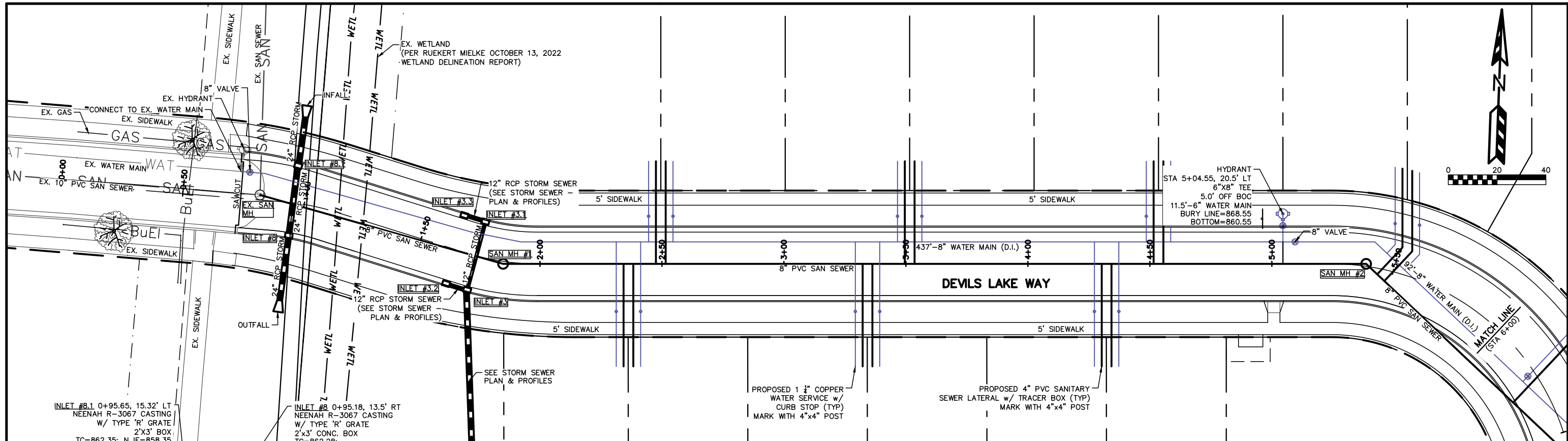
LAKESTONE PROPERTIES - VILLAGE OF MCFARLAND

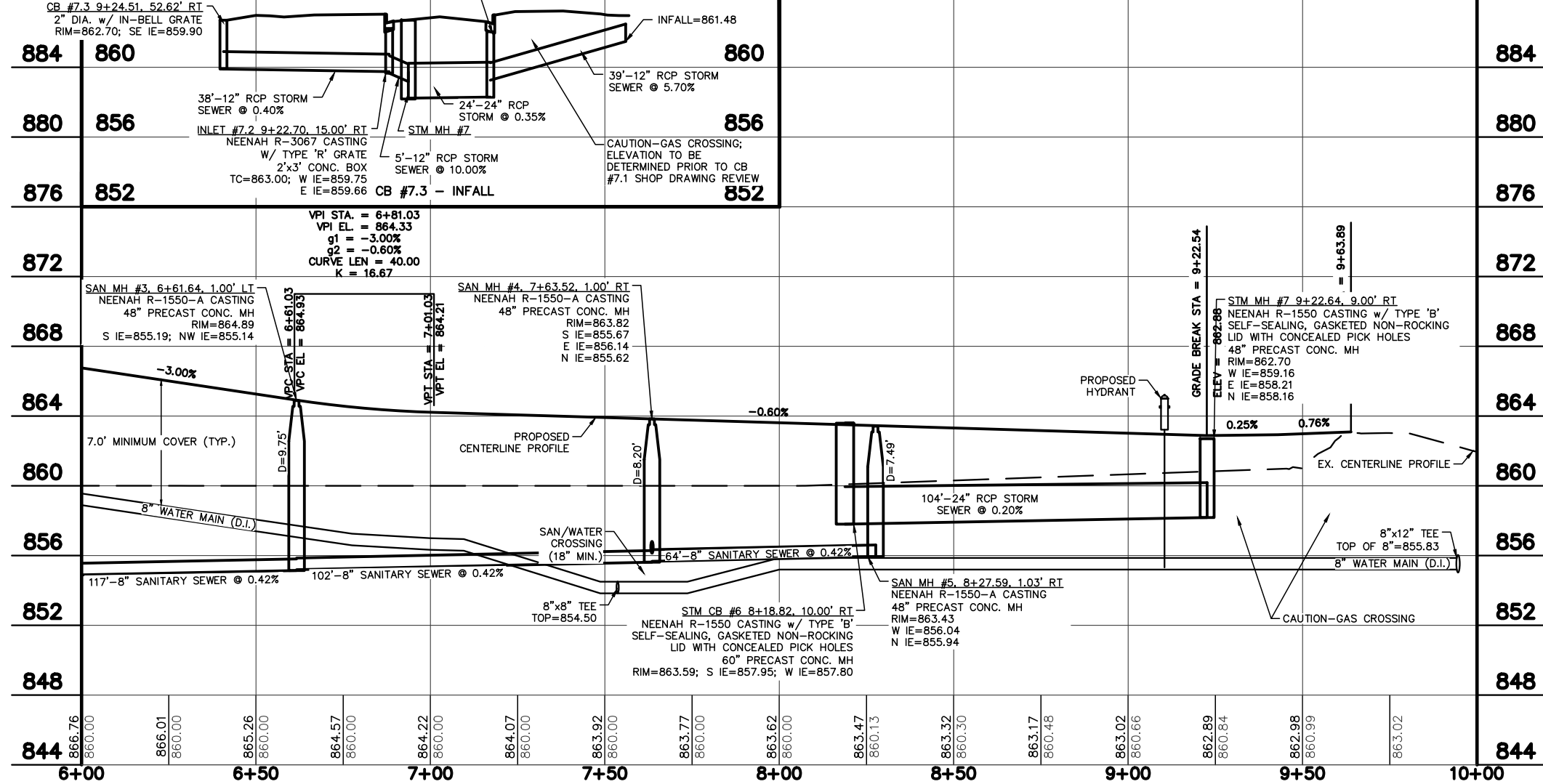
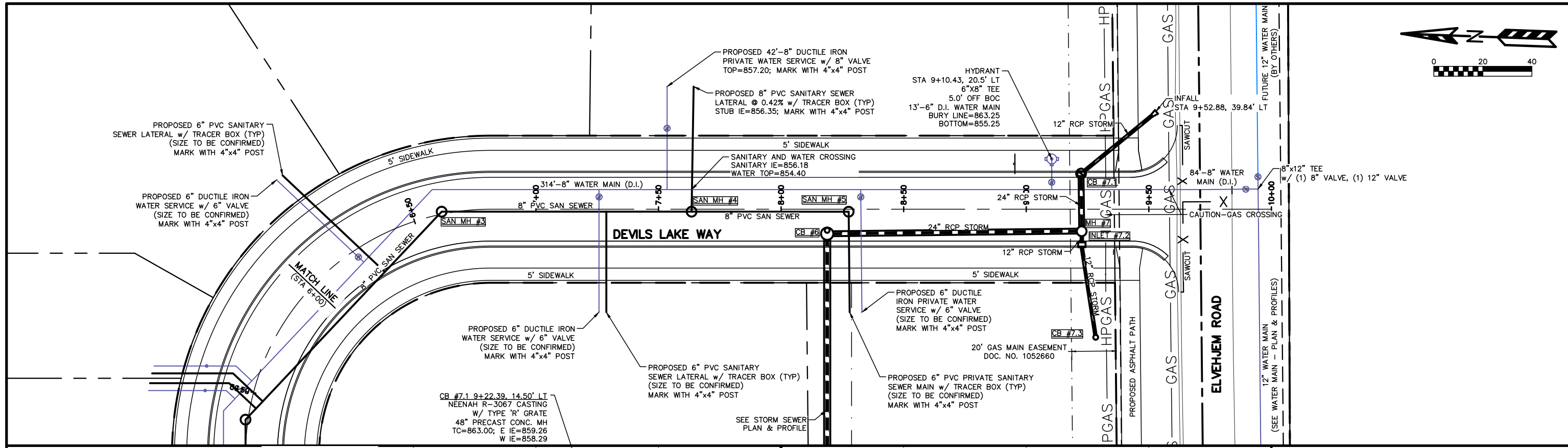
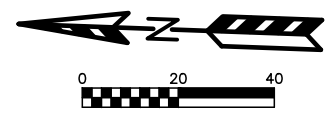
EAST POND PLAN
 SHEET: C-5
 DATED: AUGUST 28, 2025



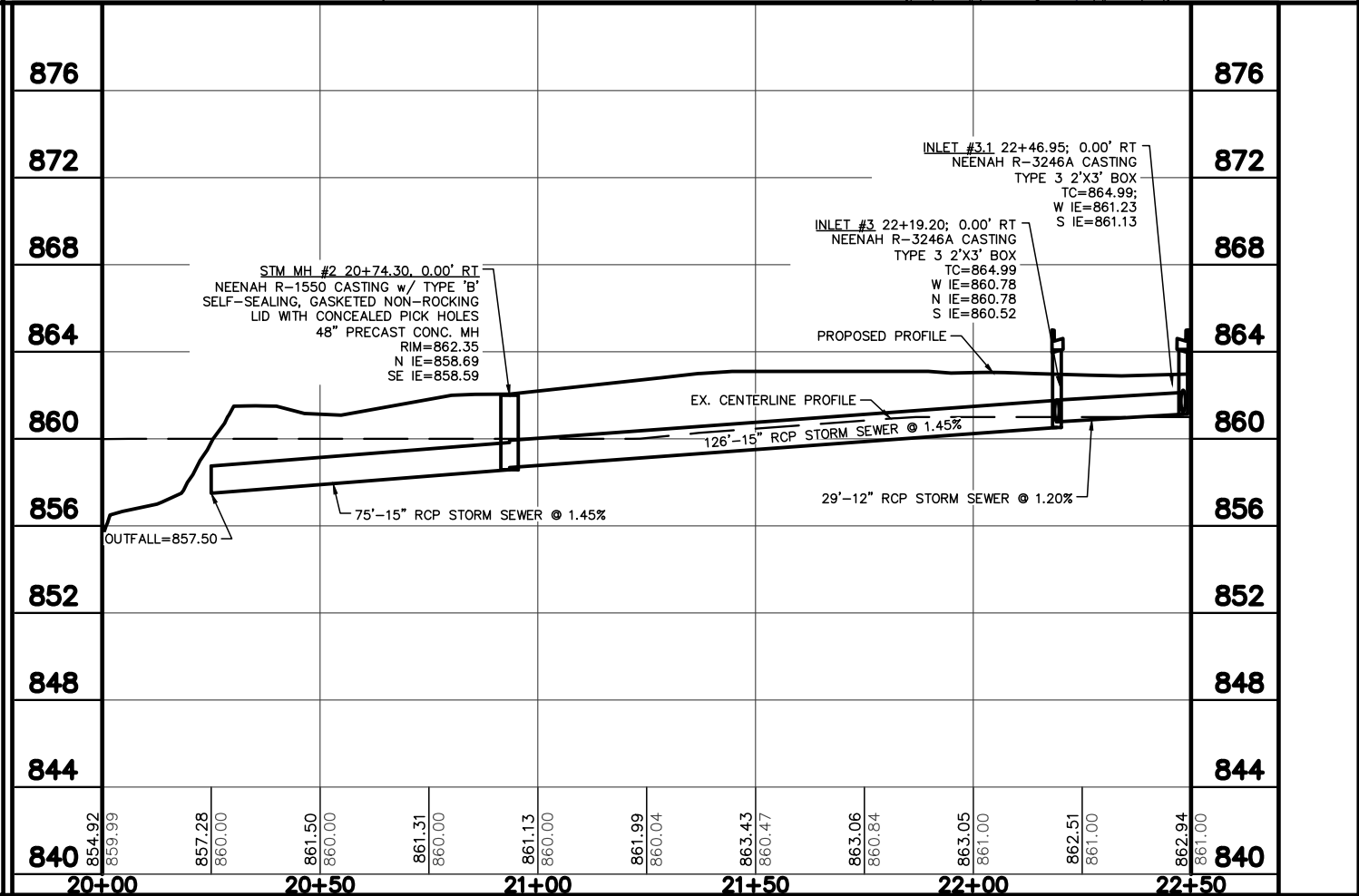
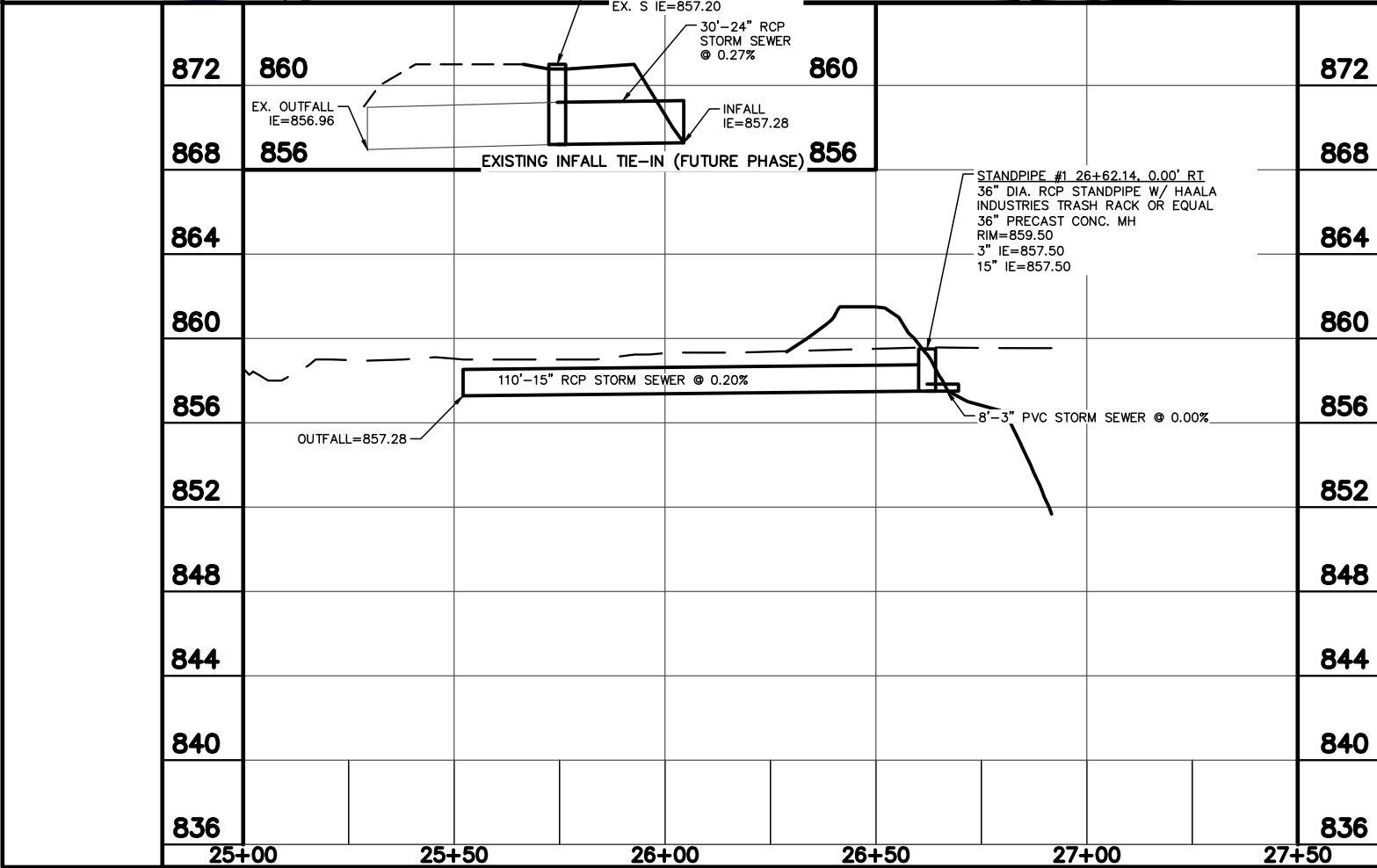
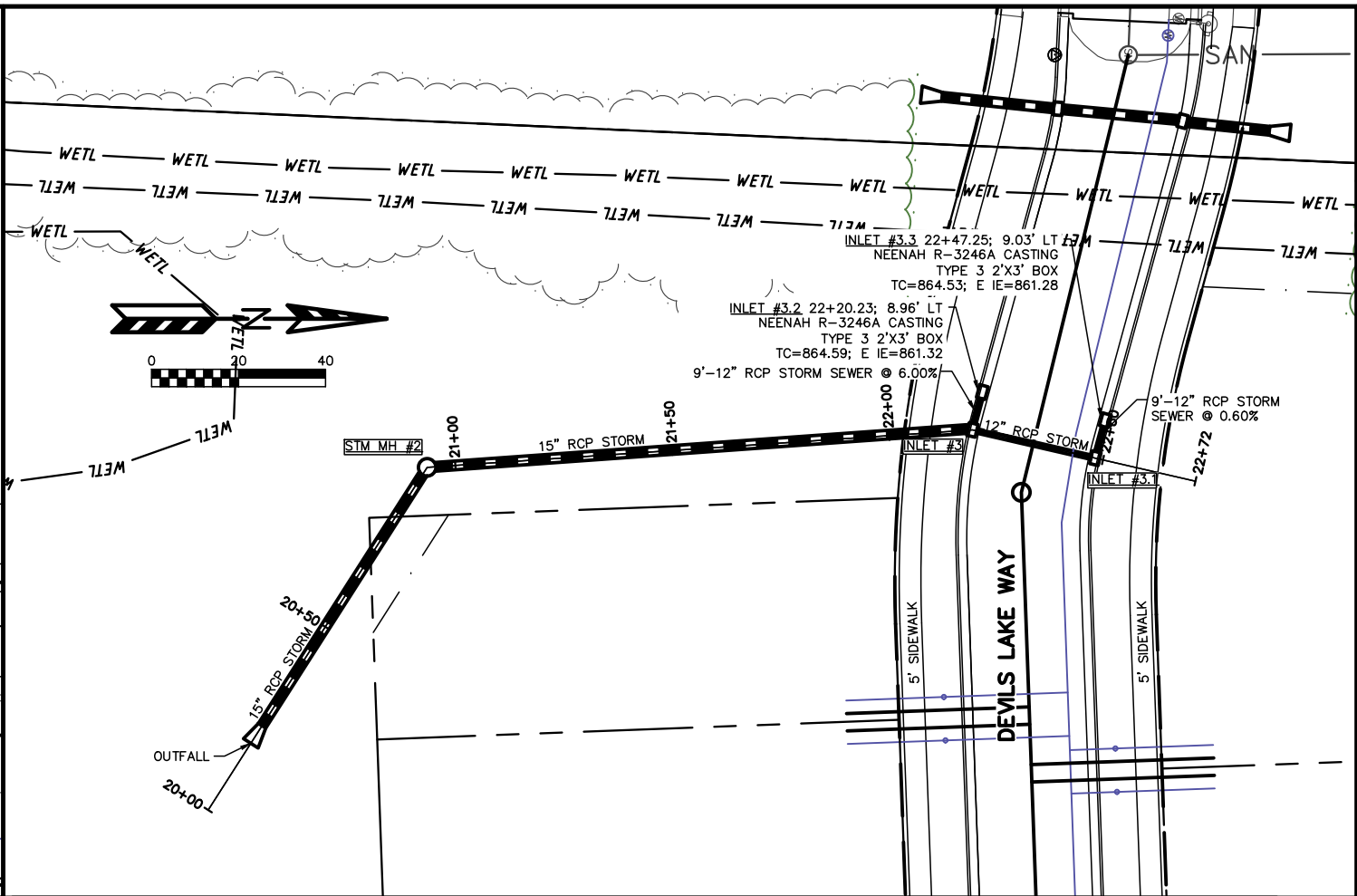
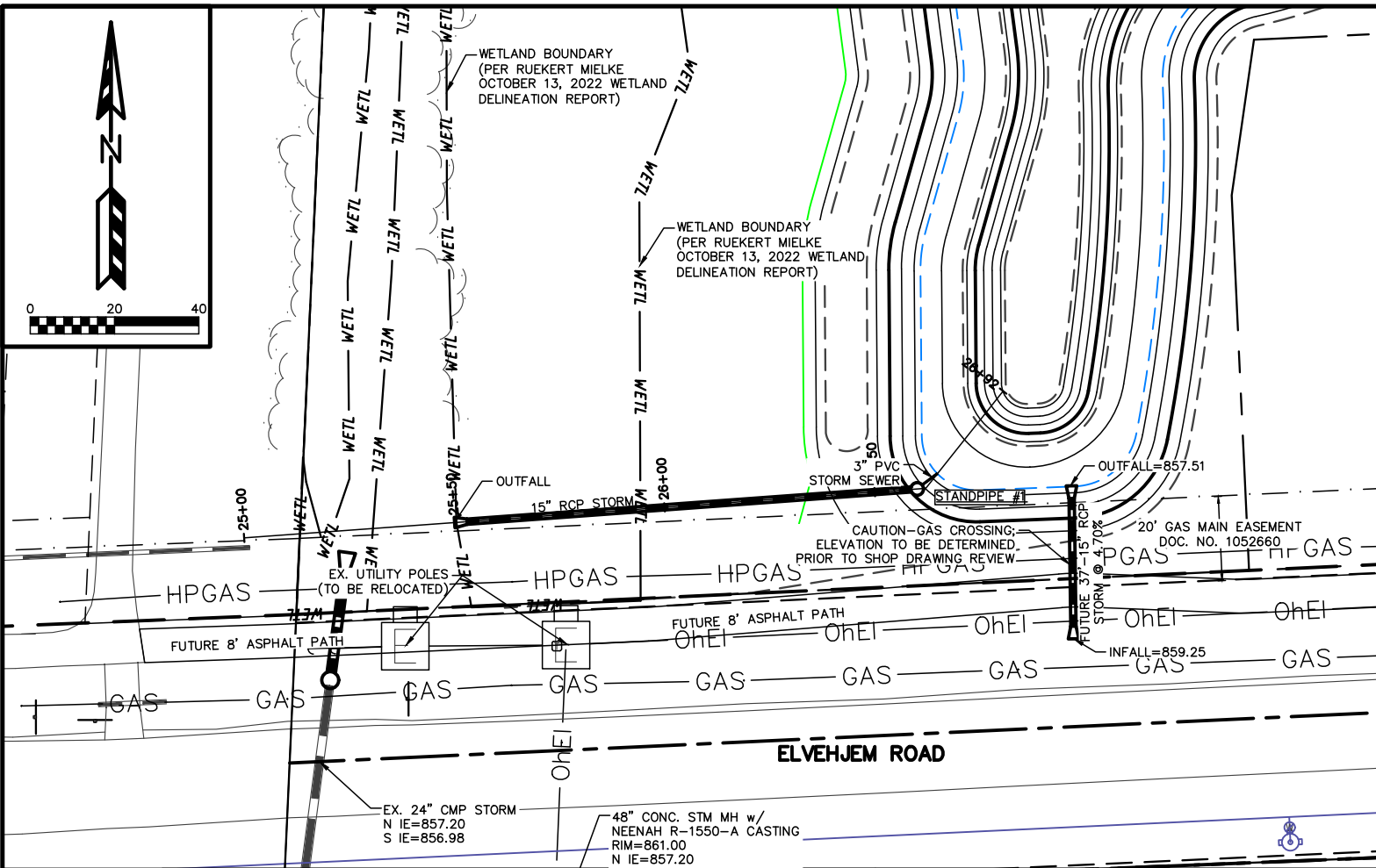
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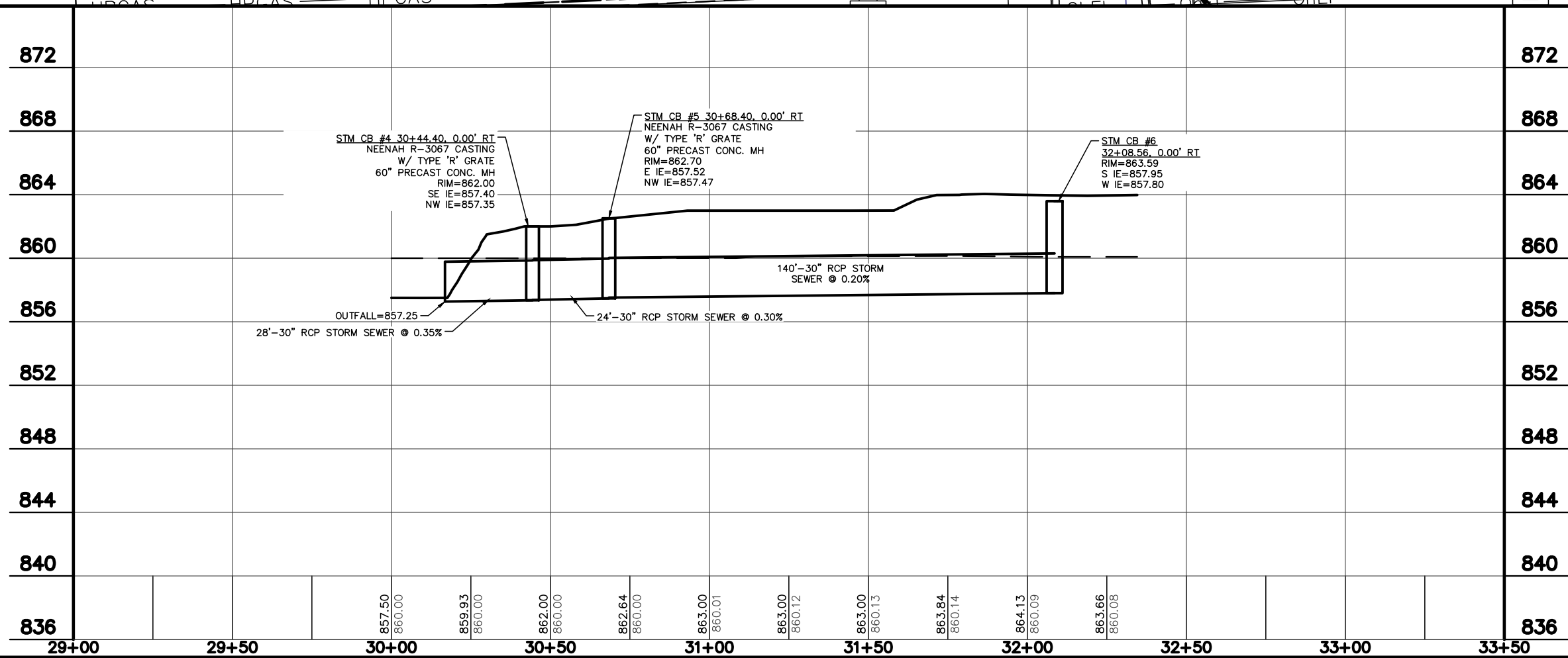
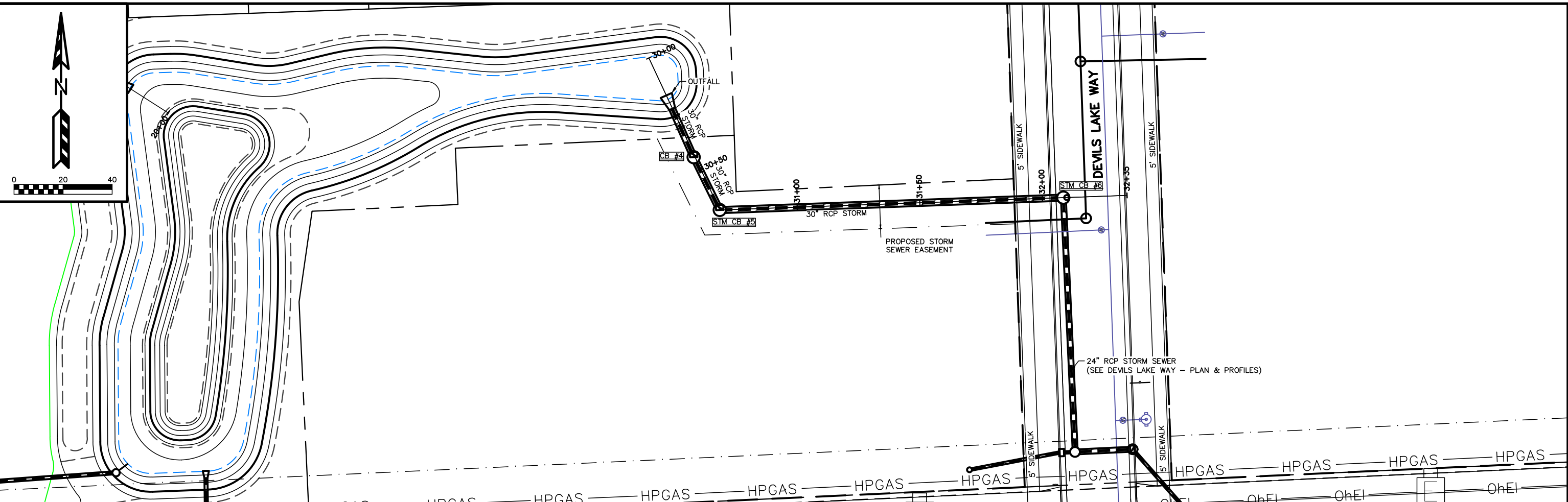




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QUAM ENGINEERING, LLC 4604 Siggelkow Road, Suite A; McFarland, WI 53558 (608) 838-7750



STM CB #4 30+44.40, 0.00' RT
NEENAH R-3067 CASTING
W/ TYPE 'R' GRATE
60" PRECAST CONC. MH
RIM=862.00
SE IE=857.40
NW IE=857.35

STM CB #5 30+68.40, 0.00' RT
NEENAH R-3067 CASTING
W/ TYPE 'R' GRATE
60" PRECAST CONC. MH
RIM=862.70
E IE=857.52
NW IE=857.47

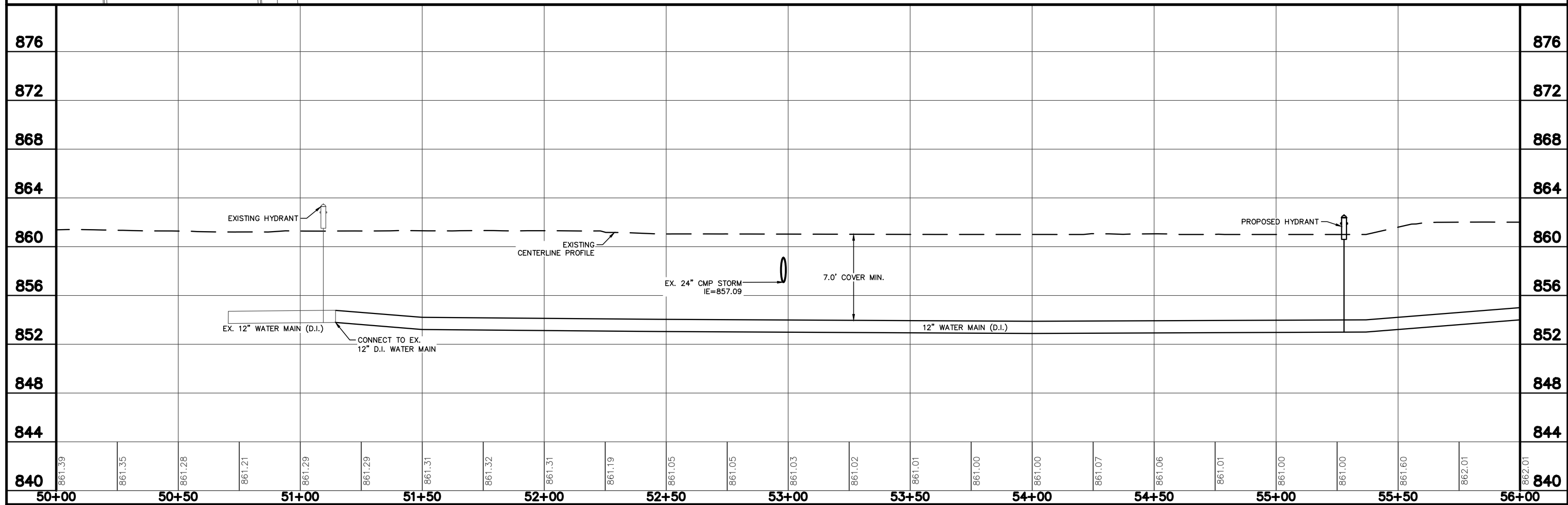
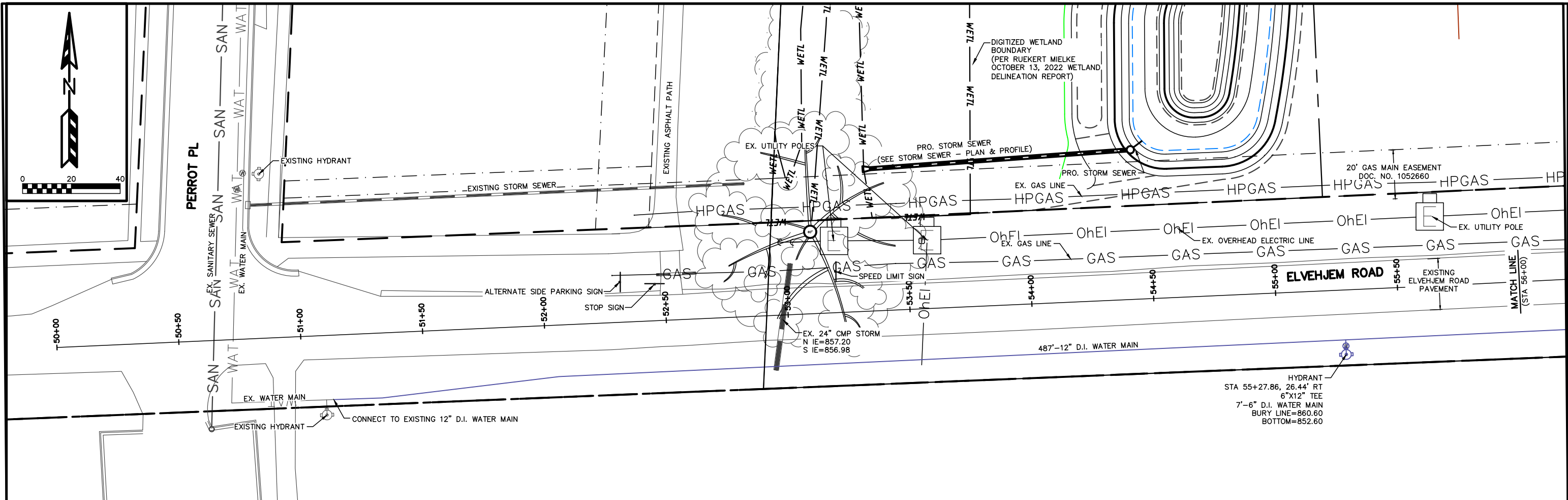
STM CB #6 32+08.56, 0.00' RT
RIM=863.59
S IE=857.95
W IE=857.80

OUTFALL=857.25
28'-30" RCP STORM SEWER @ 0.35%

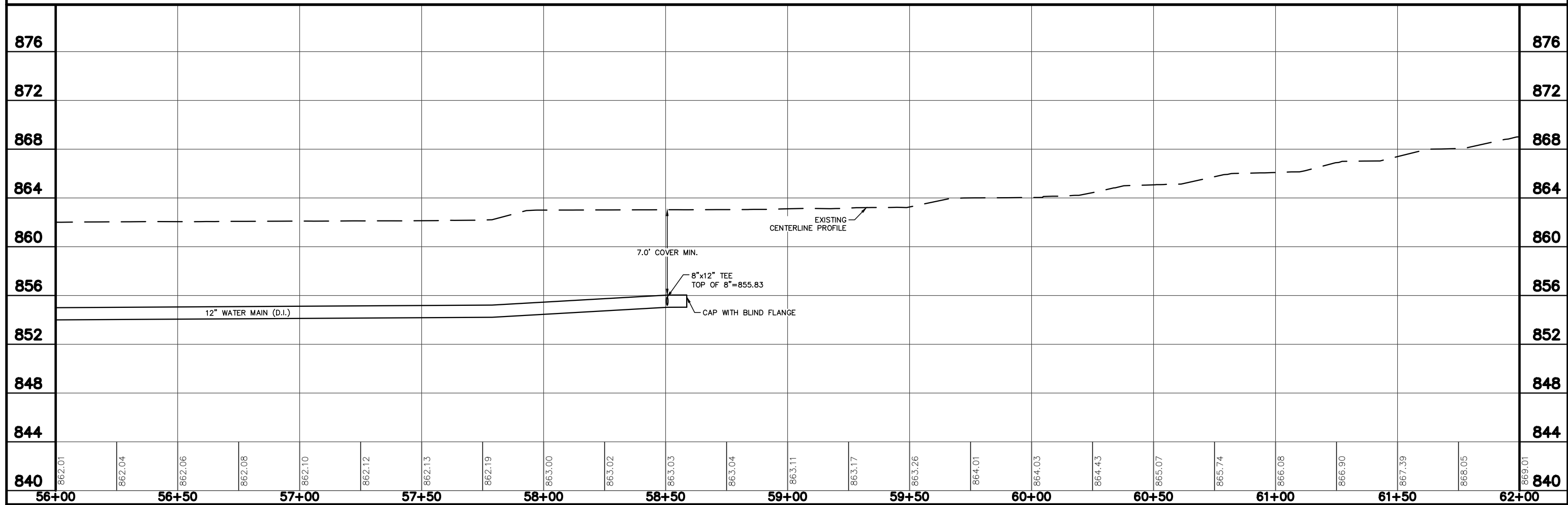
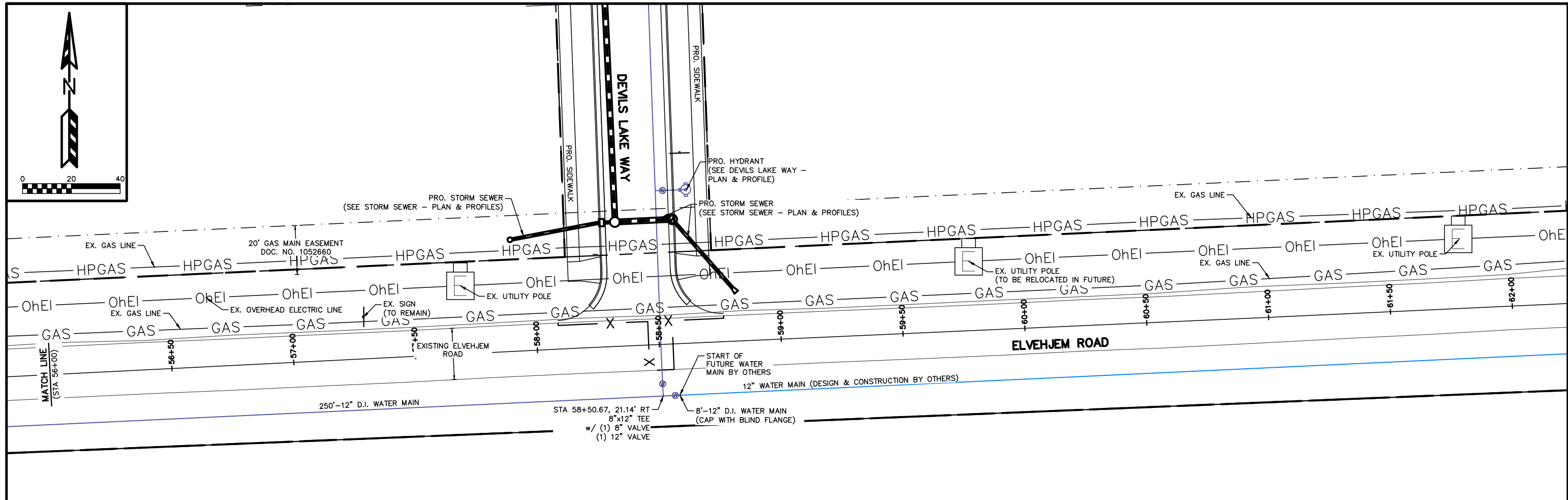
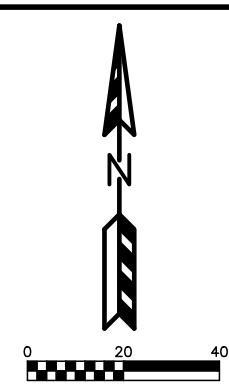
24'-30" RCP STORM SEWER @ 0.30%

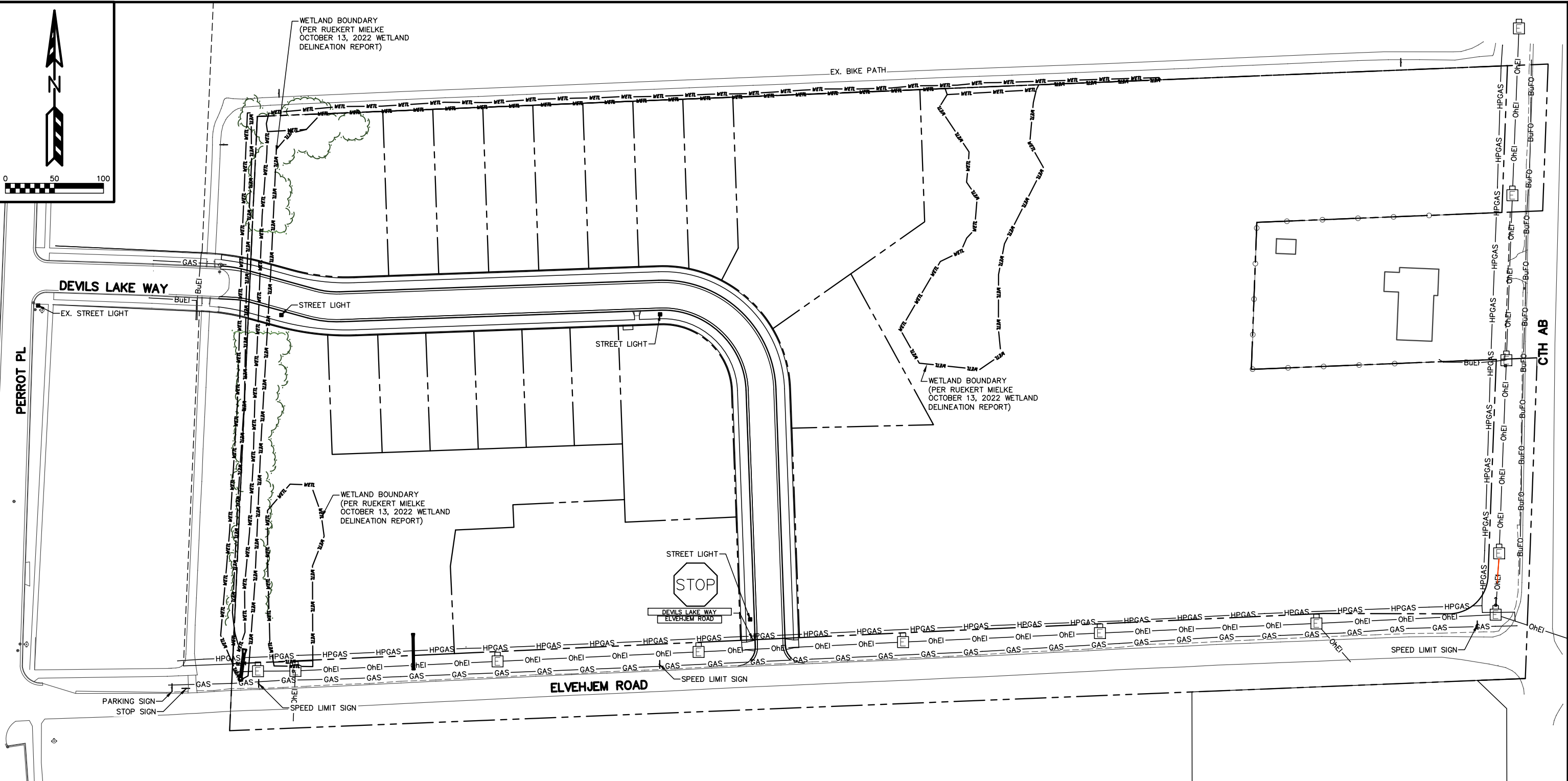
140'-30" RCP STORM SEWER @ 0.20%

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SIGNING AND LIGHTING LEGEND

STOP SIGN - SIGN DESIGNATION R1-1

STREET SIGNS

DEVILS LAKE WAY STREET NAME SIGNS

STREET LIGHT (DESIGN BY OTHERS)

SIGNAGE NOTES:

ALL SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SIGNS SHALL BE A DISTANCE OF 7" FROM GROUND LEVEL TO THE BOTTOM OF THE SIGN MOUNTED ON THE POST AND LOCATED 3' BEHIND THE BACK OF CURB.

STREET NAME SIGNS SHALL HAVE WHITE LETTERS AND GREEN BACKGROUND.

STREET NAME SIGNS SHALL BE PLACED ABOVE STOP SIGNS AT INTERSECTIONS THAT REQUIRE STOP SIGNS.

SIGN POSTS SHALL BE 2-3/8" O.D. GALVANIZED 10 FT LONG, 13 GAUGE, AND 0.095 WALL THICKNESS. MOUNT SIGN AT TOP OF THE POST, AND INSTALL POSTS 3' DEEP AND MIX 1/2 BAG OF 80 LB SAKRETE CONCRETE POURING IS AROUND THE POST BELOW THE GROUND BEFORE COVERING WITH 8".

SPERLE CORNERS - VILLAGE OF MCFARLAND

SIGN AND LIGHTING PLAN

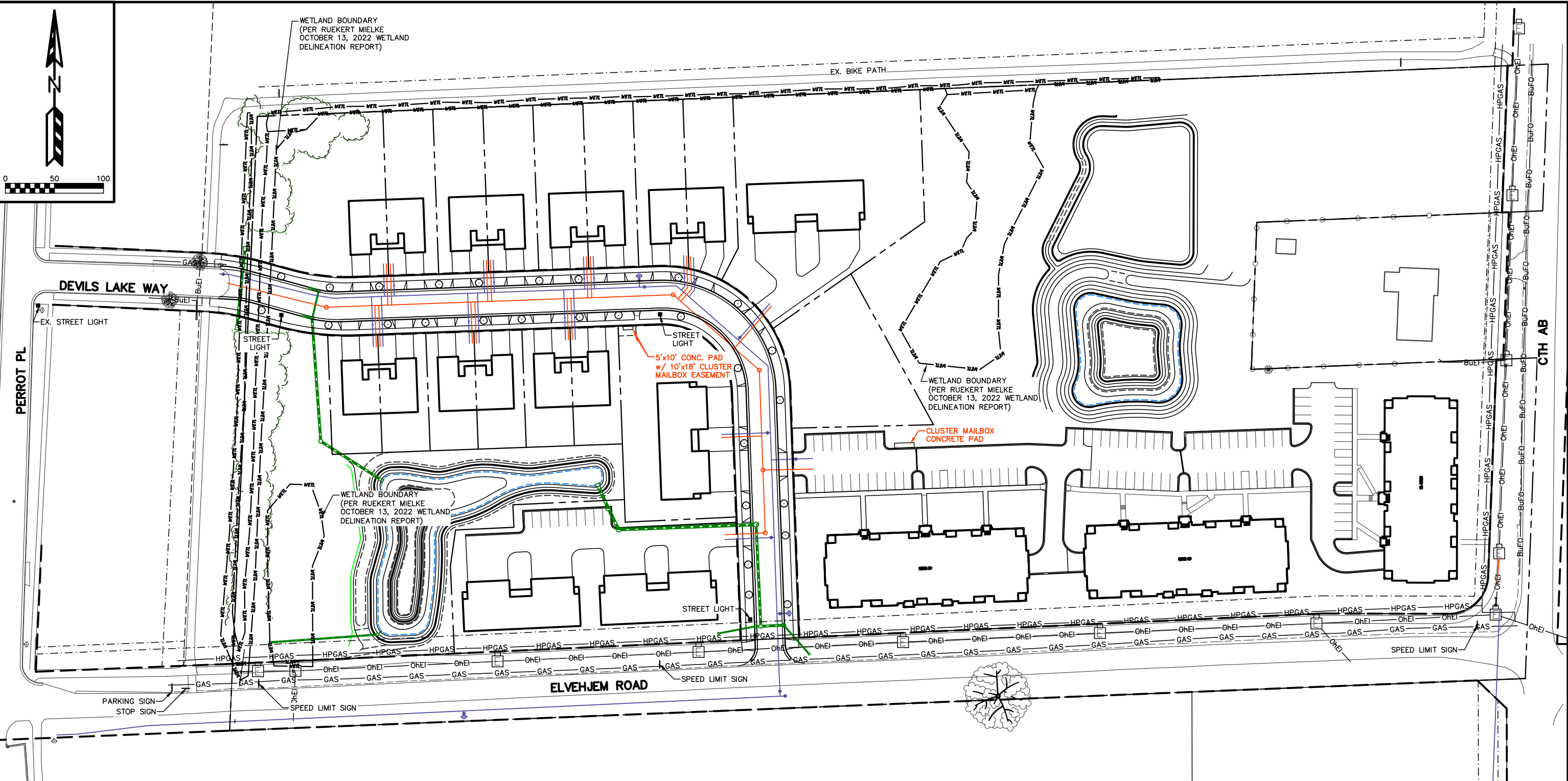
SHEET: C-12

DATED: AUGUST 28, 2025

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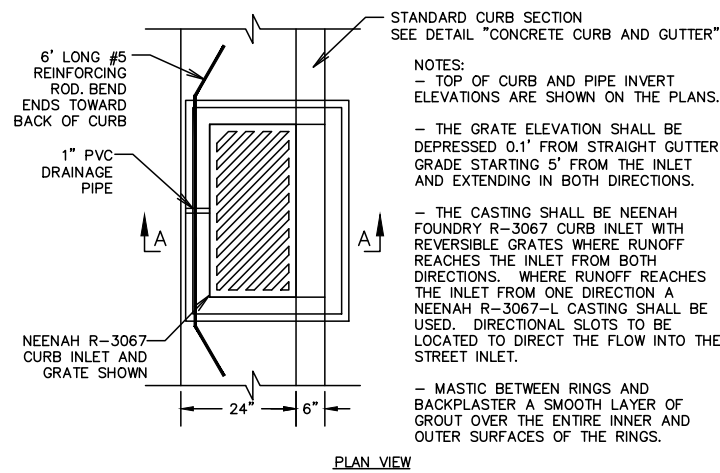


GENERAL NOTES:
 ALL PLANTINGS SHALL CONFORM TO QUALITY REQUIREMENTS AS PER ANSI Z60.1.
 ALL PLANT MATERIAL SHALL BE TRUE TO THE SPECIES, VARIETY AND SIZE SPECIFIED, NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURE PRACTICES, AND UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE PROJECT SITE.
 CONTACT LANDSCAPE ARCHITECT, IN WRITING, TO REQUEST AND PLANT MATERIAL SUBSTITUTIONS DUE TO AVAILABILITY ISSUES.
 ALL DISTURBED AREAS, UNLESS OTHERWISE NOTED, TO BE SEEDDED WITH WISDOT SEED MIX #40 OR EQUIVALENT, PER MANUFACTURE'S SPECIFIED APPLICATION RATES. ALL SEEDDED AREAS ARE TO BE WATERED DAILY TO MAINTAIN ADEQUATE SOIL MOISTURE FOR PROPER GERMINATION. AFTER VIGOROUS GROWTH IS ESTABLISHED, APPLY 1/2" WATER TWICE WEEKLY UNTIL FINAL ACCEPTANCE.
 ALL PLANTS SHALL BE GUARANTEED TO BE IN HEALTHY AND FLOURISHING CONDITION DURING THE GROWING SEASON FOLLOWING INSTALLATION. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR TWO YEARS FROM THE TIME OF INSTALLATION.
 TREES SHALL BE A MINIMUM 2" CALIPER.

NOTES:
 MINIMUM DISTANCE FROM A STREETLIGHT TO A TREE IS 20'.
 MINIMUM DISTANCE FROM THE FRONT OF A STREET SIGN IS 25' AND 10' FROM THE BACK OF THE SIGN.
 MINIMUM DISTANCE FROM ANY SANITARY SEWER, WATER MAIN, AND STORM SEWER STRUCTURE OR PIPE IS 10'.
 NO TREE SHALL BE PLANTED WITHIN THE VISION TRIANGLE.

SPERLE CORNERS - VILLAGE OF MCFARLAND
 STREET TREE PLAN
 SHEET: C-13
 DATED: AUGUST 28, 2025

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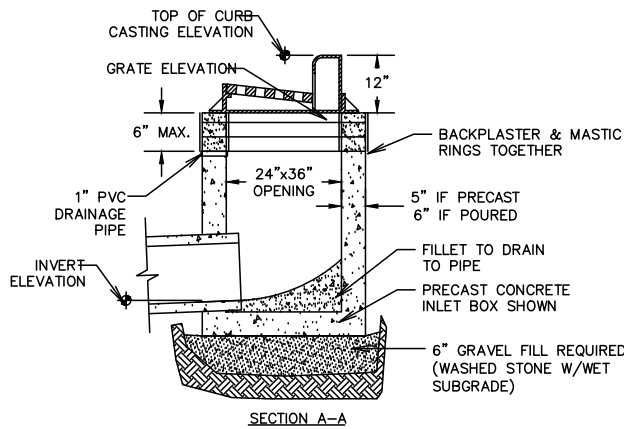


PLAN VIEW

STANDARD CURB SECTION
SEE DETAIL "CONCRETE CURB AND GUTTER"

NOTES:
- TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.
- THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.
- THE CASTING SHALL BE NEENAH FOUNDRY R-3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.
- MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.

1 **RECTANGULAR STREET INLET**
2 NOT TO SCALE

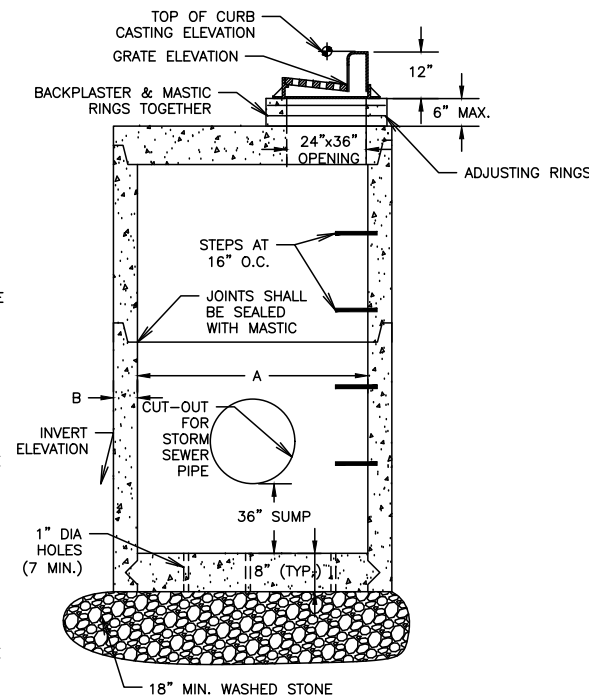


SECTION A-A

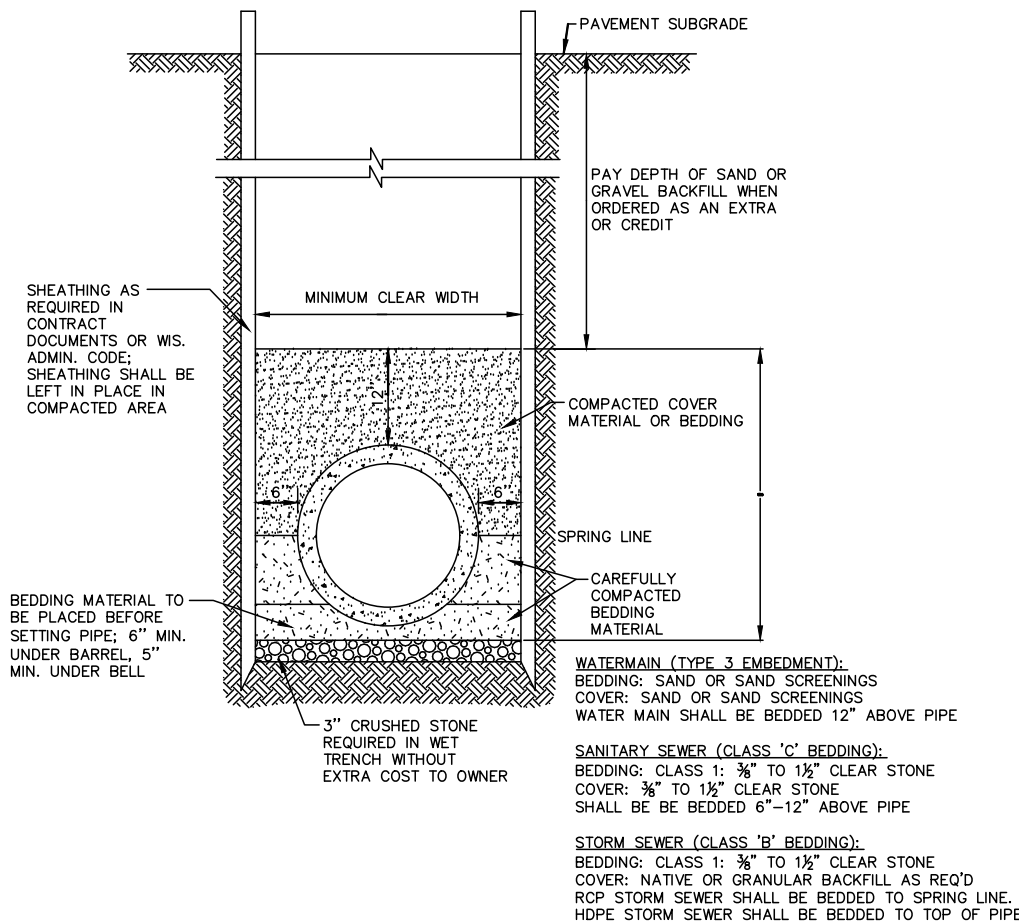
STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION	
	A	B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

NOTES:
CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.
MANHOLE STEPS SHALL CONFORM TO ASTM-C478 & SHALL BE NEENAH FOUNDRY R-1981-N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.
A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE-TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.
THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.
MANHOLE-TYPE CURB CATCH BASIN CASTING SHALL BE NEENAH FOUNDRY R-3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.
A 2x3 LID OPENING IS REQUIRED FOR MANHOLE-TYPE CURB CATCH BASINS.



1 **STORM SEWER MANHOLE**
2 NOT TO SCALE

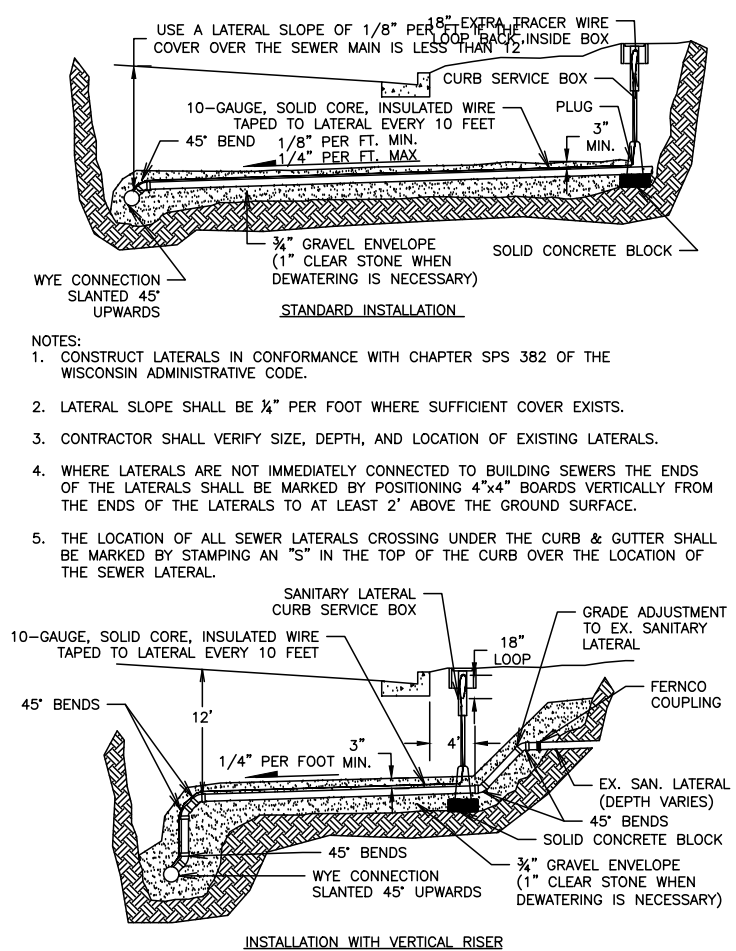


WATERMAIN (TYPE 3 EMBEDMENT):
BEDDING: SAND OR SAND SCREENINGS
COVER: SAND OR SAND SCREENINGS
WATER MAIN SHALL BE BEDDED 12" ABOVE PIPE

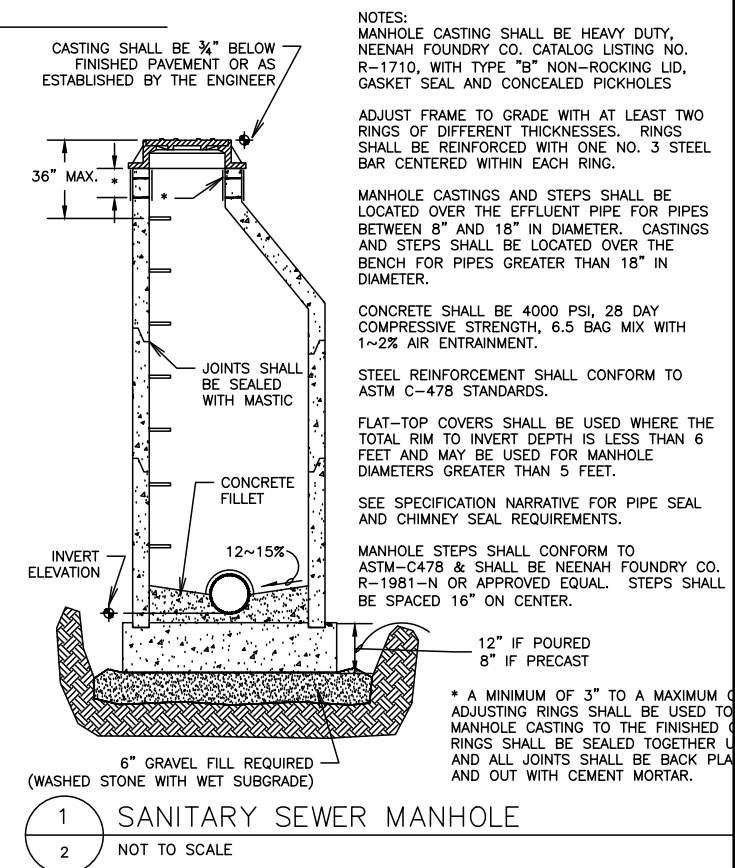
SANITARY SEWER (CLASS 'C' BEDDING):
BEDDING: CLASS 1: 3/8" TO 1 1/2" CLEAR STONE
COVER: 3/8" TO 1 1/2" CLEAR STONE
SHALL BE BEDDED 6"-12" ABOVE PIPE

STORM SEWER (CLASS 'B' BEDDING):
BEDDING: CLASS 1: 3/8" TO 1 1/2" CLEAR STONE
COVER: NATIVE OR GRANULAR BACKFILL AS REQ'D
RCP STORM SEWER SHALL BE BEDDED TO SPRING LINE.
HDPE STORM SEWER SHALL BE BEDDED TO TOP OF PIPE

1 **STANDARD TRENCH SECTION**
2 NOT TO SCALE



1 **LATERAL WITH TRACER WIRE**
2 NOT TO SCALE

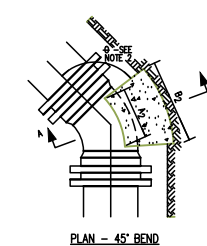
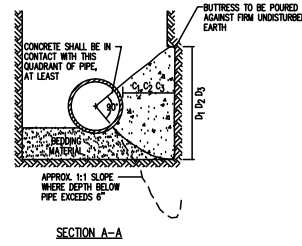
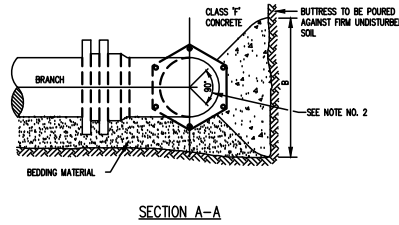
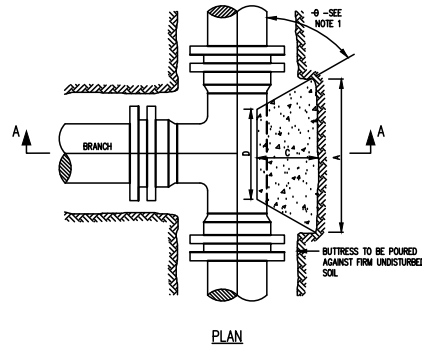
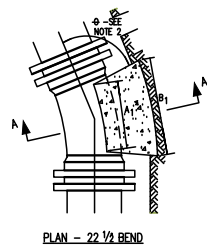
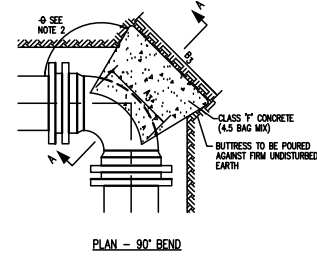


1 **SANITARY SEWER MANHOLE**
2 NOT TO SCALE

NOTES:
MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY CO. CATALOG LISTING NO. R-1710, WITH TYPE "B" NON-ROCKING LID, GASKET SEAL AND CONCEALED PICKHOLES
ADJUST FRAME TO GRADE WITH AT LEAST TWO RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO. 3 STEEL BAR CENTERED WITHIN EACH RING.
MANHOLE CASTINGS AND STEPS SHALL BE LOCATED OVER THE EFFLUENT PIPE FOR PIPES BETWEEN 8" AND 18" IN DIAMETER. CASTINGS AND STEPS SHALL BE LOCATED OVER THE BENCH FOR PIPES GREATER THAN 18" IN DIAMETER.
CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.
STEEL REINFORCEMENT SHALL CONFORM TO ASTM C-478 STANDARDS.
FLAT-TOP COVERS SHALL BE USED WHERE THE TOTAL RIM TO INVERT DEPTH IS LESS THAN 6 FEET AND MAY BE USED FOR MANHOLE DIAMETERS GREATER THAN 5 FEET.
SEE SPECIFICATION NARRATIVE FOR PIPE SEAL AND CHIMNEY SEAL REQUIREMENTS.
MANHOLE STEPS SHALL CONFORM TO ASTM-C478 & SHALL BE NEENAH FOUNDRY CO. R-1981-N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.
* A MINIMUM OF 3" TO A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE-TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

SPERLE CORNERS - VILLAGE OF MCFARLAND
DETAILS
SHEET: C-14
DATED: AUGUST 28, 2025

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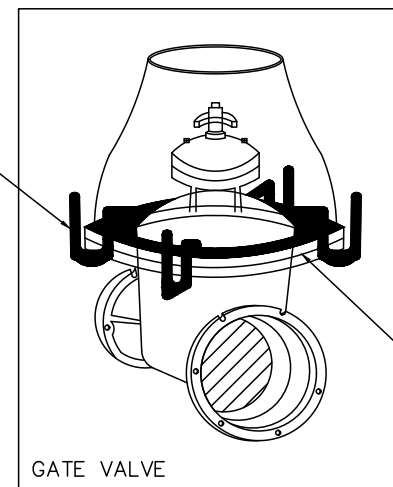
PIPE SIZE	22 1/2° BENDS			45° BENDS			90° BENDS		
	B ₁	D ₁	B ₂	B ₂	D ₂	B ₃	D ₃	D ₃	
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-2"	
8"	1'-0"	1'-0"	1'-4"	1'-4"	1'-2"	1'-10"	1'-4"	1'-4"	
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-8"	2'-8"	2'-8"	
16"	1'-10"	1'-8"	2'-4"	2'-4"	3'-10"	3'-10"	3'-10"	3'-10"	
20"	2'-4"	2'-4"	3'-3"	2'-10"	5'-0"	5'-0"	5'-0"	5'-0"	
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	6'-4"	3'-10"	3'-10"	
30"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	8'-0"	4'-8"	4'-8"	

- NOTES**
- DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND ON EARTH RESISTANCE OF 2 TONS PER SQUARE FOOT.
 - DIMENSION C1 C2 C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°.
 - DIMENSION A1 A2 A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M.J. BOLTS.
 - SHAPE OF BACK OF BUTTRISS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH.
 - ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

B.D.	BUTTRISS DIMENSIONS			
	A	B	C	D
6"	1'-3"	1'-0"	-	-
8"	1'-4"	1'-4"	-	-
12"	2'-3"	2'-0"	-	-
16"	3'-2"	2'-4"	-	-
20"	4'-0"	3'-0"	-	-
24"	5'-3"	3'-4"	-	-
30"	6'-3"	4'-3"	-	-

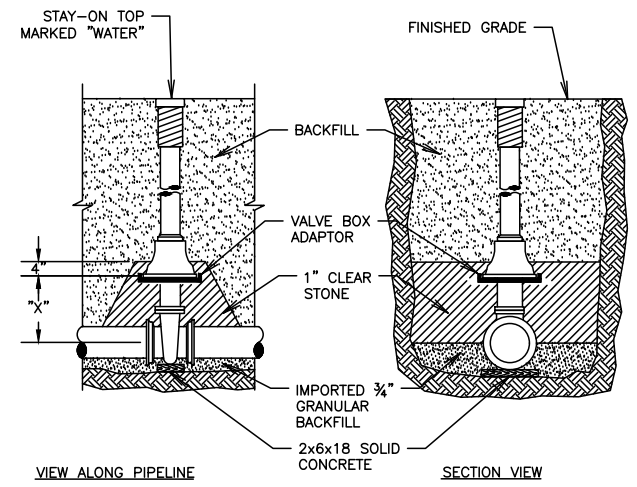
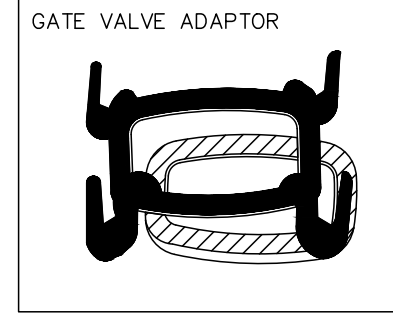
B.D. = BRANCH DIAMETER

- NOTES**
- DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45°.
 - CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AS A MINIMUM.
 - DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
 - BUTTRISS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI.
 - ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.



NOTE: GATE VALVE ADAPTORS ARE MANDATORY IN THE VILLAGE OF DEFOREST

MANUFACTURED BY ADAPTOR, INC. 3642 E. AMERICAN AVE. MILWAUKEE, WI 53154



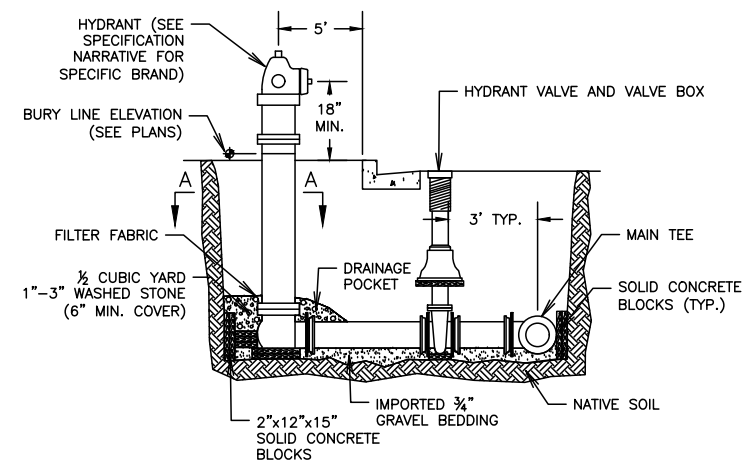
PIPE DIA., INCHES	6	8	10	12	14	16
"X" DIMENSION, INCHES	12	13	17	21	25	30

- NOTES:**
- VALVES SHALL BE SECURED WITH RODDING OR MEGALUGS TO THE NEAREST "TEE" FITTING OR TO THE FIRST JOINT CONNECTING A FULL SECTION OF WATER MAIN PIPE. SEE RODDING DETAIL "OFFSET AND RODDING".

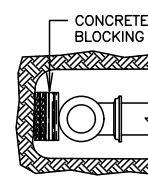
DETAIL VALVE BOX SETTING

2 STANDARD GATE VALVE BOX SETTING
2 NOT TO SCALE

1 GATE VALVE AND GATE VALVE ADAPTOR
1 NOT TO SCALE



- NOTES:**
- THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.
 - FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAIN POCKET.
 - WHERE THE HYDRANT IS INSTALLED AT THE HIGH POINT OF THE WATER MAIN ON MAINS 10 INCHES IN DIAMETER AND LARGER, THE CONTRACTOR SHALL TIP THE MAIN TEE UPWARDS 45 DEGREES AND USE A 45 DEGREE FITTING TO ALLOW AIR TO ESCAPE FROM THE MAIN.
 - WHERE THE LOCATION OF THE HYDRANT VALVE BOX WOULD BE IN ANY PORTION OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PLACE THE VALVE IN THE TERRACE AREA.

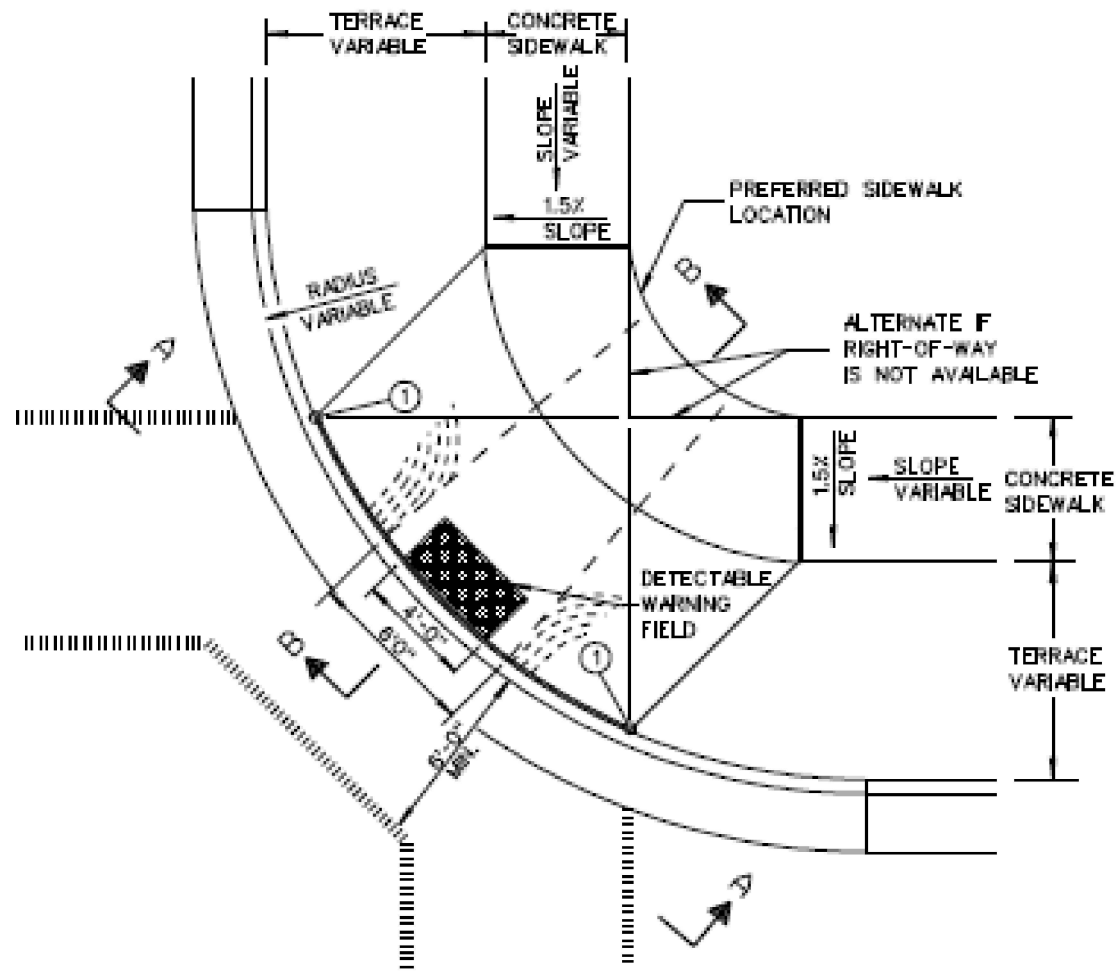


SECTION A-A

2 STANDARD HYDRANT SETTING
2 NOT TO SCALE

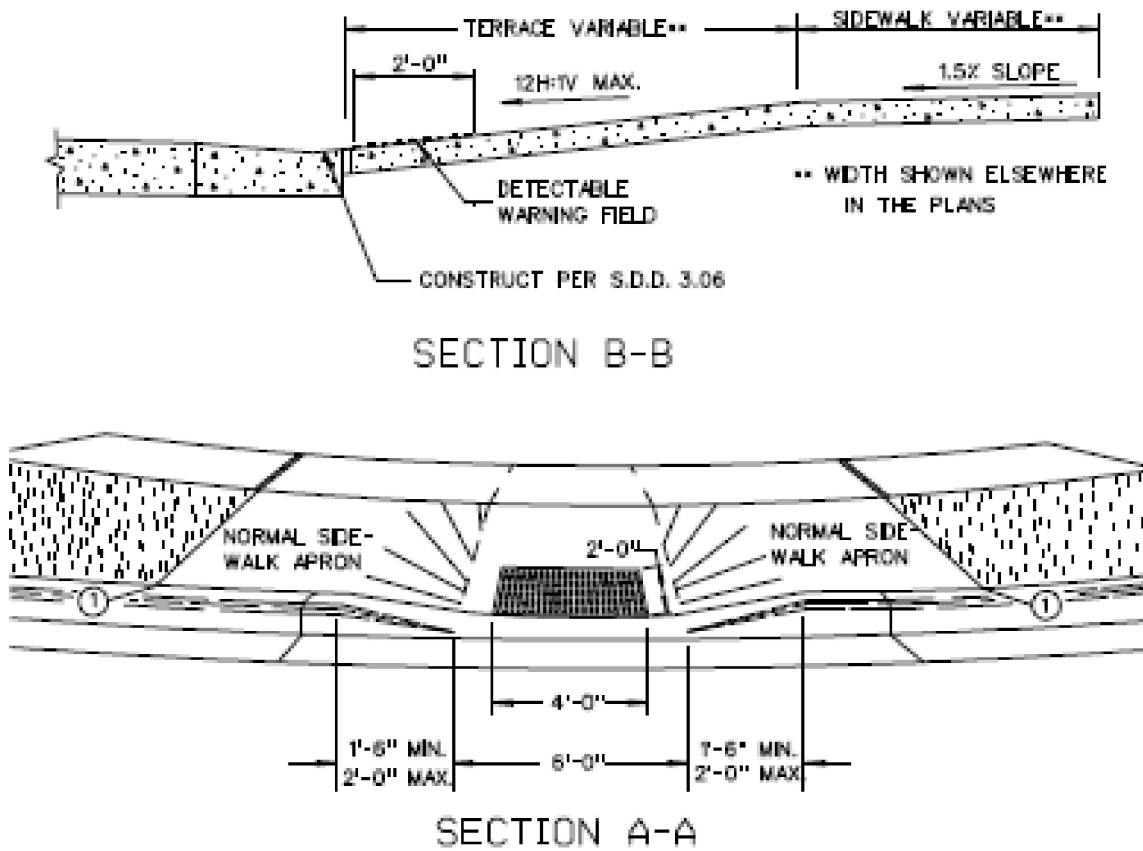
SPERLE CORNERS - VILLAGE OF MCFARLAND
DETAILS
SHEET: C-15
DATED: AUGUST 28, 2025

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PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)

2 STANDARD CURB RAMP - TYPE 1
2 NOT TO SCALE



SECTION B-B

SECTION A-A

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD".

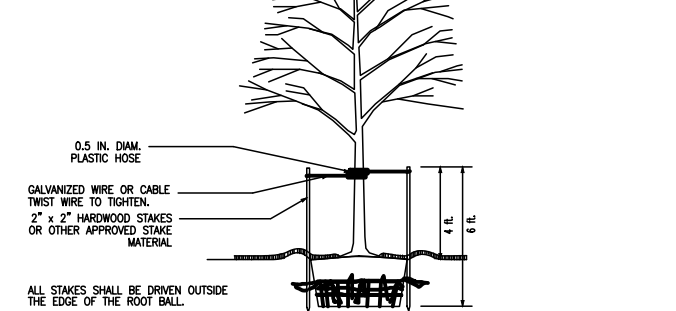
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.

① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

DETECTABLE WARNING FIELDS SHALL BE METAPANEL BY METADOME, LLC OR NEENAH 4984 PLATES.

WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
 4 INCH CALIPER - 11-12 GAUGE
 LARGER THAN 4 INCH CALIPER - 9-10 GAUGE
 TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
 TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
 ALL BURLAP AND WIRE CAGES SHALL BE REMOVED FROM ROOTS PRIOR TO PLANTING.
 PLANTING DEPTH OF TREE SHALL BE SUCH THAT ROOT FLAIR IS VISIBLE JUST ABOVE GRADE.



PROVIDE 4" THICKNESS OF ORGANIC MULCH AROUND ALL TREES. MULCH SHOULD NOT REST AGAINST THE TREE TRUNK. LEAVE 3" AROUND THE TRUNK FREE OF MULCH.

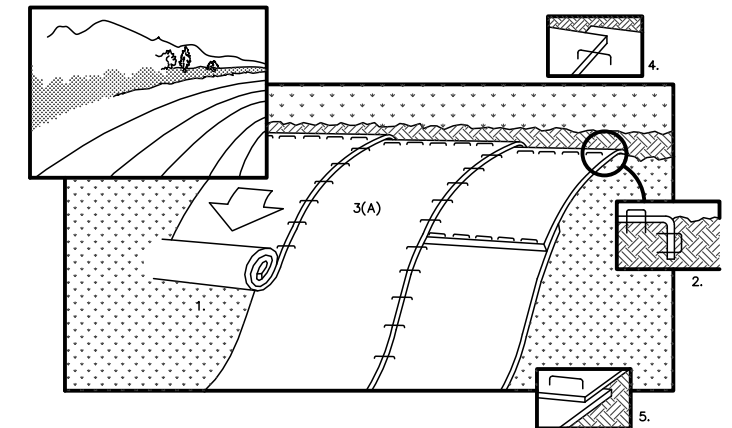
ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 INCH.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

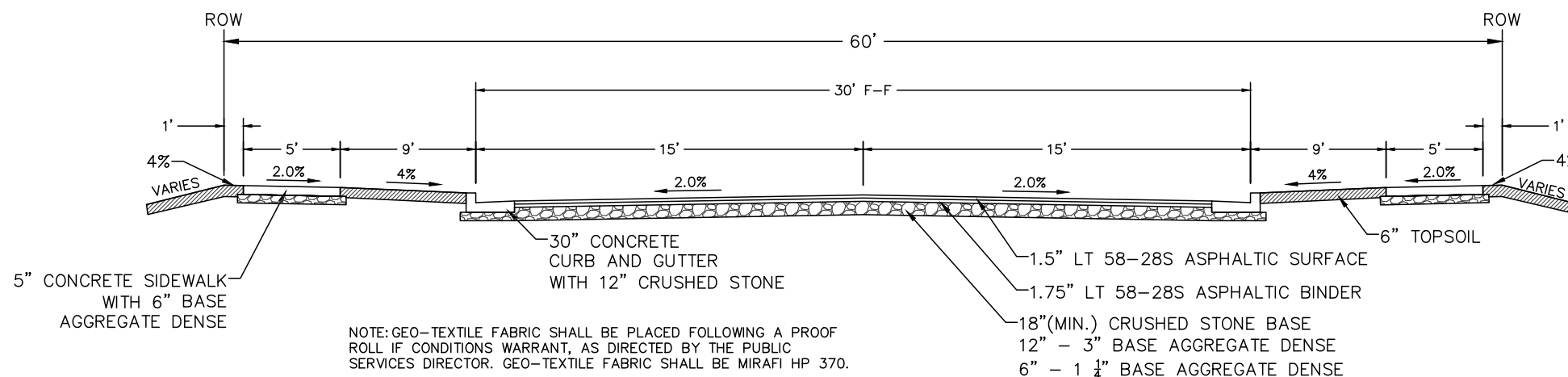
TREE PLANTING DETAIL



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
7. SLOPES 5:1 SHOULD BE COVERED WITH CLASS I TYPE A AT A MINIMUM.

EROSION CONTROL MAT - SLOPE INSTALLATION



NOTE: GEO-TEXTILE FABRIC SHALL BE PLACED FOLLOWING A PROOF ROLL IF CONDITIONS WARRANT, AS DIRECTED BY THE PUBLIC SERVICES DIRECTOR. GEO-TEXTILE FABRIC SHALL BE MIRAFI HP 370.

TYPICAL ROADWAY CROSS-SECTIONS

SPERLE CORNERS - VILLAGE OF MCFARLAND

DETAILS

SHEET: C-16

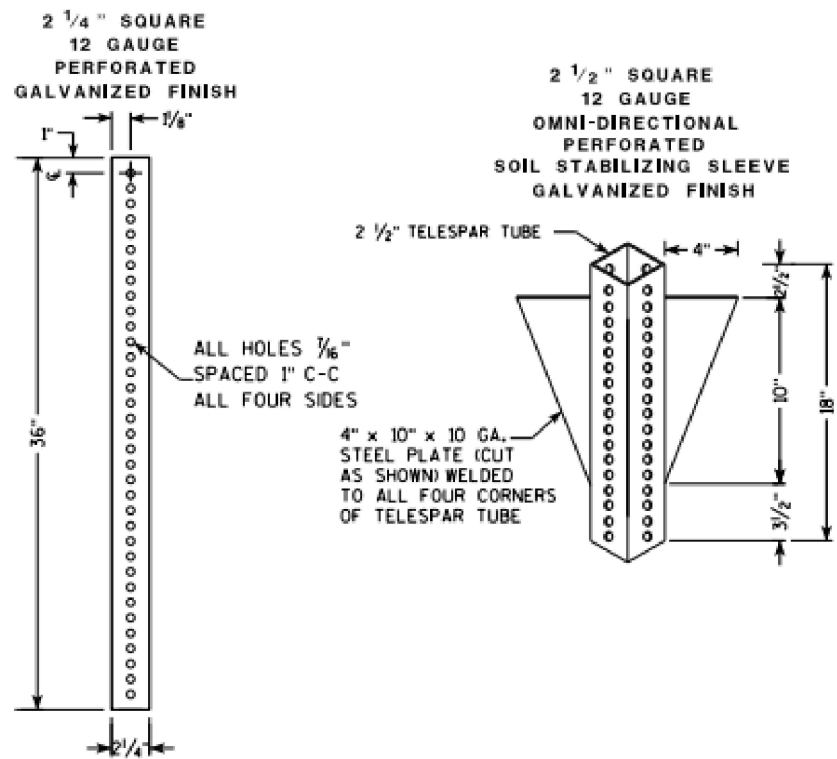
DATED: AUGUST 28, 2025

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants

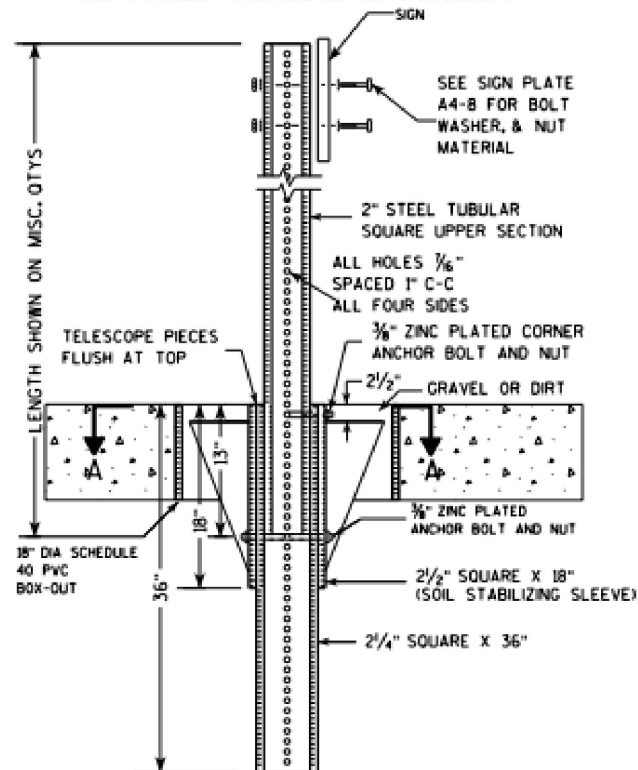
www.quamengineering.com

4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752

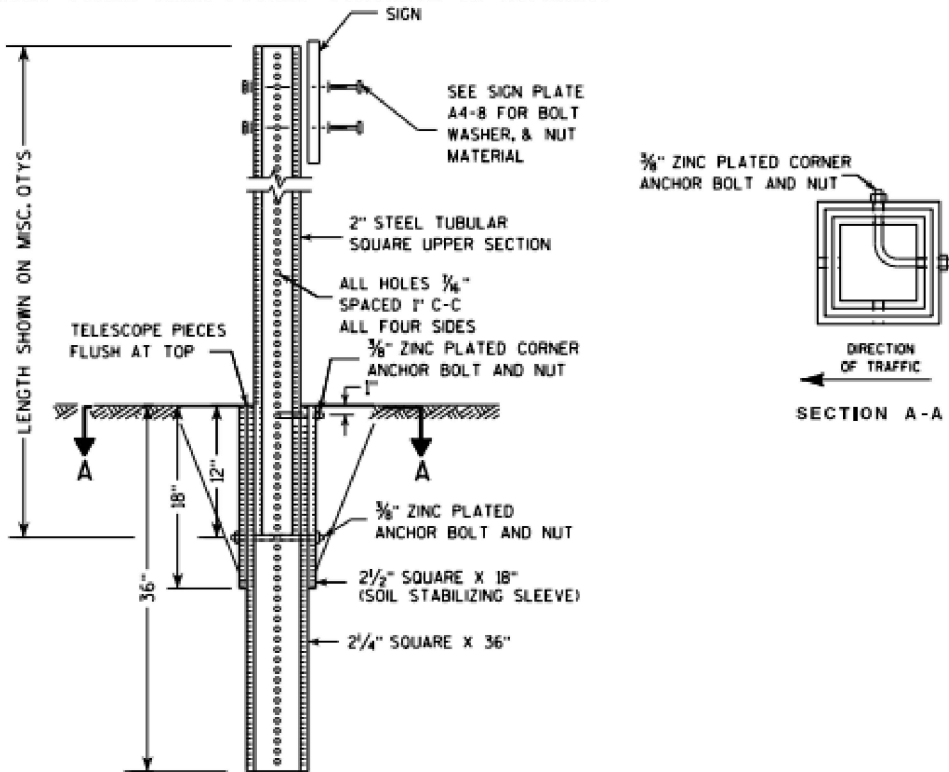
**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**

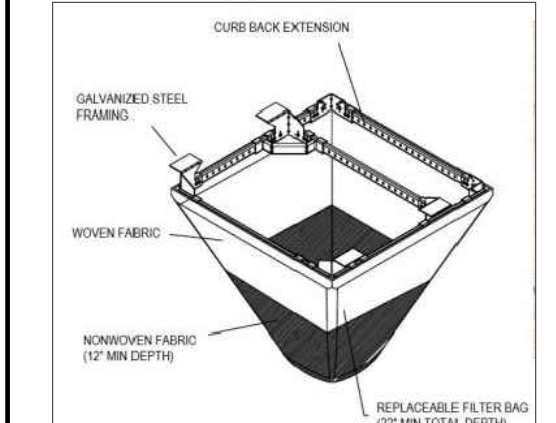
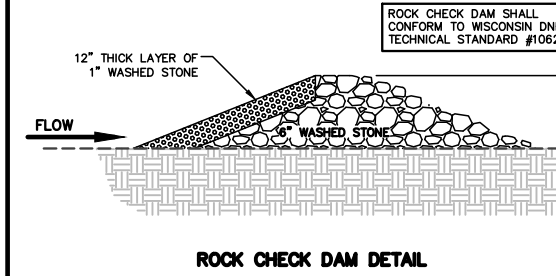
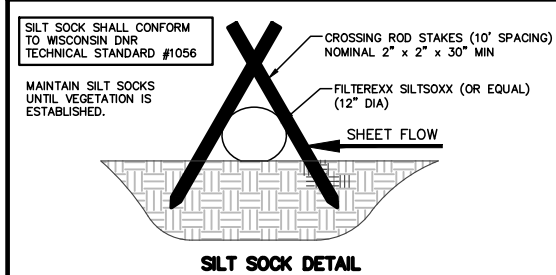
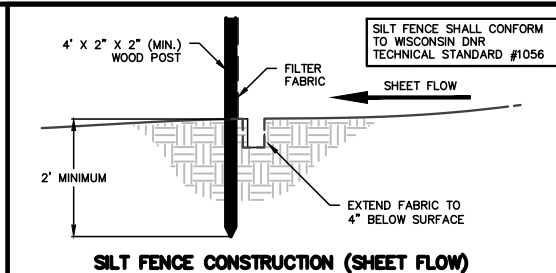
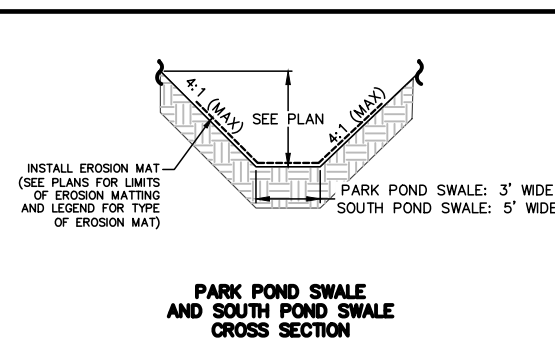


**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**

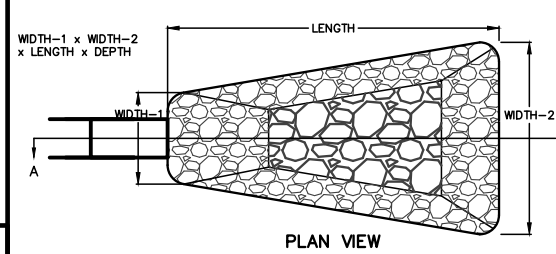


Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

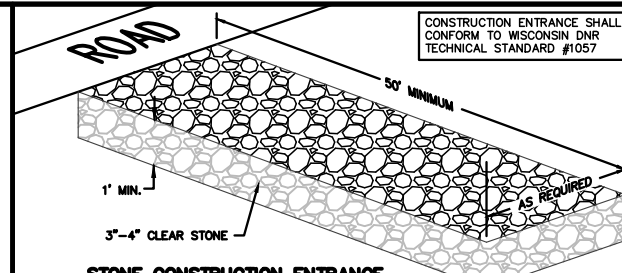


FRAMED INLET PROTECTION MUST MEET THE FOLLOWING SPECIFICATIONS:
 - ALL ASTM STANDARD D8057-17 REQUIREMENTS
 - NO PART OF INLET PROTECTION PROJECTING ABOVE THE GRATE
 - CAPTURE RUNOFF ENTERING BOTH GRATE AND CURB OPENING
 - "DUAL FABRIC" FILTER BAG, WITH NONWOVEN BOTTOM AND WOVEN TOP



% PASSING BY WEIGHT	SIZE (INCHES)
100	20
50-85	15
20-50	10
5-20	5
0-5	2

RIPRAP SHALL BE PLACED AS DEFINED IN SECTION 606 OF WISCONSIN D.O.T. SPECIFICATIONS. STONE PIECES SHALL BE WELL GRADED, RANGING IN DIAMETER AS DESCRIBED IN THE ADJACENT CHART.



EROSION NOTES:
 THE STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE STONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENT ONTO THE PUBLIC STREET. SEDIMENT REACHING PUBLIC STREET SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.

EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.

OUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
 ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED WITHIN 14 DAYS OF LAST ACTIVITY. ALL DISTURBED AREAS SHOULD BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING.

PERIMETER CONTROL SHALL BE INSTALLED AROUND STOCKPILES, AND STOCKPILES SHALL BE STABILIZED THAT WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
 EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

TIME SCHEDULE:
 SEPTEMBER 15 - OCTOBER 1, 2025 INSTALL INITIAL EROSION CONTROL DEVICES AND ROUGH GRADE SITE.
 OCTOBER 1, 2025 - MAY 15, 2026 CONSTRUCT UTILITIES AND STREETS. RESTORE ALL PVIOUSLY DISTURBED AREAS.

RESTORATION NOTES:
 RESTORATION SHALL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL.

ALL PVIOUSLY DISTURBED AREAS SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, SEED, AND MULCH. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. SEED MIXTURE 40 SHALL BE USED ON ALL DISTURBED AREAS. ALL SEED MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX.

ALL PVIOUSLY DISTURBED AREAS SHALL RECEIVE FERTILIZER. FERTILIZER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 8%; POTASH, NOT LESS THAN 8%. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. SEED MIXTURE 40 SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. MULCH SHALL CONSIST OF HAY OR STRAW APPLIED AT THE RATE OF TWO (2) TONS PER ACRE.

SEEDING FROM SEPTEMBER 16 THROUGH NOVEMBER 15 IS TO BE AVOIDED TO PREVENT FREEZING OF NEW GROWTH. DORMANT SEEDING, IF NECESSARY, SHALL BE COMPLETED AFTER NOVEMBER 15. DORMANT SEEDING SHALL NOT BE APPLIED ON TOP OF SNOW. DISTURBED AREAS SHALL HAVE EROSION MAT APPLIED OVER DORMANT SEEDING. IF DORMANT SEEDING DOES NOT RESULT IN AT LEAST 70% COVER BY MAY 15, ADDITIONAL SEEDING SHALL BE REQUIRED.

OWNER: LAKESTONE PROPERTIES & MANAGEMENT, LLC
 ATTN: BRETT RIEMEN
 BRIAN SPANOS
 5910 MAIN STREET, SUITE 1
 MCFARLAND, WI 53558

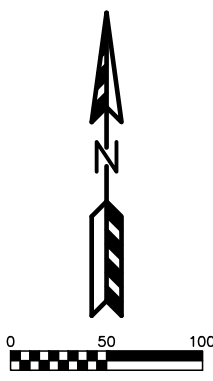
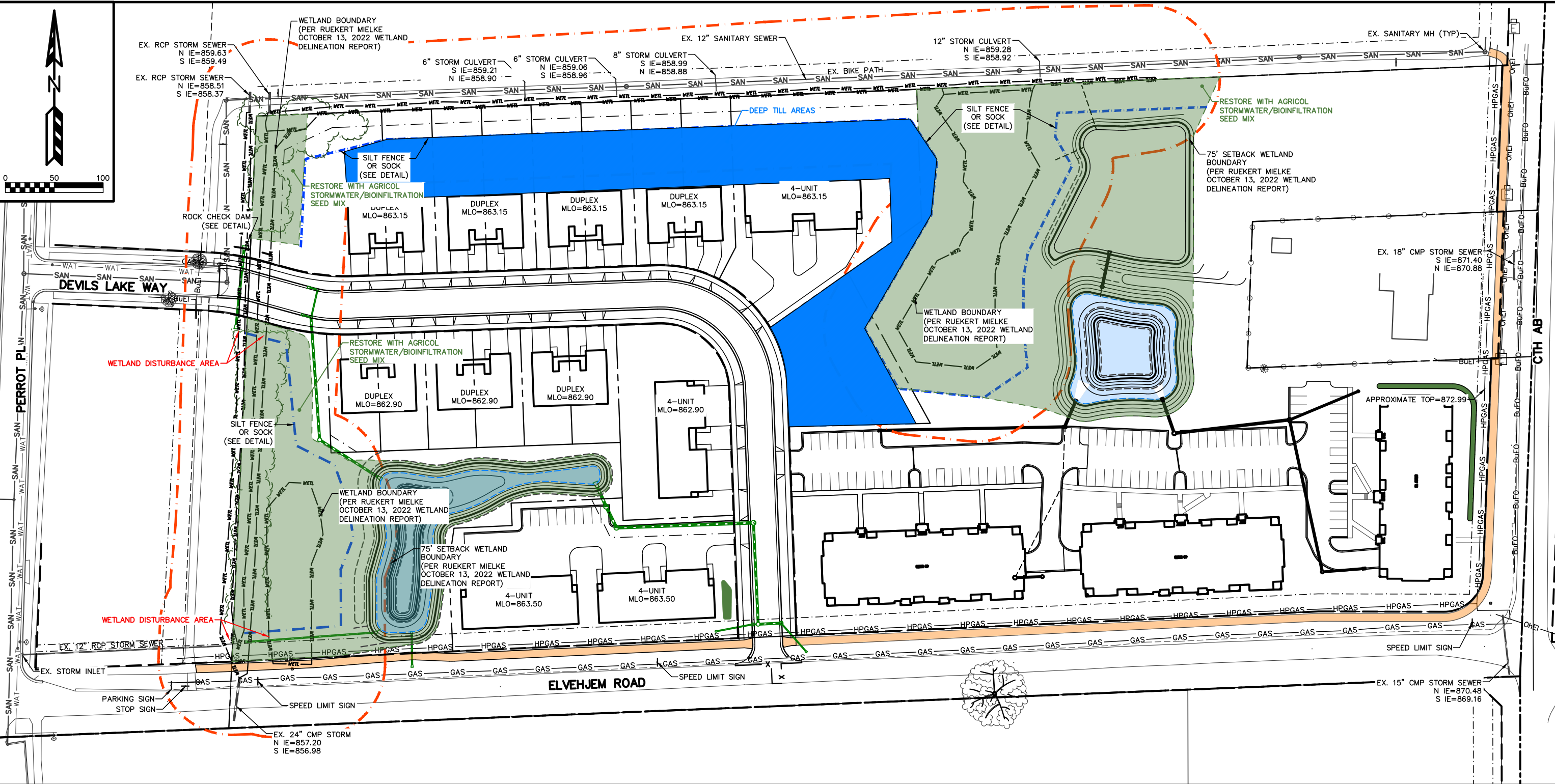
ENGINEER: QUAM ENGINEERING, LLC
 ATTN: RYAN QUAM
 4604 SIGELKOW ROAD, SUITE A
 MCFARLAND, WI 53558

- EXCAVATED MATERIAL FROM THE UTILITY TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE PUBLIC SERVICES DIRECTOR SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
- ALL SILT FENCE SHALL BE PROPERLY INSTALLED, MAINTAINED, AND REMOVED UPON ESTABLISHMENT OF TURF.
- ALL SITES SHALL BE ADEQUATELY PROTECTED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- ACCESS TO THE CONSTRUCTION SITE SHALL BE LIMITED TO THE STONE ENTRANCE PADS SHOWN ON THE PLANS.
- STREETS SHALL BE SWEEP CLEAN EVERY DAY.
- EROSION MAT IS REQUIRED FOR ALL RESTORATION ON SLOPES AT OR GREATER THAN 5:1, AND IN AREAS THAT CHANNEL WATER. EROSION MAT SHALL ALSO BE PROVIDED IN ALL STREET TERRACES WITHIN THE ROW.
- EROSION MAT AND STAPLES SHALL BE BIODEGRADABLE (CURLEX NET FREE OR APPROVED EQUAL).
- ALL STORM WATER MANAGEMENT FACILITIES SHALL BE SEEDDED WITH A NATIVE SEED MIXTURE WITHIN THE LIMITS OF THE OUTLOT OR EASEMENT. THE NATIVE SEED MIXTURE SHALL BE APPROVED BY THE DIRECTOR OF PUBLIC SERVICES.
- ANY PROPOSED CHANGES TO THE GRADING AND EROSION CONTROL PLAN MUST BE SUBMITTED TO THE VILLAGE ENGINEER AND APPROVED.

SPELRE CORNERS - VILLAGE OF MCFARLAND

DETAILS
 SHEET: C-17
 DATED: AUGUST 28, 2025

QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants
 www.quamengineering.com
 4604 Sigelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752



SPERLE CORNERS - VILLAGE OF MCFARLAND
 WETLAND AND POND RESTORATION PLAN
 SHEET: C-1
 DATED: AUGUST 5, 2025

QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants
www.quamengineering.com
 4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752

DEVELOPMENT AGREEMENT FOR SPERLE CORNERS

This Development Agreement for Sperle Corners (the “**Agreement**”) is made as of the ___ day of _____, 2025, by and between the Village of McFarland, a Wisconsin Municipal Corporation (“**Village**”) and Lakestone Properties & Management, LLC, a Wisconsin limited liability company (“**Developer**”).

WITNESSETH:

WHEREAS, Developer is the fee simple owner of the real property described in Exhibit “A”, attached hereto and incorporated herein by reference (the “**Property**”); and

WHEREAS, Developer wishes to develop the Property as a platted subdivision, to be known as Sperle Corners (the “**Plat**”), for such purposes as may now or hereafter be permitted under the applicable zoning of the Property (the “**Development**”); and

WHEREAS, Developer agrees to construct the Development on the Property in accordance with this Agreement, and all applicable rules and regulations of any governmental authority having jurisdiction, including but not limited to applicable ordinances, rules and regulations of the Village; and

WHEREAS, it is the intention of the parties that this Agreement govern all future phases of the Development, the estimated extent of each such phase being described in Exhibit “A” (each as may be subsequently modified hereafter a “**Phase**” and collectively the “**Phases**”) with the understanding that the development of future Phases shall comply with the approved engineering plans described in Exhibit “B”, attached hereto and incorporated herein by reference, and that future Phases are to be commenced only after approval and execution of an appropriate amendment to this Agreement; and

WHEREAS, Developer wishes to proceed with the installation of public improvements to serve the Development in conformance with Village requirements (the “**Improvements**”); and

WHEREAS, execution of the final Plat by the Village and the recording thereof is contingent upon the execution of this Agreement and the submittal of all documents required by this Agreement; and

WHEREAS, this Agreement contains the following exhibits provided for under this Agreement, all of which are incorporated herein as if fully set forth:

Exhibit “A”: Legal description of plat and estimated phasing plan

Exhibit “B”: Engineering plans

Exhibit "C": Parkland dedication and fees in lieu of dedication

Exhibit "D": Restriction as to future sale of lots

Exhibit "E": Public Improvement Costs Secured by Surety

Exhibit "F": Properties Subject to East Side Sanitary Sewer Interceptor Assessments and Developer's Share

NOW, THEREFORE, in accordance with the above recitals, the granting of approval for the development of the Property by the Village so as to permit Developer to sell lots in the Development to third parties, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, it is agreed by and between the parties hereto as follows:

1) Covenant to Develop. Developer agrees to develop the Property in accordance with the terms, covenants and conditions of this Agreement, and all Laws and Ordinances.

2) Improvements. Developer agrees to fully comply with any and all provisions of the Village Subdivision Ordinances, whether or not specifically addressed in this Agreement, other than where the Village Board has granted variances to provisions of the Village Subdivision Ordinances and to construct or install all required Improvements in a good and workmanlike manner in accordance with plans approved by the Village. The Developer and the Village hereby specifically agree as follows:

A. Streets, Storm Sewer, Sidewalks and Paths.

1. The Developer shall install curb and gutter, storm sewer and inlets, sidewalks, paths, and pavement on all streets within the Plat, to the established standards and/or specifications of the Village as specified in the approved engineering plans, on a Phase by Phase basis.

2. Elvehjem Road and CTH AB, Future Path. The cost to design, construct, and install the 8' path along Elvehjem Road from the intersection of Devil's Lake Way to CTH AB, and continuing north to the northern property line of the Plat, shall be a future obligation of the Developer to be incurred as part of future Phases of the Development. The Developer acknowledges that in the event that the Village designs, constructs and installs this path prior to the commencement by the Developer of Apartment Buildings #2 and #3, the Developer shall reimburse the Village for the associated costs.

3. The Developer shall construct and maintain suitable access to Elvehjem Road for the use by construction vehicles and contractors throughout all Phases of the construction of the Development

4. Developer shall complete construction, at its sole expense, of any improvements to CTH AB as may be required by the County of Dane for development of the Property and provide County of Dane Highway Department approval before starting work. The Developer acknowledges that in the event that the Village designs, constructs and installs improvements to the intersection of CTH AB and Elvehjem Road prior to the Developer constructing their required improvements, the Developer shall reimburse the Village for that portion of the intersection improvements required by its development.

5. The Developer shall proof roll all subgrade to provide adequate stability for road construction, prior to the placement of crushed aggregate base course and again upon completion of the base course installation. The Developer shall coordinate with the Director of Public Works to observe the proof rolling prior to the paving of the lower lift (binder).

6. The Developer shall pave the upper lift (surface) of asphalt on all streets during the construction season following the season during which the lower lift (binder) is installed. During binder installation, asphalt shall be wedged near the inlets in order to force water into the curb inlets rather than allowing water to bypass the inlets.

7. Initial construction plans for the Improvements described in subparagraph (A)(1), above, have been presented for approval by the Village.

B. Street Lights and Street Signs. The Developer shall pay for and install a street lighting system and street name signs along public streets and ways within or adjoining the Property according to plans and specifications approved by the Village. The Developer shall be responsible for the Pole and Fixture Contribution to Alliant Energy for street light installation and shall make payment thereof prior to installation. If the Developer contemplates the use of street lights other than the Village standard, then the Developer shall present the nonstandard street light design to the Village for approval. The Developer or the Development subdivision association (the “HOA”), as applicable, shall bear all costs for installation and long-term maintenance of nonstandard street lights should the Village agree to their use.

C. Regulatory Signs. The Developer will place the required regulatory signs as specified in the approved Plans. All signage shall be in accordance with the MUTCD and Village Ordinances.

D. Sanitary Sewer.

a) The Developer shall provide utility easements, construct, install and furnish a complete sewerage system, including public mains to serve the Plat, in accordance with the plans and specifications submitted to and approved by the Village and the State of Wisconsin Department of Natural Resources. Laterals shall be extended five feet beyond the public right-of-way line or to the outer limits of the associated public utility easement where no right-of-way is present. Lateral ends shall be marked with a red painted 4' x 4' post extending approximately 12" above finish grade. Laterals shall be installed with an underground tracer wire according to the details on the approved Plans. Adequate easements shall be provided on the plat or by separate instruments for sanitary sewer main proposed outside of the right-of-way.

b) No sanitary sewer main installation shall be accepted by the Village until satisfactory low pressure air test and mandrel results are obtained. The Developer or its Contractor shall provide the Village with satisfactory low pressure air tests and mandrel results, and televising results, prior to requesting Village Acceptance of any sanitary sewer main installation.

c) The cost of construction of the sewer system shall be paid by the Developer.

d) The incremental cost for pipe sizes greater than eight-inch (8") diameter shall be borne by the Village, and either credited or reimbursed to the Developer. The incremental cost shall be based only on the retail price of pipe and fittings.

E. East Side Sewer Interceptor. The Village previously constructed the East Side Sewer Interceptor (the "Sewer Interceptor") located adjacent to the west and north property lines of the Property. The Village has previously adopted a Preliminary Assessment Report which includes a cost per dwelling unit of \$1,389.02 for benefitted properties, including the Property. The Village and Developer hereby acknowledge that the initial construction plans for the Improvements described in subparagraph (A)(1), above, do not contemplate connections to the Sewer Interceptor and therefore at this time no special assessment is due from the Developer. The Developer hereby acknowledges that if the Improvements described in subparagraph (A)(1), above, are modified in a manner such that sanitary sewer from the Development, or any future Phases, connects to the Sewer Interceptor, the Village may specially assess the cost of the Sewer Interceptor against benefitted properties, including the Property, attached hereto as Exhibit "F".

F. Madison Metropolitan Sewerage District Charges. The Developer shall pay to the Village the area sewer assessment and treatment plant charges as determined by the Madison Metropolitan Sewerage District ("**MMSD**") on or before the date such payment is due from the Village to MMSD. Subject to the approval of MMSD,

and the recording of an appropriate deed restriction if required by MMSD, the assessments to be charged by MMSD will be based on the land area contained within the plans submitted to MMSD. The parties agree that such plans shall be submitted on a Phase by Phase basis. Payment for any Phase shall be made prior to commencement of that Phase's construction. If notwithstanding submission of the plans on a Phase by Phase basis, MMSD shall charge assessments based on the entire Plat, or on a basis other than the lands contained within a Phase, Developer shall pay the Village the entire assessment which MMSD shall bill to the Village.

G. Water.

a) The Developer shall provide utility easements, construct, install and furnish a complete water distribution system, including public mains to service the Property, in accordance with the plans and specifications submitted to and approved by the Village and the State of Wisconsin Department of Natural Resources. Service laterals shall be extended five feet beyond the public right-of-way line or to the outer limits of the associated public utility easement where no right-of-way is present. Curb boxes shall be Mueller Minneapolis boxes with 1.5" diameter extension. All water service fittings shall be compression fittings; no flared fittings are allowed. Lateral ends shall be marked with a blue painted 4' x 4' post extending approximately 12" above finish grade. Water main pipe shall be ductile iron, Class 52. All water main tees, valves, bends, hydrants, reducers, etc. shall be mechanically restrained, with polyethylene encasement and tracer wires in addition to joint connectivity. Valve boxes must include gate valve adaptors by Adaptors, Inc. Appropriate flushing devices shall be installed at all temporary ends of the water mains. Adequate easements shall be provided on the associated Plat or by separate instruments for water distribution lines proposed outside of the right-of-way.

b) Water main installations shall not be accepted until a bacteriologically safe sample and satisfactory pressure and leakage test results are obtained. The Developer or its Contractor shall arrange for the flushing of the main and collection of the samples required for this testing by, or under the direction and supervision of, a Village employee. Upon completion of the water mains and service laterals and Acceptance of the system by the Village, ownership and control of the system (except service laterals, which shall be privately owned and maintained) shall be turned over without reservation to the Village. When required by the Village Engineer, the water mains shall be provided in locations, sizes, and depths necessary to serve future developments and Phases.

c) The cost of construction of the water system shall be paid by the Developer. The incremental cost for pipe sizes greater than eight-inch (8") diameter shall be borne by the Village and either credited or reimbursed to the Developer. The incremental cost shall be based only on the retail price of pipe and fittings.

d) Elvehjem Road, Future Water Extensions and Fire Hydrants. The cost to design, construct, and install the water system along Elvehjem Road from the intersection of Devil's Lake Way to CTH AB shall be a future obligation of the Developer to be incurred as part of future Phases of the Development. The incremental cost for pipe sizes greater than eight-inch (8") diameter shall be borne by the Village and either credited or reimbursed to the Developer. The incremental cost shall be based only on the retail price of pipe and fittings. The Developer acknowledges that in the event that the Village designs, constructs and installs this water main prior to the commencement by the Developer of Apartment Buildings #2 and #3, the Developer shall reimburse the Village for the associated costs, less the incremental cost for pipe sizes greater than eight-inch (8") diameter which shall be borne by the Village. The incremental cost shall be based only on the retail price of pipe and fittings.

e) CTH AB, Future Water Extensions and Fire Hydrants. In the event that future water main is required by the Developer within the right-of-way of CTH AB from the intersection Elvehjem Road to the northeast corner of the Plat, the Developer hereby agrees that the cost to design, construct, and install the water system along CTH AB from the intersection of Elvehjem Road to the northeast corner of the Plat shall be a future obligation of the Developer to be incurred as part of future Phases of the Development. The incremental cost for pipe sizes greater than eight-inch (8") diameter shall be borne by the Village and either credited or reimbursed to the Developer. The incremental cost shall be based only on the retail price of pipe and fittings.

H. Fire Hydrants. Fire hydrants (Waterous Pacer WB 67) shall be installed by the Developer according to the Plans.

I. Stormwater/Surface Water Drainage. The storm water management and conveyance system, including post-construction Best Management Practices (BMPs), inlets, manholes, pipes, swales, and appurtenances, shall be installed by the Developer as shown on the approved Plans and Village Ordinances. Adequate easements and deed restrictions shall be provided for any stormwater conveyance system components that are located outside of a publicly dedicated outlot or rights-of-way within the Development. Adequate access shall be provided to and around all detention basins for Village personnel and equipment to maintain such basins. Such access shall be within a publicly dedicated outlot or right-of-way, except where easements over adjacent private land are approved by the Village Engineer.

Stormwater facilities shall be planted with native seed mixtures and/or native plug plantings conducive to the site conditions, according to the approved Plans.

Pursuant to §236.29(4), Wis. Stats., dedication to the public of lands intended to include permanent facilities for stormwater management as shown on a plat is not accepted until 80% of the lots in the subdivision are sold and a professional engineer has certified that the facility is in proper working condition, construction

sediment has been removed and required plantings are fully-established and reasonably free of invasive species.

Within the final month of the guarantee period associated with each stormwater basin constructed under this Agreement, as specified in Section 4 of this Agreement, the Developer shall survey and remove all sediment that may have accumulated before or during the warranty period from such stormwater basin.

J. Erosion and Sedimentation Control. The Developer shall construct, install, furnish and effectively implement adequate facilities for erosion and sedimentation control throughout the entire Property in accordance with the plans and specifications submitted to and approved by the Village. No contractors shall commence installation of Improvements prior to the installation of approved erosion control measures and receipt of an erosion control and stormwater management permit. Contractor work prior to such conditions shall be subject to Village citation per the Ordinances, which the Village may issue to the Developer. Street terrace areas shall be seeded and mulched from curb to the sidewalk. All disturbed land including topsoil stockpiles shall be seeded and stabilized for erosion control immediately following the completion of site grading.

K. Street Trees. The Developer shall submit a tree planting plan for approval by the Village Forester. All trees shall be of approved species and planted as required by Village Ordinances. Street trees shall be located such that they do not conflict with utility services and/or driveways. At Village's option Developer shall either:

a) Pay to the Village the estimated cost of the trees to be planted in each Phase of the Development at the same time as Developer submits to the Village the Development Agreement or appropriate Amendment for the Phase in question. The Village shall be responsible for planting all trees within the Phase prior to completion of the final lift of asphalt on the public streets; or

b) Plant the trees in accordance with the approved plan. In such event, the Developer shall post with the Village Clerk prior to commencing work on a Phase, Surety, as that term is defined below, in the appropriate amount for the tree planting plan approved by the Village for such Phase of the Plat prior to commencement of construction of any Improvements for such Phase.

c) Trees shall have a minimum diameter of 1.5 inches per tree as measured at six (6) inches above ground level as required by Village Ordinances. It shall be the sole responsibility of the Village and homeowners to maintain said tree plantings in accordance with the Ordinances.

L. Plat Monumentation. The Developer, through information assembled by a Professional Land Surveyor, shall provide evidence that all monuments have been set per Wis. Stat. §236.15, as amended. If approved by the Director of Public Works, only

the exterior boundary monuments need be set at the time of the plat recording, with the placement of the interior monuments deferred pursuant to Wis. Stat. §236.15(1)(h), as amended, for a reasonable period of time determined by the Director in order to allow for construction of Improvements that may otherwise interfere with monumentation. If such approval is granted, the Developer shall increase the amount of the required security to include 120% of the estimated cost for future monumenting.

M. Maintenance. The Developer shall control weeds and all growth of natural vegetation during the process of completing the Improvements in a manner that is consistent with the Ordinances. The Developer shall have this responsibility on all private lots before they are transferred to another party, and on all public rights-of-way or other dedicated lands until all Improvements that are required to be installed by the Developer are in fact installed and Accepted by the Village. The Developer shall coordinate cleaning of all streets affected by construction of the Improvements to the satisfaction of the Director of Public Works. If, in the opinion of the Director, additional street cleaning is needed to control a potential erosion or nuisance problem (including surface water runoff from a lot or outlot within the Development), the Village reserves the right to perform street cleaning and invoice the Developer at a standard rate set by the Village. Such cleaning shall not be considered as a substitute for standard erosion control measures, nor relieve the Developer of any liability under the Ordinances. This general street cleaning requirement shall only be an obligation of Developer until acceptance of all of the Improvements.

N. House Numbering. Prior to the occupancy of any housing unit, numbers shall be installed on that unit identifying the street address, which shall be clearly visible and readable from the street at all times. The Village Zoning Administrator shall assign house numbers for each lot and notify the Developer upon assignment.

O. Other Requirements. The Developer shall be responsible for ensuring proper construction of all items listed herein or as required by local or state regulations whether or not included in this Agreement. All requirements and conditions of the Director of Public Works' approval shall be adequately satisfied on the Plans and implemented during construction of the Improvements. Other requirements may be imposed as determined reasonably necessary by the Director and/or as listed in the Ordinances.

P. Pre-Construction Meetings. A pre-construction meeting shall be scheduled between the Developer, the Contractors, and the Village prior to commencement of any construction on the Improvements for each Phase. The Developer shall, prior to each such meeting, notify all utilities of the planned construction and the date and location of the pre construction meeting. As part of the preconstruction meeting for Outlot 1 the Village Forester shall field mark any existing trees along the west side of Outlot 1 that should be removed or saved by the Developer as part of improvements to Outlot 1.

Q. Inspection and Acceptance of Work.

a) Compaction testing shall be performed by an independent testing laboratory at intervals determined by the Village on the backfill for all underground utility construction and in all fill areas within public road rights-of-way. The Village or its designee shall be present during the performance of all required acceptance tests. The Village or its designated inspector, shall conduct a final inspection of all Improvements and, if acceptable, certify such Improvements as being in compliance with the standards and specifications of the Village.

b) The Village shall provide timely notice to the Developer whenever inspection reveals that an improvement does not conform to the Village's adopted standards and specifications or is otherwise defective. The Developer shall have 30 days from the issuance of such notice to correct or substantially correct the defect, unless a longer compliance time is specified in this Agreement. The Village shall not declare a default under this Agreement during the 30 days or otherwise specified correction period on account of such defect unless the Village determines that immediate action is required in order to remedy a situation which poses a significant threat to health or public safety. The Developer shall have no obligation to correct defects in or the failure of any improvement found to exist or occurring after the one-year guarantee period expires.

c) The Developer agrees that the Improvements will not be accepted by the Village until:

1. all outstanding fees and charges to be paid by the Developer under the Ordinances or as required by this Agreement have been paid in full;
2. all conditions imposed for the final approvals of the associated subdivision plat has been satisfied;
3. the associated subdivision plat, restrictive covenants, and all required public easements have been duly recorded in the Office of the Register of Deeds for Dane County, Wisconsin;
4. affidavits and lien waivers are received by the Village indicating that all Contractors providing work, services or materials in connection with the Improvements have been paid in full for all such work, services and materials; and
5. the Village has received evidence through a satisfactory title report that no liens (such as outstanding mortgages and special

assessments) or other encumbrances encumber the Improvements, except for those approved in writing by the Village; and

6. the Village has determined that all Improvements have been constructed and/or installed in a good and workmanlike manner, including any work necessary to adequately address the issues outstanding at the time of conditional engineering approval of the Improvements.

3) Insurance Required of Contractors. The Developer shall assure that its general contractor maintains insurance per the schedule in this Section. The Developer shall require the general contractor to provide to the Village's Director of Public Works a current certificate of insurance to evidence compliance with this Agreement. The Developer shall require each Contractor who is not covered by the general contractor's insurance policy, as determined by the general contractor's certificate of insurance, to provide to the Village's Director of Public Works a current certificate of insurance. Insurance certificates shall list the Village of McFarland and Town & Country Engineering as additional named insureds, and all policy provisions or endorsements necessary to evidence the additional insured coverage shall be provided with the certificate. Minimum required coverage limits are:

- A. Workers' Compensation per applicable state and federal law, and in the amount of \$500,000 for employer's liability.
- B. Contractor's Liability Insurance, which shall also include completed operations and product liability coverages and shall not exclude coverage for property under the care, custody, and control of the of the Contractor, in the following amounts:
 - a) General Aggregate (except Products/Completed Operations): \$1,000,000.
 - b) Products/Completed Operations: \$1,000,000.
 - c) Personal and Advertising Injury: \$1,000,000.
 - d) Each Occurrence (Bodily Injury and Property Damage): \$1,000,000. Property damage liability insurance shall provide Explosion, Collapse, and Underground Coverages where applicable.
 - e) Excess Liability—General Aggregate: \$1,000,000.
 - f) Excess Liability—Each Occurrence: \$1,000,000.
- C. Automobile Liability: Either:
 - a) Bodily Injury—Each Person: \$1,000,000; Bodily Injury—Each Accident: \$1,000,000; and Property Damage--\$500,000, OR

b) Combined Single Limit (Bodily Injury and Property Damage)—Each Accident: \$1,000,000.

D. Umbrella policy (pay on behalf form), with limits of \$2,000,000 for bodily injury, personal injury, and property damage on a combined basis.

4) Guarantee of the Work. The Developer agrees to guarantee all work performed under this Agreement against defects in workmanship or materials for a period of one (1) year from the date of Acceptance by the Village. If any damage or defect should appear during this guarantee period, the Developer agrees to make any and all required replacements or repairs of the defective work at the Developer's own expense. This expense includes total and complete restoration of any disturbed surface within the Development or on adjacent property, in a good and workmanlike manner and to the standards provided in this Agreement and the Plans. Each repair or replacement performed pursuant to this Section shall be guaranteed on the same terms and conditions (including the guarantee of all future corrections of defects) for an additional period equal to the original guarantee period from the completion thereof.

5) Park Dedication, Parkland Improvement Fees, Parkland Improvements.

a) The Developer agrees to dedicate, in partial fulfillment of the parkland dedication requirement for the Plat, that number of acres, and in addition, to pay the fee (the "**Park Dedication Fee**") in lieu of dedication for the Plat, as shown in Exhibit "C", attached hereto and incorporated herein by reference. The Park Dedication Fee shall be paid on a per Phase basis, prior to commencement of construction on such Phase, at the rate in effect as of the date on which an amendment to this Development Agreement is entered into for the Phase in question, with the total amount of the Park Dedication Fee being divided by the number of Dwelling Units in the entire Plat, and the resulting sum multiplied by the number of Dwelling Units in the Phase in question. The number of Dwelling Units shall be determined in accordance with the following table:

Single Family Residence = 1 Dwelling Unit
Multi-Family Twin Home = 1 Dwelling Unit per Twin Unit or Condominium Unit
Multi-Family Townhouse = 1 Dwelling Unit per Townhouse Unit or
Condominium Unit
Multi-Family Apartments = 1 Dwelling Unit per Apartment Unit

b) Park Improvement Impact Fees shall be paid upon the issuance of a building permit for each of the final lots of the Development at the then current rate.

c) For public parkland dedicated on the Plat the Developer shall properly grade and seed the parkland according to the approved Plans and pursuant to the Village Subdivision Ordinance, including installation of a water lateral to the property line of all dedicated parklands. In lieu of seeding the park, the Village may require

Lakestone to provide a payment for costs related to the seeding and two years worth of maintenance expenses for the turf within Outlot 2 of the Plat.

d) Park improvements. The Village agrees to design and construct park improvements of its sole discretion within Outlot 2 of the Plat. The Village agrees to construct these improvements on or before December 31, 2027, provided the Developer has met its obligations under sub. paragraph c) above. The Village shall be responsible for the maintenance of Outlot 2 improvements, including turf and playground surfacing after the park improvements have been installed, with the exception that the Developer shall be responsible for two years worth of maintenance expenses for establishment of the turf.

e) Library Improvement Impact Fees, Public Safety Center Impact Fees, Public Water Well Impact Fees and a Public Water Tower Impact Fees, at the then current, rates charged by the Village, will be paid by Developer at the issuance of Building Permits.

6) Time of Completion. Developer shall submit to the Village an amendment to this Agreement specifying the requested Phase of construction and such other matters as are required herein or as may be requested by Developer with respect to the particular Phase in question. Developer agrees that Substantial Completion of a Phase shall occur on or before 18 months after execution of a Development Agreement or an amendment hereto for the Phase in question. The finish course of asphalt shall be constructed by Developer on or before 18 months after Substantial Completion of a Phase. If construction of Improvements in any Phase does not commence within nine (9) months of approval of the associated Plans, the Plans associated with that Phase shall be resubmitted for review and approval. The Improvements shall be subject to any applicable regulations in effect at the time of each review, including any new ordinances enacted by the Village.

7) Reimbursement of Engineering, Inspections, Administrative and Miscellaneous Costs. Pursuant to the Village Subdivision Ordinance, the Developer agrees to reimburse the Village for engineering, inspections, administrative, legal and review fees incurred by the Village prior to and after the recording of the final Plat, at the times specified by the Village.

A. The Village shall provide the Developer with a quarterly accounting of all costs incurred under this Section. Upon request, the Village will provide the Developer with monthly accounting of all costs incurred under this Section.

B. The Developer shall pay all outstanding engineering, inspection, legal and administrative fees prior to the Village signing the final Plat.

C. The Developer shall pay all Village engineering, inspection and administrative expenses incurred after the Village signs the Plat and through the end of all construction in the Development.

8) Method of Improvement. The Developer hereby agrees to engage contractors for all work covered by this Agreement who are qualified to perform the work and who shall be listed as qualified for such work by the Village, or by one of its Commissions in the event the Village or Commission has published lists of approved contractors prior to the date of this Agreement. The Developer further agrees to use materials and make the various installations in accordance with the approved plans and specifications made a part of this Agreement by reference, and including those standard specifications as the Village or its Commission may have adopted prior to this date.

9) As-Built Plans. Prior to final acceptance, the Developer shall provide the Village with as-built plans. As-built plans shall be provided in both an electronic format and in hard copy. As-built plans in electronic format and readable by AutoCAD must be provided showing all horizontal and vertical locations of public sanitary, water, and storm water utilities i.e. manholes, hydrants, water main bends and tee's, valves, sanitary and water lateral curb boxes, inlets, endwalls, etc. All vertical information shall be on NAVD88 datum. The profile drawings must also show the diameter, length and slope of all pipes. In addition, Developer shall provide to the Village as-built-plans showing the finished surface elevations at all lot corners demonstrating positive drainage between lot corners, and also showing the finished surface elevation of all stormwater management ponds, swales and infiltration areas for the Phase in question. The horizontal location of all water and sewer services shall be located as follows:

(i) Sewer laterals shall be located by the distance to the sewer 'wye' from the downstream manhole.

(ii) The ends of stubbed sewer laterals for future connection shall be located and the elevations determined and shown.

(iii) Water laterals shall be located by the distance from the nearest hydrant or valve on the main (whichever is closest) to the corporation stop.

(iv) The distance to the curb stop from the main shall also be provided.

Any bends in the water main shall be indicated by the length from the nearest main-line valve. For mapping purposes, a single electronic point file of the entire development describing the as-built surface features of the new sanitary sewer, water system and storm sewer system, i.e. manholes, hydrants, water main bends, lateral curb boxes, valves, inlets, endwalls, etc., on the Dane County Coordinate system must be provided. This point file must include; northing, easting, elevation (NAVD88), and a point description. The Village's engineer can obtain the electronic file for the surface

features, at the Developer's cost, when requested by either the Village or the Developer, provided that the Developer locates these features in the field. The Village Engineer will update all applicable Village maps and computer water and stormwater models. The cost of updating of Village maps and computer water and stormwater models to incorporate this development shall be borne by the Developer.

All sanitary sewer mains shall be televised in accordance with the Village's standard specifications. A colored DVD of the televising as well as a written report of the location of laterals and lengths of pipe shall be provided to the Village before final acceptance of the sewer.

10) Building Openings. Developer shall place a note on the Plat approved by the Village identifying the lots in the Plat which require certain minimum unprotected building foundation opening elevations two (2) feet above the peak water elevation during a 200-year storm event based on the approved stormwater management plan, so potential buyers are made aware of the lots as to which the foregoing is applicable. Developer shall record a restrictive covenant enforceable by the Village requiring compliance with all minimum opening elevations as shown on the plat.

11) Issuance of Building Permits. Developer shall request from the Village Board the waiver required under Village Ordinances in order to permit Developer to construct a model home. Developer shall provide access to the model home by means of a gravel driveway from a public thoroughfare sufficient to provide emergency vehicle access to the model home. No occupancy permit shall be issued for the model home until completion of all infrastructure Improvements.

12) Responsibility of Village.

A. The Village will perform no repair, maintenance, or snow plowing on any improvement until accepted by the Village. Developer shall assure that all dedicated streets shall be cleared of snow and ice after the issuance of any building permit and prior to acceptance by the Village Director of Public Works.

B. Except for the surface course of asphalt pavement, the Village shall accept the completed Improvements upon satisfactory testing and inspection of the same in accordance with the Village's standard practices, satisfactory placement of a binder course of asphalt pavement and satisfaction of all conditions of paragraph 2Q hereof.

13) Inspection. The Village shall inspect the status of the work in progress to determine if the work is progressing in a workmanlike manner pursuant to the Village Subdivision Ordinance and accepted industry standards. Notwithstanding the foregoing, the Developer has selected and appointed all Contractors, and the Village shall have no responsibility whatsoever for the Contractors or for the quality of the

materials or workmanship provided by such Contractors. No authority granted herein to the Village in connection with the review or approval of the Improvements, shall be deemed to create any liability whatsoever on the part of the Village or its agents. No inspection of the Improvements by the Village or any agent of the Village shall alter the exclusive responsibility of the Developer for the construction and/or installation of such Improvements in a good and workmanlike manner and in accordance with the approved Plans and specifications.

14) Surety.

A. The Developer agrees to furnish to the Village, and to maintain in effect through the guaranty period provided in Section 4, at Developer's option either a letter of credit or a surety bond (in either case the "**Surety**") for each Phase in the minimum amount of 120% of the cost of the infrastructure Improvements for that Phase, in order to secure performance of this Agreement in accordance with the Village's Subdivision Ordinance. The amount of the Surety for Phase 1 shall include surety for completion of the Park Improvements described in Section 5.c, and in total shall be \$ _____.

B. In the event the Developer fails to complete all Improvements in compliance with this Agreement and the Village approved Plans for the associated Phase, to promptly repair or replace any Improvements as required during the guarantee period, or pay any amounts required to be paid under this Agreement, the Village may perform or have performed all necessary work, and supply or have supplied all necessary equipment, goods, materials or services, to complete, repair or replace all or any part of some or all of the required Improvements in satisfactory form and/or satisfy any payment obligation of Developer hereunder, and recover all costs it incurs from the Surety. As used in this paragraph, "promptly" shall mean that repair or replacement is undertaken without delay, and completed as soon as reasonably practicable thereafter, considering all of the circumstances including, but not limited to, the nature of the required work, the availability of labor and materials, seasonal and other weather conditions, and the remaining term of the Surety, except that Developer's financial condition or circumstances shall not excuse any delay. In the event the Village validly exercises its right to recovery against the Surety, the Developer agrees to pay to the Village all of its costs and expenses, including reasonable attorneys' fees, relating to such exercise, and such expenses shall be recoverable from the Surety. The Surety shall be payable to the Village at any time upon presentation of (i) notice to the surety of the amount which the Village is entitled to be paid pursuant to the terms of this Agreement; (ii) an affidavit executed by the Village President, the Village Administrator or any other authorized Village officer stating that the Developer is in default under this Agreement; and (iii) the original of the Surety (if required by the surety). No provision in any Surety shall grant or require any opportunity for cure beyond that afforded Developer under this Agreement prior to the payment of the Village's claim or draft.

C. As work progresses on installation of Improvements constructed as part of this Agreement, the Village Engineer, upon written request from the Developer from time to time, shall recommend a reduction in the amount of the Surety as hereinafter provided when portions of construction (water, sanitary sewer, street, sidewalk, greenway or other Improvements) have been accepted by the Village. Upon such recommendation, the Village Community & Economic Development Director is authorized to reduce the amount of the Surety. At no time during the construction shall the Surety be reduced to less than fifteen percent (15%) of the original amount, plus any amount determined sufficient by the Village to cover all costs of any remaining construction.

D. Upon written request by the Developer and determination by the Village that the Developer has reached substantial completion of the public Improvements for the Phase in question in accordance with the terms of this Agreement, the Village shall allow the Surety to be reduced to no less than fifteen percent (15%) of the original amount, which shall be held for a period of 14 months from the date of acceptance in accordance with paragraph 2(Q) of this Agreement, and then shall be released in its entirety by the Village.

E. A similar Surety shall be provided by the Developer for each subsequent Phase of the development as required.

F. Exhibit "E", attached hereto and incorporated herein by reference, describes the Public Improvement Costs secured by the Surety furnished by the Developer to the Village for Phase 1 of the Plat. A similar exhibit shall be provided by the Developer for each subsequent Phase of the Development as required.

15) Miscellaneous.

A. Binding Effect. The terms and conditions of the Agreement shall run with the land and be binding upon the parties, their heirs, successors and assigns.

B. No Waiver. Nothing set forth in this Agreement shall be construed as, nor is intended to be, a waiver or release of any obligations imposed upon the Developer or the Village by the Ordinances, or any statutes or regulations applicable to the Improvements. No approval by the Director of Public Works, Village Engineer, Village Attorney, or any other person acting on behalf of the Village shall be construed as a waiver of any of the requirements of the Ordinances, or any statute or regulation governing the Improvements.

C. Developer as Independent Contractor. Notwithstanding any other provisions of this Agreement to the contrary, the Developer is an independent contractor, and nothing herein shall be construed so as to make the Developer, its Contractors or consultants agents of the Village, or the Village, its employees, agents or

consultants agents of the Developer. However, this does not limit the Village regulatory control over Developer regarding the quality of the required work or any other regulatory power of the Village. Furthermore, nothing contained in this Agreement shall be construed as creating any contractual relationship whatsoever between the Developer and the Village's consultants (planning, engineering, financial, and legal) or any persons or entities other than the Village.

D. Remedies for Breach. In the event of any breach by Developer of this Agreement, whether or not subsequently cured, the Developer shall pay, in addition to any damages or other relief obtained by the Village, all of the Village's costs and expenses, including reasonable attorneys' fees, relating to such breach, all of which shall be due and payable as incurred and shall be added to any judgment obtained by the Village.

E. No Third-Party Beneficiaries. This Agreement is intended solely to regulate the obligations of the parties hereto with respect to one another. Nothing in this Agreement is intended to create, admit or imply any liability to any third-party nor to provide any benefit to any person, firm, corporation or governmental or non-governmental entity not a party to this Agreement.

F. Limitation on Damages. In no event and under no circumstances shall the Village be liable under this Agreement to Developer for consequential, incidental, indirect, special or punitive damages, and Developer waives any claim to such damages. By way of example, and not limitation, "consequential damages" include lost profits or income, the cost of replacement financing, damage to reputation, lost business opportunities and loss of property values or anticipated property value increases. This limitation shall be effective regardless of the theory of liability and regardless of any breach or claim of breach.

G. Payment Deadlines. Time is of the essence with respect to all payments required to be made by Developer under this Agreement.

H. Notices. Any notice required hereunder shall be given in writing, signed by the party giving notice, personally delivered or mailed by certified or registered mail, return receipt requested, to the following:

To the Village:

Village Administrator
Village of McFarland
5915 Milwaukee St.
McFarland, WI 53558-0110

To the Developer:

Brett Riemen & Brian Spanos
Lakestone Properties & Management, LLC
5910 Main Street
McFarland, WI 53558

I. Severability. If one or more of the provisions contained in this Agreement shall, for any reason, be held to be invalid, illegal or unenforceable, such invalidity, illegality or unenforceability shall not affect any other provision. If any such provision is held to be invalid as applied to any property or circumstances, such determination shall not affect the applicability of such provision to any other property or circumstances.

J. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original. A facsimile or digitally transmitted signature is deemed the equivalent of an original signature.

K. Recording. Either the Developer or Village may record a copy of this Agreement or a memorandum of this Agreement with the Register of Deeds for Dane County, Wisconsin.

L. Reserved Powers. Nothing contained in this Agreement constitutes a waiver of the Village's sovereign immunity under applicable law. All rights are reserved. This Agreement constitutes the Village's permission to develop the Property in Phases. All future amendments concerning a Phase shall be substantially and materially in conformance with the terms of this Agreement and the requirements of Village ordinances except as otherwise provided in Section 15 (N), below.

M. Governmental Authority. The Developer understands and acknowledges that as a governmental entity, the Village cannot surrender its governmental authority by contract, and nothing in this Agreement shall be construed to preclude or limit the exercise by the Village of any governmental authority vested in it by law.

N. Standards and Ordinances. Whenever references are made in this Agreement to standards, codes, or Ordinances in accordance with which the Development is to be performed, the latest revision of the Village's Ordinances shall apply unless otherwise expressly stated. In case of conflict between any referenced standard or code on the one hand, and any provision of this Agreement on the other hand, the more stringent requirement shall govern. All applicable laws, ordinances, statutes, rules, regulations, or orders in effect at the time the relevant work under this Agreement is performed shall apply to the Developer and its Contractors, employees, and representatives. The Developer shall procure and pay for all permits, licenses, certifications and other applicable governing authority requirements and inspections and shall furnish any documentation, bonds, security, or deposits required to permit any work within Development.

O. Compliance with Laws. The Improvements shall be constructed in accordance with all Village, County, State, and Federal ordinances, laws and regulations. In the event of enactment or amendment of any federal or state laws after the date of this Agreement establishing new requirements or obligations related to any Improvements not yet accepted by the Village, the Developer shall take such action as may be necessary to comply with such laws.

P. Changes in Laws. In the event any future legislation is enacted by the state or federal government which preempts the Village's right to enforce any provision of this Agreement, the parties agree that such legislation shall not affect the obligations hereunder. The Developer waives any and all right it may have under such subsequent legislation to the extent it would affect its rights or obligations hereunder. In the event the rights created or altered by such subsequent legislation are not, or cannot be waived, the Village shall have the right to terminate this Agreement.

Q. Neutral Construction. The parties acknowledge that this Agreement is the product of negotiations between the parties and that, prior to the execution hereof, each party has had full and adequate opportunity to have this Agreement reviewed by, and to obtain the advice of, its own legal counsel. Nothing in this Agreement shall be construed more strictly for or against any party because that party's attorney drafted this agreement or any part hereof.

R. Agreement Interpretation. All questions concerning interpretation or clarification of this Agreement or applicable Village Ordinances, including the discovery of ambiguities, conflicts, discrepancies, errors or omissions, or the acceptable performance thereof by the Developer, shall be immediately submitted in writing to the Village for resolution. The Developer shall, at all times, proceed with the work implementing the Development in accordance with the determinations, instructions, and clarifications of the Village, but all such determinations, instructions and clarifications shall be consistent with the terms of this Agreement. The Developer shall be solely responsible for requesting instructions or interpretations and shall be solely liable for any costs and expenses arising from its failure to do so.

S. Indemnification. The Developer will defend, indemnify and hold the Village and its officials, agents and employees harmless for all losses, claims, liabilities, expenses and costs, including reasonable attorney fees, arising from damages to property or injuries to the person occurring in connection with the making of the Improvements under this contract, except to the extent such damages or injuries are caused by the willful misconduct of the Village and its officials, agents and employees.

T. Restrictive Covenant. Developer agrees to record, contemporaneously with the recording of the Sperle Corners Plat that certain Restrictive Covenant (the "**Restriction**") restricting the sale of lots in future Phases without the prior written

approval of the Village, a copy of which Restriction is attached hereto as Exhibit "D", and incorporated herein by reference.

[Signature page to follow]

Draft

Dated this ____ day of _____, 2025.

VILLAGE OF MCFARLAND

By: _____

Print Name: Stephanie Brassington

Print Title: Village President

Attest: _____

Print Name: Cassandra Suettinger

Print Title: Deputy Administrator/Clerk

STATE OF WISCONSIN)
)ss>
COUNTY OF DANE)

Personally came before me, _____, notary public for the above State and County, this ____ day of _____, 2025, the above named Stephanie Brassington and Cassandra Suettinger, to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity and for the purposes therein intended.

Print Name: _____

Notary Public, State of Wisconsin

My Commission expires:

Lakestone Properties & Management, LLC

By: _____
Brett Riemen, Authorized Signatory

By: _____
Brain Spanos, Authorized Signatory

STATE OF WISCONSIN)
)ss>
COUNTY OF DANE)

Personally came before me, _____, notary public for the above State and County, this ____ day of _____, 2025, the above named Brett Riemen and Brian Spanos, to me known to be the person who executed the foregoing instrument and acknowledged the same in the capacity and for the purposes therein intended.

Print Name: _____
Notary Public, State of Wisconsin
My Commission expires:

EXHIBIT "A"

Page 1 Legal Description of Plat

Being a part of the Southeast one-quarter of the Southeast one-quarter of Section 2, Township 6 North, Range 10 East, Village of McFarland, Dane County, Wisconsin, being more particularly described as follows:

BEGINNING at the Southeast Corner of said Section 2; thence, along the South line of said Southeast 1/4, South 87°41'38" West, 1321.53 feet to the Southwest corner of said Southeast 1/4 of the Southeast 1/4, said point also being the Southeast corner of the plat of Park View Estates, recorded in Volume 57 of Plats on Pages 782 through 785 as Document No. 3459436; thence, along the East line of said plat, North 02°34'49" East, 626.90 feet to the Southwest corner of Lot 3 of Certified Survey Map (CSM) No. 15493, recorded in Volume 111 of CSMs on Pages 284 through 286 as Document No. 5637506; thence, along the South line of said CSM and its Easterly extension, North 87°40'27" East, 1316.58 feet to the Southeast corner of said CSM, lying on the East line of aforesaid Southeast one-quarter; thence, along said East line, South 02°07'34" East, 149.72 feet to the Northeast corner of Lot 1 of CSM No. 1455, recorded in Volume 6 of CSMs on Page 144 as Document No. 1400799; thence, along the North line of last said CSM, South 87°41'15" West, 291.58 feet to the Northwest corner of said Lot 1; thence, along the West line of said Lot 1, South 02°07'34" West, 150.00 feet to the Southwest corner of said Lot 1; thence, along the South line of said Lot 1, North 87°41'15" East, 291.58 feet to the Southeast corner of said Lot 1, lying on said East line of the Southeast one-quarter; thence, along said East line, South 02°07'34" East, 327.23 feet to the **POINT OF BEGINNING**.

The above-described parcel contains 780,586 sq. feet or 17.9198 acres, more or less, and is **SUBJECT TO** easements for Public road right-of-way purposes for Elvehjem Road and County Trunk Highway "AB" and is **ALSO SUBJECT TO** all other matters of record and/or fact.

TO BE PROVIDED BY DEVELOPER

Draft

EXHIBIT "B"

Engineering Plans

See attached.

NOTE: To be updated prior to recording Development Agreement with approved plans.

Draft

EXHIBIT "C"

Parkland Dedication and Fees in Lieu of Dedication

1. Dedication requirement:

147 Duplex, Townhouse and Multi-Family Dwelling Units (collectively "MFDU") @ 1,463 square feet/unit = 215,061 square feet or 4.94 acres.

2. Dedication by plat:

Outlot 2 = 15,342 square feet
8 feet for path Elvehjem Road and
CTH AB (excluding 2921 CTH AB frontage) = 13,663 square feet
Total = 29,005 Square feet or 0.67 acres

3. Fee in lieu of dedication:

215,061 – 29,005 = 186,056 square feet
29,005 / 215,061 = 13.4869% (percent of required dedication provided by developer)

4. Fee in lieu of dedication by unit (by way of example for 2025):

MFDU fee in lieu of dedication = \$3,321.52 (as of 1/1/2025)*
MFDU: 0.134869 x \$3,321.52/MFDU* = \$447.97 per MFDU*
Total = \$2,873.55 per MFDU*

*The Park Fee In Lieu of Dedication shall be paid on a per Phase basis, prior to commencement of construction on such Phase, at the rate in effect as of the date on which this Development Agreement is entered into, or as of the date on which an amendment to this Development Agreement is entered into for the Phase in question.

EXHIBIT "D"

Restriction as to Future Sale of Lots

See attached.

Draft

<i>Document Number</i>	Declaration of Conditions, Covenants and Restrictions Sperle Corners, Village of McFarland, Dane County, WI
	<i>Title of Document</i>

WHEREAS, Lakestone Properties & Management, LLC, a Wisconsin Limited Liability Company (“**Owner**”) owner of those lots described in Exhibit “A” attached hereto and incorporated herein by reference, (the “**Lots**”), will construct certain public work improvements in construction phases as authorized by the Village of McFarland to provide services to said Lots; and

Name and Return Address:

 Allen Reuter
 Reuter, Whitish & Evans, S.C.
 4600 American Parkway, Suite 104
 Madison, Wisconsin 53718

See Exhibit “A”
 (Parcel Identification Number)

WHEREAS, authority to construct said public work improvements in construction phases is contingent upon the Owner recording a deed restriction restricting the sale of Lots included in future construction phases without prior approval of the Village of McFarland.

NOW, THEREFORE, the undersigned Owner hereby declares and provides:

1) The Village of McFarland and Owner have entered into a Development Agreement for Sperle Corners containing certain agreements of the parties with respect to construction and development of the Sperle Corners Subdivision. Record notice is hereby given of such Development Agreement. A copy of the Development Agreement is maintained at the Offices of the Village of McFarland.

2) That the Lots shall not be sold or transferred until such time as an instrument is recorded by the Village of McFarland in the Dane County Register of Deeds office, approving the sale or transfer of said Lots. The Owner shall be entitled to a release of the restrictions contained herein as to those Lots governed by a subsequent development agreement (or amendment to the existing Development Agreement) at such time as surety is provided to the Village of McFarland to ensure the performance of the contract for subdivision improvements for a future construction phase. This restriction shall not be in effect for those lots described in Exhibit “B”, attached hereto and incorporated herein by reference (the “**Phase 1 Lots**”).

Dated this _____ day of _____, 20_____.

Exhibit "A" to Restriction

Lots Subject to Restriction

Lots 1-17 within Sperle Corners, recorded in Volume _____ of Plats on pages _____ as Document Number _____ in the Dane County Register of Deeds Office, located in the Village of McFarland, Dane County, Wisconsin.

NOTE: To be updated prior to recording Restriction.

Draft

Exhibit “B” to Restriction

Phase 1 Lots

Lot 18 within Sperle Corners, recorded in Volume _____ of Plats on pages _____ as Document Number _____ in the Dane County Register of Deeds Office, located in the Village of McFarland, Dane County, Wisconsin.

NOTE: To be updated prior to recording Restriction.

Draft

EXHIBIT "E"

Public Improvements Costs Secured by Surety

See attached.

NOTE: To be provided by Developer prior to recording Development Agreement based on approved plans.

Draft

EXHIBIT “F”

Properties Subject to East Side Sanitary Sewer Interceptor and Developer’s Share

To be determined per Phase

Draft



August 18, 2025

Community & Economic Development Department

Attn: Andrew Bremer
5915 Milwaukee Street
McFarland, WI 53558

Re: Sperle Corners – Village of McFarland

Enclosed are the following documents for the above referenced project:

1. Sperle Corners – Village of McFarland Plan Set (17 Pages)
2. Universal Soil Loss Equation (USLE) worksheet
3. Existing Drainage Plan
4. Pre-Development HydroCAD Report
5. Proposed Drainage Plan
6. Post-Development HydroCAD Reports
7. Phase 1 Storm Sewer Drainage Plan
8. Phase 1 Rational Method Worksheets
9. WinSLAMM Drainage Plan
10. Sediment Control Calculations
11. Hydrologic Soil Information;
12. Soil and Site Evaluation – Storm (2024)
13. Stormwater Management Maintenance Agreement;

The proposed development includes the construction of several new duplexes and 4-unit homes, as well as the construction of larger apartment buildings in phase 2. Phase 1 of the development includes the extension of Devils Lake Way to connect with Elvehjem Road and the construction of seven duplexes and four four-unit buildings as well as a wet pond to meet rate and sediment control standards. Phase 2 includes the construction of three apartment buildings along with the adjacent parking lots. An additional wet pond and infiltration basin are proposed to meet rate, sediment, and infiltration standards.

Runoff to the existing wetlands is being maintained by routing half of the water from the infiltration basin to the central wetland. In addition, the runoff from the back of the north, phase 1 lots is being directed to the northern wetland which is adjacent to the existing bike path along the north side of the property.

The documents are being submitted to address erosion control and stormwater management requirements for the proposed combination of new development for all phases and will meet the following performance standards as defined in the Village of McFarland Ordinance as follows:

Erosion Control

The proposed construction shall include erosion control measures to prevent gully and bank erosion and limit total off-site erosion to less than 5.0 tons per acre per year.

All runoff during construction shall be directed to flow through erosion control measures as shown on the Grading and Erosion Control Plan. The USLE calculation worksheet is included and indicates that soil loss will be less than 5.0 tons per acre per year.

Sediment Control

For new development, the proposed construction shall include design practices to retain soil particles greater than five microns (80% reduction) on the entire site resulting from the one-year 24-hour storm event. For redevelopment resulting in exposed surface parking and drive areas, design practices to retain soil particles greater than twenty microns (40% reduction) resulting from a one-year 24-hour storm event shall be included.

The proposed wet ponds and infiltration basin are designed to retain soil particles greater than five microns (80% reduction) on the entire site resulting from the one-year 24-hour storm event. The sediment control calculations include treatment of the existing roadway as a substitution for portions of the proposed roadway and roof area that will not be treated by the proposed wet ponds and infiltration basin. The detailed sediment control calculations are included as Exhibit #10.

Oil and Grease Control

The first ½” runoff shall be treated using oil and grease removal technology.

Oil and grease control is not required for phase 1 of the site because the driveways and streets will contain minimal vehicle parking, and the proposed use does not include drive-through or vehicle maintenance. Therefore, the site is not a significant contributor of oil and grease.

On phase 2 of the site contains oil and grease control will be provided by the FlexStorm PCP inlet filter.

Runoff Rate Control

All stormwater facilities shall be designed, installed and maintained to effectively maintain pre-development peak runoff rates for the 1, 2, 10, 100, and 200-year, 24-hour storm event.

The proposed wet pond, infiltration basin, wetland seeding, and deep tilling will effectively maintain pre-development peak runoff rates for the 2, 10, 100, and 200 year, 24-hour storm event. The following table summarizes how the proposed stormwater management practices meet standards for peak flow rates. The 1-year rain event is being managed to the greatest extent possible while maintaining drainage to existing wetlands.

Storm Event (Year)	Total Existing Flow Rate (cfs)	Total Proposed Flow Rate Without Pond (cfs)	Total Proposed Flow Rate With Pond (cfs)
1	1.12	24.16	1.42
2	1.86	28.87	1.86
10	6.31	48.23	4.59
100	23.49	92.72	18.74
200	30.50	108.49	29.46

Outlets

Discharges from the site must have a stable outlet capable of carrying the designed flow at a non-erosive velocity.

The wet ponds, infiltration basin, riprap pads, and restored lawn area will provide a stable outlet for the site.

Infiltration

All downspouts, driveways, and other impervious areas shall be directed to pervious areas, where feasible. Additionally, for residential and non-residential developments design practices to infiltrate sufficient runoff volume so that post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on average annual rainfall per Dane County Ordinance. If entire site has 5+ feet of clay-textured soils dedicate 2% of the site to infiltration practices that maximize infiltration and conform to applicable standards.

Due to the clayey soils throughout the site, 2% of the site has been proposed for an infiltration basin and a phase 2 infiltration swale while maintaining the design draw down depth of the infiltration basin.

If the documents are satisfactory, please approve the erosion control and storm water management permits. If you have any questions or comments, please feel free to contact me.

Sincerely,



Mark Fendry, P.E.

CC: Brian Berquist, Town and County Engineering
Brett Riemen, Lakestone Properties and Management

FN: LS-03-19

SPERLE CORNERS RESIDENTIAL SUBDIVISION

STREET AND UTILITY CONSTRUCTION

VILLAGE OF MCFARLAND DANE COUNTY, WISCONSIN

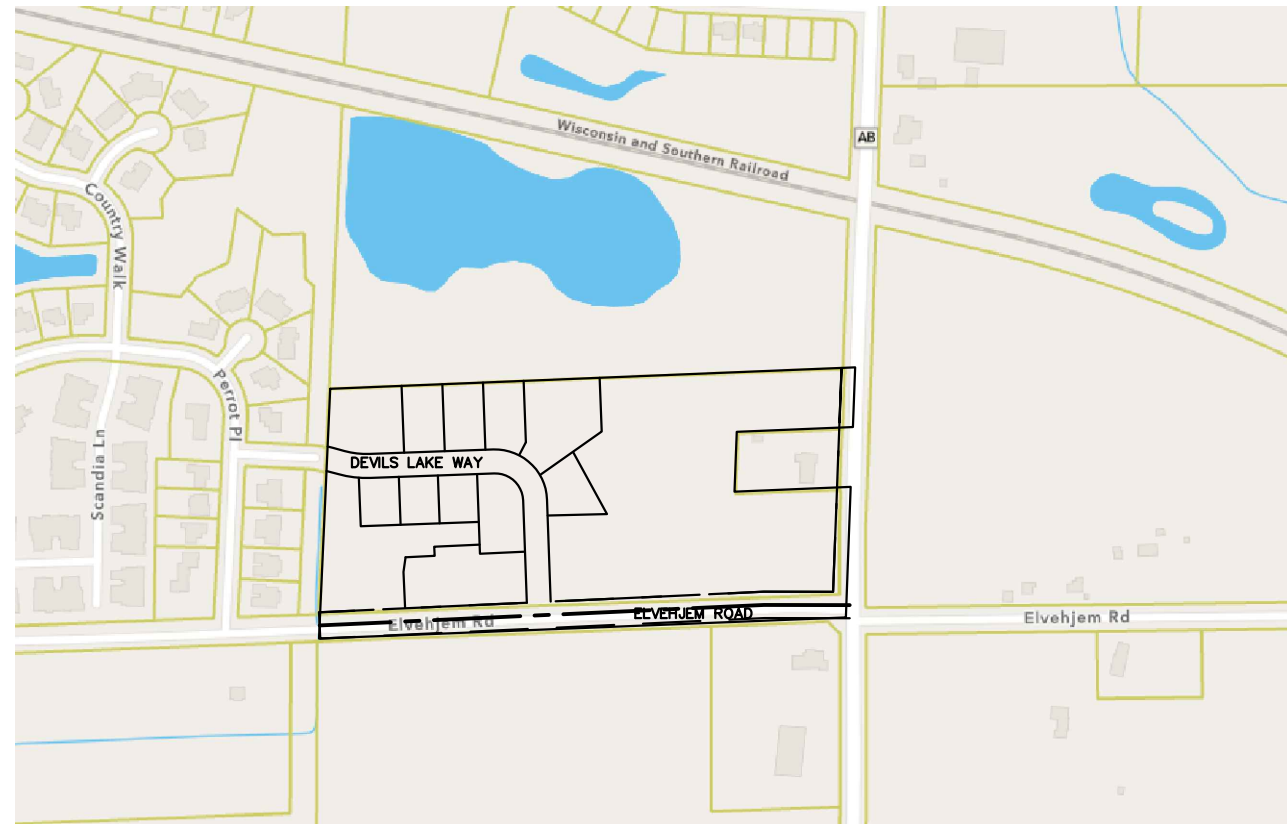
(608) 838-7750

WI 53558

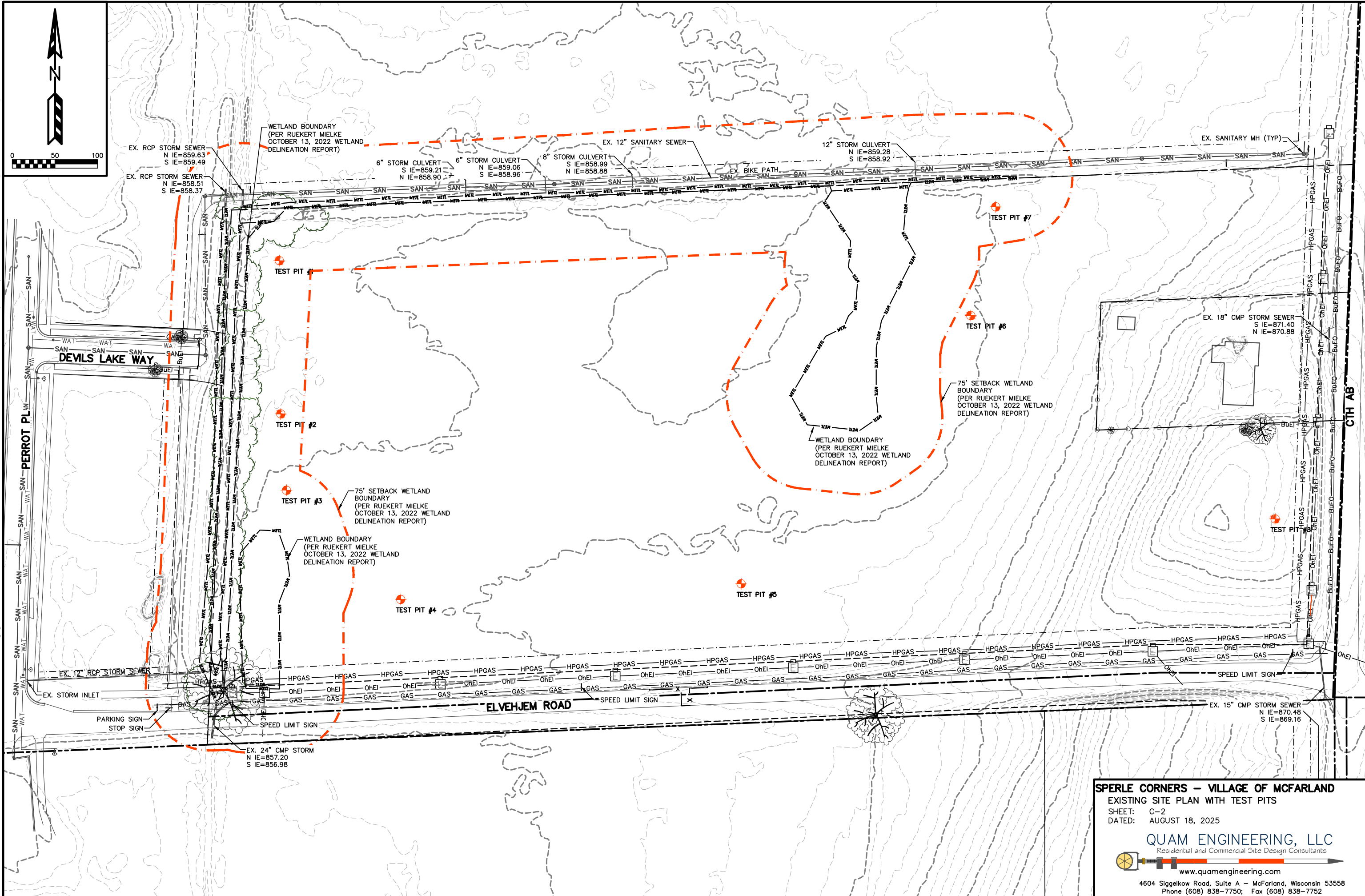
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QUAM ENGINEERING, LLC

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SHEET	STATIONS	DESCRIPTION
1		COVER PAGE
2		EXISTING SITE PLAN
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5		EAST POND PLAN
6	0+00 - 6+00	DEVILS LAKE WAY - PLAN AND PROFILE
7	6+00 - 10+00	DEVILS LAKE WAY - PLAN AND PROFILE
8	20+00 - 27+50	STORM SEWER - PLAN AND PROFILE
9	29+00 - 35+00	STORM SEWER - PLAN AND PROFILE
10	50+00 - 56+00	WATER MAIN - PLAN AND PROFILE
11	56+00 - 62+00	WATER MAIN - PLAN AND PROFILE
12		SIGN & LIGHTING PLAN
13		STREET TREE PLAN
14		DETAILS #1
15		DETAILS #2
16		DETAILS #3
17		DETAILS #4

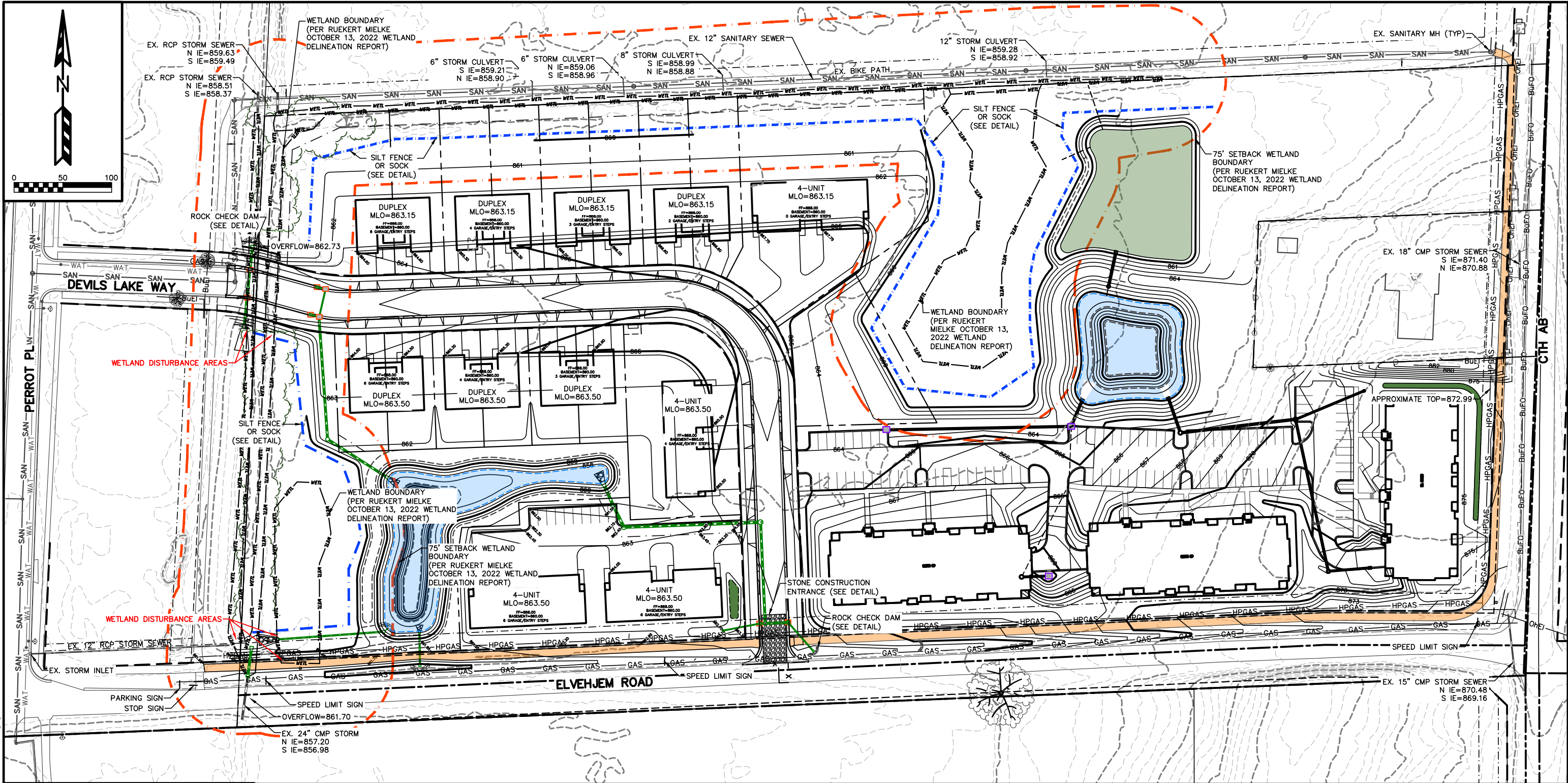


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Phone (608) 838-7750; Fax (608) 838-7752



SPERLE CORNERS - VILLAGE OF MCFARLAND
 EXISTING SITE PLAN WITH TEST PITS
 SHEET: C-2
 DATED: AUGUST 18, 2025

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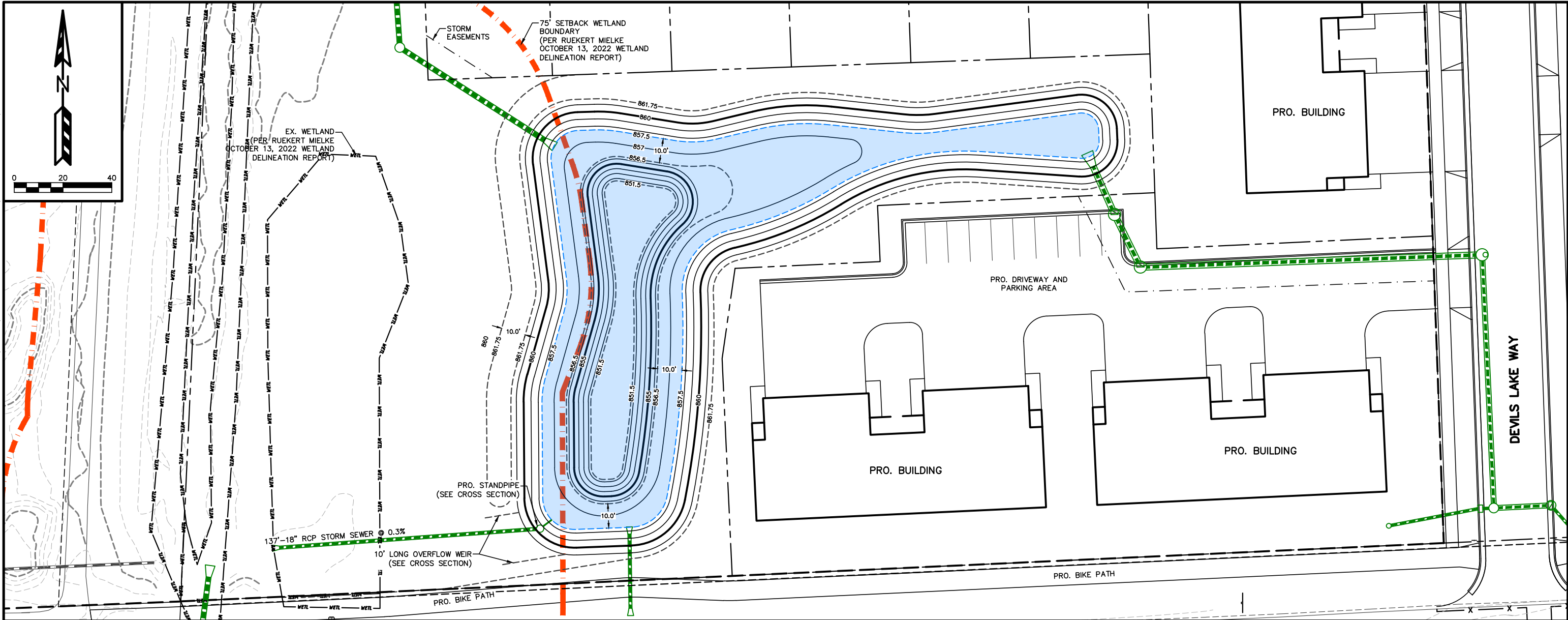


LEGEND FOR COMMON LINES:

--- 964	EXISTING MINOR CONTOUR
--- 965	EXISTING MAJOR CONTOUR
- - - 964	PROPOSED MINOR CONTOUR
- - - 965	PROPOSED MAJOR CONTOUR
---	PROPERTY LINE
---	ROAD RIGHT-OF-WAY
---	EASEMENT LINE
---	75 FT SHORELINE SETBACK
---	EXISTING FENCE
WAT	EXISTING BURIED WATER MAIN/SERVICE
SAN	EXISTING BURIED SANITARY SEWER/LATERAL
GAS	EXISTING BURIED GAS LINE
BuCom	EXISTING BURIED COMMUNICATION LINE
BuFO	EXISTING BURIED FIBER OPTIC LINE
BuTel	EXISTING BURIED TELEPHONE LINE
BuEl	EXISTING BURIED ELECTRIC LINE
OhUt	EXISTING OVERHEAD UTILITY LINE
OhEl	EXISTING OVERHEAD ELECTRIC LINE
---	PROPOSED SILT FENCE/SOCK (SEE DETAIL)
---	PROPOSED LIMITS OF DISTURBANCE
MLO	MINIMUM LOWEST OPENING
---	FLEXSTORM INLET PROTECTION (SEE DETAIL)

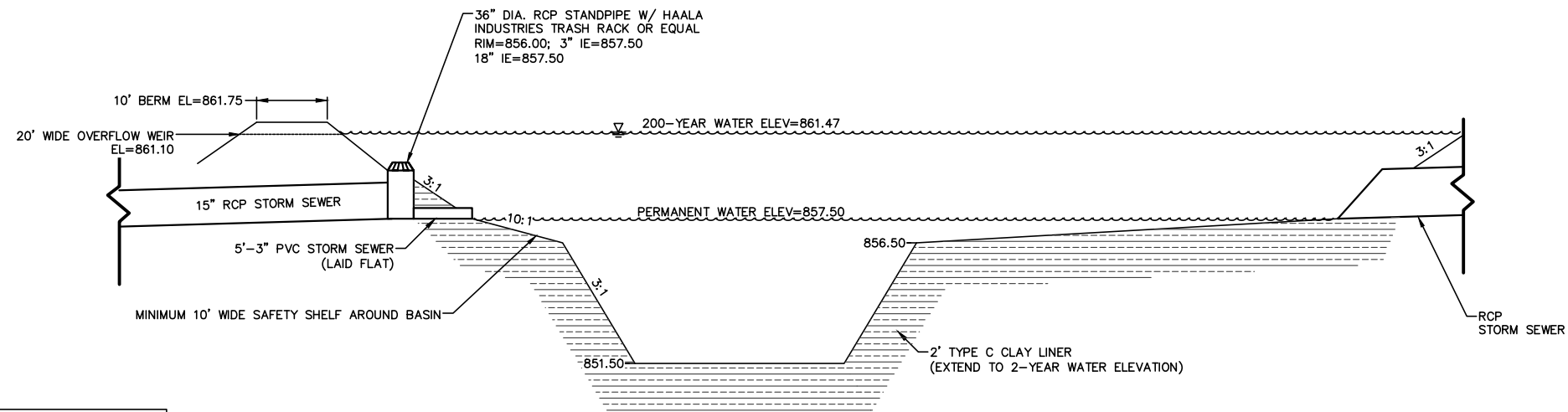
SPERLE CORNERS - VILLAGE OF MCFARLAND
OVERALL GRADING & STORM WATER MANAGEMENT PLAN
 SHEET: C-3
 DATED: AUGUST 18, 2025

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WEST WET POND PEAK ELEVATIONS	
STORM	ELEV
1-YR	859.42
2-YR	859.73
10-YR	860.21
100-YR	861.25
200-YR	861.47

CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.



WEST WET DETENTION POND CROSS SECTION

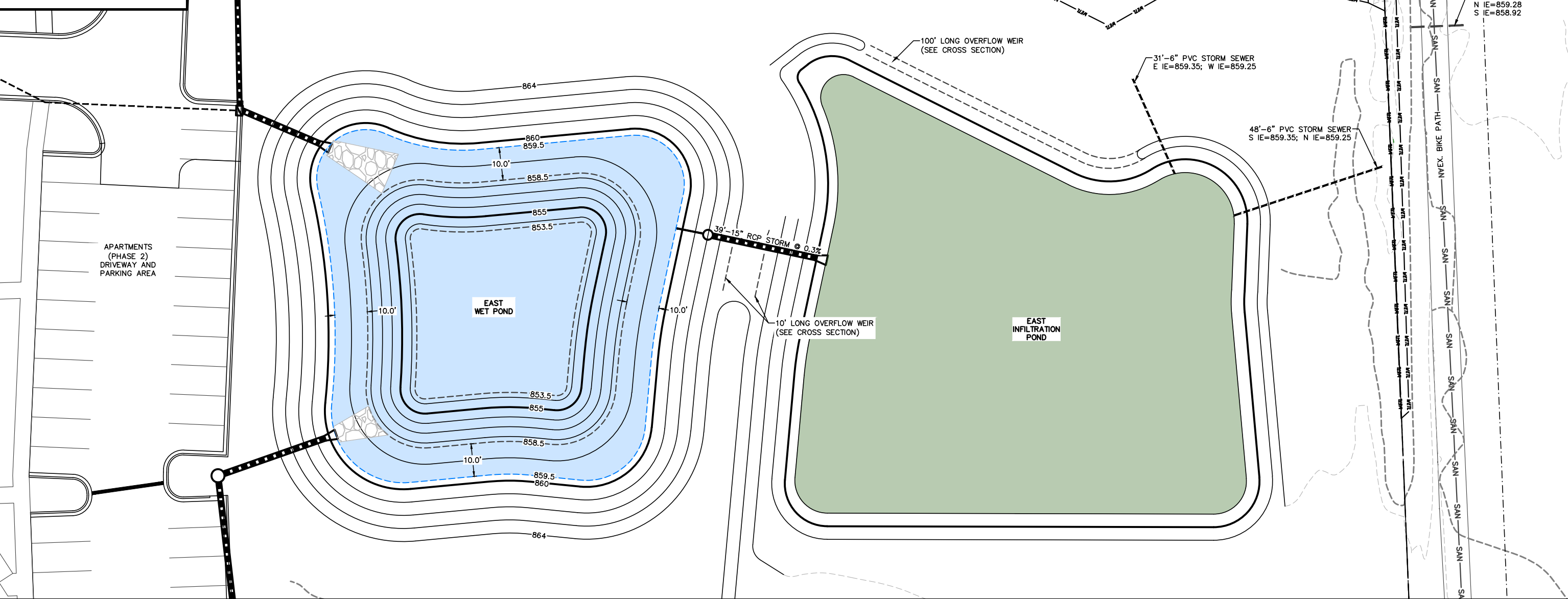
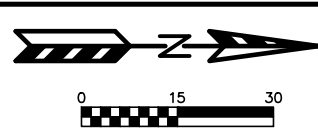
SPERLE CORNERS - VILLAGE OF MCFARLAND

WEST POND PLAN
 SHEET: C-4
 DATED: AUGUST 18, 2025

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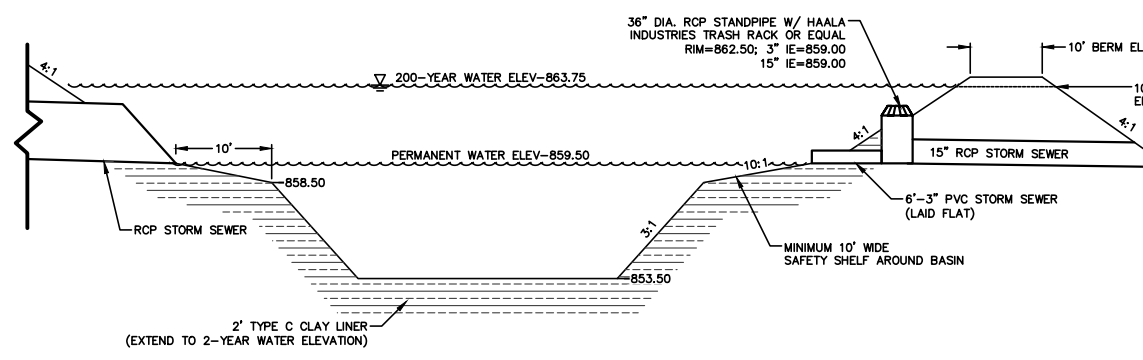
CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.

THE SEED MIXTURE FOR THE INFILTRATION BASIN BOTTOM SHALL BE RAINWATER RENEWAL SEED MIX SUPPLIED BY AGRECOL OR EQUIVALENT. MIX 80% SAND, 20% COMPOST WITH THE NATIVE LOAMY FINE SAND SOIL.

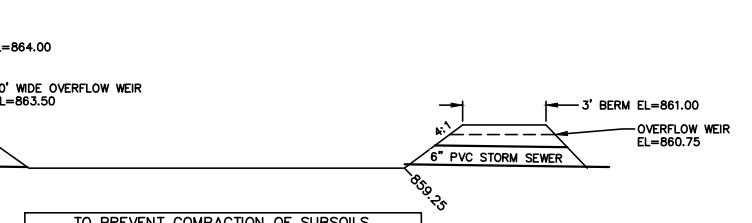
WET DETENTION POND CONSTRUCTION SHALL CONFORM TO WISCONSIN DNR TECHNICAL STANDARD #1001

INFILTRATION BASIN CONSTRUCTION SHALL CONFORM TO WISCONSIN DNR TECHNICAL STANDARD #1003

EAST WET POND PEAK ELEVATIONS	
STORM	ELEV
1-YR	861.48
2-YR	861.80
10-YR	862.61
100-YR	863.42
200-YR	863.75



EAST WET DETENTION POND CROSS SECTION



EAST INFILTRATION BASIN CROSS SECTION

TO PREVENT COMPACTION OF SUBSOILS, CONTRACTOR SHALL PROTECT AGAINST MACHINERY ENTERING OR COMPACTING THE INFILTRATION AREA.

EAST INFILTRATION BASIN PEAK ELEVATIONS	
STORM	ELEV
1-YR	859.65
2-YR	859.67
10-YR	859.96
100-YR	860.96
200-YR	861.00

CONTRACTOR SHALL NOTIFY ENGINEER WHEN POND IS GRADED TO FINISH ELEVATIONS FOR AS-BUILT TOPOGRAPHIC COLLECTION. IF PUMPING IS REQUIRED TO ALLOW THE BOTTOM TO BE COLLECTED, CONTRACTOR SHALL ARRANGE FOR PUMPING.

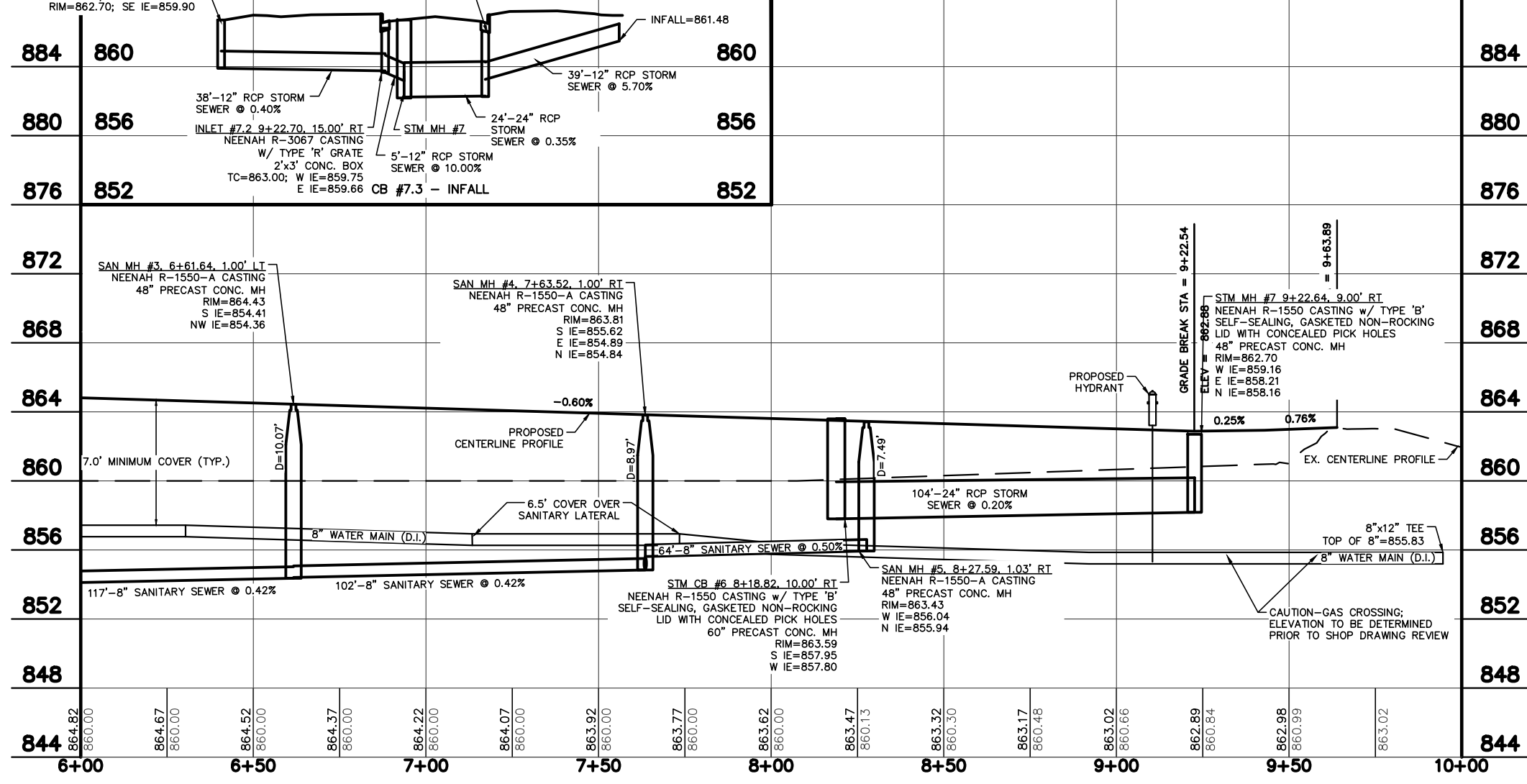
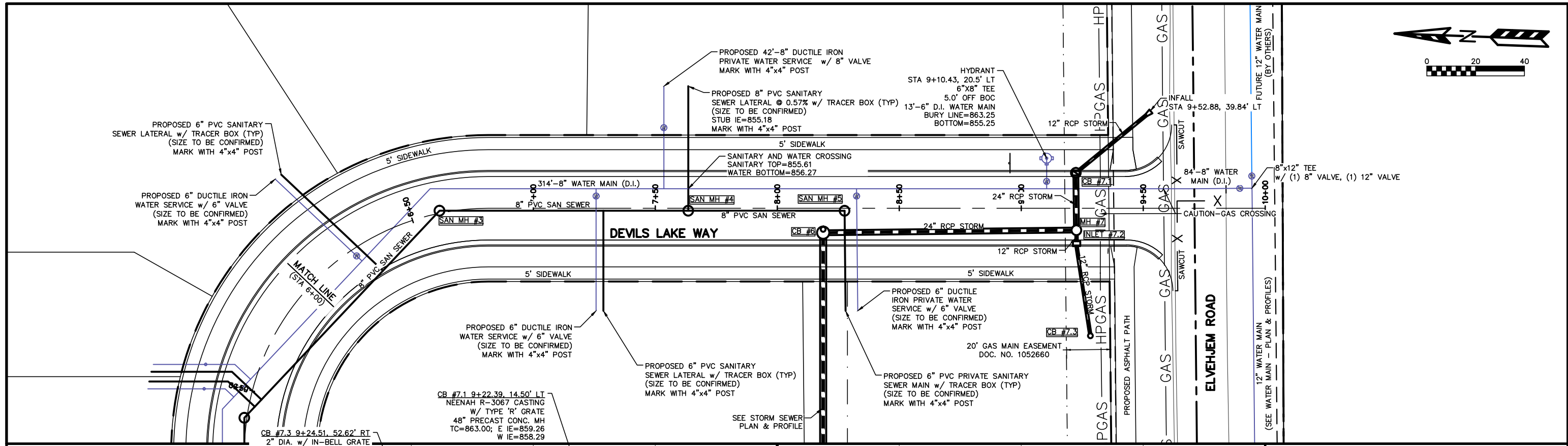
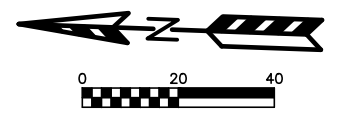
LAKESTONE PROPERTIES - VILLAGE OF MCFARLAND

EAST POND PLAN
SHEET: C-5
DATED: AUGUST 18, 2025

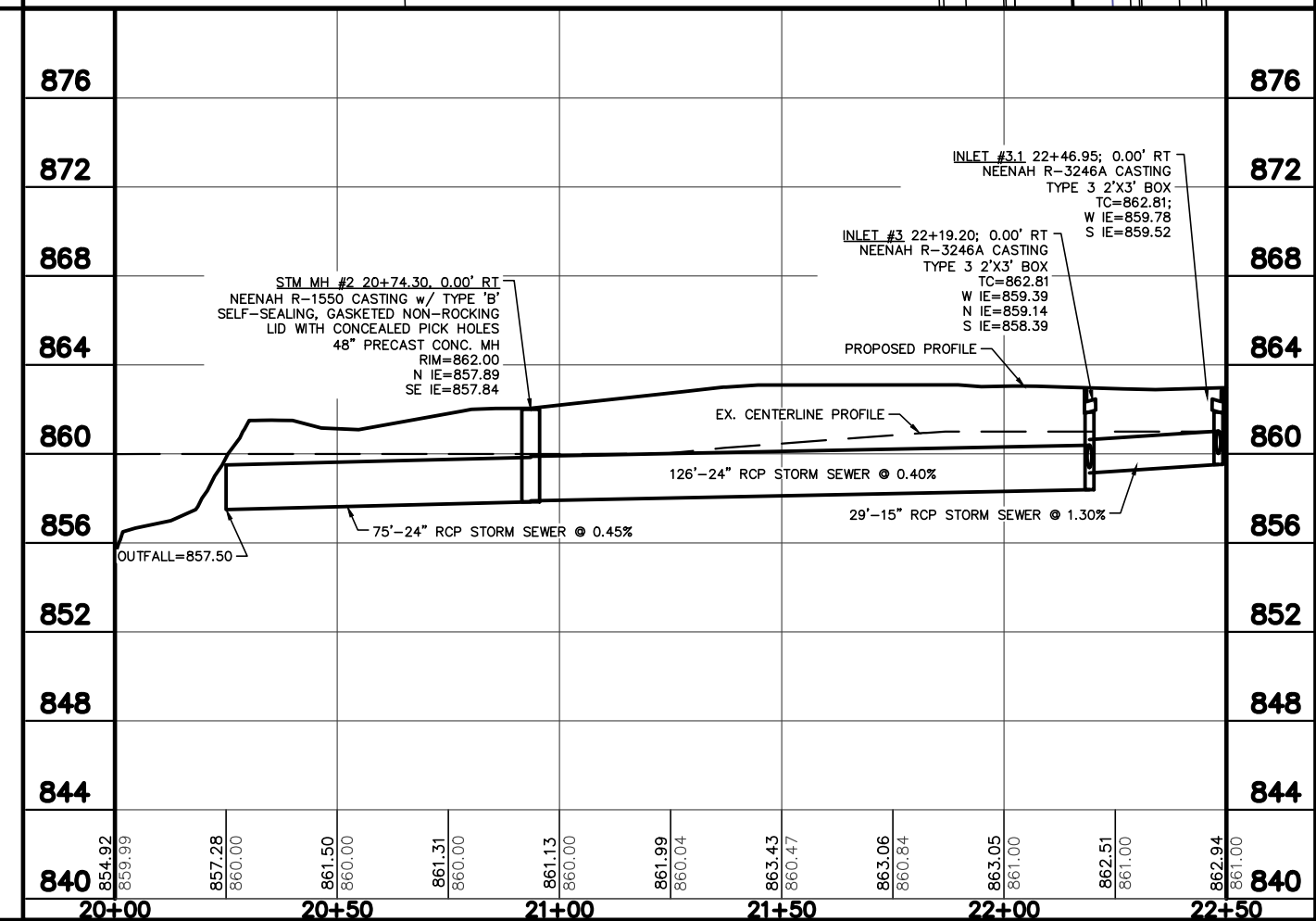
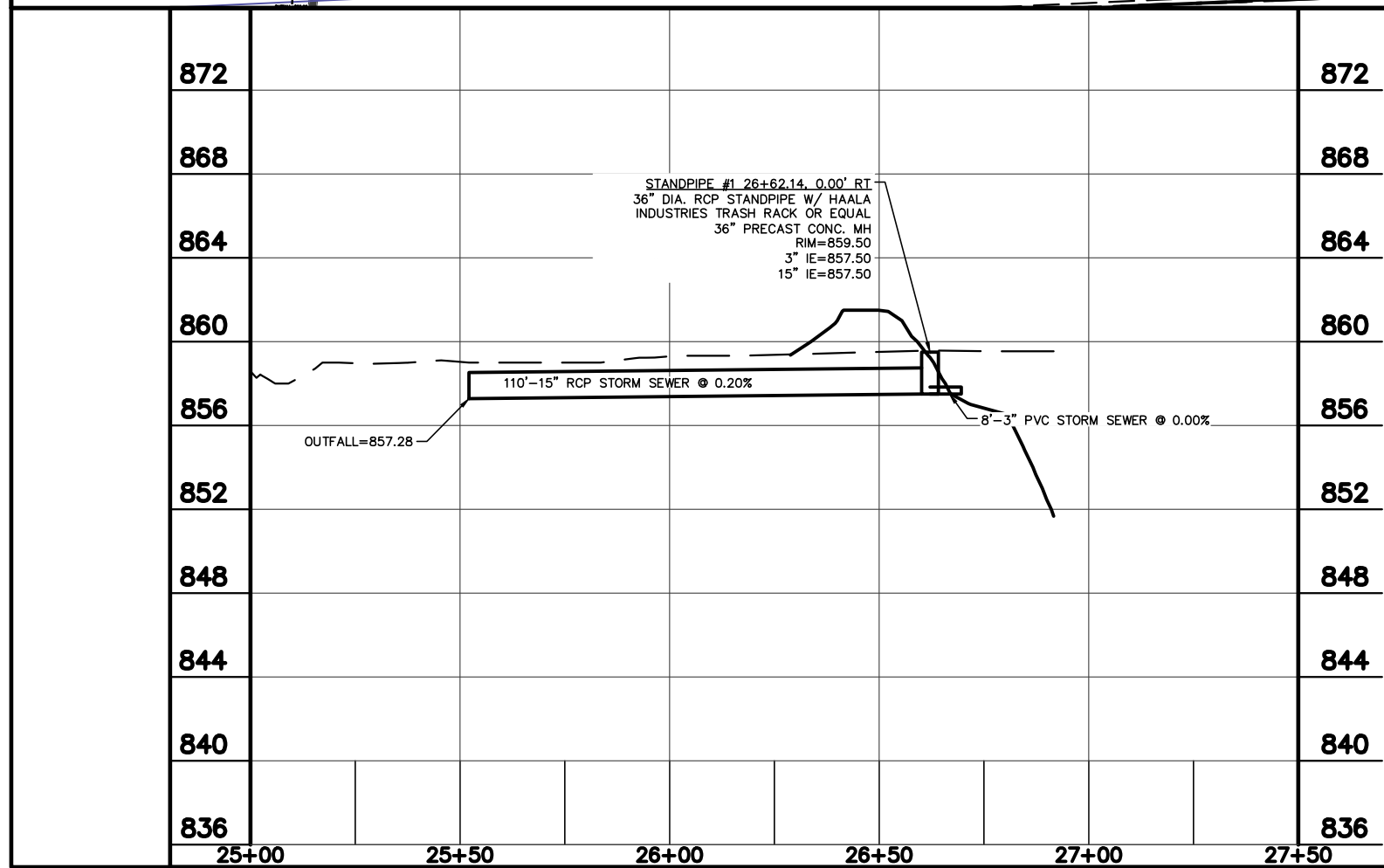
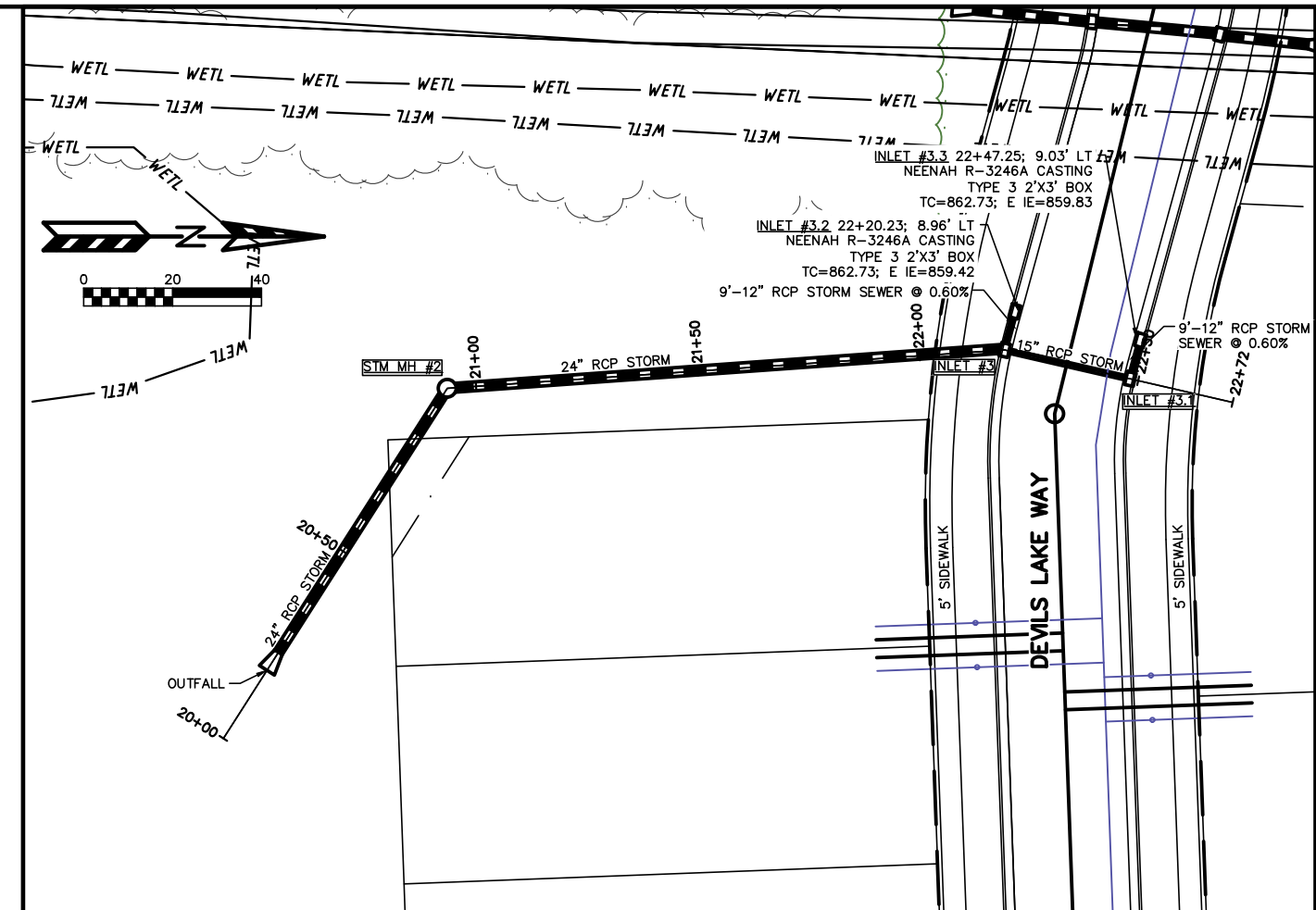
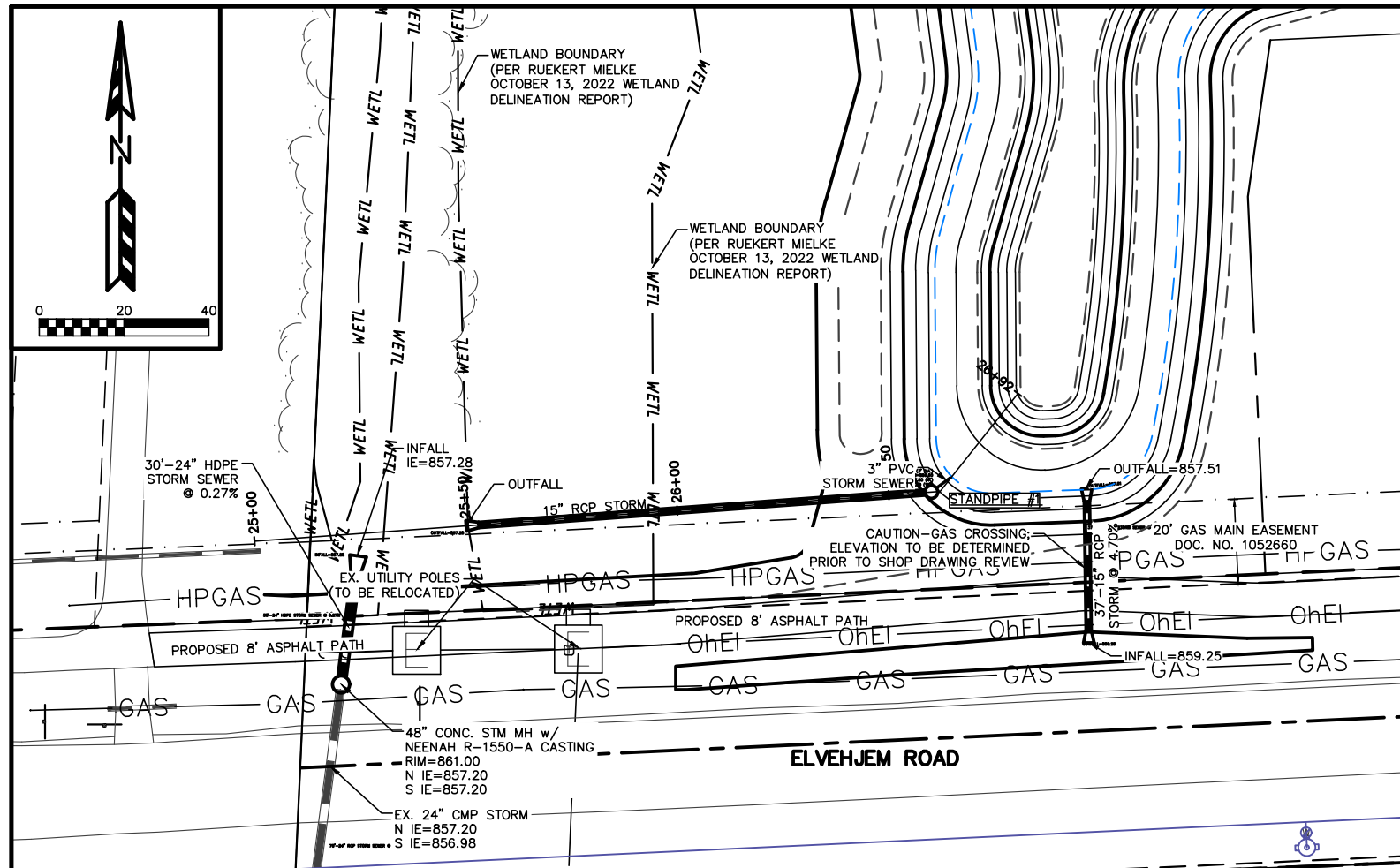


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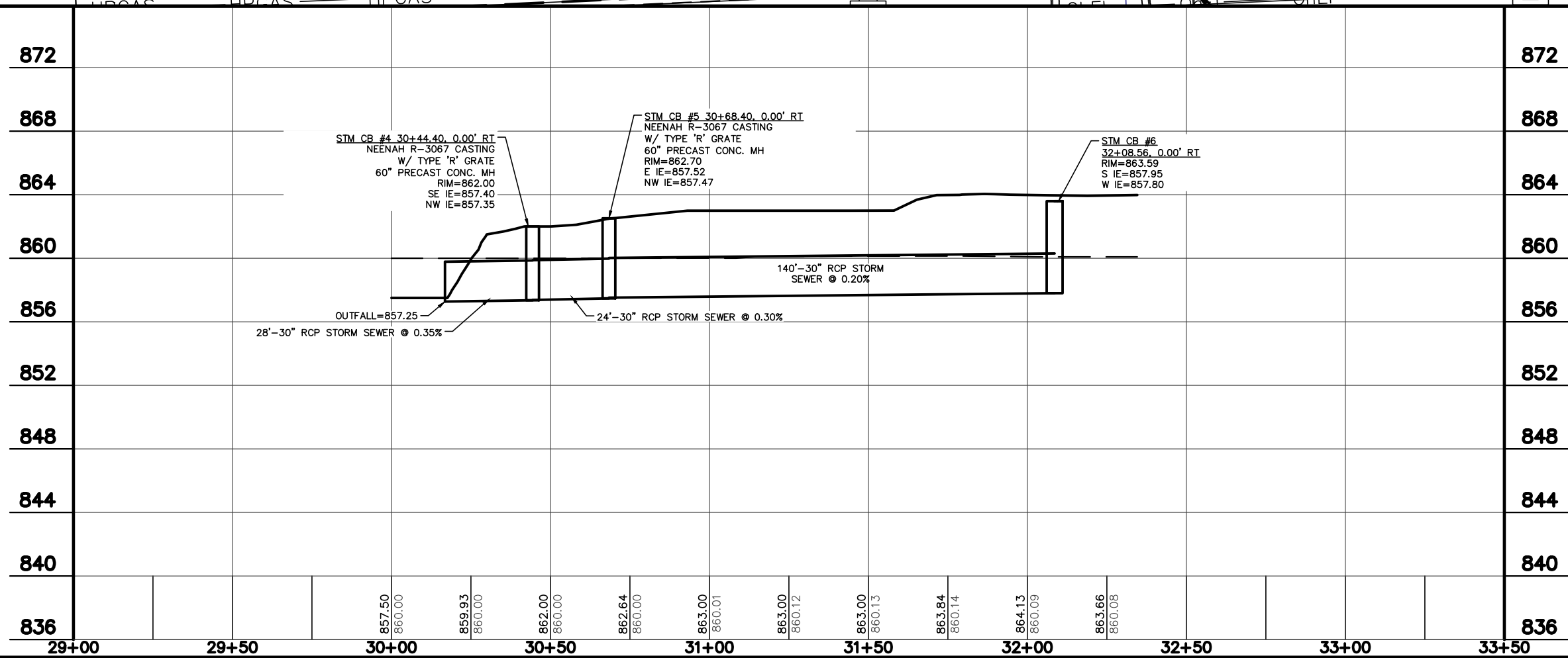
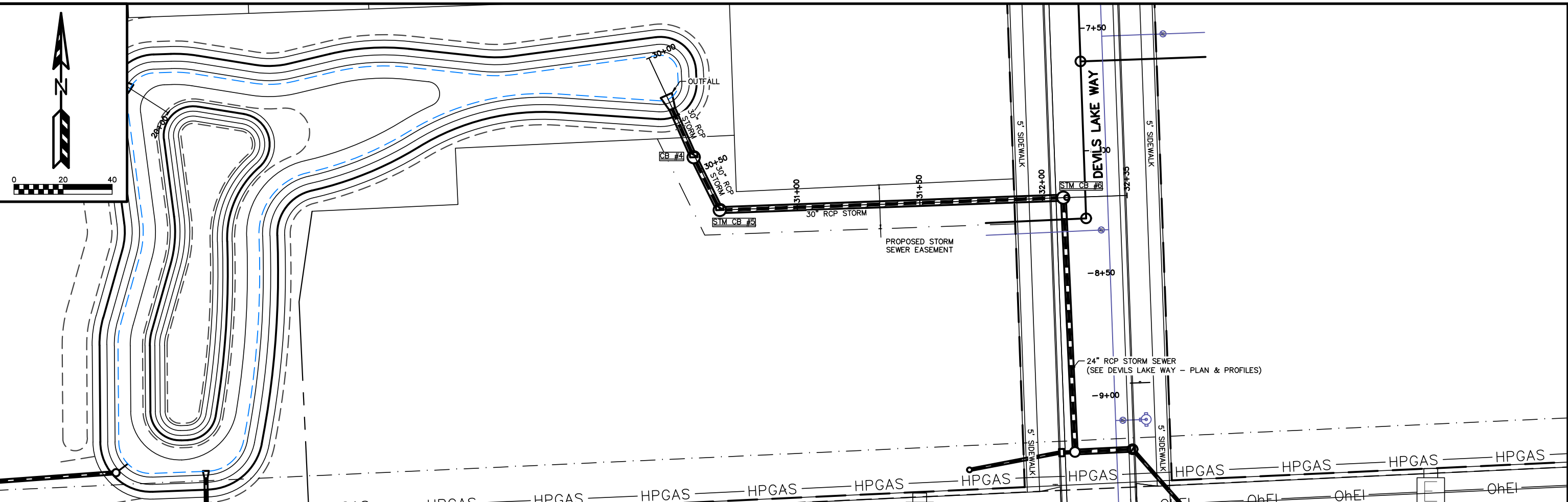
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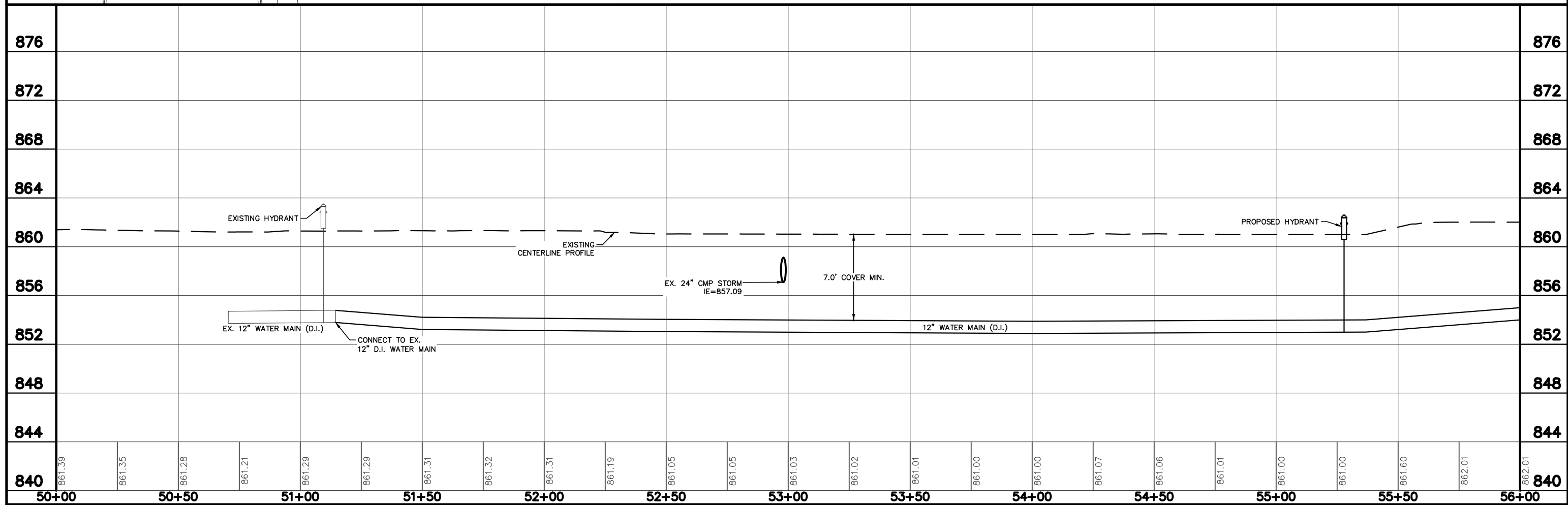
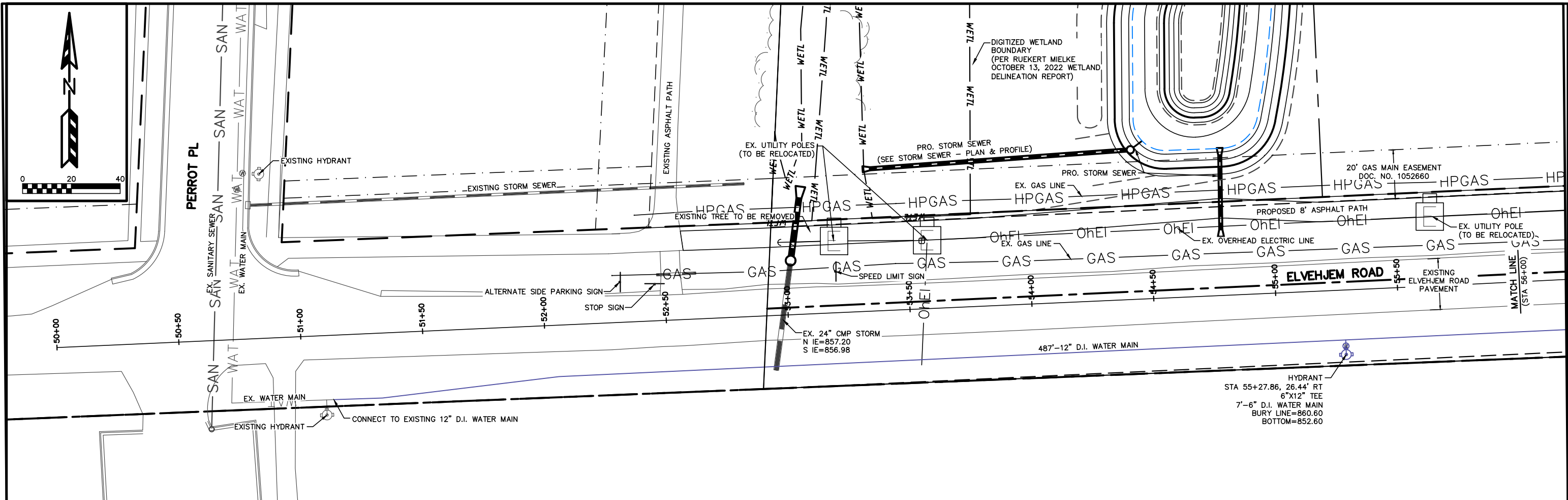
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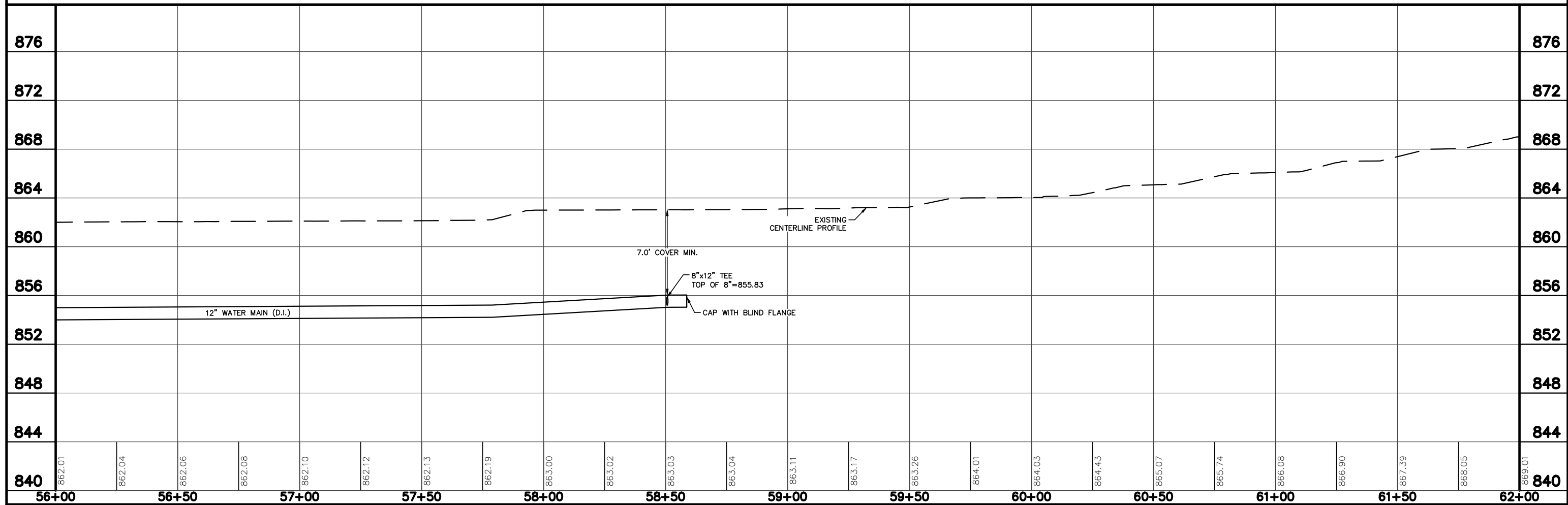
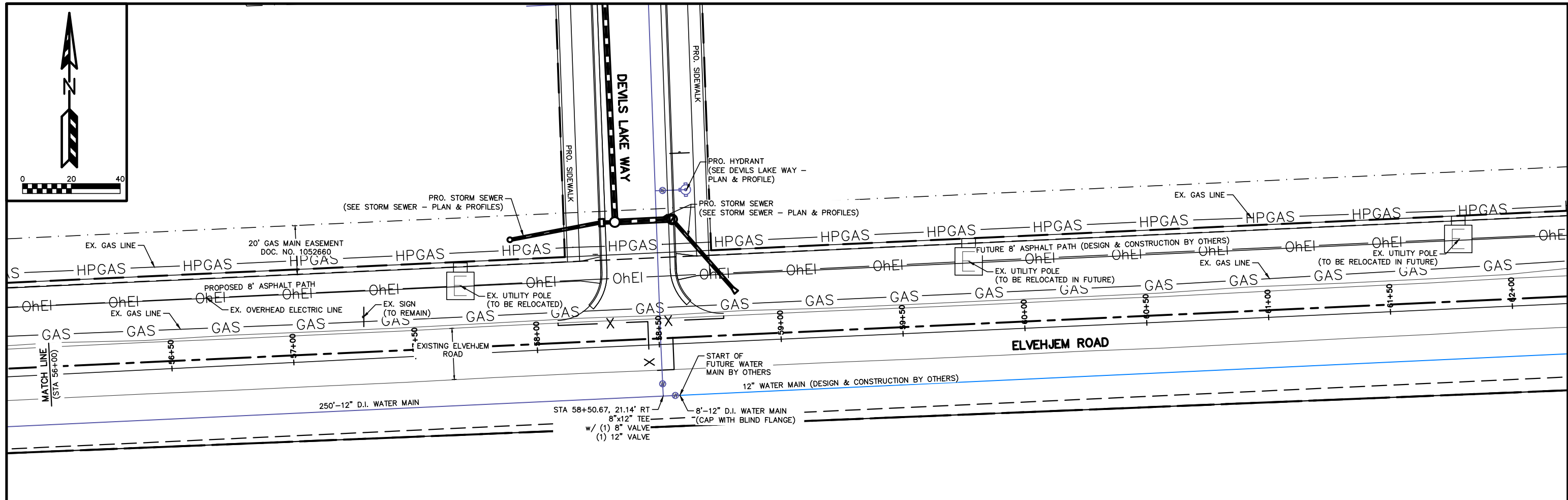
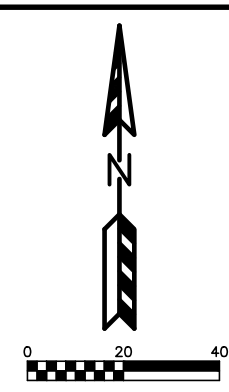
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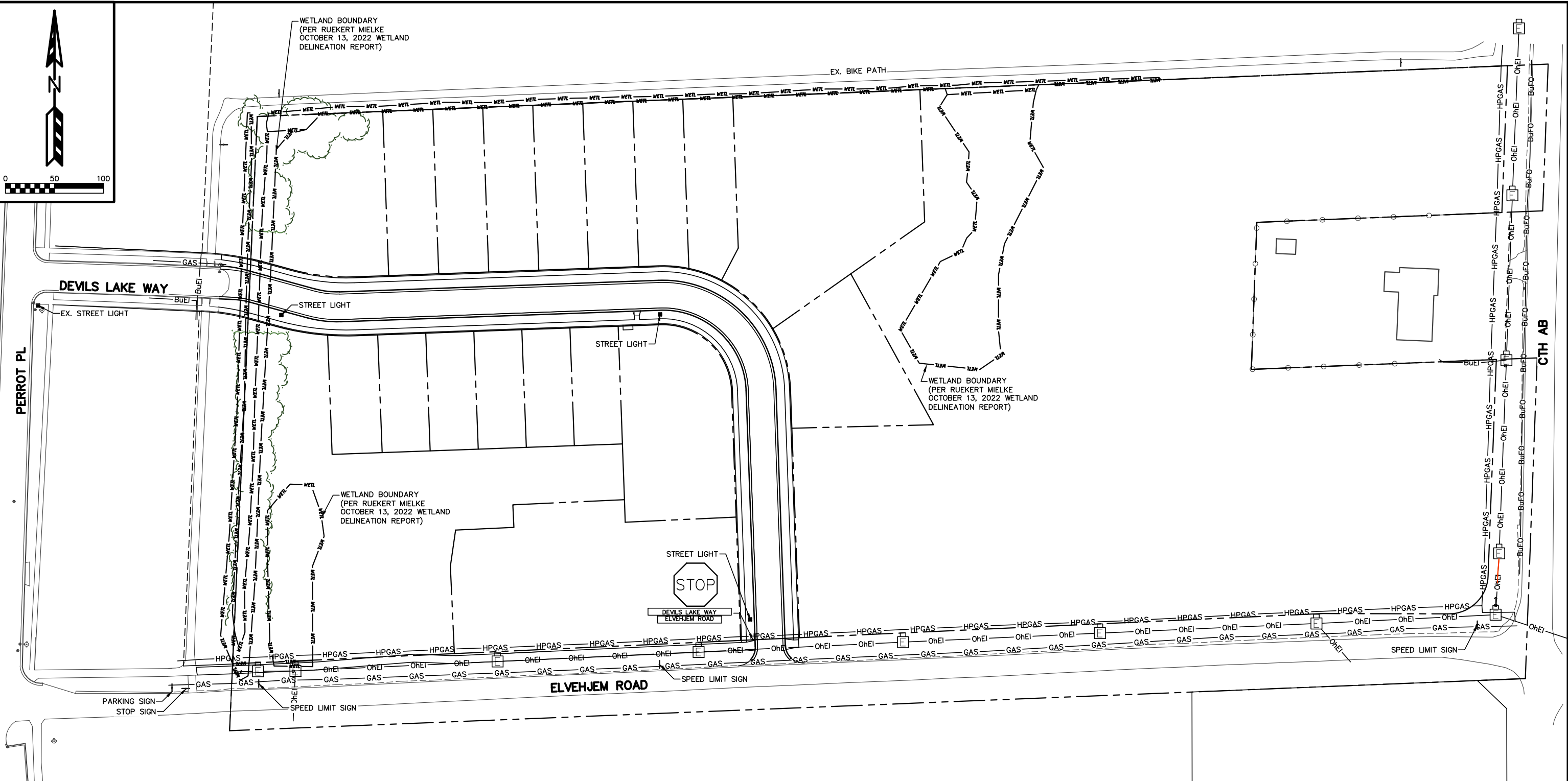


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SIGNING AND LIGHTING LEGEND

STOP SIGN - SIGN DESIGNATION R1-1

STREET SIGNS

DEVILS LAKE WAY STREET NAME SIGNS

STREET LIGHT (DESIGN BY OTHERS)

SIGNAGE NOTES:

ALL SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SIGNS SHALL BE A DISTANCE OF 7" FROM GROUND LEVEL TO THE BOTTOM OF THE SIGN MOUNTED ON THE POST AND LOCATED 3' BEHIND THE BACK OF CURB.

STREET NAME SIGNS SHALL HAVE WHITE LETTERS AND GREEN BACKGROUND.

STREET NAME SIGNS SHALL BE PLACED ABOVE STOP SIGNS AT INTERSECTIONS THAT REQUIRE STOP SIGNS.

SIGN POSTS SHALL BE 2-3/8" O.D. GALVANIZED 10 FT LONG, 13 GAUGE, AND 0.095 WALL THICKNESS. MOUNT SIGN AT TOP OF THE POST, AND INSTALL POSTS 3' DEEP AND MIX 1/2 BAG OF 80 LB SAKRETE CONCRETE POURING IS AROUND THE POST BELOW THE GROUND BEFORE COVERING WITH 8".

SPERLE CORNERS - VILLAGE OF MCFARLAND

SIGN AND LIGHTING PLAN

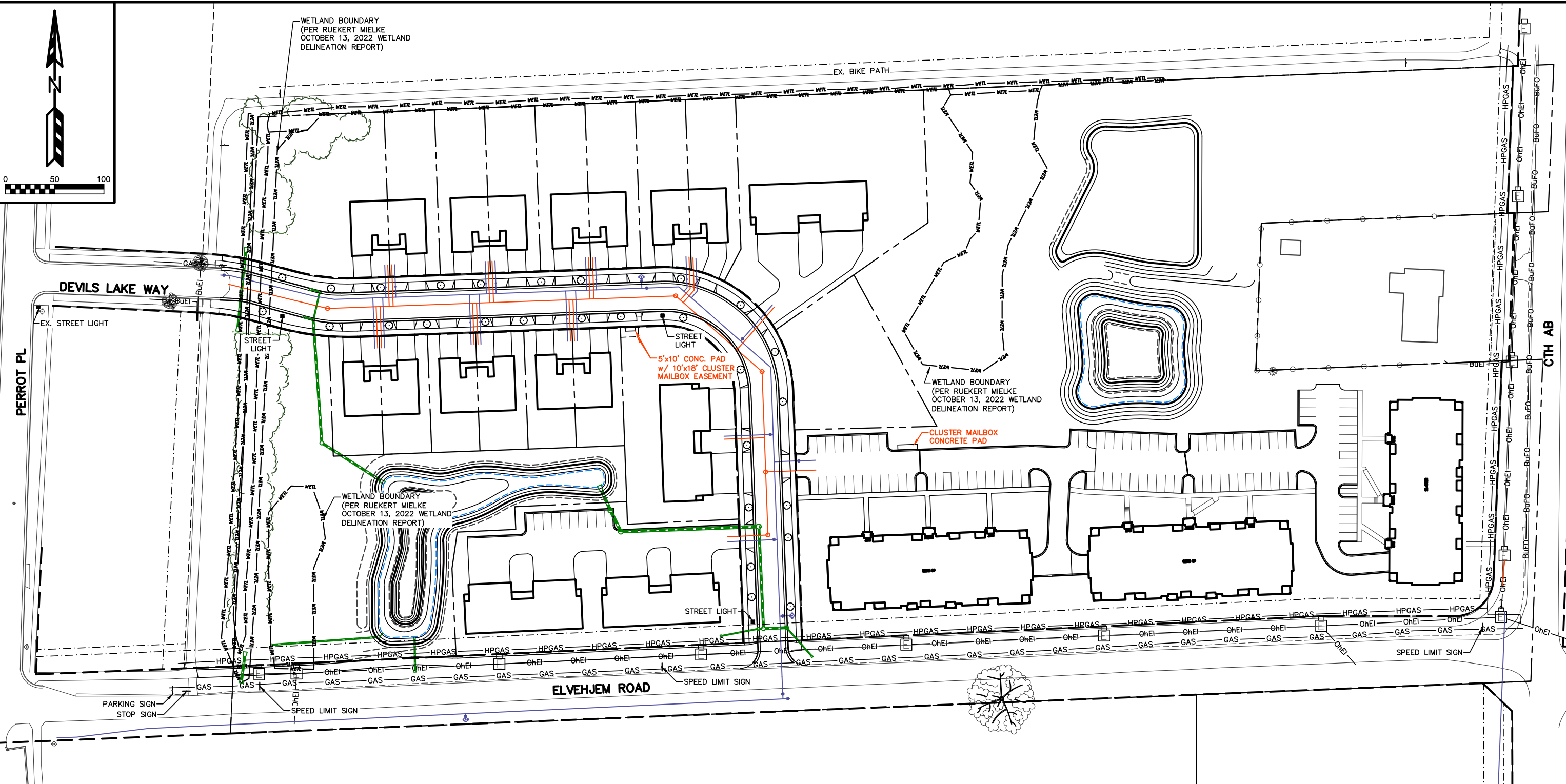
SHEET: C-12

DATED: AUGUST 18, 2025

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Phone (608) 838-7750; Fax (608) 838-7752



GENERAL NOTES:

ALL PLANTINGS SHALL CONFORM TO QUALITY REQUIREMENTS AS PER ANSI Z60.1.

ALL PLANT MATERIAL SHALL BE TRUE TO THE SPECIES, VARIETY AND SIZE SPECIFIED, NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURE PRACTICES, AND UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE PROJECT SITE.

CONTACT LANDSCAPE ARCHITECT, IN WRITING, TO REQUEST AND PLANT MATERIAL SUBSTITUTIONS DUE TO AVAILABILITY ISSUES.

ALL DISTURBED AREAS, UNLESS OTHERWISE NOTED, TO BE SEEDED WITH WISDOT SEED MIX #40 OR EQUIVALENT, PER MANUFACTURER'S SPECIFIED APPLICATION RATES. ALL SEEDED AREAS ARE TO BE WATERED DAILY TO MAINTAIN ADEQUATE SOIL MOISTURE FOR PROPER GERMINATION. AFTER VIGOROUS GROWTH IS ESTABLISHED, APPLY 1/2" WATER TWICE WEEKLY UNTIL FINAL ACCEPTANCE.

ALL PLANTS SHALL BE GUARANTEED TO BE IN HEALTHY AND FLOURISHING CONDITION DURING THE GROWING SEASON FOLLOWING INSTALLATION. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR TWO YEARS FROM THE TIME OF INSTALLATION.

TREES SHALL BE A MINIMUM 2" CALIPER.

NOTES:

MINIMUM DISTANCE FROM A STREETLIGHT TO A TREE IS 20'.

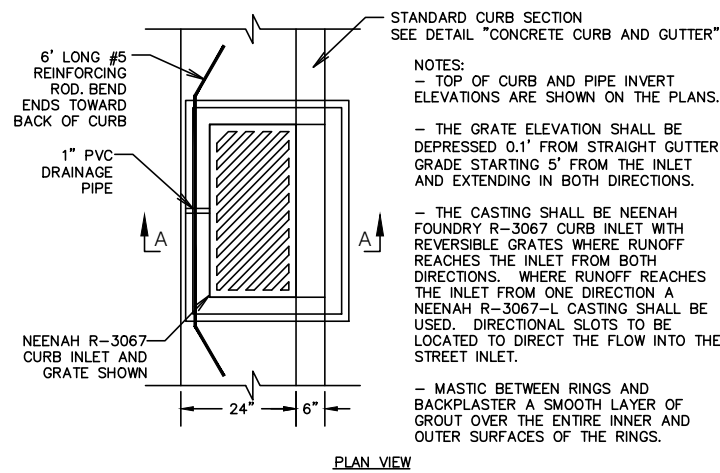
MINIMUM DISTANCE FROM THE FRONT OF A STREET SIGN IS 25' AND 10' FROM THE BACK OF THE SIGN.

MINIMUM DISTANCE FROM ANY SANITARY SEWER, WATER MAIN, AND STORM SEWER STRUCTURE OR PIPE IS 10'.

NO TREE SHALL BE PLANTED WITHIN THE VISION TRIANGLE.

SPERLE CORNERS - VILLAGE OF MCFARLAND
 STREET TREE PLAN
 SHEET: C-13
 DATED: AUGUST 18, 2025

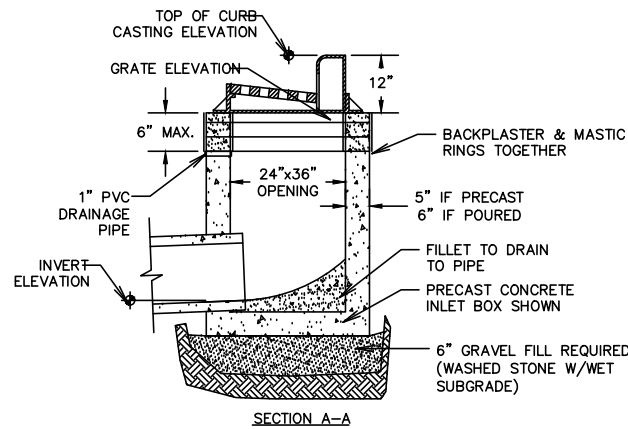
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STANDARD CURB SECTION
SEE DETAIL "CONCRETE CURB AND GUTTER"

NOTES:
- TOP OF CURB AND PIPE INVERT ELEVATIONS ARE SHOWN ON THE PLANS.
- THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.
- THE CASTING SHALL BE NEENAH FOUNDRY R-3067 CURB INLET WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.
- MASTIC BETWEEN RINGS AND BACKPLASTER A SMOOTH LAYER OF GROUT OVER THE ENTIRE INNER AND OUTER SURFACES OF THE RINGS.

PLAN VIEW



SECTION A-A

STORM MANHOLE DIMENSIONS

MANHOLE SIZE	DIMENSION	
	A	B (MIN.)
48"	48"	5"
60"	60"	6"
72"	72"	7"
84"	84"	7"
96"	96"	9"

NOTES:
CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

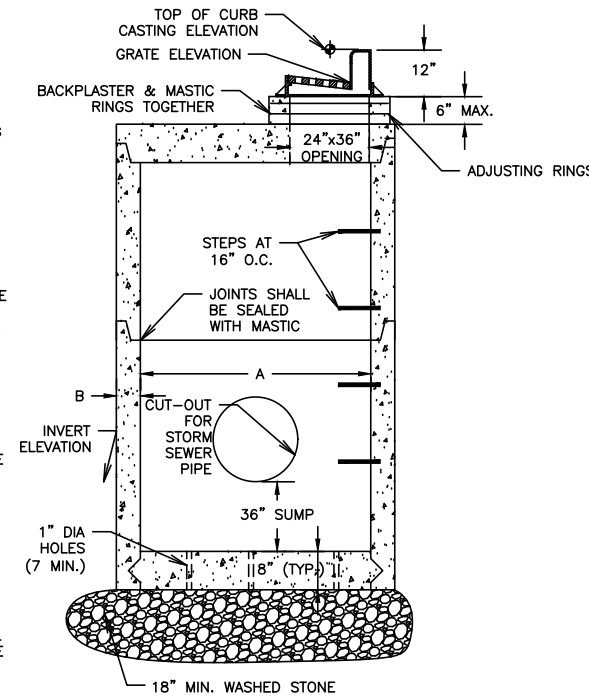
MANHOLE STEPS SHALL CONFORM TO ASTM-C478 & SHALL BE NEENAH FOUNDRY R-1981-N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE-TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

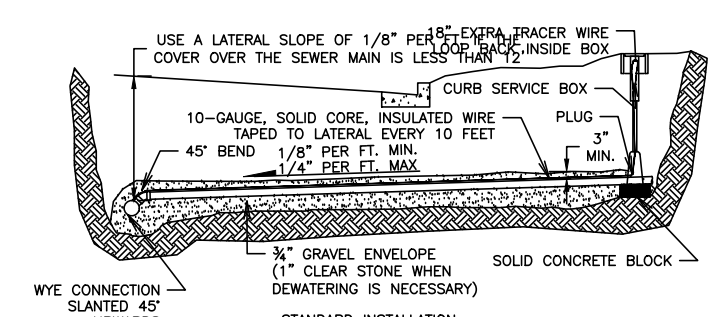
THE GRATE ELEVATION SHALL BE DEPRESSED 0.1' FROM STRAIGHT GUTTER GRADE STARTING 5' FROM THE INLET AND EXTENDING IN BOTH DIRECTIONS.

MANHOLE-TYPE CURB CATCH BASIN CASTING SHALL BE NEENAH FOUNDRY R-3067 WITH REVERSIBLE GRATES WHERE RUNOFF REACHES THE INLET FROM BOTH DIRECTIONS. WHERE RUNOFF REACHES THE INLET FROM ONE DIRECTION A NEENAH R-3067-L CASTING SHALL BE USED. DIRECTIONAL SLOTS TO BE LOCATED TO DIRECT THE FLOW INTO THE STREET INLET.

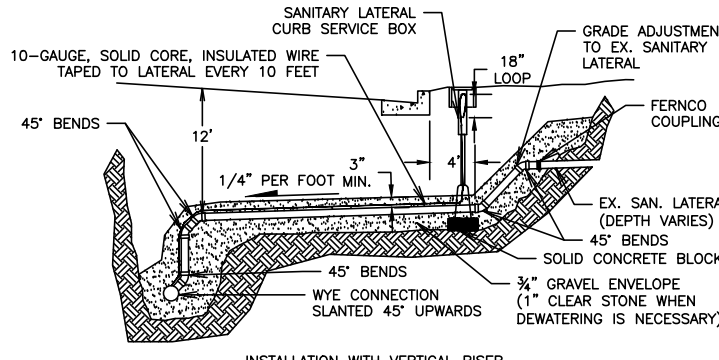
A 2x3 LID OPENING IS REQUIRED FOR MANHOLE-TYPE CURB CATCH BASINS.



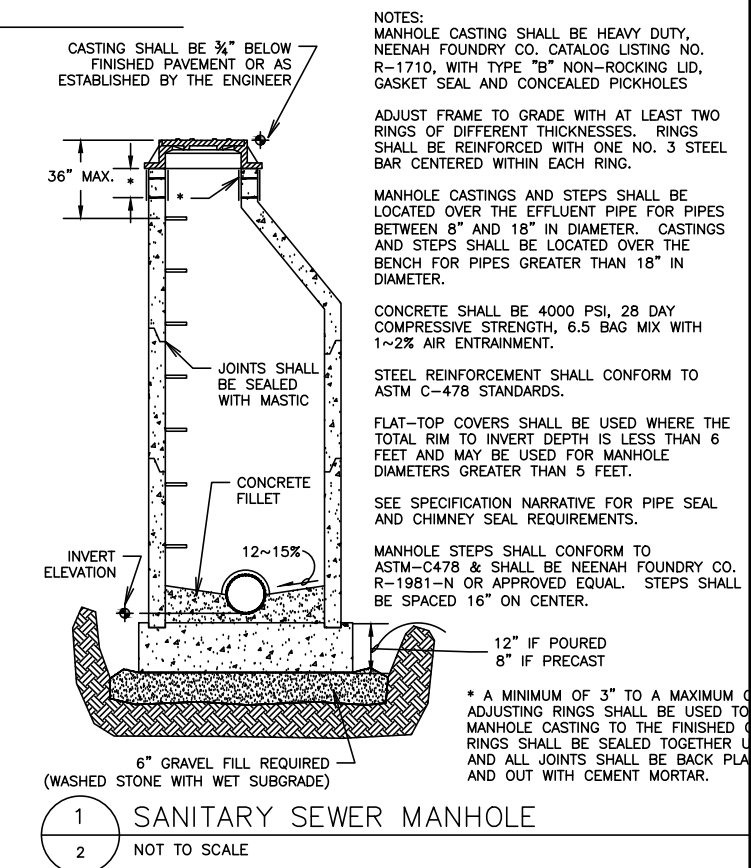
1 **STORM SEWER MANHOLE**
2 NOT TO SCALE



- NOTES:
- CONSTRUCT LATERALS IN CONFORMANCE WITH CHAPTER SPS 382 OF THE WISCONSIN ADMINISTRATIVE CODE.
 - LATERAL SLOPE SHALL BE 1/8" PER FOOT WHERE SUFFICIENT COVER EXISTS.
 - CONTRACTOR SHALL VERIFY SIZE, DEPTH, AND LOCATION OF EXISTING LATERALS.
 - WHERE LATERALS ARE NOT IMMEDIATELY CONNECTED TO BUILDING SEWERS THE ENDS OF THE LATERALS SHALL BE MARKED BY POSITIONING 4"x4" BOARDS VERTICALLY FROM THE ENDS OF THE LATERALS TO AT LEAST 2' ABOVE THE GROUND SURFACE.
 - THE LOCATION OF ALL SEWER LATERALS CROSSING UNDER THE CURB & GUTTER SHALL BE MARKED BY STAMPING AN "S" IN THE TOP OF THE CURB OVER THE LOCATION OF THE SEWER LATERAL.



1 **LATERAL WITH TRACER WIRE**
2 NOT TO SCALE



1 **SANITARY SEWER MANHOLE**
2 NOT TO SCALE

NOTES:
MANHOLE CASTING SHALL BE HEAVY DUTY, NEENAH FOUNDRY CO, CATALOG LISTING NO. R-1710, WITH TYPE "B" NON-ROCKING LID, GASKET SEAL AND CONCEALED PICKHOLES

ADJUST FRAME TO GRADE WITH AT LEAST TWO RINGS OF DIFFERENT THICKNESSES. RINGS SHALL BE REINFORCED WITH ONE NO. 3 STEEL BAR CENTERED WITHIN EACH RING.

MANHOLE CASTINGS AND STEPS SHALL BE LOCATED OVER THE EFFLUENT PIPE FOR PIPES BETWEEN 8" AND 18" IN DIAMETER. CASTINGS AND STEPS SHALL BE LOCATED OVER THE BENCH FOR PIPES GREATER THAN 18" IN DIAMETER.

CONCRETE SHALL BE 4000 PSI, 28 DAY COMPRESSIVE STRENGTH, 6.5 BAG MIX WITH 1~2% AIR ENTRAINMENT.

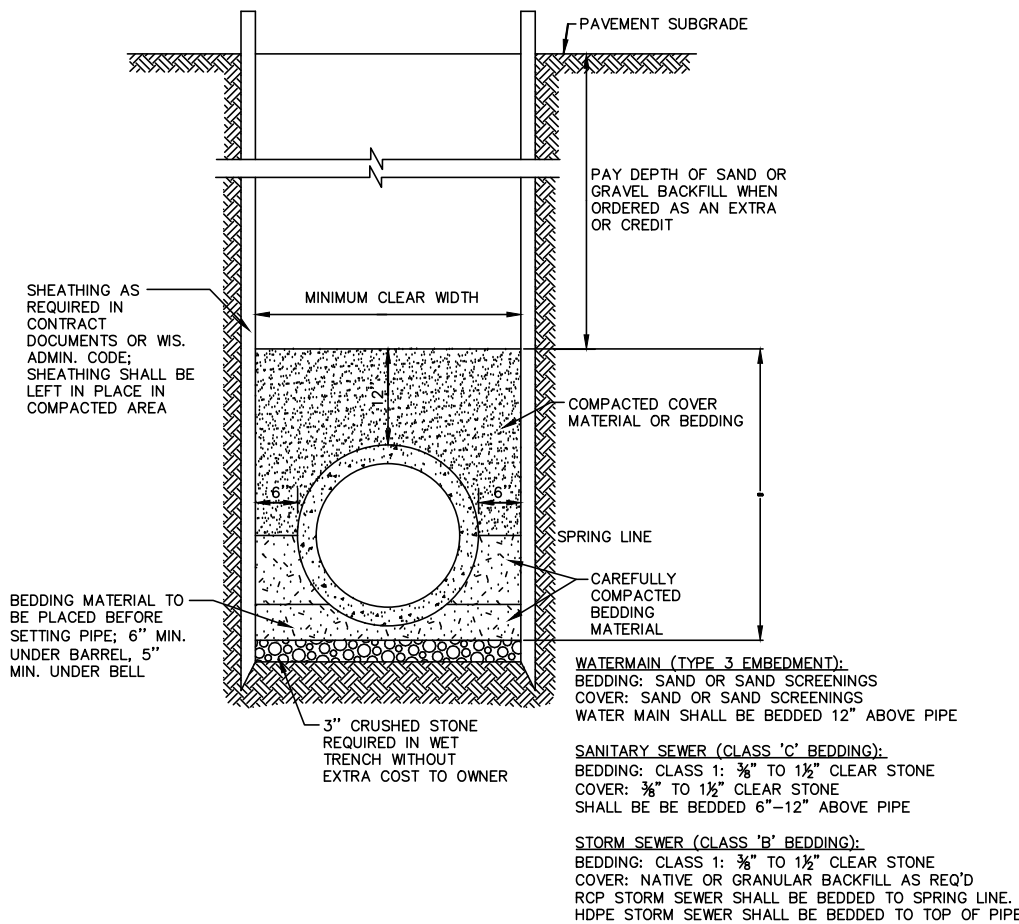
STEEL REINFORCEMENT SHALL CONFORM TO ASTM C-478 STANDARDS.

FLAT-TOP COVERS SHALL BE USED WHERE THE TOTAL RIM TO INVERT DEPTH IS LESS THAN 6 FEET AND MAY BE USED FOR MANHOLE DIAMETERS GREATER THAN 5 FEET.

SEE SPECIFICATION NARRATIVE FOR PIPE SEAL AND CHIMNEY SEAL REQUIREMENTS.

MANHOLE STEPS SHALL CONFORM TO ASTM-C478 & SHALL BE NEENAH FOUNDRY CO. R-1981-N OR APPROVED EQUAL. STEPS SHALL BE SPACED 16" ON CENTER.

* A MINIMUM OF 3" TO A MAXIMUM OF 6" OF ADJUSTING RINGS SHALL BE USED TO ADJUST THE MANHOLE-TYPE CURB CATCH BASIN CASTING TO THE FINISHED GRADE. ALL RINGS SHALL BE SEALED TOGETHER USING MASTIC AND ALL JOINTS SHALL BE BACK PLASTERED INSIDE AND OUT WITH CEMENT MORTAR.

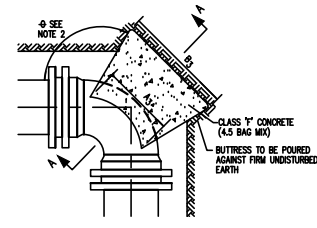


1 **STANDARD TRENCH SECTION**
2 NOT TO SCALE

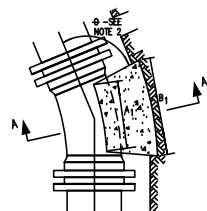
SPERLE CORNERS - VILLAGE OF MCFARLAND

DETAILS
SHEET: C-14
DATED: AUGUST 18, 2025

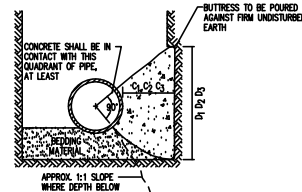
QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants
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4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



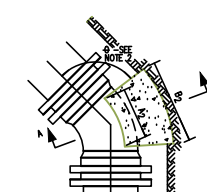
PLAN - 90° BEND



PLAN - 22 1/2° BEND



SECTION A-A

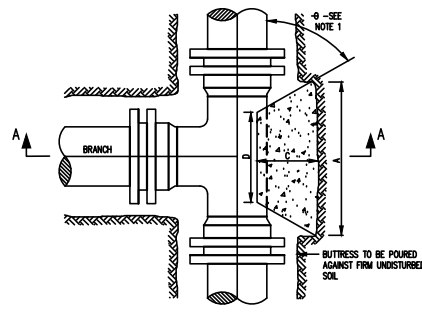


PLAN - 45° BEND

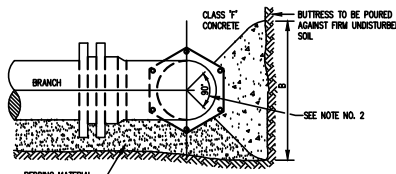
PIPE SIZE	22 1/2° BENDS			45° BENDS			90° BENDS		
	B ₁	D ₁	B ₂	B ₂	D ₂	B ₃	D ₃	D ₃	
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-2"	
8"	1'-0"	1'-0"	1'-4"	1'-4"	1'-2"	1'-10"	1'-4"	1'-4"	
12"	1'-4"	1'-4"	1'-10"	1'-10"	1'-10"	2'-8"	2'-3"	2'-3"	
16"	1'-10"	1'-4"	2'-4"	2'-4"	2'-4"	3'-10"	2'-10"	2'-10"	
20"	2'-4"	2'-4"	3'-3"	2'-10"	3'-0"	3'-4"	3'-4"	3'-4"	
24"	2'-10"	2'-4"	4'-0"	3'-3"	3'-3"	6'-4"	3'-10"	3'-10"	
30"	3'-6"	3'-0"	5'-4"	3'-10"	3'-10"	8'-0"	4'-8"	4'-8"	

NOTES

1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 PSI AND ON EARTH RESISTANCE OF 2 TONS PER SQUARE FOOT.
2. DIMENSION C1 C2 C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE θ EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1 A2 A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH M.J. BOLTS.
4. SHAPE OF BACK OF BUTRESS MAY VARY AS LONG AS POUR IS AGAINST FIRM UNDISTURBED EARTH.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.



PLAN



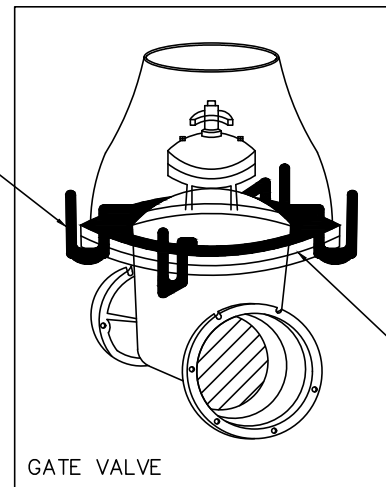
SECTION A-A

B.D.	BUTRESS DIMENSIONS			
	A	B	C	D
6"	1'-3"	1'-0"	-	-
8"	1'-4"	1'-4"	-	-
12"	2'-3"	2'-0"	-	-
16"	3'-2"	2'-4"	-	-
20"	4'-0"	3'-0"	-	-
24"	5'-3"	3'-4"	-	-
30"	6'-3"	4'-3"	-	-

B.D. = BRANCH DIAMETER

NOTES

1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE EQUAL TO OR LARGER THAN 45°.
2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AS A MINIMUM.
3. DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
4. BUTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI.
5. ALL IRON PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.

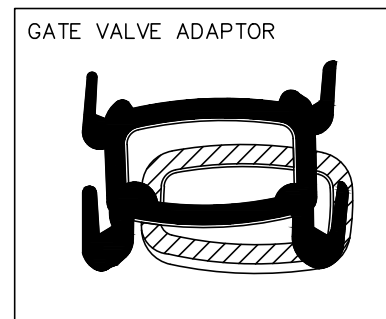


GATE VALVE

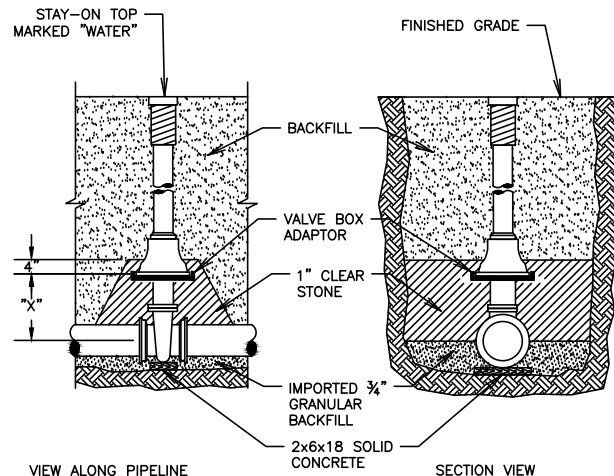
NOTE: GATE VALVE ADAPTORS ARE MANDATORY IN THE VILLAGE OF DEFOREST

1/2" NEO-PRENE GASKET INSTALLED BETWEEN THE GATE VALVE AND GATE VALVE ADAPTOR TO ABSORB ANY PRESSURE OR MOVEMENT CAUSED BY ROAD TRAFFIC

MANUFACTURED BY ADAPTOR, INC. 3642 E. AMERICAN AVE. MILWAUKEE, WI 53154



GATE VALVE ADAPTOR



VIEW ALONG PIPELINE

SECTION VIEW

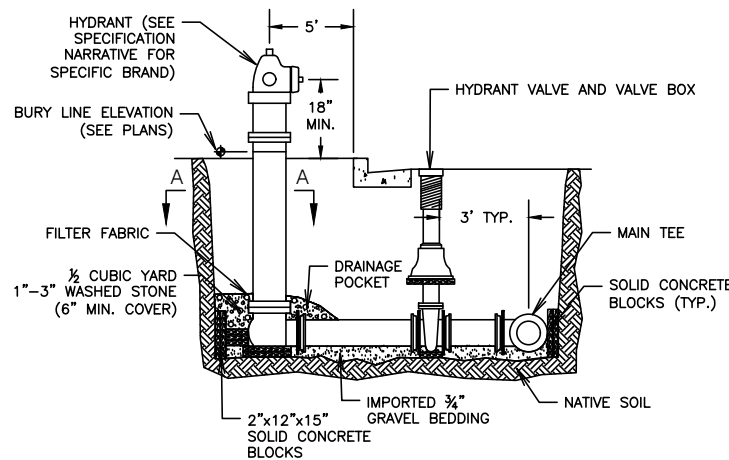
PIPE DIA., INCHES	6	8	10	12	14	16
"X" DIMENSION, INCHES	12	13	17	21	25	30

NOTES:

- VALVES SHALL BE SECURED WITH RODDING OR MEGALUGS TO THE NEAREST "TEE" FITTING OR TO THE FIRST JOINT CONNECTING A FULL SECTION OF WATER MAIN PIPE. SEE RODDING DETAIL "OFFSET AND RODDING".

DETAIL VALVE BOX SETTING

1 GATE VALVE AND GATE VALVE ADAPTOR
NOT TO SCALE



BURY LINE ELEVATION (SEE PLANS)

VIEW ALONG PIPELINE

SECTION A-A

NOTES:

- THE HYDRANT AND HYDRANT VALVE SHALL BE CONNECTED TO THE MAIN TEE BY MEGALUGS.
- FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAIN POCKET.
- WHERE THE HYDRANT IS INSTALLED AT THE HIGH POINT OF THE WATER MAIN ON MAINS 10 INCHES IN DIAMETER AND LARGER, THE CONTRACTOR SHALL TIP THE MAIN TEE UPWARDS 45 DEGREES AND USE A 45 DEGREE FITTING TO ALLOW AIR TO ESCAPE FROM THE MAIN.
- WHERE THE LOCATION OF THE HYDRANT VALVE BOX WOULD BE IN ANY PORTION OF THE CURB AND GUTTER, THE CONTRACTOR SHALL PLACE THE VALVE IN THE TERRACE AREA.

SECTION A-A

2 STANDARD GATE VALVE BOX SETTING
NOT TO SCALE

2 STANDARD HYDRANT SETTING
NOT TO SCALE

SPERLE CORNERS - VILLAGE OF MCFARLAND

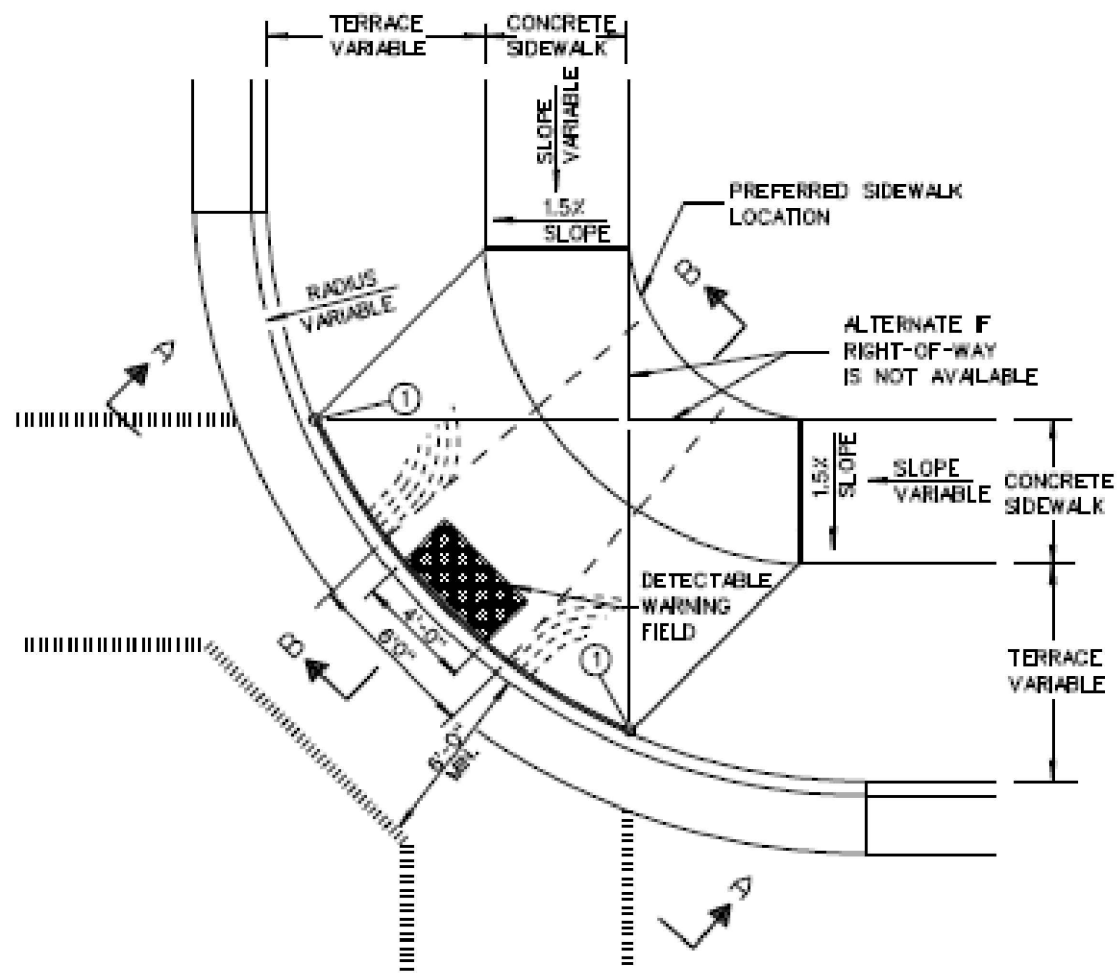
DETAILS

SHEET: C-15
DATED: AUGUST 18, 2025

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants

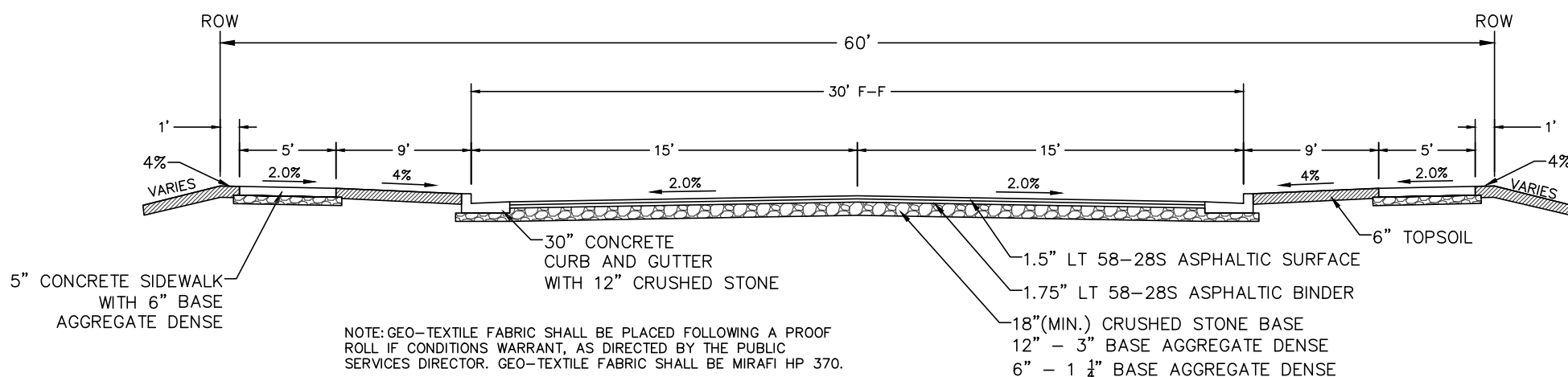


www.quamengineering.com
4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



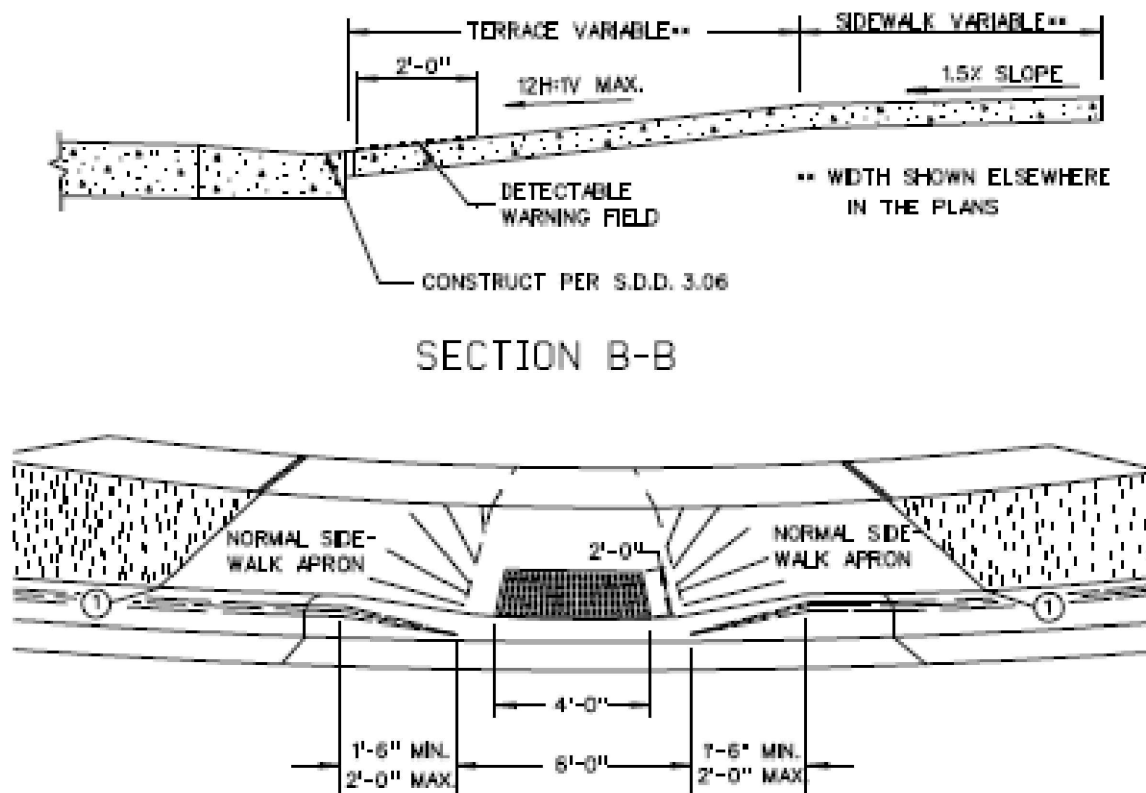
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)

2 STANDARD CURB RAMP - TYPE 1
2 NOT TO SCALE



NOTE: GEO-TEXTILE FABRIC SHALL BE PLACED FOLLOWING A PROOF ROLL IF CONDITIONS WARRANT, AS DIRECTED BY THE PUBLIC SERVICES DIRECTOR. GEO-TEXTILE FABRIC SHALL BE MIRAFI HP 370.

TYPICAL ROADWAY CROSS-SECTIONS



SECTION B-B

SECTION A-A

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD".

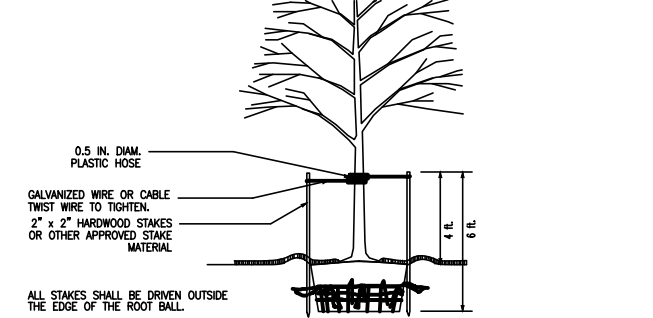
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 INCHES MINIMUM AND 8 INCHES MAXIMUM FROM THE CURB LINE.

① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

DETECTABLE WARNING FIELDS SHALL BE METAPANEL BY METADOME, LLC OR NEENAH 4984 PLATES.

WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
4 INCH CALIPER - 11-12 GAUGE
LARGER THAN 4 INCH CALIPER - 9-10 GAUGE
TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
ALL BURLAP AND WIRE CAGES SHALL BE REMOVED FROM ROOTS PRIOR TO PLANTING.
PLANTING DEPTH OF TREE SHALL BE SUCH THAT ROOT FLAIR IS VISIBLE JUST ABOVE GRADE.



PROVIDE 4" THICKNESS OF ORGANIC MULCH AROUND ALL TREES. MULCH SHOULD NOT REST AGAINST THE TREE TRUNK. LEAVE 3" AROUND THE TRUNK FREE OF MULCH.

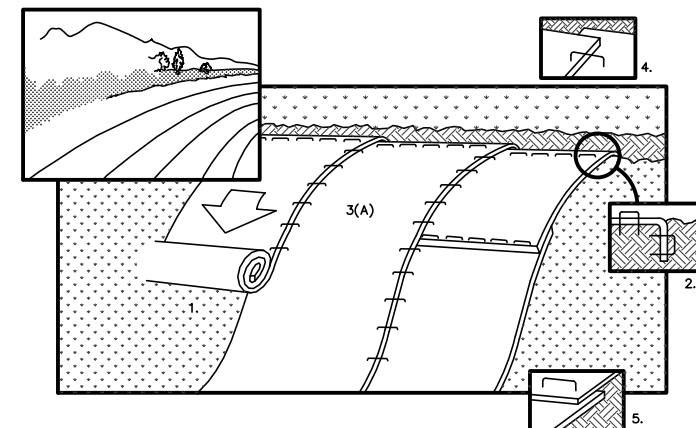
ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 INCH.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- TREES WITH POOR - QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

TREE PLANTING DETAIL



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
7. SLOPES 5:1 SHOULD BE COVERED WITH CLASS I TYPE A AT A MINIMUM.

EROSION CONTROL MAT - SLOPE INSTALLATION

SPERLE CORNERS - VILLAGE OF MCFARLAND

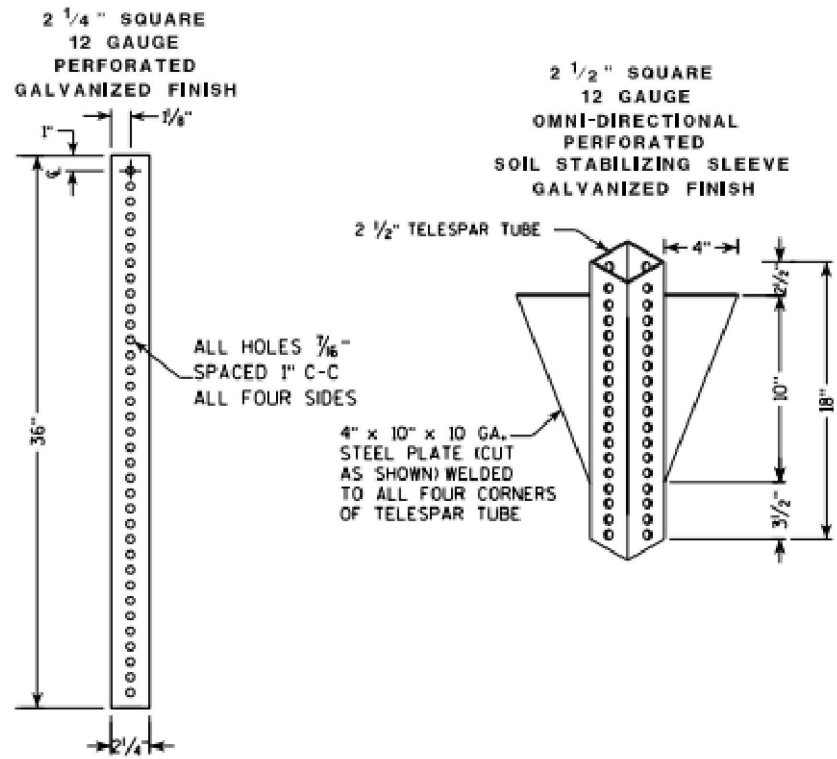
DETAILS
SHEET: C-16
DATED: AUGUST 18, 2025

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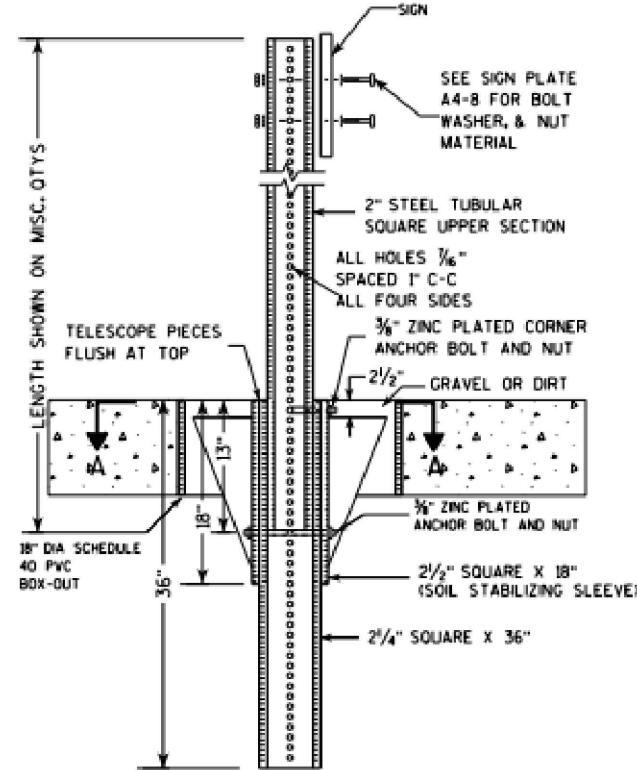


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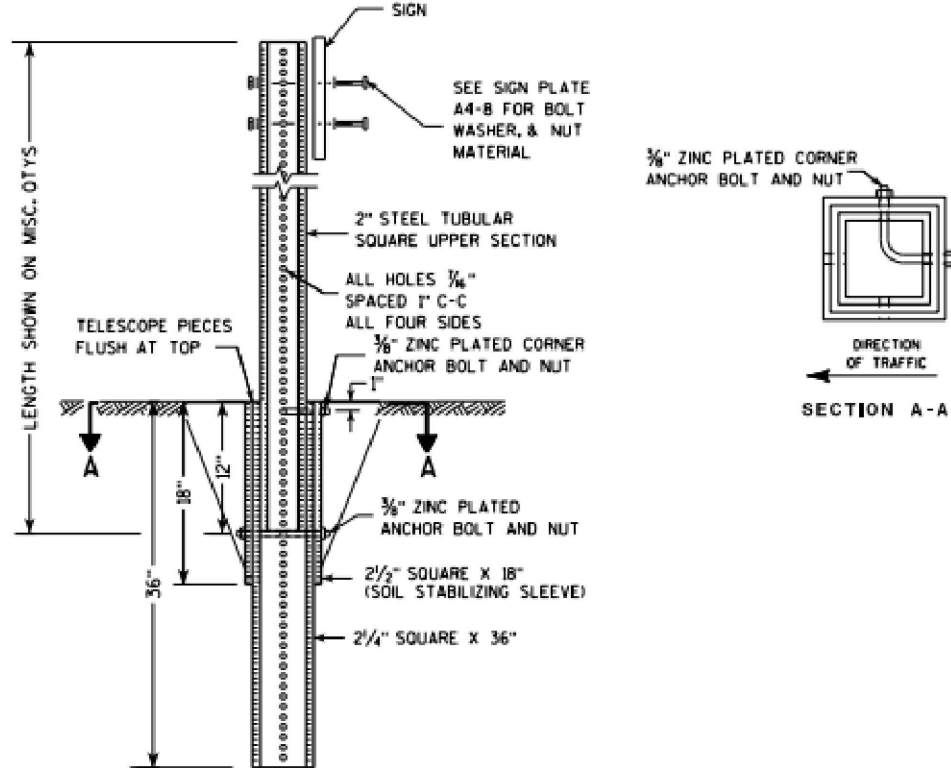
**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**



**DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)**

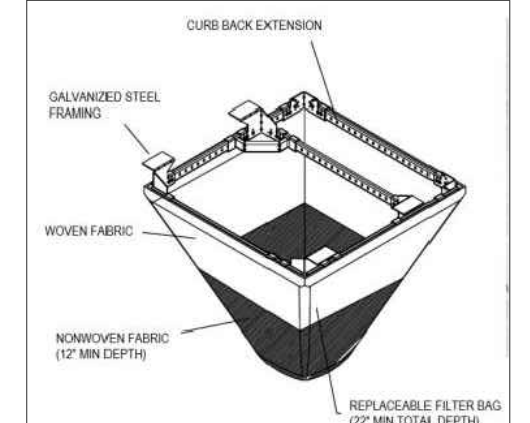
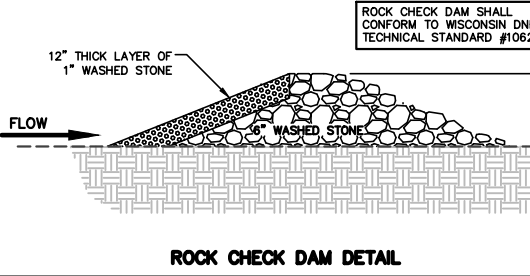
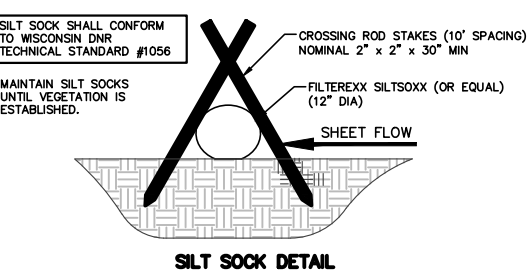
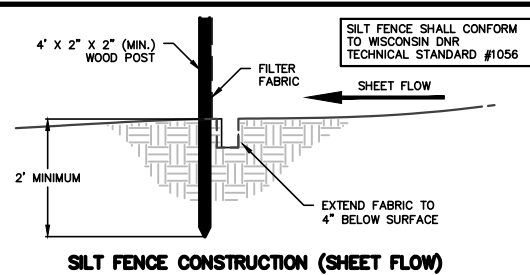
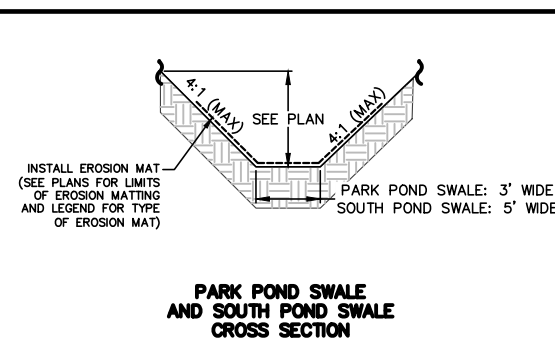


**DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**

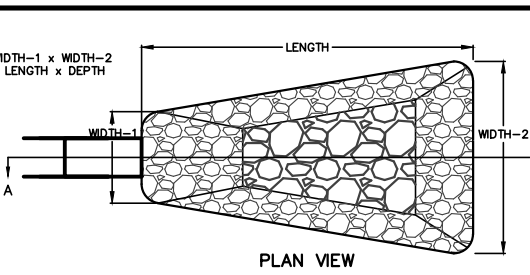


Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).



- FRAMED INLET PROTECTION MUST MEET THE FOLLOWING SPECIFICATIONS:
- ALL ASTM STANDARD D8057-17 REQUIREMENTS
 - NO PART OF INLET PROTECTION PROJECTING ABOVE THE GRATE
 - CAPTURE RUNOFF ENTERING BOTH GRATE AND CURB OPENING
 - "DUAL FABRIC" FILTER BAG, WITH NONWOVEN BOTTOM AND WOVEN TOP

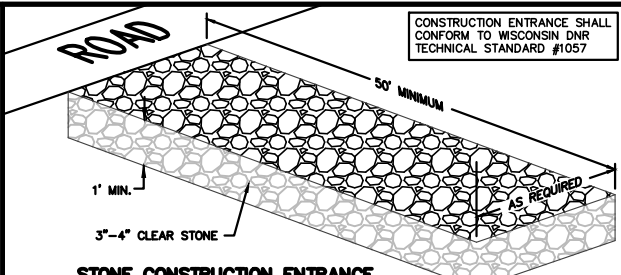


% PASSING BY WEIGHT	SIZE (INCHES)
100	20
50-85	15
20-50	10
5-20	5
0-5	2

RIPRAP SHALL BE PLACED AS DEFINED IN SECTION 606 OF WISCONSIN D.O.T. SPECIFICATIONS. STONE PIECES SHALL BE WELL GRADED, RANGING IN DIAMETER AS DESCRIBED IN THE ADJACENT CHART.

RIPRAP DETAIL

SIZES CALCULATED IN BEST D.5.2



EROSION NOTES:
THE STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE STONE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENT ONTO THE PUBLIC STREET. SEDIMENT REACHING PUBLIC STREET SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.

EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.

CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.

ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED WITHIN 14 DAYS OF LAST ACTIVITY. ALL DISTURBED AREAS SHOULD BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING.

PERIMETER CONTROL SHALL BE INSTALLED AROUND STOCKPILES, AND STOCKPILES SHALL BE STABILIZED THAT WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.

EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.

TIME SCHEDULE:
SEPTEMBER 15 - OCTOBER 1, 2025 INSTALL INITIAL EROSION CONTROL DEVICES AND ROUGH GRADE SITE.
OCTOBER 1, 2025 - MAY 15, 2026 CONSTRUCT UTILITIES AND STREETS. RESTORE ALL PVIOUSLY DISTURBED AREAS.

RESTORATION NOTES:
RESTORATION SHALL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL.

ALL PVIOUSLY DISTURBED AREAS SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, SEED, AND MULCH. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. SEED MIXTURE 40 SHALL BE USED ON ALL DISTURBED AREAS. ALL SEED MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX.

ALL PVIOUSLY DISTURBED AREAS SHALL RECEIVE FERTILIZER. FERTILIZER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 8%; POTASH, NOT LESS THAN 8%. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. SEED MIXTURE 40 SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. MULCH SHALL CONSIST OF HAY OR STRAW APPLIED AT THE RATE OF TWO (2) TONS PER ACRE.

SEEDING FROM SEPTEMBER 16 THROUGH NOVEMBER 15 IS TO BE AVOIDED TO PREVENT FREEZING OF NEW GROWTH. DORMANT SEEDING, IF NECESSARY, SHALL BE COMPLETED AFTER NOVEMBER 15. DORMANT SEEDING SHALL NOT BE APPLIED ON TOP OF SNOW. DISTURBED AREAS SHALL HAVE EROSION MAT APPLIED OVER DORMANT SEEDING. IF DORMANT SEEDING DOES NOT RESULT IN AT LEAST 70% COVER BY MAY 15, ADDITIONAL SEEDING SHALL BE REQUIRED.

OWNER:
LAKESTONE PROPERTIES & MANAGEMENT, LLC
ATTN: BRETT RIEMEN
BRIAN SPANOS
5910 MAIN STREET, SUITE 1
MCFARLAND, WI 53558

ENGINEER:
QUAM ENGINEERING, LLC
ATTN: RYAN QUAM
4604 SIGELKOW ROAD, SUITE A
MCFARLAND, WI 53558

1. EXCAVATED MATERIAL FROM THE UTILITY TRENCH NOT SUITABLE FOR BACKFILL AS DEEMED BY THE PUBLIC SERVICES DIRECTOR SHALL BE REMOVED AND REPLACED WITH SELECT TRENCH BACKFILL.
2. ALL SILT FENCE SHALL BE PROPERLY INSTALLED, MAINTAINED, AND REMOVED UPON ESTABLISHMENT OF TURF.
3. ALL SITES SHALL BE ADEQUATELY PROTECTED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
4. ACCESS TO THE CONSTRUCTION SITE SHALL BE LIMITED TO THE STONE ENTRANCE PADS SHOWN ON THE PLANS.
5. STREETS SHALL BE SWEEP CLEAN EVERY DAY.
6. EROSION MAT IS REQUIRED FOR ALL RESTORATION ON SLOPES AT OR GREATER THAN 5:1, AND IN AREAS THAT CHANNEL WATER. EROSION MAT SHALL ALSO BE PROVIDED IN ALL STREET TERRACES WITHIN THE ROW.
7. EROSION MAT AND STAPLES SHALL BE BIODEGRADABLE (CURLEX NET FREE OR APPROVED EQUAL).
8. ALL STORM WATER MANAGEMENT FACILITIES SHALL BE SEEDED WITH A NATIVE SEED MIXTURE WITHIN THE LIMITS OF THE OUTLOT OR EASEMENT. THE NATIVE SEED MIXTURE SHALL BE APPROVED BY THE DIRECTOR OF PUBLIC SERVICES.
9. ANY PROPOSED CHANGES TO THE GRADING AND EROSION CONTROL PLAN MUST BE SUBMITTED TO THE VILLAGE ENGINEER AND APPROVED.

SPELRE CORNERS - VILLAGE OF MCFARLAND
DETAILS
SHEET: C-17
DATED: AUGUST 18, 2025

QUAM ENGINEERING, LLC
Residential and Commercial Site Design Consultants
www.quamengineering.com
4604 Sigelkow Road, Suite A - McFarland, Wisconsin 53558
Phone (608) 838-7750; Fax (608) 838-7752



Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)



YEAR 1

Developer: Lakestone Properties and Management

Project: Sperle Corners - Village of McFarland (Phase 1)

Date: 04/08/25

County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	09/15/25	10/01/25	4.0%	150	Silt Loam	0.43	0.2%	300	0.10	1.00	0.3	0.284	Silt Fence	0.0
Bare Ground	10/01/25	05/15/26	22.8%	150	Silt Loam	0.43	7.0%	30	0.45	1.00	6.7	0.750	Silt Fence	3.0
Seed with Mulch or Er	05/15/26	07/14/26	37.1%	150	Silt Loam	0.43	7.0%	30	0.45	0.10	1.1	0.750	Silt Fence	0.5
End	07/14/26	----	----	----	-----	----	----	----	----	-----	----	0.000		0.0
		----	----	----	-----	----	----	----	----	-----	----	0.000		0.0
		----	----	----	-----	----	----	----	----	-----	----	0.000		0.0
TOTAL											8.0		TOTAL	3.5
													% Reduction Required	NONE

Notes:

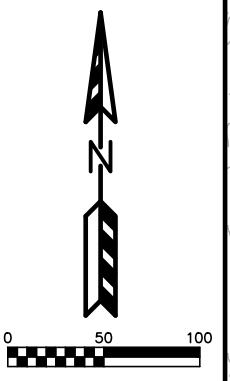
See Help Page for further descriptions of variables and items in drop-down boxes.
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Recommended Permanent Seeding Dates:

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	MAF
Date	4/8/2025



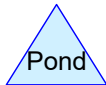
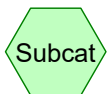
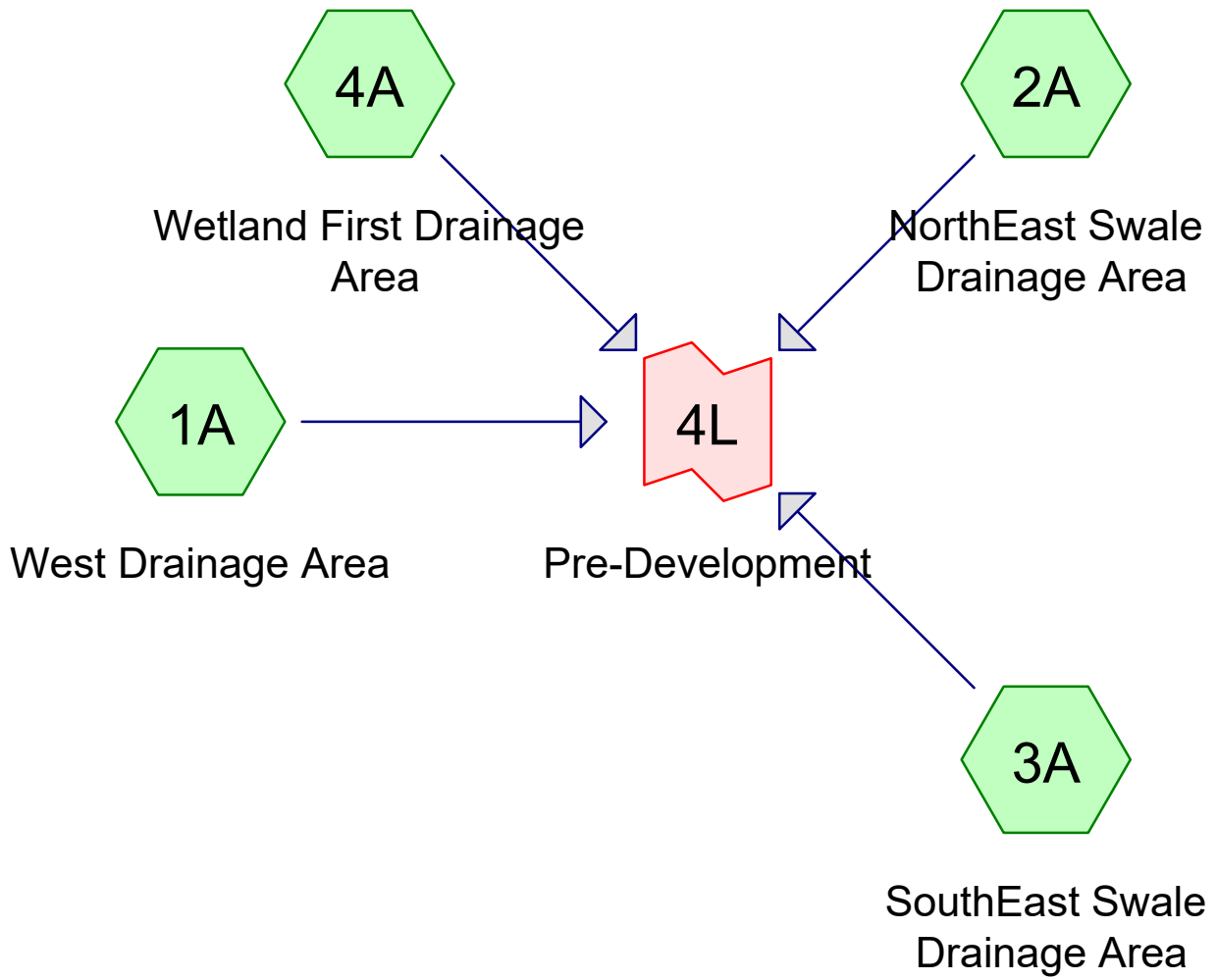
LEGEND FOR DRAINAGE AREAS:

	WEST DRAINAGE AREA AREA = 8.596 ACRES TC = 38.5 MINUTES
	WETLAND FIRST DRAINAGE AREA AREA = 5.534 ACRES TC = 9.3 MINUTES
	NORTHEAST SWALE DRAINAGE AREA AREA = 0.309 ACRES TC = 6 MINUTES
	SOUTHEAST SWALE DRAINAGE AREA AREA = 0.337 ACRES TC = 6 MINUTES



SPERLE CORNERS - VILLAGE OF MCFARLAND
 EXISTING DRAINAGE PLAN
 EXHIBIT: #3
 DATED: AUGUST 5, 2025

QUAM ENGINEERING, LLC
 Residential and Commercial Site Design Consultants
www.quamengineering.com
 4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752



Routing Diagram for PreDevelopment
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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
12.686	58	Ag, HSG B (1A, 2A, 3A, 4A)
0.060	58	Grass, HSG B (2A, 3A)
1.424	58	Offsite Grass, HSG B (1A, 2A, 3A, 4A)
0.054	98	Offsite Roof (4A)
0.044	98	Offsite Sidewalk (1A)
0.406	98	Offsite Street (1A)
0.102	58	Woods, HSG B (4A)
14.776	59	TOTAL AREA

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Drainage Area Runoff Area=8.596 ac 5.23% Impervious Runoff Depth=0.24"
Flow Length=600' Slope=0.0020 '/' Tc=33.3 min CN=WQ Runoff=0.83 cfs 0.174 af

Subcatchment 2A: NorthEast Swale Runoff Area=0.309 ac 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=WQ Runoff=0.01 cfs 0.003 af

Subcatchment 3A: SouthEast Swale Runoff Area=0.337 ac 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=WQ Runoff=0.02 cfs 0.004 af

Subcatchment 4A: Wetland First Drainage Runoff Area=5.534 ac 0.98% Impervious Runoff Depth=0.15"
Flow Length=380' Tc=9.3 min CN=WQ Runoff=0.29 cfs 0.070 af

Link 4L: Pre-Development Inflow=1.12 cfs 0.251 af
Primary=1.12 cfs 0.251 af

Total Runoff Area = 14.776 ac Runoff Volume = 0.251 af Average Runoff Depth = 0.20"
96.59% Pervious = 14.272 ac 3.41% Impervious = 0.504 ac

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 1A: West Drainage Area

Runoff = 0.83 cfs @ 12.53 hrs, Volume= 0.174 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 7.375	58	Ag, HSG B
* 0.406	98	Offsite Street
* 0.044	98	Offsite Sidewalk
* 0.771	58	Offsite Grass, HSG B
8.596		Weighted Average
8.146		94.77% Pervious Area
0.450		5.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	100	0.0020	0.13		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
20.7	500	0.0020	0.40		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
33.3	600	Total			

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 2A: NorthEast Swale Drainage Area

Runoff = 0.01 cfs @ 12.36 hrs, Volume= 0.003 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.021	58	Grass, HSG B
* 0.232	58	Ag, HSG B
* 0.056	58	Offsite Grass, HSG B
0.309		Weighted Average
0.309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 3A: SouthEast Swale Drainage Area

Runoff = 0.02 cfs @ 12.36 hrs, Volume= 0.004 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.039	58	Grass, HSG B
* 0.195	58	Ag, HSG B
* 0.103	58	Offsite Grass, HSG B
0.337		Weighted Average
0.337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 4A: Wetland First Drainage Area

Runoff = 0.29 cfs @ 12.38 hrs, Volume= 0.070 af, Depth= 0.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.102	58	Woods, HSG B
* 4.884	58	Ag, HSG B
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
5.534		Weighted Average
5.480		99.02% Pervious Area
0.054		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
4.4	280	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
9.3	380	Total			

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Link 4L: Pre-Development

Inflow Area = 14.776 ac, 3.41% Impervious, Inflow Depth = 0.20" for 1-Year event
Inflow = 1.12 cfs @ 12.49 hrs, Volume= 0.251 af
Primary = 1.12 cfs @ 12.49 hrs, Volume= 0.251 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PreDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Drainage Area Runoff Area=8.596 ac 5.23% Impervious Runoff Depth=0.35"
Flow Length=600' Slope=0.0020 '/' Tc=33.3 min CN=WQ Runoff=1.32 cfs 0.250 af

Subcatchment 2A: NorthEast Swale Runoff Area=0.309 ac 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=WQ Runoff=0.04 cfs 0.006 af

Subcatchment 3A: SouthEast Swale Runoff Area=0.337 ac 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=WQ Runoff=0.04 cfs 0.006 af

Subcatchment 4A: Wetland First Drainage Runoff Area=5.534 ac 0.98% Impervious Runoff Depth=0.25"
Flow Length=380' Tc=9.3 min CN=WQ Runoff=0.76 cfs 0.114 af

Link 4L: Pre-Development Inflow=1.86 cfs 0.376 af
Primary=1.86 cfs 0.376 af

Total Runoff Area = 14.776 ac Runoff Volume = 0.376 af Average Runoff Depth = 0.31"
96.59% Pervious = 14.272 ac 3.41% Impervious = 0.504 ac

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 1A: West Drainage Area

Runoff = 1.32 cfs @ 12.57 hrs, Volume= 0.250 af, Depth= 0.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 7.375	58	Ag, HSG B
* 0.406	98	Offsite Street
* 0.044	98	Offsite Sidewalk
* 0.771	58	Offsite Grass, HSG B
8.596		Weighted Average
8.146		94.77% Pervious Area
0.450		5.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	100	0.0020	0.13		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
20.7	500	0.0020	0.40		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
33.3	600	Total			

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 2A: NorthEast Swale Drainage Area

Runoff = 0.04 cfs @ 12.20 hrs, Volume= 0.006 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.021	58	Grass, HSG B
* 0.232	58	Ag, HSG B
* 0.056	58	Offsite Grass, HSG B
0.309		Weighted Average
0.309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PreDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 3A: SouthEast Swale Drainage Area

Runoff = 0.04 cfs @ 12.20 hrs, Volume= 0.006 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.039	58	Grass, HSG B
* 0.195	58	Ag, HSG B
* 0.103	58	Offsite Grass, HSG B
0.337		Weighted Average
0.337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 4A: Wetland First Drainage Area

Runoff = 0.76 cfs @ 12.24 hrs, Volume= 0.114 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.102	58	Woods, HSG B
* 4.884	58	Ag, HSG B
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
5.534		Weighted Average
5.480		99.02% Pervious Area
0.054		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
4.4	280	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
9.3	380	Total			

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Link 4L: Pre-Development

Inflow Area = 14.776 ac, 3.41% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 1.86 cfs @ 12.49 hrs, Volume= 0.376 af
Primary = 1.86 cfs @ 12.49 hrs, Volume= 0.376 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Drainage Area Runoff Area=8.596 ac 5.23% Impervious Runoff Depth=0.87"
Flow Length=600' Slope=0.0020 '/' Tc=33.3 min CN=WQ Runoff=4.45 cfs 0.624 af

Subcatchment 2A: NorthEast Swale Runoff Area=0.309 ac 0.00% Impervious Runoff Depth=0.71"
Tc=6.0 min CN=WQ Runoff=0.29 cfs 0.018 af

Subcatchment 3A: SouthEast Swale Runoff Area=0.337 ac 0.00% Impervious Runoff Depth=0.71"
Tc=6.0 min CN=WQ Runoff=0.31 cfs 0.020 af

Subcatchment 4A: Wetland First Drainage Runoff Area=5.534 ac 0.98% Impervious Runoff Depth=0.74"
Flow Length=380' Tc=9.3 min CN=WQ Runoff=4.50 cfs 0.340 af

Link 4L: Pre-Development Inflow=6.31 cfs 1.002 af
Primary=6.31 cfs 1.002 af

Total Runoff Area = 14.776 ac Runoff Volume = 1.002 af Average Runoff Depth = 0.81"
96.59% Pervious = 14.272 ac 3.41% Impervious = 0.504 ac

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 1A: West Drainage Area

Runoff = 4.45 cfs @ 12.54 hrs, Volume= 0.624 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 7.375	58	Ag, HSG B
* 0.406	98	Offsite Street
* 0.044	98	Offsite Sidewalk
* 0.771	58	Offsite Grass, HSG B
8.596		Weighted Average
8.146		94.77% Pervious Area
0.450		5.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	100	0.0020	0.13		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
20.7	500	0.0020	0.40		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
33.3	600	Total			

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 2A: NorthEast Swale Drainage Area

Runoff = 0.29 cfs @ 12.15 hrs, Volume= 0.018 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.021	58	Grass, HSG B
* 0.232	58	Ag, HSG B
* 0.056	58	Offsite Grass, HSG B
0.309		Weighted Average
0.309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 3A: SouthEast Swale Drainage Area

Runoff = 0.31 cfs @ 12.15 hrs, Volume= 0.020 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.039	58	Grass, HSG B
* 0.195	58	Ag, HSG B
* 0.103	58	Offsite Grass, HSG B
0.337		Weighted Average
0.337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 4A: Wetland First Drainage Area

Runoff = 4.50 cfs @ 12.19 hrs, Volume= 0.340 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.102	58	Woods, HSG B
* 4.884	58	Ag, HSG B
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
5.534		Weighted Average
5.480		99.02% Pervious Area
0.054		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
4.4	280	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
9.3	380	Total			

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Link 4L: Pre-Development

Inflow Area = 14.776 ac, 3.41% Impervious, Inflow Depth = 0.81" for 10-Year event
Inflow = 6.31 cfs @ 12.21 hrs, Volume= 1.002 af
Primary = 6.31 cfs @ 12.21 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PreDevelopment

MSE 24-hr 4 100-Year Rainfall=6.66"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Drainage Area Runoff Area=8.596 ac 5.23% Impervious Runoff Depth=2.40"
Flow Length=600' Slope=0.0020 '/' Tc=33.3 min CN=WQ Runoff=14.62 cfs 1.721 af

Subcatchment 2A: NorthEast Swale Runoff Area=0.309 ac 0.00% Impervious Runoff Depth=2.18"
Tc=6.0 min CN=WQ Runoff=1.04 cfs 0.056 af

Subcatchment 3A: SouthEast Swale Runoff Area=0.337 ac 0.00% Impervious Runoff Depth=2.18"
Tc=6.0 min CN=WQ Runoff=1.13 cfs 0.061 af

Subcatchment 4A: Wetland First Drainage Runoff Area=5.534 ac 0.98% Impervious Runoff Depth=2.22"
Flow Length=380' Tc=9.3 min CN=WQ Runoff=16.22 cfs 1.025 af

Link 4L: Pre-Development Inflow=23.49 cfs 2.864 af
Primary=23.49 cfs 2.864 af

Total Runoff Area = 14.776 ac Runoff Volume = 2.864 af Average Runoff Depth = 2.33"
96.59% Pervious = 14.272 ac 3.41% Impervious = 0.504 ac

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Summary for Subcatchment 1A: West Drainage Area

Runoff = 14.62 cfs @ 12.50 hrs, Volume= 1.721 af, Depth= 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 7.375	58	Ag, HSG B
* 0.406	98	Offsite Street
* 0.044	98	Offsite Sidewalk
* 0.771	58	Offsite Grass, HSG B
8.596		Weighted Average
8.146		94.77% Pervious Area
0.450		5.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	100	0.0020	0.13		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
20.7	500	0.0020	0.40		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
33.3	600	Total			

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 2A: NorthEast Swale Drainage Area

Runoff = 1.04 cfs @ 12.14 hrs, Volume= 0.056 af, Depth= 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.021	58	Grass, HSG B
* 0.232	58	Ag, HSG B
* 0.056	58	Offsite Grass, HSG B
0.309		Weighted Average
0.309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 3A: SouthEast Swale Drainage Area

Runoff = 1.13 cfs @ 12.14 hrs, Volume= 0.061 af, Depth= 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.039	58	Grass, HSG B
* 0.195	58	Ag, HSG B
* 0.103	58	Offsite Grass, HSG B
0.337		Weighted Average
0.337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 4A: Wetland First Drainage Area

Runoff = 16.22 cfs @ 12.18 hrs, Volume= 1.025 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.102	58	Woods, HSG B
* 4.884	58	Ag, HSG B
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
5.534		Weighted Average
5.480		99.02% Pervious Area
0.054		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
4.4	280	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
9.3	380	Total			

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Link 4L: Pre-Development

Inflow Area = 14.776 ac, 3.41% Impervious, Inflow Depth = 2.33" for 100-Year event
Inflow = 23.49 cfs @ 12.19 hrs, Volume= 2.864 af
Primary = 23.49 cfs @ 12.19 hrs, Volume= 2.864 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Drainage Area Runoff Area=8.596 ac 5.23% Impervious Runoff Depth=3.01"
Flow Length=600' Slope=0.0020 '/' Tc=33.3 min CN=WQ Runoff=18.68 cfs 2.158 af

Subcatchment 2A: NorthEast Swale Runoff Area=0.309 ac 0.00% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=WQ Runoff=1.34 cfs 0.071 af

Subcatchment 3A: SouthEast Swale Runoff Area=0.337 ac 0.00% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=WQ Runoff=1.46 cfs 0.078 af

Subcatchment 4A: Wetland First Drainage Runoff Area=5.534 ac 0.98% Impervious Runoff Depth=2.82"
Flow Length=380' Tc=9.3 min CN=WQ Runoff=21.04 cfs 1.301 af

Link 4L: Pre-Development Inflow=30.50 cfs 3.608 af
Primary=30.50 cfs 3.608 af

Total Runoff Area = 14.776 ac Runoff Volume = 3.608 af Average Runoff Depth = 2.93"
96.59% Pervious = 14.272 ac 3.41% Impervious = 0.504 ac

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Summary for Subcatchment 1A: West Drainage Area

Runoff = 18.68 cfs @ 12.49 hrs, Volume= 2.158 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 7.375	58	Ag, HSG B
* 0.406	98	Offsite Street
* 0.044	98	Offsite Sidewalk
* 0.771	58	Offsite Grass, HSG B
8.596		Weighted Average
8.146		94.77% Pervious Area
0.450		5.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.6	100	0.0020	0.13		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
20.7	500	0.0020	0.40		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
33.3	600	Total			

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 2A: NorthEast Swale Drainage Area

Runoff = 1.34 cfs @ 12.14 hrs, Volume= 0.071 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.021	58	Grass, HSG B
* 0.232	58	Ag, HSG B
* 0.056	58	Offsite Grass, HSG B
0.309		Weighted Average
0.309		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 3A: SouthEast Swale Drainage Area

Runoff = 1.46 cfs @ 12.14 hrs, Volume= 0.078 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.039	58	Grass, HSG B
* 0.195	58	Ag, HSG B
* 0.103	58	Offsite Grass, HSG B
0.337		Weighted Average
0.337		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 4A: Wetland First Drainage Area

Runoff = 21.04 cfs @ 12.17 hrs, Volume= 1.301 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.102	58	Woods, HSG B
* 4.884	58	Ag, HSG B
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
5.534		Weighted Average
5.480		99.02% Pervious Area
0.054		0.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
4.4	280	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
9.3	380	Total			

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MSE 24-hr 4 200-Year Rainfall=7.53"

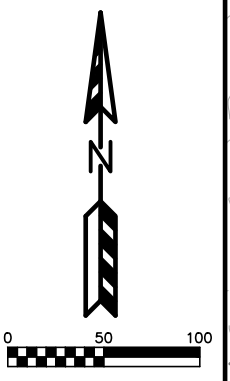
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Summary for Link 4L: Pre-Development

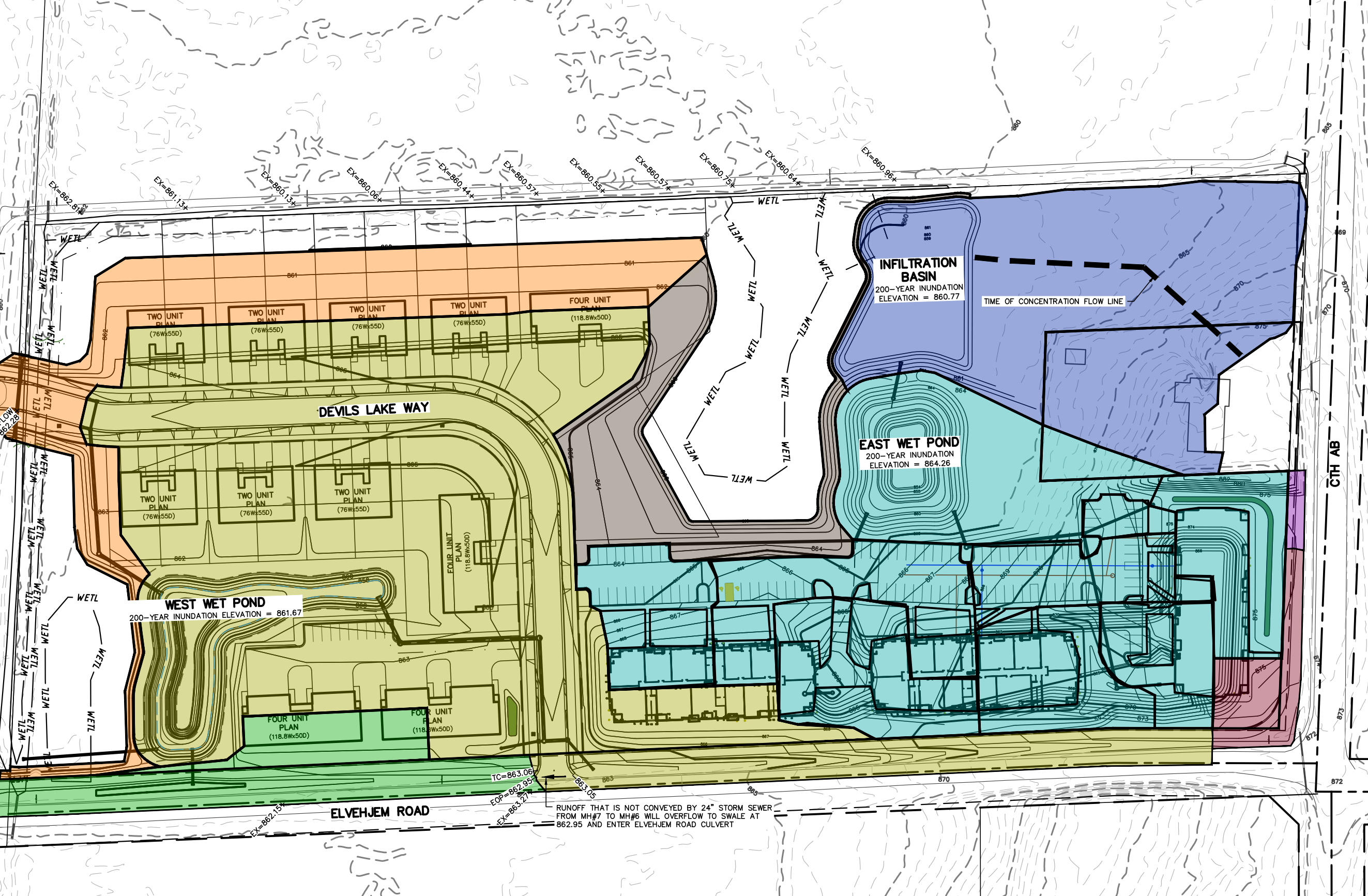
Inflow Area = 14.776 ac, 3.41% Impervious, Inflow Depth = 2.93" for 200-Year event
Inflow = 30.50 cfs @ 12.19 hrs, Volume= 3.608 af
Primary = 30.50 cfs @ 12.19 hrs, Volume= 3.608 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs



LEGEND FOR DRAINAGE AREAS:

	WEST WET POND DRAINAGE AREA AREA = 5.460 ACRES TC = 6 MINUTES
	ELVEHJEM ROAD CULVERT DRAINAGE AREA AREA = 0.872 ACRES TC = 6 MINUTES
	EAST WET POND DRAINAGE AREA AREA = 3.805 ACRES TC = 6 MINUTES
	INFILTRATION BASIN DRAINAGE AREA AREA = 2.236 ACRES TC = 7.7 MINUTES
	NORTHEAST SWALE DRAINAGE AREA AREA = 0.032 ACRES TC = 6 MINUTES
	SOUTHEAST SWALE DRAINAGE AREA AREA = 0.224 ACRES TC = 6 MINUTES
	UNCONTROLLED DRAINAGE AREA AREA = 1.375 ACRES TC = 6 MINUTES
	WETLAND FIRST DRAINAGE AREA AREA = 0.702 ACRES TC = 6 MINUTES



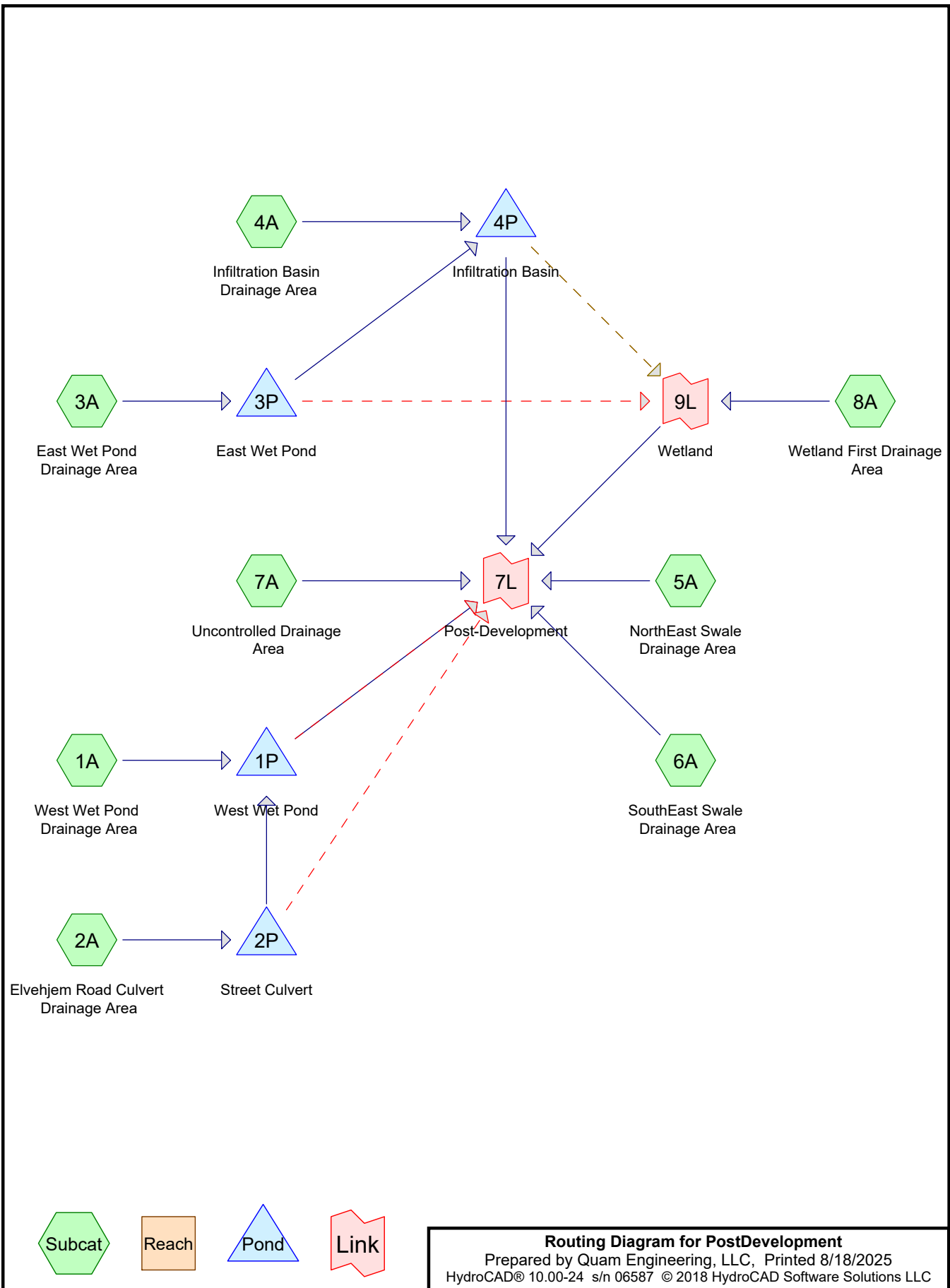
RUNOFF THAT IS NOT CONVEYED BY 24" STORM SEWER FROM MH#7 TO MH#6 WILL OVERFLOW TO SWALE AT 862.95 AND ENTER ELVEHJEM ROAD CULVERT

INUNDATION EVENT WAS MODELED ASSUMING THAT ALL WATER REACHED THE POND AS DESIGNED BUT ONLY LEFT THE POND THROUGH THE OVERFLOW WEIR.

SPERLE CORNERS - VILLAGE OF MCFARLAND
 PROPOSED DRAINAGE PLAN
 EXHIBIT: #5
 DATED: AUGUST 5, 2025



4604 Siggelkow Road, Suite A - McFarland, Wisconsin 53558
 Phone (608) 838-7750; Fax (608) 838-7752



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.702	58	>75% Grass cover, Good, HSG B (8A)
4.312	74	>75% Grass cover, Good, HSG C (1A, 2A, 3A, 4A, 6A, 7A)
1.000	58	Deep Tilled HSG C Soils (7A)
0.633	58	Offsite Grass, HSG B (3A, 4A, 5A, 6A)
0.054	98	Offsite Roof (4A)
0.329	98	Offsite Sidewalk (1A, 2A, 5A, 6A)
0.429	98	Offsite Street (1A, 2A)
1.632	98	Proposed Pavement (1A, 3A)
2.512	98	Proposed Roof (1A, 2A, 3A, 6A, 7A)
0.277	98	Proposed Sidewalk (1A, 2A, 3A, 7A)
0.566	98	Proposed Street (1A, 7A)
1.522	58	Undisturbed Grass, HSG B (3A, 4A)
0.808	100	Water/Infiltration Area (1A, 3A, 4A)
14.776	81	TOTAL AREA

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=1.61"
Tc=6.0 min CN=WQ Runoff=12.17 cfs 0.740 af

Pond 1P: West Wet Pond Peak Elev=859.42' Storage=27,058 cf Inflow=13.74 cfs 0.851 af
Primary=0.32 cfs 0.820 af Secondary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.820 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=1.53"
Tc=6.0 min CN=WQ Runoff=1.84 cfs 0.111 af

Pond 2P: Street Culvert Peak Elev=859.87' Storage=270 cf Inflow=1.84 cfs 0.111 af
Primary=1.64 cfs 0.111 af Secondary=0.00 cfs 0.000 af Outflow=1.64 cfs 0.111 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=1.50"
Tc=6.0 min CN=WQ Runoff=7.76 cfs 0.476 af

Pond 3P: East Wet Pond Peak Elev=861.48' Storage=13,280 cf Inflow=7.76 cfs 0.476 af
Primary=0.32 cfs 0.471 af Secondary=0.00 cfs 0.000 af Outflow=0.32 cfs 0.471 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=0.55"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=1.23 cfs 0.102 af

Pond 4P: Infiltration Basin Peak Elev=859.65' Storage=5,870 cf Inflow=1.49 cfs 0.573 af
Primary=0.14 cfs 0.205 af Secondary=0.00 cfs 0.000 af Tertiary=0.16 cfs 0.234 af Outflow=0.32 cfs 0.567 af

Subcatchment 5A: NorthEast Swale Runoff Area=0.032 ac 53.13% Impervious Runoff Depth=1.26"
Tc=6.0 min CN=WQ Runoff=0.05 cfs 0.003 af

Subcatchment 6A: SouthEast Swale Runoff Area=0.224 ac 36.16% Impervious Runoff Depth=1.06"
Tc=6.0 min CN=WQ Runoff=0.32 cfs 0.020 af

Subcatchment 7A: Uncontrolled Drainage Runoff Area=1.375 ac 15.20% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=WQ Runoff=0.80 cfs 0.059 af

Link 7L: Post-Development Inflow=1.42 cfs 1.349 af
Primary=1.42 cfs 1.349 af

Subcatchment 8A: Wetland First Drainage Runoff Area=0.702 ac 0.00% Impervious Runoff Depth=0.13"
Tc=6.0 min CN=58 Runoff=0.03 cfs 0.008 af

Link 9L: Wetland Inflow=0.17 cfs 0.242 af
Primary=0.17 cfs 0.242 af

Total Runoff Area = 14.776 ac Runoff Volume = 1.519 af Average Runoff Depth = 1.23"
55.29% Pervious = 8.169 ac 44.71% Impervious = 6.607 ac

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 12.17 cfs @ 12.13 hrs, Volume= 0.740 af, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 1.60" for 1-Year event
 Inflow = 13.74 cfs @ 12.13 hrs, Volume= 0.851 af
 Outflow = 0.32 cfs @ 15.16 hrs, Volume= 0.820 af, Atten= 98%, Lag= 181.7 min
 Primary = 0.32 cfs @ 15.16 hrs, Volume= 0.820 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.42' @ 15.16 hrs Surf.Area= 16,270 sf Storage= 27,058 cf

Plug-Flow detention time= 1,033.2 min calculated for 0.820 af (96% of inflow)
 Center-of-Mass det. time= 1,012.7 min (1,785.4 - 772.7)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Primary	857.50'	15.0" Round Outlet Culvert L= 136.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.23' S= 0.0020 '/ n= 0.013, Flow Area= 1.23 sf
#2	Device 1	857.50'	3.0" Round Culvert L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.50' S= 0.0000 '/ n= 0.010, Flow Area= 0.05 sf
#3	Device 1	860.00'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.32 cfs @ 15.16 hrs HW=859.42' TW=0.00' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Passes 0.32 cfs of 4.42 cfs potential flow)
 ↑ **2=Culvert** (Inlet Controls 0.32 cfs @ 6.45 fps)
 ↑ **3=Standpipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=857.50' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 1.84 cfs @ 12.13 hrs, Volume= 0.111 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 1.53" for 1-Year event
 Inflow = 1.84 cfs @ 12.13 hrs, Volume= 0.111 af
 Outflow = 1.64 cfs @ 12.16 hrs, Volume= 0.111 af, Atten= 11%, Lag= 1.9 min
 Primary = 1.64 cfs @ 12.16 hrs, Volume= 0.111 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.87' @ 12.16 hrs Surf.Area= 765 sf Storage= 270 cf

Plug-Flow detention time= 6.4 min calculated for 0.111 af (100% of inflow)
 Center-of-Mass det. time= 6.4 min (782.6 - 776.1)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.60 cfs @ 12.16 hrs HW=859.86' TW=858.73' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 1.60 cfs @ 2.67 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

PostDevelopment

MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 7.76 cfs @ 12.13 hrs, Volume= 0.476 af, Depth= 1.50"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 1.50" for 1-Year event
 Inflow = 7.76 cfs @ 12.13 hrs, Volume= 0.476 af
 Outflow = 0.32 cfs @ 13.64 hrs, Volume= 0.471 af, Atten= 96%, Lag= 90.4 min
 Primary = 0.32 cfs @ 13.64 hrs, Volume= 0.471 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.48' @ 13.64 hrs Surf.Area= 7,854 sf Storage= 13,280 cf

Plug-Flow detention time= 540.8 min calculated for 0.471 af (99% of inflow)
 Center-of-Mass det. time= 533.9 min (1,305.3 - 771.4)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	37,100 cf	Surface (Prismatic) Listed below (Recalc) x 0.8
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	15.0" Round Outlet Culvert L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.38' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	859.50'	3.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.50' S= 0.0000 '/' Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	862.50'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.32 cfs @ 13.64 hrs HW=861.48' TW=859.57' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Passes 0.32 cfs of 5.84 cfs potential flow)
 ↑ **2=Culvert** (Inlet Controls 0.32 cfs @ 6.55 fps)
 ↑ **3=Standpipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.50' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 1.23 cfs @ 12.15 hrs, Volume= 0.102 af, Depth= 0.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 6.041 ac, 41.47% Impervious, Inflow Depth > 1.14" for 1-Year event
 Inflow = 1.49 cfs @ 12.15 hrs, Volume= 0.573 af
 Outflow = 0.32 cfs @ 18.49 hrs, Volume= 0.567 af, Atten= 78%, Lag= 380.4 min
 Discarded = 0.02 cfs @ 9.75 hrs, Volume= 0.128 af
 Primary = 0.14 cfs @ 18.49 hrs, Volume= 0.205 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Tertiary = 0.16 cfs @ 18.49 hrs, Volume= 0.234 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.65' @ 18.49 hrs Surf.Area= 15,587 sf Storage= 5,870 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 404.8 min (1,616.9 - 1,212.1)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Primary	859.35'	6.0" Round Culvert L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0021 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Tertiary	859.35'	6.0" Round Culvert L= 31.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0032 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.02 cfs @ 9.75 hrs HW=859.27' (Free Discharge)
 ↑4=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.14 cfs @ 18.49 hrs HW=859.65' TW=0.00' (Dynamic Tailwater)
 ↑1=Culvert (Barrel Controls 0.14 cfs @ 1.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.16 cfs @ 18.49 hrs HW=859.65' TW=0.00' (Dynamic Tailwater)
 ↑2=Culvert (Barrel Controls 0.16 cfs @ 1.90 fps)

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Summary for Subcatchment 5A: NorthEast Swale Drainage Area

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 0.003 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.017	98	Offsite Sidewalk
* 0.015	58	Offsite Grass, HSG B
0.032		Weighted Average
0.015		46.87% Pervious Area
0.017		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 6A: SouthEast Swale Drainage Area

Runoff = 0.32 cfs @ 12.13 hrs, Volume= 0.020 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.034	98	Proposed Roof
0.075	74	>75% Grass cover, Good, HSG C
* 0.047	98	Offsite Sidewalk
* 0.068	58	Offsite Grass, HSG B
0.224		Weighted Average
0.143		63.84% Pervious Area
0.081		36.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 7A: Uncontrolled Drainage Area

Runoff = 0.80 cfs @ 12.13 hrs, Volume= 0.059 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.160	98	Proposed Roof
* 0.012	98	Proposed Sidewalk
* 0.037	98	Proposed Street
* 1.000	58	Deep Tilled HSG C Soils
0.166	74	>75% Grass cover, Good, HSG C
1.375		Weighted Average
1.166		84.80% Pervious Area
0.209		15.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Link 7L: Post-Development

Inflow Area = 14.776 ac, 44.71% Impervious, Inflow Depth > 1.10" for 1-Year event
Inflow = 1.42 cfs @ 12.14 hrs, Volume= 1.349 af
Primary = 1.42 cfs @ 12.14 hrs, Volume= 1.349 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment 8A: Wetland First Drainage Area

Runoff = 0.03 cfs @ 12.36 hrs, Volume= 0.008 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 0.702	58	>75% Grass cover, Good, HSG B
0.702		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Link 9L: Wetland

Inflow Area = 0.702 ac, 0.00% Impervious, Inflow Depth = 4.14" for 1-Year event
Inflow = 0.17 cfs @ 18.33 hrs, Volume= 0.242 af
Primary = 0.17 cfs @ 18.33 hrs, Volume= 0.242 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PostDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=1.90"
Tc=6.0 min CN=WQ Runoff=14.41 cfs 0.874 af

Pond 1P: West Wet Pond Peak Elev=859.73' Storage=32,183 cf Inflow=16.27 cfs 1.006 af
Primary=0.34 cfs 0.969 af Secondary=0.00 cfs 0.000 af Outflow=0.34 cfs 0.969 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=1.81"
Tc=6.0 min CN=WQ Runoff=2.19 cfs 0.132 af

Pond 2P: Street Culvert Peak Elev=859.94' Storage=321 cf Inflow=2.19 cfs 0.132 af
Primary=1.95 cfs 0.132 af Secondary=0.00 cfs 0.000 af Outflow=1.95 cfs 0.132 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=1.78"
Tc=6.0 min CN=WQ Runoff=9.21 cfs 0.564 af

Pond 3P: East Wet Pond Peak Elev=861.80' Storage=15,875 cf Inflow=9.21 cfs 0.564 af
Primary=0.35 cfs 0.558 af Secondary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.558 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=0.69"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=1.57 cfs 0.128 af

Pond 4P: Infiltration Basin Peak Elev=859.67' Storage=6,282 cf Inflow=1.85 cfs 0.687 af
Primary=0.17 cfs 0.256 af Secondary=0.00 cfs 0.000 af Tertiary=0.19 cfs 0.292 af Outflow=0.37 cfs 0.677 af

Subcatchment 5A: NorthEast Swale Runoff Area=0.032 ac 53.13% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=WQ Runoff=0.06 cfs 0.004 af

Subcatchment 6A: SouthEast Swale Runoff Area=0.224 ac 36.16% Impervious Runoff Depth=1.28"
Tc=6.0 min CN=WQ Runoff=0.38 cfs 0.024 af

Subcatchment 7A: Uncontrolled Drainage Runoff Area=1.375 ac 15.20% Impervious Runoff Depth=0.66"
Tc=6.0 min CN=WQ Runoff=1.04 cfs 0.075 af

Link 7L: Post-Development Inflow=1.86 cfs 1.633 af
Primary=1.86 cfs 1.633 af

Subcatchment 8A: Wetland First Drainage Runoff Area=0.702 ac 0.00% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=58 Runoff=0.09 cfs 0.013 af

Link 9L: Wetland Inflow=0.20 cfs 0.305 af
Primary=0.20 cfs 0.305 af

Total Runoff Area = 14.776 ac Runoff Volume = 1.815 af Average Runoff Depth = 1.47"
55.29% Pervious = 8.169 ac 44.71% Impervious = 6.607 ac

PostDevelopment

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 14.41 cfs @ 12.13 hrs, Volume= 0.874 af, Depth= 1.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 1.89" for 2-Year event
 Inflow = 16.27 cfs @ 12.13 hrs, Volume= 1.006 af
 Outflow = 0.34 cfs @ 15.26 hrs, Volume= 0.969 af, Atten= 98%, Lag= 187.7 min
 Primary = 0.34 cfs @ 15.26 hrs, Volume= 0.969 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.73' @ 15.26 hrs Surf.Area= 16,979 sf Storage= 32,183 cf

Plug-Flow detention time= 1,111.1 min calculated for 0.969 af (96% of inflow)
 Center-of-Mass det. time= 1,091.4 min (1,864.4 - 773.0)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Primary	857.50'	15.0" Round Outlet Culvert L= 136.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.23' S= 0.0020 '/ n= 0.013, Flow Area= 1.23 sf
#2	Device 1	857.50'	3.0" Round Culvert L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.50' S= 0.0000 '/ n= 0.010, Flow Area= 0.05 sf
#3	Device 1	860.00'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.34 cfs @ 15.26 hrs HW=859.73' TW=0.00' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Passes 0.34 cfs of 5.09 cfs potential flow)
 ↑ **2=Culvert** (Inlet Controls 0.34 cfs @ 6.99 fps)
 ↑ **3=Standpipe** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=857.50' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 2.19 cfs @ 12.13 hrs, Volume= 0.132 af, Depth= 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 1.81" for 2-Year event
 Inflow = 2.19 cfs @ 12.13 hrs, Volume= 0.132 af
 Outflow = 1.95 cfs @ 12.16 hrs, Volume= 0.132 af, Atten= 11%, Lag= 2.0 min
 Primary = 1.95 cfs @ 12.16 hrs, Volume= 0.132 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.94' @ 12.16 hrs Surf.Area= 833 sf Storage= 321 cf

Plug-Flow detention time= 19.7 min calculated for 0.132 af (100% of inflow)
 Center-of-Mass det. time= 18.8 min (793.4 - 774.6)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=1.90 cfs @ 12.16 hrs HW=859.93' TW=858.93' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 1.90 cfs @ 2.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

PostDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 9.21 cfs @ 12.13 hrs, Volume= 0.564 af, Depth= 1.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 1.78" for 2-Year event
 Inflow = 9.21 cfs @ 12.13 hrs, Volume= 0.564 af
 Outflow = 0.35 cfs @ 13.72 hrs, Volume= 0.558 af, Atten= 96%, Lag= 95.6 min
 Primary = 0.35 cfs @ 13.72 hrs, Volume= 0.558 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.80' @ 13.72 hrs Surf.Area= 8,241 sf Storage= 15,875 cf

Plug-Flow detention time= 583.0 min calculated for 0.558 af (99% of inflow)
 Center-of-Mass det. time= 578.4 min (1,348.8 - 770.4)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	37,100 cf	Surface (Prismatic) Listed below (Recalc) x 0.8
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	15.0" Round Outlet Culvert L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.38' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	859.50'	3.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.50' S= 0.0000 '/' Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	862.50'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.35 cfs @ 13.72 hrs HW=861.80' TW=859.62' (Dynamic Tailwater)
 1=Outlet Culvert (Passes 0.35 cfs of 6.87 cfs potential flow)
 2=Culvert (Inlet Controls 0.35 cfs @ 7.10 fps)
 3=Standpipe (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.50' TW=0.00' (Dynamic Tailwater)
 4=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 1.57 cfs @ 12.15 hrs, Volume= 0.128 af, Depth= 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 6.041 ac, 41.47% Impervious, Inflow Depth > 1.36" for 2-Year event
 Inflow = 1.85 cfs @ 12.16 hrs, Volume= 0.687 af
 Outflow = 0.37 cfs @ 17.64 hrs, Volume= 0.677 af, Atten= 80%, Lag= 328.7 min
 Discarded = 0.02 cfs @ 9.20 hrs, Volume= 0.129 af
 Primary = 0.17 cfs @ 17.64 hrs, Volume= 0.256 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Tertiary = 0.19 cfs @ 17.64 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.67' @ 17.64 hrs Surf.Area= 15,693 sf Storage= 6,282 cf

Plug-Flow detention time= 387.8 min calculated for 0.676 af (98% of inflow)
 Center-of-Mass det. time= 359.6 min (1,603.5 - 1,244.0)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Primary	859.35'	6.0" Round Culvert L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0021 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Tertiary	859.35'	6.0" Round Culvert L= 31.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0032 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.02 cfs @ 9.20 hrs HW=859.27' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.17 cfs @ 17.64 hrs HW=859.67' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Barrel Controls 0.17 cfs @ 1.75 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.19 cfs @ 17.64 hrs HW=859.67' TW=0.00' (Dynamic Tailwater)
 ↳2=Culvert (Barrel Controls 0.19 cfs @ 1.97 fps)

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Summary for Subcatchment 5A: NorthEast Swale Drainage Area

Runoff = 0.06 cfs @ 12.13 hrs, Volume= 0.004 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.017	98	Offsite Sidewalk
* 0.015	58	Offsite Grass, HSG B
0.032		Weighted Average
0.015		46.87% Pervious Area
0.017		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 6A: SouthEast Swale Drainage Area

Runoff = 0.38 cfs @ 12.13 hrs, Volume= 0.024 af, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.034	98	Proposed Roof
0.075	74	>75% Grass cover, Good, HSG C
* 0.047	98	Offsite Sidewalk
* 0.068	58	Offsite Grass, HSG B
0.224		Weighted Average
0.143		63.84% Pervious Area
0.081		36.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 7A: Uncontrolled Drainage Area

Runoff = 1.04 cfs @ 12.14 hrs, Volume= 0.075 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.160	98	Proposed Roof
* 0.012	98	Proposed Sidewalk
* 0.037	98	Proposed Street
* 1.000	58	Deep Tilled HSG C Soils
0.166	74	>75% Grass cover, Good, HSG C
1.375		Weighted Average
1.166		84.80% Pervious Area
0.209		15.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Link 7L: Post-Development

Inflow Area = 14.776 ac, 44.71% Impervious, Inflow Depth > 1.33" for 2-Year event
Inflow = 1.86 cfs @ 12.14 hrs, Volume= 1.633 af
Primary = 1.86 cfs @ 12.14 hrs, Volume= 1.633 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PostDevelopment

MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Subcatchment 8A: Wetland First Drainage Area

Runoff = 0.09 cfs @ 12.20 hrs, Volume= 0.013 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 2-Year Rainfall=2.84"

Area (ac)	CN	Description
* 0.702	58	>75% Grass cover, Good, HSG B
0.702		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 2-Year Rainfall=2.84"

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Summary for Link 9L: Wetland

Inflow Area = 0.702 ac, 0.00% Impervious, Inflow Depth = 5.21" for 2-Year event
Inflow = 0.20 cfs @ 17.25 hrs, Volume= 0.305 af
Primary = 0.20 cfs @ 17.25 hrs, Volume= 0.305 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=2.99"
Tc=6.0 min CN=WQ Runoff=22.76 cfs 1.376 af

Pond 1P: West Wet Pond Peak Elev=860.21' Storage=40,651 cf Inflow=25.43 cfs 1.586 af
Primary=3.41 cfs 1.539 af Secondary=0.00 cfs 0.000 af Outflow=3.41 cfs 1.539 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=2.89"
Tc=6.0 min CN=WQ Runoff=3.50 cfs 0.210 af

Pond 2P: Street Culvert Peak Elev=860.23' Storage=659 cf Inflow=3.50 cfs 0.210 af
Primary=2.70 cfs 0.210 af Secondary=0.00 cfs 0.000 af Outflow=2.70 cfs 0.210 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=2.82"
Tc=6.0 min CN=WQ Runoff=14.72 cfs 0.894 af

Pond 3P: East Wet Pond Peak Elev=862.61' Storage=22,930 cf Inflow=14.72 cfs 0.894 af
Primary=1.49 cfs 0.888 af Secondary=0.00 cfs 0.000 af Outflow=1.49 cfs 0.888 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=1.32"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=3.60 cfs 0.246 af

Pond 4P: Infiltration Basin Peak Elev=859.96' Storage=10,995 cf Inflow=3.95 cfs 1.134 af
Primary=0.131 af 0.42 cfs 0.461 af Secondary=0.00 cfs 0.000 af Tertiary=0.47 cfs 0.520 af Outflow=0.91 cfs 1.113 af

Subcatchment 5A: NorthEast Swale Runoff Area=0.032 ac 53.13% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=WQ Runoff=0.10 cfs 0.006 af

Subcatchment 6A: SouthEast Swale Runoff Area=0.224 ac 36.16% Impervious Runoff Depth=2.17"
Tc=6.0 min CN=WQ Runoff=0.67 cfs 0.040 af

Subcatchment 7A: Uncontrolled Drainage Runoff Area=1.375 ac 15.20% Impervious Runoff Depth=1.30"
Tc=6.0 min CN=WQ Runoff=2.42 cfs 0.149 af

Link 7L: Post-Development Inflow=4.59 cfs 2.758 af
Primary=4.59 cfs 2.758 af

Subcatchment 8A: Wetland First Drainage Runoff Area=0.702 ac 0.00% Impervious Runoff Depth=0.71"
Tc=6.0 min CN=58 Runoff=0.65 cfs 0.041 af

Link 9L: Wetland Inflow=0.76 cfs 0.562 af
Primary=0.76 cfs 0.562 af

Total Runoff Area = 14.776 ac Runoff Volume = 2.963 af Average Runoff Depth = 2.41"
55.29% Pervious = 8.169 ac 44.71% Impervious = 6.607 ac

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 22.76 cfs @ 12.13 hrs, Volume= 1.376 af, Depth= 2.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 2.97" for 10-Year event
 Inflow = 25.43 cfs @ 12.13 hrs, Volume= 1.586 af
 Outflow = 3.41 cfs @ 12.59 hrs, Volume= 1.539 af, Atten= 87%, Lag= 27.8 min
 Primary = 3.41 cfs @ 12.59 hrs, Volume= 1.539 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 860.21' @ 12.59 hrs Surf.Area= 18,111 sf Storage= 40,651 cf

Plug-Flow detention time= 909.5 min calculated for 1.539 af (97% of inflow)
 Center-of-Mass det. time= 890.9 min (1,662.8 - 771.9)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Primary	857.50'	15.0" Round Outlet Culvert L= 136.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.23' S= 0.0020 '/ n= 0.013, Flow Area= 1.23 sf
#2	Device 1	857.50'	3.0" Round Culvert L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.50' S= 0.0000 '/ n= 0.010, Flow Area= 0.05 sf
#3	Device 1	860.00'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.40 cfs @ 12.59 hrs HW=860.21' TW=0.00' (Dynamic Tailwater)

↑ **1=Outlet Culvert** (Passes 3.40 cfs of 6.00 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 0.38 cfs @ 7.75 fps)

↑ **3=Standpipe** (Weir Controls 3.02 cfs @ 1.51 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=857.50' TW=0.00' (Dynamic Tailwater)

↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 3.50 cfs @ 12.13 hrs, Volume= 0.210 af, Depth= 2.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 2.89" for 10-Year event
 Inflow = 3.50 cfs @ 12.13 hrs, Volume= 0.210 af
 Outflow = 2.70 cfs @ 12.14 hrs, Volume= 0.210 af, Atten= 23%, Lag= 0.9 min
 Primary = 2.70 cfs @ 12.14 hrs, Volume= 0.210 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 860.23' @ 12.58 hrs Surf.Area= 1,603 sf Storage= 659 cf

Plug-Flow detention time= 39.7 min calculated for 0.210 af (100% of inflow)
 Center-of-Mass det. time= 38.9 min (809.2 - 770.3)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S= 0.0470 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.68 cfs @ 12.14 hrs HW=860.14' TW=859.56' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 2.68 cfs @ 4.02 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 14.72 cfs @ 12.13 hrs, Volume= 0.894 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 2.82" for 10-Year event
 Inflow = 14.72 cfs @ 12.13 hrs, Volume= 0.894 af
 Outflow = 1.49 cfs @ 12.76 hrs, Volume= 0.888 af, Atten= 90%, Lag= 38.0 min
 Primary = 1.49 cfs @ 12.76 hrs, Volume= 0.888 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 862.61' @ 12.77 hrs Surf.Area= 9,258 sf Storage= 22,930 cf

Plug-Flow detention time= 611.3 min calculated for 0.887 af (99% of inflow)
 Center-of-Mass det. time= 608.4 min (1,375.8 - 767.4)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	37,100 cf	Surface (Prismatic) Listed below (Recalc) x 0.8
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	15.0" Round Outlet Culvert L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.38' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	859.50'	3.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.50' S= 0.0000 '/' Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	862.50'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.48 cfs @ 12.76 hrs HW=862.61' TW=859.81' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Passes 1.48 cfs of 8.92 cfs potential flow)
 ↑ **2=Culvert** (Inlet Controls 0.40 cfs @ 8.05 fps)
 ↑ **3=Standpipe** (Weir Controls 1.09 cfs @ 1.07 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.50' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 3.60 cfs @ 12.16 hrs, Volume= 0.246 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 6.041 ac, 41.47% Impervious, Inflow Depth > 2.25" for 10-Year event
 Inflow = 3.95 cfs @ 12.16 hrs, Volume= 1.134 af
 Outflow = 0.91 cfs @ 13.78 hrs, Volume= 1.113 af, Atten= 77%, Lag= 97.3 min
 Discarded = 0.02 cfs @ 7.40 hrs, Volume= 0.131 af
 Primary = 0.42 cfs @ 13.78 hrs, Volume= 0.461 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Tertiary = 0.47 cfs @ 13.78 hrs, Volume= 0.520 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 859.96' @ 13.78 hrs Surf.Area= 16,851 sf Storage= 10,995 cf

Plug-Flow detention time= 302.2 min calculated for 1.113 af (98% of inflow)
 Center-of-Mass det. time= 268.1 min (1,518.7 - 1,250.6)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Primary	859.35'	6.0" Round Culvert L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0021 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Tertiary	859.35'	6.0" Round Culvert L= 31.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0032 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.02 cfs @ 7.40 hrs HW=859.27' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.42 cfs @ 13.78 hrs HW=859.96' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Barrel Controls 0.42 cfs @ 2.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Tertiary OutFlow Max=0.47 cfs @ 13.78 hrs HW=859.96' TW=0.00' (Dynamic Tailwater)
 ↳2=Culvert (Barrel Controls 0.47 cfs @ 2.47 fps)

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Summary for Subcatchment 5A: NorthEast Swale Drainage Area

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.006 af, Depth= 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.017	98	Offsite Sidewalk
* 0.015	58	Offsite Grass, HSG B
0.032		Weighted Average
0.015		46.87% Pervious Area
0.017		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 6A: SouthEast Swale Drainage Area

Runoff = 0.67 cfs @ 12.13 hrs, Volume= 0.040 af, Depth= 2.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.034	98	Proposed Roof
0.075	74	>75% Grass cover, Good, HSG C
* 0.047	98	Offsite Sidewalk
* 0.068	58	Offsite Grass, HSG B
0.224		Weighted Average
0.143		63.84% Pervious Area
0.081		36.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 7A: Uncontrolled Drainage Area

Runoff = 2.42 cfs @ 12.14 hrs, Volume= 0.149 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.160	98	Proposed Roof
* 0.012	98	Proposed Sidewalk
* 0.037	98	Proposed Street
* 1.000	58	Deep Tilled HSG C Soils
0.166	74	>75% Grass cover, Good, HSG C
1.375		Weighted Average
1.166		84.80% Pervious Area
0.209		15.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Link 7L: Post-Development

Inflow Area = 14.776 ac, 44.71% Impervious, Inflow Depth > 2.24" for 10-Year event
Inflow = 4.59 cfs @ 12.56 hrs, Volume= 2.758 af
Primary = 4.59 cfs @ 12.56 hrs, Volume= 2.758 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Subcatchment 8A: Wetland First Drainage Area

Runoff = 0.65 cfs @ 12.15 hrs, Volume= 0.041 af, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 10-Year Rainfall=4.09"

Area (ac)	CN	Description
* 0.702	58	>75% Grass cover, Good, HSG B
0.702		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

MSE 24-hr 4 10-Year Rainfall=4.09"

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Summary for Link 9L: Wetland

Inflow Area = 0.702 ac, 0.00% Impervious, Inflow Depth = 9.60" for 10-Year event
Inflow = 0.76 cfs @ 12.15 hrs, Volume= 0.562 af
Primary = 0.76 cfs @ 12.15 hrs, Volume= 0.562 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PostDevelopment

MSE 24-hr 4 100-Year Rainfall=6.66"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=5.36"
Tc=6.0 min CN=WQ Runoff=40.75 cfs 2.470 af

Pond 1P: West Wet Pond Peak Elev=861.26' Storage=60,959 cf Inflow=42.36 cfs 2.858 af
Primary=7.59 cfs 2.722 af Secondary=3.12 cfs 0.085 af Outflow=10.71 cfs 2.807 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=5.24"
Tc=6.0 min CN=WQ Runoff=6.33 cfs 0.381 af

Pond 2P: Street Culvert Peak Elev=861.29' Storage=4,470 cf Inflow=6.33 cfs 0.381 af
Primary=2.00 cfs 0.388 af Secondary=0.00 cfs 0.000 af Outflow=2.00 cfs 0.381 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=5.12"
Tc=6.0 min CN=WQ Runoff=26.83 cfs 1.623 af

Pond 3P: East Wet Pond Peak Elev=863.42' Storage=30,895 cf Inflow=26.83 cfs 1.623 af
Primary=10.47 cfs 1.617 af Secondary=0.00 cfs 0.000 af Outflow=10.47 cfs 1.617 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=3.01"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=9.16 cfs 0.561 af

Pond 4P: Infiltration Basin Peak Elev=860.96' Storage=28,843 cf Inflow=19.62 cfs 2.178 af
Primary=0.90 cfs 0.801 af Secondary=7.00 cfs 0.314 af Tertiary=1.01 cfs 0.904 af Outflow=8.92 cfs 2.153 af

Subcatchment 5A: NorthEast Swale Runoff Area=0.032 ac 53.13% Impervious Runoff Depth=4.43"
Tc=6.0 min CN=WQ Runoff=0.19 cfs 0.012 af

Subcatchment 6A: SouthEast Swale Runoff Area=0.224 ac 36.16% Impervious Runoff Depth=4.24"
Tc=6.0 min CN=WQ Runoff=1.34 cfs 0.079 af

Subcatchment 7A: Uncontrolled Drainage Runoff Area=1.375 ac 15.20% Impervious Runoff Depth=3.01"
Tc=6.0 min CN=WQ Runoff=6.08 cfs 0.345 af

Link 7L: Post-Development Inflow=18.74 cfs 5.391 af
Primary=18.74 cfs 5.391 af

Subcatchment 8A: Wetland First Drainage Runoff Area=0.702 ac 0.00% Impervious Runoff Depth=2.18"
Tc=6.0 min CN=58 Runoff=2.36 cfs 0.128 af

Link 9L: Wetland Inflow=8.33 cfs 1.346 af
Primary=8.33 cfs 1.346 af

Total Runoff Area = 14.776 ac Runoff Volume = 5.599 af Average Runoff Depth = 4.55"
55.29% Pervious = 8.169 ac 44.71% Impervious = 6.607 ac

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 40.75 cfs @ 12.13 hrs, Volume= 2.470 af, Depth= 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 5.36" for 100-Year event
 Inflow = 42.36 cfs @ 12.13 hrs, Volume= 2.858 af
 Outflow = 10.71 cfs @ 12.38 hrs, Volume= 2.807 af, Atten= 75%, Lag= 15.4 min
 Primary = 7.59 cfs @ 12.38 hrs, Volume= 2.722 af
 Secondary = 3.12 cfs @ 12.38 hrs, Volume= 0.085 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.26' @ 12.38 hrs Surf.Area= 21,203 sf Storage= 60,959 cf

Plug-Flow detention time= 552.1 min calculated for 2.807 af (98% of inflow)
 Center-of-Mass det. time= 540.4 min (1,307.1 - 766.7)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Primary	857.50'	15.0" Round Outlet Culvert L= 136.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.23' S= 0.0020 '/ n= 0.013, Flow Area= 1.23 sf
#2	Device 1	857.50'	3.0" Round Culvert L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.50' S= 0.0000 '/ n= 0.010, Flow Area= 0.05 sf
#3	Device 1	860.00'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.59 cfs @ 12.38 hrs HW=861.26' TW=0.00' (Dynamic Tailwater)
 ↑ 1=Outlet Culvert (Barrel Controls 7.59 cfs @ 6.19 fps)
 ↑ 2=Culvert (Passes < 0.45 cfs potential flow)
 ↑ 3=Standpipe (Passes < 38.15 cfs potential flow)

Secondary OutFlow Max=3.09 cfs @ 12.38 hrs HW=861.26' TW=0.00' (Dynamic Tailwater)
 ↑ 4=Broad-Crested Rectangular Weir (Weir Controls 3.09 cfs @ 0.99 fps)

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 6.33 cfs @ 12.13 hrs, Volume= 0.381 af, Depth= 5.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 5.24" for 100-Year event
 Inflow = 6.33 cfs @ 12.13 hrs, Volume= 0.381 af
 Outflow = 2.00 cfs @ 12.07 hrs, Volume= 0.381 af, Atten= 69%, Lag= 0.0 min
 Primary = 2.00 cfs @ 12.07 hrs, Volume= 0.388 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.29' @ 12.45 hrs Surf.Area= 7,224 sf Storage= 4,470 cf

Plug-Flow detention time= 41.9 min calculated for 0.381 af (100% of inflow)
 Center-of-Mass det. time= 41.1 min (805.4 - 764.3)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=2.02 cfs @ 12.07 hrs HW=860.46' TW=860.31' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 2.02 cfs @ 2.12 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

PostDevelopment

MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 26.83 cfs @ 12.13 hrs, Volume= 1.623 af, Depth= 5.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 5.12" for 100-Year event
 Inflow = 26.83 cfs @ 12.13 hrs, Volume= 1.623 af
 Outflow = 10.47 cfs @ 12.21 hrs, Volume= 1.617 af, Atten= 61%, Lag= 5.1 min
 Primary = 10.47 cfs @ 12.21 hrs, Volume= 1.617 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 863.42' @ 12.27 hrs Surf.Area= 10,333 sf Storage= 30,895 cf

Plug-Flow detention time= 405.7 min calculated for 1.617 af (100% of inflow)
 Center-of-Mass det. time= 403.0 min (1,165.8 - 762.9)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	37,100 cf	Surface (Prismatic) Listed below (Recalc) x 0.8
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	15.0" Round Outlet Culvert L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.38' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	859.50'	3.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.50' S= 0.0000 '/' Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	862.50'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=10.44 cfs @ 12.21 hrs HW=863.36' TW=860.24' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Inlet Controls 10.44 cfs @ 8.51 fps)
 ↑ **2=Culvert** (Passes < 0.42 cfs potential flow)
 ↑ **3=Standpipe** (Passes < 24.68 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.50' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 9.16 cfs @ 12.15 hrs, Volume= 0.561 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 6.041 ac, 41.47% Impervious, Inflow Depth > 4.33" for 100-Year event
 Inflow = 19.62 cfs @ 12.17 hrs, Volume= 2.178 af
 Outflow = 8.92 cfs @ 12.66 hrs, Volume= 2.153 af, Atten= 55%, Lag= 29.7 min
 Discarded = 0.02 cfs @ 5.45 hrs, Volume= 0.133 af
 Primary = 0.90 cfs @ 12.66 hrs, Volume= 0.801 af
 Secondary = 7.00 cfs @ 12.66 hrs, Volume= 0.314 af
 Tertiary = 1.01 cfs @ 12.66 hrs, Volume= 0.904 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 860.96' @ 12.66 hrs Surf.Area= 18,918 sf Storage= 28,843 cf

Plug-Flow detention time= 231.2 min calculated for 2.152 af (99% of inflow)
 Center-of-Mass det. time= 208.1 min (1,279.6 - 1,071.5)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Primary	859.35'	6.0" Round Culvert L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0021 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Tertiary	859.35'	6.0" Round Culvert L= 31.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0032 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.02 cfs @ 5.45 hrs HW=859.27' (Free Discharge)
 ↑4=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.89 cfs @ 12.66 hrs HW=860.96' TW=0.00' (Dynamic Tailwater)
 ↑1=Culvert (Barrel Controls 0.89 cfs @ 4.56 fps)

Secondary OutFlow Max=6.93 cfs @ 12.66 hrs HW=860.96' TW=0.00' (Dynamic Tailwater)
 ↑3=Broad-Crested Rectangular Weir (Weir Controls 6.93 cfs @ 1.11 fps)

Tertiary OutFlow Max=1.01 cfs @ 12.66 hrs HW=860.96' TW=0.00' (Dynamic Tailwater)
 ↑2=Culvert (Barrel Controls 1.01 cfs @ 5.13 fps)

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Summary for Subcatchment 5A: NorthEast Swale Drainage Area

Runoff = 0.19 cfs @ 12.13 hrs, Volume= 0.012 af, Depth= 4.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.017	98	Offsite Sidewalk
* 0.015	58	Offsite Grass, HSG B
0.032		Weighted Average
0.015		46.87% Pervious Area
0.017		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 6A: SouthEast Swale Drainage Area

Runoff = 1.34 cfs @ 12.13 hrs, Volume= 0.079 af, Depth= 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.034	98	Proposed Roof
0.075	74	>75% Grass cover, Good, HSG C
* 0.047	98	Offsite Sidewalk
* 0.068	58	Offsite Grass, HSG B
0.224		Weighted Average
0.143		63.84% Pervious Area
0.081		36.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 7A: Uncontrolled Drainage Area

Runoff = 6.08 cfs @ 12.13 hrs, Volume= 0.345 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.160	98	Proposed Roof
* 0.012	98	Proposed Sidewalk
* 0.037	98	Proposed Street
* 1.000	58	Deep Tilled HSG C Soils
0.166	74	>75% Grass cover, Good, HSG C
1.375		Weighted Average
1.166		84.80% Pervious Area
0.209		15.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Link 7L: Post-Development

Inflow Area = 14.776 ac, 44.71% Impervious, Inflow Depth > 4.38" for 100-Year event
Inflow = 18.74 cfs @ 12.61 hrs, Volume= 5.391 af
Primary = 18.74 cfs @ 12.61 hrs, Volume= 5.391 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Subcatchment 8A: Wetland First Drainage Area

Runoff = 2.36 cfs @ 12.14 hrs, Volume= 0.128 af, Depth= 2.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 100-Year Rainfall=6.66"

Area (ac)	CN	Description
* 0.702	58	>75% Grass cover, Good, HSG B
0.702		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

PostDevelopment

MSE 24-hr 4 100-Year Rainfall=6.66"

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Summary for Link 9L: Wetland

Inflow Area = 0.702 ac, 0.00% Impervious, Inflow Depth = 23.01" for 100-Year event
Inflow = 8.33 cfs @ 12.66 hrs, Volume= 1.346 af
Primary = 8.33 cfs @ 12.66 hrs, Volume= 1.346 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PostDevelopment

MSE 24-hr 4 200-Year Rainfall=7.53"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=6.18"
Tc=6.0 min CN=WQ Runoff=46.94 cfs 2.850 af

Pond 1P: West Wet Pond Peak Elev=861.47' Storage=65,549 cf Inflow=49.59 cfs 3.311 af
Primary=7.88 cfs 2.939 af Secondary=11.42 cfs 0.321 af Outflow=19.30 cfs 3.260 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=6.06"
Tc=6.0 min CN=WQ Runoff=7.31 cfs 0.440 af

Pond 2P: Street Culvert Peak Elev=861.47' Storage=5,965 cf Inflow=7.31 cfs 0.440 af
Primary=3.05 cfs 0.461 af Secondary=0.00 cfs 0.000 af Outflow=2.18 cfs 0.440 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=5.93"
Tc=6.0 min CN=WQ Runoff=31.04 cfs 1.879 af

Pond 3P: East Wet Pond Peak Elev=863.75' Storage=34,392 cf Inflow=31.04 cfs 1.879 af
Primary=10.69 cfs 1.827 af Secondary=3.18 cfs 0.045 af Outflow=13.66 cfs 1.873 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=3.66"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=11.28 cfs 0.682 af

Pond 4P: Infiltration Basin Peak Elev=861.00' Storage=29,539 cf Inflow=21.94 cfs 2.510 af
Primary=0.91 cfs 0.848 af Secondary=9.02 cfs 0.546 af Tertiary=1.02 cfs 0.957 af Outflow=10.97 cfs 2.484 af

Subcatchment 5A: NorthEast Swale Runoff Area=0.032 ac 53.13% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=WQ Runoff=0.23 cfs 0.014 af

Subcatchment 6A: SouthEast Swale Runoff Area=0.224 ac 36.16% Impervious Runoff Depth=4.99"
Tc=6.0 min CN=WQ Runoff=1.59 cfs 0.093 af

Subcatchment 7A: Uncontrolled Drainage Runoff Area=1.375 ac 15.20% Impervious Runoff Depth=3.67"
Tc=6.0 min CN=WQ Runoff=7.46 cfs 0.421 af

Link 7L: Post-Development Inflow=29.46 cfs 6.346 af
Primary=29.46 cfs 6.346 af

Subcatchment 8A: Wetland First Drainage Runoff Area=0.702 ac 0.00% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=58 Runoff=3.04 cfs 0.162 af

Link 9L: Wetland Inflow=10.55 cfs 1.711 af
Primary=10.55 cfs 1.711 af

Total Runoff Area = 14.776 ac Runoff Volume = 6.542 af Average Runoff Depth = 5.31"
55.29% Pervious = 8.169 ac 44.71% Impervious = 6.607 ac

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 46.94 cfs @ 12.13 hrs, Volume= 2.850 af, Depth= 6.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 6.21" for 200-Year event
 Inflow = 49.59 cfs @ 12.13 hrs, Volume= 3.311 af
 Outflow = 19.30 cfs @ 12.27 hrs, Volume= 3.260 af, Atten= 61%, Lag= 8.1 min
 Primary = 7.88 cfs @ 12.27 hrs, Volume= 2.939 af
 Secondary = 11.42 cfs @ 12.27 hrs, Volume= 0.321 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.47' @ 12.27 hrs Surf.Area= 22,190 sf Storage= 65,549 cf

Plug-Flow detention time= 486.1 min calculated for 3.260 af (98% of inflow)
 Center-of-Mass det. time= 475.8 min (1,240.9 - 765.2)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Primary	857.50'	15.0" Round Outlet Culvert L= 136.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.23' S= 0.0020 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	857.50'	3.0" Round Culvert L= 5.0' Ke= 0.500 Inlet / Outlet Invert= 857.50' / 857.50' S= 0.0000 '/ Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	860.00'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=7.87 cfs @ 12.27 hrs HW=861.46' TW=0.00' (Dynamic Tailwater)

- ↑ 1=Outlet Culvert (Barrel Controls 7.87 cfs @ 6.41 fps)
- ↑ 2=Culvert (Passes < 0.46 cfs potential flow)
- ↑ 3=Standpipe (Passes < 41.12 cfs potential flow)

Secondary OutFlow Max=11.00 cfs @ 12.27 hrs HW=861.46' TW=0.00' (Dynamic Tailwater)

- ↑ 4=Broad-Crested Rectangular Weir (Weir Controls 11.00 cfs @ 1.53 fps)

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 7.31 cfs @ 12.13 hrs, Volume= 0.440 af, Depth= 6.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 6.06" for 200-Year event
 Inflow = 7.31 cfs @ 12.13 hrs, Volume= 0.440 af
 Outflow = 2.18 cfs @ 12.62 hrs, Volume= 0.440 af, Atten= 70%, Lag= 29.4 min
 Primary = 3.05 cfs @ 12.16 hrs, Volume= 0.461 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.47' @ 12.40 hrs Surf.Area= 9,224 sf Storage= 5,965 cf

Plug-Flow detention time= 40.8 min calculated for 0.440 af (100% of inflow)
 Center-of-Mass det. time= 41.2 min (803.9 - 762.7)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S= 0.0470 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 12.16 hrs HW=861.14' TW=861.19' (Dynamic Tailwater)
 ↑1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=859.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

PostDevelopment

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 31.04 cfs @ 12.13 hrs, Volume= 1.879 af, Depth= 5.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 5.93" for 200-Year event
 Inflow = 31.04 cfs @ 12.13 hrs, Volume= 1.879 af
 Outflow = 13.66 cfs @ 12.25 hrs, Volume= 1.873 af, Atten= 56%, Lag= 7.3 min
 Primary = 10.69 cfs @ 12.18 hrs, Volume= 1.827 af
 Secondary = 3.18 cfs @ 12.26 hrs, Volume= 0.045 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 863.75' @ 12.26 hrs Surf.Area= 10,784 sf Storage= 34,392 cf

Plug-Flow detention time= 363.9 min calculated for 1.873 af (100% of inflow)
 Center-of-Mass det. time= 361.5 min (1,123.1 - 761.6)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	37,100 cf	Surface (Prismatic) Listed below (Recalc) x 0.8
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375

Device	Routing	Invert	Outlet Devices
#1	Primary	859.50'	15.0" Round Outlet Culvert L= 39.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.38' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Device 1	859.50'	3.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 859.50' / 859.50' S= 0.0000 '/' Cc= 0.900 n= 0.010, Flow Area= 0.05 sf
#3	Device 1	862.50'	36.0" Horiz. Standpipe C= 0.600 Limited to weir flow at low heads
#4	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=10.67 cfs @ 12.18 hrs HW=863.62' TW=860.36' (Dynamic Tailwater)
 ↑ **1=Outlet Culvert** (Inlet Controls 10.67 cfs @ 8.69 fps)
 ↑ **2=Culvert** (Passes < 0.43 cfs potential flow)
 ↑ **3=Standpipe** (Passes < 36.07 cfs potential flow)

Secondary OutFlow Max=3.08 cfs @ 12.26 hrs HW=863.75' TW=0.00' (Dynamic Tailwater)
 ↑ **4=Broad-Crested Rectangular Weir** (Weir Controls 3.08 cfs @ 1.25 fps)

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 11.28 cfs @ 12.15 hrs, Volume= 0.682 af, Depth= 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 6.041 ac, 41.47% Impervious, Inflow Depth > 4.99" for 200-Year event
 Inflow = 21.94 cfs @ 12.15 hrs, Volume= 2.510 af
 Outflow = 10.97 cfs @ 12.59 hrs, Volume= 2.484 af, Atten= 50%, Lag= 26.0 min
 Discarded = 0.02 cfs @ 5.05 hrs, Volume= 0.134 af
 Primary = 0.91 cfs @ 12.59 hrs, Volume= 0.848 af
 Secondary = 9.02 cfs @ 12.59 hrs, Volume= 0.546 af
 Tertiary = 1.02 cfs @ 12.59 hrs, Volume= 0.957 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.00' @ 12.59 hrs Surf.Area= 18,991 sf Storage= 29,539 cf

Plug-Flow detention time= 210.7 min calculated for 2.484 af (99% of inflow)
 Center-of-Mass det. time= 188.9 min (1,230.8 - 1,041.8)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Primary	859.35'	6.0" Round Culvert L= 48.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0021 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#2	Tertiary	859.35'	6.0" Round Culvert L= 31.0' Ke= 0.500 Inlet / Outlet Invert= 859.35' / 859.25' S= 0.0032 '/' Cc= 0.900 n= 0.010, Flow Area= 0.20 sf
#3	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#4	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

Discarded OutFlow Max=0.02 cfs @ 5.05 hrs HW=859.27' (Free Discharge)
 ↳4=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.91 cfs @ 12.59 hrs HW=861.00' TW=0.00' (Dynamic Tailwater)
 ↳1=Culvert (Barrel Controls 0.91 cfs @ 4.63 fps)

Secondary OutFlow Max=9.00 cfs @ 12.59 hrs HW=861.00' TW=0.00' (Dynamic Tailwater)
 ↳3=Broad-Crested Rectangular Weir (Weir Controls 9.00 cfs @ 1.22 fps)

Tertiary OutFlow Max=1.02 cfs @ 12.59 hrs HW=861.00' TW=0.00' (Dynamic Tailwater)
 ↳2=Culvert (Barrel Controls 1.02 cfs @ 5.21 fps)

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Summary for Subcatchment 5A: NorthEast Swale Drainage Area

Runoff = 0.23 cfs @ 12.13 hrs, Volume= 0.014 af, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.017	98	Offsite Sidewalk
* 0.015	58	Offsite Grass, HSG B
0.032		Weighted Average
0.015		46.87% Pervious Area
0.017		53.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 6A: SouthEast Swale Drainage Area

Runoff = 1.59 cfs @ 12.13 hrs, Volume= 0.093 af, Depth= 4.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.034	98	Proposed Roof
0.075	74	>75% Grass cover, Good, HSG C
* 0.047	98	Offsite Sidewalk
* 0.068	58	Offsite Grass, HSG B
0.224		Weighted Average
0.143		63.84% Pervious Area
0.081		36.16% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Summary for Subcatchment 7A: Uncontrolled Drainage Area

Runoff = 7.46 cfs @ 12.13 hrs, Volume= 0.421 af, Depth= 3.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.160	98	Proposed Roof
* 0.012	98	Proposed Sidewalk
* 0.037	98	Proposed Street
* 1.000	58	Deep Tilled HSG C Soils
0.166	74	>75% Grass cover, Good, HSG C
1.375		Weighted Average
1.166		84.80% Pervious Area
0.209		15.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Link 7L: Post-Development

Inflow Area = 14.776 ac, 44.71% Impervious, Inflow Depth > 5.15" for 200-Year event
Inflow = 29.46 cfs @ 12.25 hrs, Volume= 6.346 af
Primary = 29.46 cfs @ 12.25 hrs, Volume= 6.346 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

PostDevelopment

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 8A: Wetland First Drainage Area

Runoff = 3.04 cfs @ 12.14 hrs, Volume= 0.162 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.702	58	>75% Grass cover, Good, HSG B
0.702		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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MSE 24-hr 4 200-Year Rainfall=7.53"

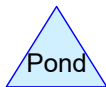
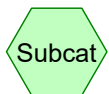
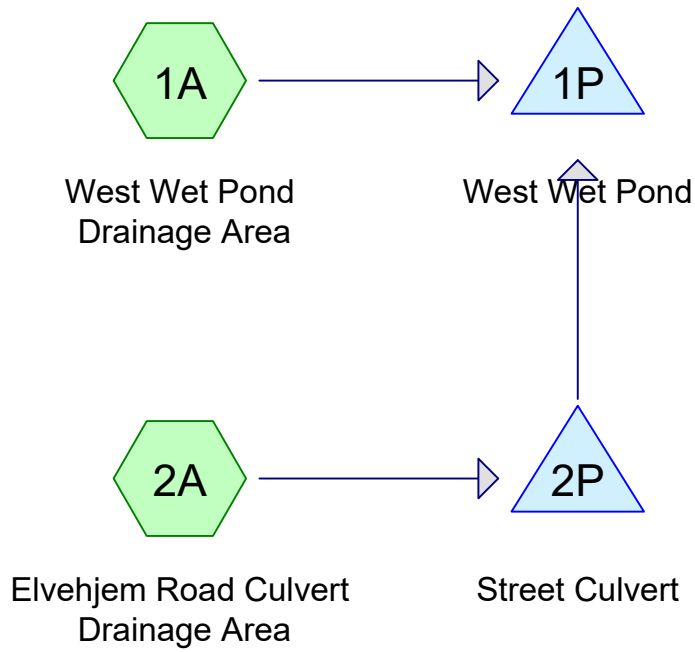
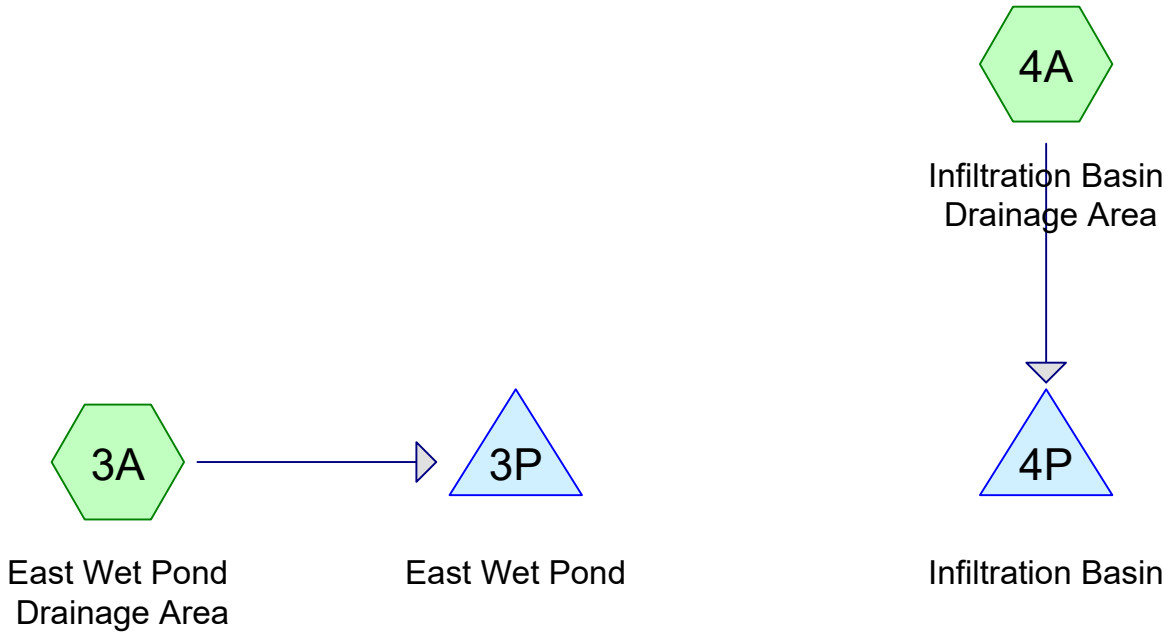
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Summary for Link 9L: Wetland

Inflow Area = 0.702 ac, 0.00% Impervious, Inflow Depth = 29.24" for 200-Year event
Inflow = 10.55 cfs @ 12.57 hrs, Volume= 1.711 af
Primary = 10.55 cfs @ 12.57 hrs, Volume= 1.711 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs



Routing Diagram for Inundation
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Innudation

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
4.071	74	>75% Grass cover, Good, HSG C (1A, 2A, 3A, 4A)
0.550	58	Offsite Grass, HSG B (3A, 4A)
0.054	98	Offsite Roof (4A)
0.265	98	Offsite Sidewalk (1A, 2A)
0.429	98	Offsite Street (1A, 2A)
1.632	98	Proposed Pavement (1A, 3A)
2.318	98	Proposed Roof (1A, 2A, 3A)
0.265	98	Proposed Sidewalk (1A, 2A, 3A)
0.529	98	Proposed Street (1A)
1.522	58	Undisturbed Grass, HSG B (3A, 4A)
0.808	100	Water/Infiltration Area (1A, 3A, 4A)
12.443	84	TOTAL AREA

Innudation

MSE 24-hr 4 200-Year Rainfall=7.53"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1A: West Wet Pond Runoff Area=5.530 ac 59.82% Impervious Runoff Depth=6.18"
Tc=6.0 min CN=WQ Runoff=46.94 cfs 2.850 af

Pond 1P: West Wet Pond Peak Elev=861.67' Storage=70,048 cf Inflow=49.49 cfs 3.207 af
Outflow=22.91 cfs 1.883 af

Subcatchment 2A: Elvehjem Road Culvert Runoff Area=0.872 ac 55.85% Impervious Runoff Depth=6.06"
Tc=6.0 min CN=WQ Runoff=7.31 cfs 0.440 af

Pond 2P: Street Culvert Peak Elev=861.54' Storage=6,571 cf Inflow=7.31 cfs 0.440 af
Primary=2.94 cfs 0.357 af Secondary=1.99 cfs 0.028 af Outflow=2.03 cfs 0.365 af

Subcatchment 3A: East Wet Pond Drainage Runoff Area=3.805 ac 55.98% Impervious Runoff Depth=5.93"
Tc=6.0 min CN=WQ Runoff=31.04 cfs 1.879 af

Pond 3P: East Wet Pond Peak Elev=864.26' Storage=40,129 cf Inflow=31.04 cfs 1.879 af
Outflow=17.69 cfs 1.151 af

Subcatchment 4A: Infiltration Basin Runoff Area=2.236 ac 16.77% Impervious Runoff Depth=3.66"
Flow Length=280' Tc=7.7 min CN=WQ Runoff=11.28 cfs 0.682 af

Pond 4P: Infiltration Basin Peak Elev=860.77' Storage=25,267 cf Inflow=11.28 cfs 0.682 af
Discarded=0.02 cfs 0.134 af Secondary=0.17 cfs 0.064 af Outflow=0.20 cfs 0.198 af

Total Runoff Area = 12.443 ac Runoff Volume = 5.852 af Average Runoff Depth = 5.64"
49.37% Pervious = 6.143 ac 50.63% Impervious = 6.300 ac

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 1A: West Wet Pond Drainage Area

Runoff = 46.94 cfs @ 12.13 hrs, Volume= 2.850 af, Depth= 6.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.252	98	Proposed Roof
* 0.759	98	Proposed Pavement
* 0.143	98	Proposed Sidewalk
* 0.529	98	Proposed Street
* 1.977	74	>75% Grass cover, Good, HSG C
* 0.280	100	Water/Infiltration Area
* 0.120	98	Offsite Sidewalk
* 0.225	98	Offsite Street
0.245	74	>75% Grass cover, Good, HSG C
5.530		Weighted Average
2.222		40.18% Pervious Area
3.308		59.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Innudation

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Pond 1P: West Wet Pond

Inflow Area = 6.402 ac, 59.28% Impervious, Inflow Depth = 6.01" for 200-Year event
 Inflow = 49.49 cfs @ 12.13 hrs, Volume= 3.207 af
 Outflow = 22.91 cfs @ 12.24 hrs, Volume= 1.883 af, Atten= 54%, Lag= 7.1 min
 Secondary = 22.91 cfs @ 12.24 hrs, Volume= 1.883 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.67' @ 12.24 hrs Surf.Area= 23,117 sf Storage= 70,048 cf

Plug-Flow detention time= 210.2 min calculated for 1.881 af (59% of inflow)
 Center-of-Mass det. time= 109.6 min (873.5 - 764.0)

Volume	Invert	Avail.Storage	Storage Description
#1	857.50'	71,963 cf	Surface (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
857.50	12,000	0	0
858.00	13,000	6,250	6,250
859.00	15,300	14,150	20,400
860.00	17,600	16,450	36,850
861.00	20,000	18,800	55,650
861.75	23,500	16,313	71,963

Device	Routing	Invert	Outlet Devices
#1	Secondary	861.10'	20.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Secondary OutFlow Max=22.74 cfs @ 12.24 hrs HW=861.67' (Free Discharge)
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 22.74 cfs @ 2.01 fps)

Innudation

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 2A: Elvehjem Road Culvert Drainage Area

Runoff = 7.31 cfs @ 12.13 hrs, Volume= 0.440 af, Depth= 6.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.124	98	Proposed Roof
* 0.014	98	Proposed Sidewalk
0.106	74	>75% Grass cover, Good, HSG C
* 0.145	98	Offsite Sidewalk
* 0.204	98	Offsite Street
0.279	74	>75% Grass cover, Good, HSG C
0.872		Weighted Average
0.385		44.15% Pervious Area
0.487		55.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Inundation

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Pond 2P: Street Culvert

Inflow Area = 0.872 ac, 55.85% Impervious, Inflow Depth = 6.06" for 200-Year event
 Inflow = 7.31 cfs @ 12.13 hrs, Volume= 0.440 af
 Outflow = 2.03 cfs @ 12.45 hrs, Volume= 0.365 af, Atten= 72%, Lag= 19.1 min
 Primary = 2.94 cfs @ 12.11 hrs, Volume= 0.357 af
 Secondary = 1.99 cfs @ 12.37 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 861.54' @ 12.37 hrs Surf.Area= 9,920 sf Storage= 6,571 cf

Plug-Flow detention time= 101.8 min calculated for 0.365 af (83% of inflow)
 Center-of-Mass det. time= 37.1 min (799.8 - 762.7)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	12,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	100	0	0
860.00	900	375	375
861.00	4,000	2,450	2,825
862.00	15,000	9,500	12,325

Device	Routing	Invert	Outlet Devices
#1	Primary	859.25'	15.0" Round Culvert L= 37.0' Ke= 0.500 Inlet / Outlet Invert= 859.25' / 857.51' S= 0.0470 ' S Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Secondary	861.50'	100.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.00 cfs @ 12.11 hrs HW=861.11' TW=861.22' (Dynamic Tailwater)
 ↑1=Culvert (Controls 0.00 cfs)

Secondary OutFlow Max=1.88 cfs @ 12.37 hrs HW=861.54' (Free Discharge)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 1.88 cfs @ 0.51 fps)

Innudation

MSE 24-hr 4 200-Year Rainfall=7.53"

Prepared by Quam Engineering, LLC

Printed 8/4/2025

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Summary for Subcatchment 3A: East Wet Pond Drainage Area

Runoff = 31.04 cfs @ 12.13 hrs, Volume= 1.879 af, Depth= 5.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 0.942	98	Proposed Roof
* 0.873	98	Proposed Pavement
* 0.108	98	Proposed Sidewalk
* 0.277	58	Undisturbed Grass, HSG B
1.342	74	>75% Grass cover, Good, HSG C
* 0.207	100	Water/Infiltration Area
* 0.056	58	Offsite Grass, HSG B
3.805		Weighted Average
1.675		44.02% Pervious Area
2.130		55.98% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Innudation

MSE 24-hr 4 200-Year Rainfall=7.53"

Prepared by Quam Engineering, LLC

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Summary for Pond 3P: East Wet Pond

Inflow Area = 3.805 ac, 55.98% Impervious, Inflow Depth = 5.93" for 200-Year event
 Inflow = 31.04 cfs @ 12.13 hrs, Volume= 1.879 af
 Outflow = 17.69 cfs @ 12.22 hrs, Volume= 1.151 af, Atten= 43%, Lag= 5.7 min
 Secondary = 17.69 cfs @ 12.22 hrs, Volume= 1.151 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 864.26' @ 12.22 hrs Surf.Area= 12,476 sf Storage= 40,129 cf

Plug-Flow detention time= 194.0 min calculated for 1.151 af (61% of inflow)
 Center-of-Mass det. time= 99.1 min (860.7 - 761.6)

Volume	Invert	Avail.Storage	Storage Description
#1	859.50'	50,860 cf	Surface (Prismatic) Listed below (Recalc) x 0.8

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.50	7,000	0	0
860.00	7,700	3,675	3,675
861.00	9,100	8,400	12,075
862.00	10,600	9,850	21,925
863.00	12,200	11,400	33,325
864.00	13,900	13,050	46,375
865.00	20,500	17,200	63,575

Device	Routing	Invert	Outlet Devices
#1	Secondary	863.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Secondary OutFlow Max=17.03 cfs @ 12.22 hrs HW=864.24' (Free Discharge)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 17.03 cfs @ 2.31 fps)

Innudation

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MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Subcatchment 4A: Infiltration Basin Drainage Area

Runoff = 11.28 cfs @ 12.15 hrs, Volume= 0.682 af, Depth= 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 MSE 24-hr 4 200-Year Rainfall=7.53"

Area (ac)	CN	Description
* 1.245	58	Undisturbed Grass, HSG B
0.122	74	>75% Grass cover, Good, HSG C
* 0.321	100	Water/Infiltration Area
* 0.054	98	Offsite Roof
* 0.494	58	Offsite Grass, HSG B
2.236		Weighted Average
1.861		83.23% Pervious Area
0.375		16.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0800	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 2.84"
1.5	50	0.1000	0.55		Sheet Flow, Cultivated: Residue<=20% n= 0.060 P2= 2.84"
2.8	180	0.0140	1.06		Shallow Concentrated Flow, Cultivated Straight Rows Kv= 9.0 fps
7.7	280	Total			

Inundation

MSE 24-hr 4 200-Year Rainfall=7.53"

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Summary for Pond 4P: Infiltration Basin

Inflow Area = 2.236 ac, 16.77% Impervious, Inflow Depth = 3.66" for 200-Year event
 Inflow = 11.28 cfs @ 12.15 hrs, Volume= 0.682 af
 Outflow = 0.20 cfs @ 18.66 hrs, Volume= 0.198 af, Atten= 98%, Lag= 390.5 min
 Discarded = 0.02 cfs @ 7.00 hrs, Volume= 0.134 af
 Secondary = 0.17 cfs @ 18.66 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs / 3
 Peak Elev= 860.77' @ 18.66 hrs Surf.Area= 18,536 sf Storage= 25,267 cf

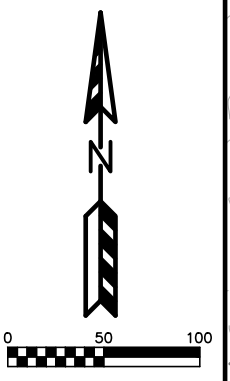
Plug-Flow detention time= 1,221.1 min calculated for 0.198 af (29% of inflow)
 Center-of-Mass det. time= 1,074.1 min (1,872.8 - 798.7)

Volume	Invert	Avail.Storage	Storage Description
#1	859.25'	29,625 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
859.25	14,000	0	0
860.00	17,000	11,625	11,625
861.00	19,000	18,000	29,625

Device	Routing	Invert	Outlet Devices
#1	Secondary	860.75'	30.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32
#2	Discarded	859.25'	0.070 in/hr Exfiltration over Surface area from 859.24' - 859.26' Excluded Surface area = 0 sf

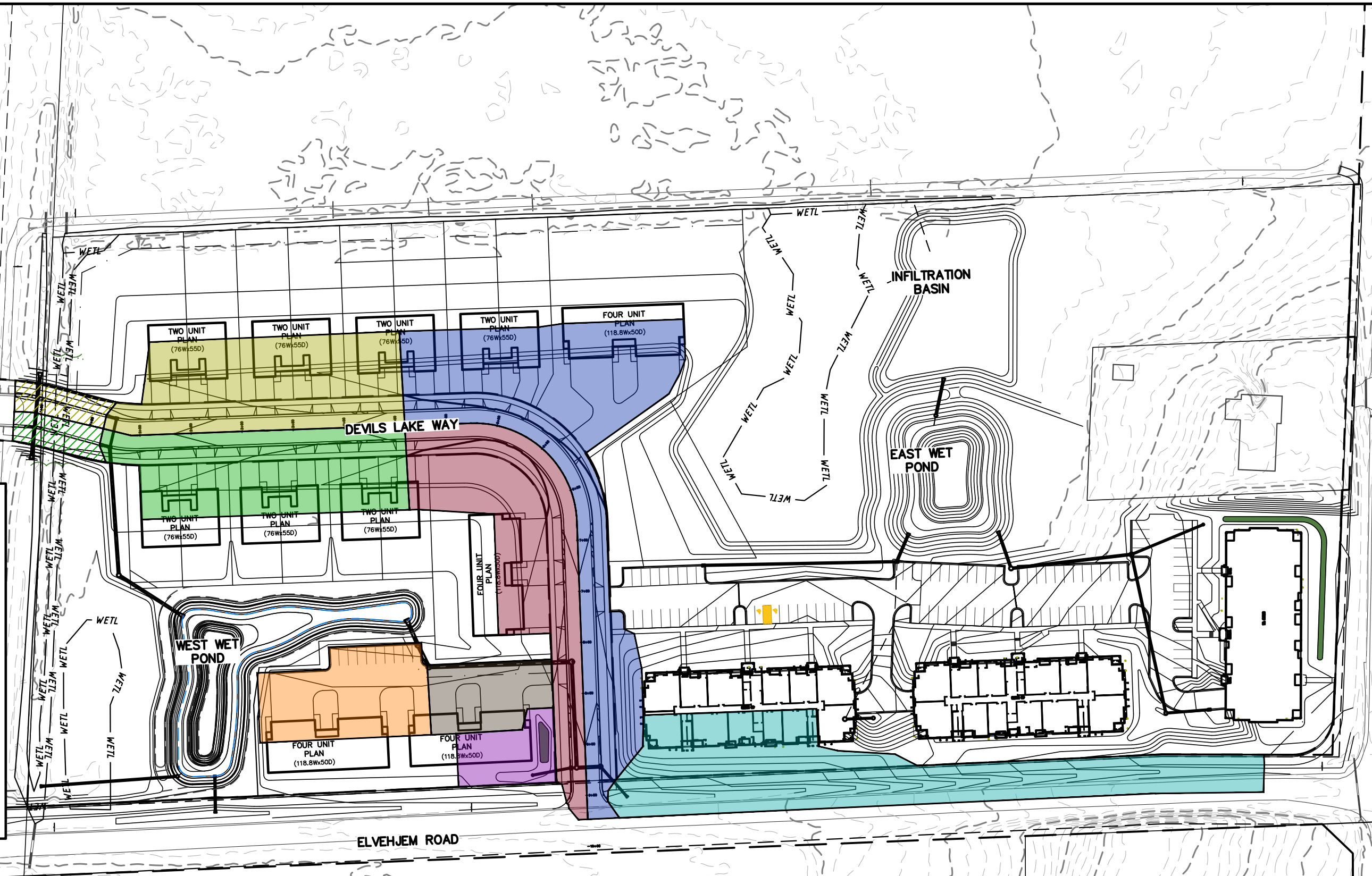
Discarded OutFlow Max=0.02 cfs @ 7.00 hrs HW=859.27' (Free Discharge)
 ↳2=Exfiltration (Exfiltration Controls 0.02 cfs)

Secondary OutFlow Max=0.17 cfs @ 18.66 hrs HW=860.77' (Free Discharge)
 ↳1=Broad-Crested Rectangular Weir (Weir Controls 0.17 cfs @ 0.33 fps)



LEGEND FOR DRAINAGE AREAS:

	DOUBLE INLET #3.1 & #3.3 AREA = 0.533 ACRES
	DOUBLE INLET #3 & 3.2 AREA = 0.537 ACRES
	INLET #8.1 AREA = 0.050 ACRES
	INLET #8 AREA = 0.050 ACRES
	INFALL AREA = 0.835 ACRES
	INLET #7.1 AREA = 0.921 ACRES
	CATCH BASIN #7.3 AREA = 0.130 ACRES
	INLET #7.2 AREA = 0.618 ACRES
	CATCH BASIN #5 AREA = 0.176 ACRES
	CATCH BASIN #4 AREA = 0.309 ACRES



CTH AB

SPERLE CORNERS - VILLAGE OF MCFARLAND
 PHASE 1 STORM SEWER DRAINAGE PLAN
 EXHIBIT: #7
 DATED: AUGUST 5, 2025

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 Residential and Commercial Site Design Consultants
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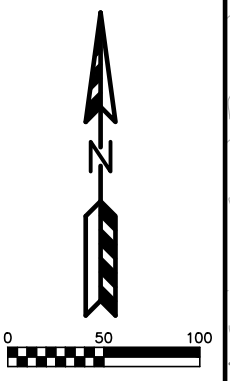
Phase 1 Rational Method Worksheet - Storm Sewer Sizing

PROJECT: Sperle Corners - Village of McFarland

Computed by: MAF

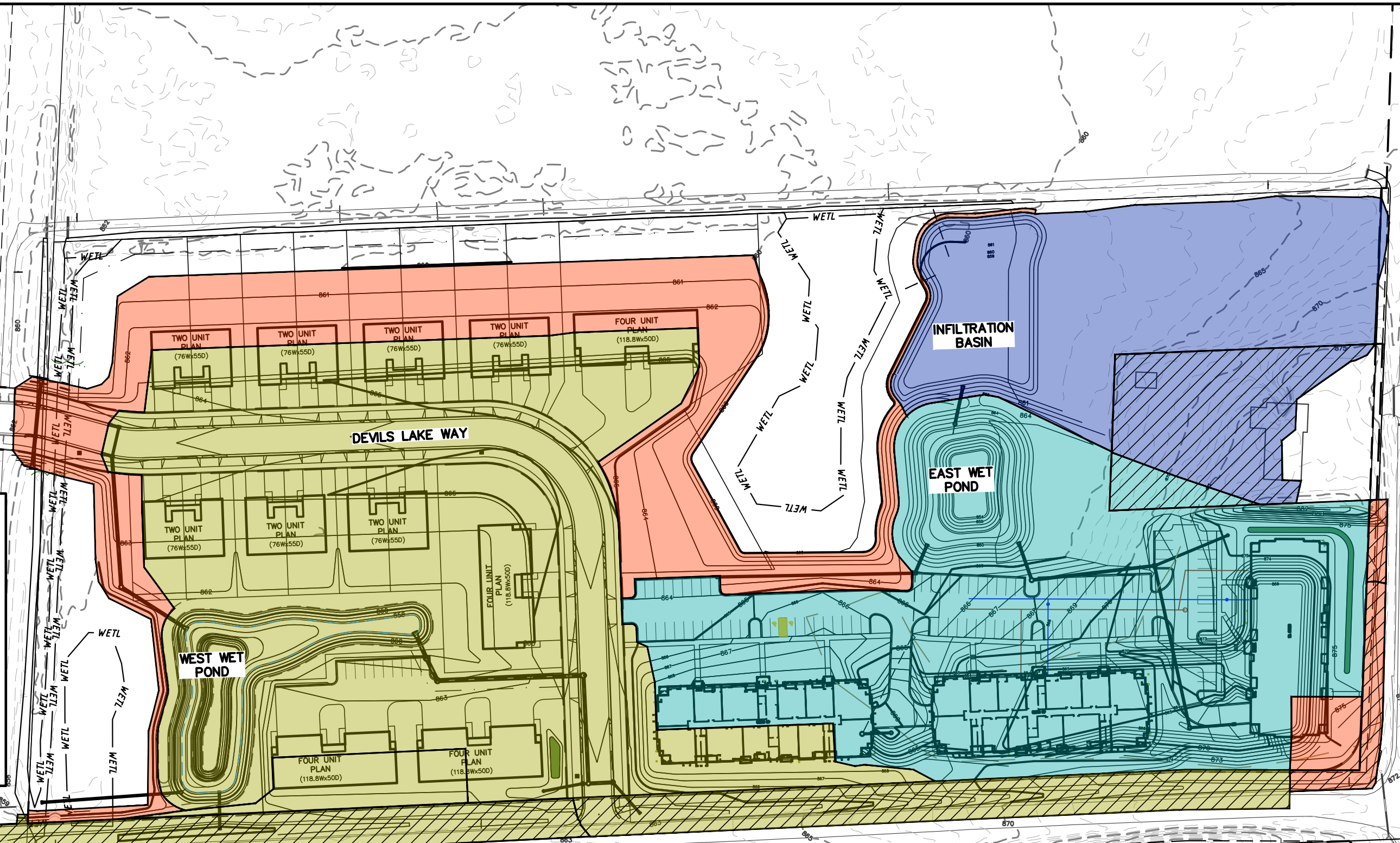
DATE: 8/1/2025

LOCATION		BASIN		RAINFALL - RUNOFF					SEWER			
Upstream Structure	Downstream Structure	Runoff Coefficient C (C)	Area (acres) A	Design Storm (Yr)	Rain Intensity (in/hr) I	Direct Runoff (cfs) Q=C*I*A	Other Runoff (cfs)	Design Runoff (cfs)	Sewer Size (in)	Min Slope of Sewer (%)	Manning's Number n	Capacity Flowing Full (cfs)
		C	A		I	Q=C*I*A					n	
Dbl Inlet #3.1/3	Dbl Inlet #3/3.2	0.66	0.533	100	10.92	3.84	----	3.84	15	1.30%	0.013	7.37
Dbl Inlet #3/3.2	MH #2	0.66	0.537	100	10.92	3.87	3.84	7.71	24	0.40%	0.013	14.31
MH #2	West Wet Pond	----	----	100	10.92	----	7.71	7.71	24	0.60%	0.013	17.52
Infall	Inlet #7.1	0.66	0.835	100	10.92	6.02	----	6.02	12	7.70%	0.013	9.89
Inlet #7.1	MH #7	0.66	0.921	100	10.92	6.64	6.02	12.66	24	0.20%	0.013	10.12
CB #7.3	Inlet #7.2	0.66	0.130	100	10.92	0.94	----	0.94	12	0.40%	0.013	2.25
Inlet #7.2	MH #7	0.66	0.618	100	10.92	4.45	0.94	5.39	12	10.00%	0.013	11.27
MH #7	MH #6	----	----	100	10.92	----	18.05	18.05	24	0.20%	0.013	10.12
MH #6	CB #5	----	----	100	10.92	----	18.05	18.05	30	0.20%	0.013	18.34
CB #5	CB #4	0.95	0.176	100	10.92	1.83	18.05	19.88	30	0.30%	0.013	22.47
CB #4	West Wet Pond	0.95	0.309	100	10.92	3.21	19.88	23.09	30	0.35%	0.013	24.27
C ₁₀₀ =0.66; High Density Residential with HSG C soils and slopes greater than 6% from FDM Procedure 13-10-5, Figure 2												
C ₁₀₀ =0.95; Impervious from FDM Procedure 13-10-5, Figure 2												
I ₁₀₀ = rainfall intensity in Dane County for a time of concentration of 5 minutes from FDM Procedure 13-10, Attachment 5.4												
Capacity Flowing Full was determined using Manning's Equation												



LEGEND FOR DRAINAGE AREAS:

	ONSITE TO WEST WET POND AREA = 5.427 ACRES
	OFFSITE TO WEST WET POND AREA = 0.975 ACRES
	ONSITE TO EAST WET POND AREA = 3.749 ACRES
	OFFSITE TO EAST WET POND AREA = 0.056 ACRES
	ONSITE TO INFILTRATION BASIN AREA = 1.688 ACRES
	OFFSITE TO INFILTRATION BASIN AREA = 0.548 ACRES
	ONSITE UNCONTROLLED AREA AREA = 2.186 ACRES
	OFFSITE UNCONTROLLED AREA AREA = 0.147 ACRES



CTH AB

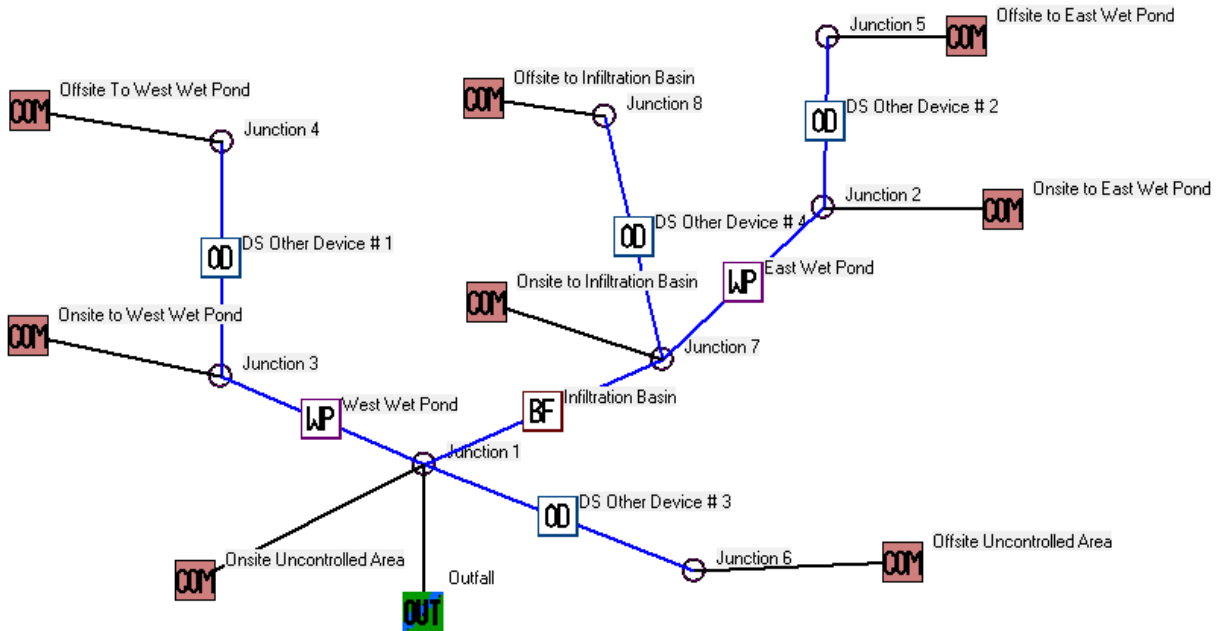
SPERLE CORNERS - VILLAGE OF MCFARLAND
 WINSLAMB DRAINAGE PLAN
 EXHIBIT: #9
 DATED: AUGUST 5, 2025

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SEDIMENT CONTROL CALCULATIONS

The following calculations using the WinSLAMM output indicates that the proposed development will remove 80% of total suspended solids (TSS). 0.357 acres of the off-site street area was substituted from the off-site area to the West Wet Pond to the Onsite Area to West Wet pond as a substitution for not treating 0.357 acres of uncontrolled roof, street and sidewalk around the northwest side of the site. This area is included as source area 38 in "Onsite to West Wet Pond."

WinSLAMM Model Summary:



Land Use:					
Onsite to East Wet Pond					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		0.942			
1	Roofs 1	0.942	Entered	--	--
Parking		0.873			
13	Paved Parking 1	0.873	Entered	--	--
Driveways/Sidewalks		0.108			
31	Sidewalks 1	0.108	Entered	--	--
Streets		0.000			
Landscaped Areas		1.619			
45	Large Landscaped Areas 1	0.277	Entered	--	--
46	Large Landscaped Areas 2	1.342	Entered	--	--
Other Areas		0.207			
70	Water Body Areas	0.207	Entered	--	--

Land Use:					
Onsite to West Wet Pond					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
Roofs		1.376			
1	Roofs 1	1.376	Entered	--	--
Parking		0.759			
13	Paved Parking 1	0.759	Entered	--	--
Driveways/Sidewalks		0.157			
31	Sidewalks 1	0.157	Entered	--	--
Streets		0.772			
37	Streets 1	0.529	Entered	--	--
38	Street Swapped for Uncontr	0.243	Entered	--	--
Landscaped Areas		2.083			
45	Large Landscaped Areas 1	2.083	Entered	--	--
Other Areas		0.280			
70	Water Body Areas	0.280	Entered	--	--

SEDIMENT CONTROL CALCULATIONS

Land Use:					
Offsite To West Wet Pond					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.265			
31	Sidewalks 1	0.265	Entered	-- ▾	-- ▾
	Streets	0.186			
37	Streets 1	0.186	Entered	-- ▾	-- ▾
	Landscaped Areas	0.524			
45	Large Landscaped Areas 1	0.524	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use:					
Offsite to East Wet Pond					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.056			
45	Large Landscaped Areas 1	0.056	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use:					
Onsite Uncontrolled Area					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	2.186			
45	Large Landscaped Areas 1	1.702	Entered	-- ▾	-- ▾
46	Large Landscaped Areas 2	0.241	Entered	-- ▾	-- ▾
57	Area swapped to Wet Wet P	0.243	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use:					
Offsite Uncontrolled Area					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.064			
31	Sidewalks 1	0.064	Entered	-- ▾	-- ▾
	Streets	0.000			
	Landscaped Areas	0.083			
45	Large Landscaped Areas 1	0.083	Entered	-- ▾	-- ▾
	Other Areas	0.000			

Land Use:					
Onsite to Infiltration Basin					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.000			
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	1.367			
45	Large Landscaped Areas 1	1.245	Entered	-- ▾	-- ▾
46	Large Landscaped Areas 2	0.122	Entered	-- ▾	-- ▾
	Other Areas	0.321			
70	Water Body Areas	0.321	Entered	--	--

Land Use:					
Offsite to Infiltration Basin					
Source Area #	Source Area	Area (acres)	Source Area Parameters	First Control Practice	Second Control Practice
	Roofs	0.054			
1	Roofs 1	0.054	Entered	-- ▾	-- ▾
	Parking	0.000			
	Driveways/Sidewalks	0.000			
	Streets	0.000			
	Landscaped Areas	0.494			
45	Large Landscaped Areas 1	0.494	Entered	-- ▾	-- ▾
	Other Areas	0.000			

SEDIMENT CONTROL CALCULATIONS

West Wet Pond

Wet Detention Control Device

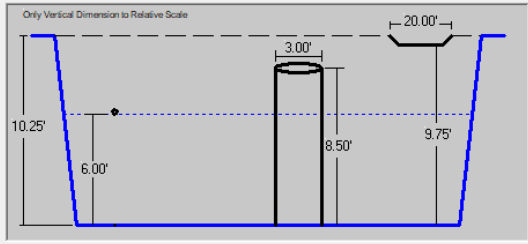
Pond Number 2
Drainage System Control Practice

Initial Stage Elevation (ft):

Maximum Inflow into Pond (cfs)
Enter 0 or leave blank for no limit:

Enter fraction (greater than 0) that you want to modify all pond areas by and then select 'Modify Pond Areas' button

Stage (ft)	Area (acres)	Cumulative Volume (ac-ft)
0	0.00	0.0000
1	0.01	0.0440
2	0.50	0.0480
3	1.50	0.0620
4	2.50	0.0760
5	3.50	0.0920
6	4.50	0.1060
7	5.50	0.1910
8	6.00	0.2750
9	6.50	0.2980
10	7.50	0.3510
11	8.50	0.4020
12	9.50	0.4570
13	10.25	0.4960
14		
15		
16		
17		



Control Practice #: 2 CP Index #: 2

Sharp Crested Weir

Weir Length (ft)
Height from datum to bottom of weir opening (ft)

V-Notch Weir

Weir Angle (<180 degrees)
Height from datum to bottom of weir opening (ft)
Number of V-Notch weirs

Orifice Set 1

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Orifice Set 2

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Orifice Set 3

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Stone Weeper

Width at bottom of weeper (ft)
Weeper side slope (L:H:TV)
Upstream side slope (L:H:TV)
Downstream side slope (L:H:TV)
Horizontal flow path length at top of weeper (ft)
Average rock diameter (ft)
Distance from bottom to top of weeper (ft)
Height from datum to bottom of weeper (ft)

Vertical Stand Pipe

Pipe diameter (ft)
Height above datum (ft)

Month	Evaporation (in/day)	Water Withdraw Rate (ac-ft/day)
Jan	0.00	0.000
Feb	0.00	0.000
Mar	0.00	0.000
Apr	0.00	0.000
May	0.00	0.000
Jun	0.00	0.000
Jul	0.00	0.000
Aug	0.00	0.000
Sep	0.00	0.000
Oct	0.00	0.000
Nov	0.00	0.000
Dec	0.00	0.000

Stage (ft)	Natural Seepage Rate (in/hr)	Other Outflow Rate (cfs)
0.00	0.00	0.000
0.01	0.00	0.000
0.50	0.00	0.000
1.50	0.00	0.000
2.50	0.00	0.000
3.50	0.00	0.000
4.50	0.00	0.000

Broad Crested Weir (Required)

Weir crest length (ft)
Weir crest width (ft)
Height from datum to bottom of weir opening (ft)

Seepage Basin

Infiltration rate (in/hr)
Width of device (ft)
Length of device (ft)
Invert elevation of seepage basin inlet above datum (ft)

Pump

East Wet Pond

Wet Detention Control Device

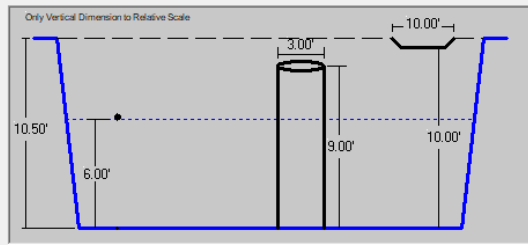
Pond Number 1
Drainage System Control Practice

Initial Stage Elevation (ft):

Maximum Inflow into Pond (cfs)
Enter 0 or leave blank for no limit:

Enter fraction (greater than 0) that you want to modify all pond areas by and then select 'Modify Pond Areas' button

Stage (ft)	Area (acres)	Cumulative Volume (ac-ft)
0	0.00	0.0000
1	0.01	0.0440
2	0.50	0.0510
3	1.50	0.0640
4	2.50	0.0780
5	3.50	0.0940
6	4.50	0.1120
7	5.50	0.1630
8	6.00	0.2070
9	6.50	0.2230
10	7.50	0.2590
11	8.50	0.2960
12	9.50	0.3370
13	10.50	0.3790
14		
15		
16		
17		



Control Practice #: 1 CP Index #: 1

Sharp Crested Weir

Weir Length (ft)
Height from datum to bottom of weir opening (ft)

V-Notch Weir

Weir Angle (<180 degrees)
Height from datum to bottom of weir opening (ft)
Number of V-Notch weirs

Orifice Set 1

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Orifice Set 2

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Orifice Set 3

Orifice Diameter (ft)
Invert elevation above datum (ft)
Number of orifices in set

Stone Weeper

Width at bottom of weeper (ft)
Weeper side slope (L:H:TV)
Upstream side slope (L:H:TV)
Downstream side slope (L:H:TV)
Horizontal flow path length at top of weeper (ft)
Average rock diameter (ft)
Distance from bottom to top of weeper (ft)
Height from datum to bottom of weeper (ft)

Vertical Stand Pipe

Pipe diameter (ft)
Height above datum (ft)

Month	Evaporation (in/day)	Water Withdraw Rate (ac-ft/day)
Jan	0.00	0.000
Feb	0.00	0.000
Mar	0.00	0.000
Apr	0.00	0.000
May	0.00	0.000
Jun	0.00	0.000
Jul	0.00	0.000
Aug	0.00	0.000
Sep	0.00	0.000
Oct	0.00	0.000
Nov	0.00	0.000
Dec	0.00	0.000

Stage (ft)	Natural Seepage Rate (in/hr)	Other Outflow Rate (cfs)
0.00	0.00	0.000
0.01	0.00	0.000
0.50	0.00	0.000
1.50	0.00	0.000
2.50	0.00	0.000
3.50	0.00	0.000
4.50	0.00	0.000

Broad Crested Weir (Required)

Weir crest length (ft)
Weir crest width (ft)
Height from datum to bottom of weir opening (ft)

Seepage Basin

Infiltration rate (in/hr)
Width of device (ft)
Length of device (ft)
Invert elevation of seepage basin inlet above datum (ft)

Pump

SEDIMENT CONTROL CALCULATIONS

Infiltration Basin

Biofiltration Control Device

Drainage System Control Practice

Device Properties **Biofilter Number 1**

Top Area (sf)	19000
Bottom Area (sf)	14000
Total Depth (ft)	1.75
Typical Width (ft) (Cost est. only)	10.00
Native Soil Infiltration Rate (in/hr)	0.070
Native Soil Infiltration Rate COV	N/A
Infil. Rate Fraction-Bottom (0.001-1)	1.000
Infil. Rate Fraction-Sides (0.001-1)	0.001
Rock Filled Depth (ft)	0.00
Rock Fill Porosity (0-1)	0.00
Engineered Media Type	Media Data
Engineered Media Infiltration Rate	0.00
Engineered Media Infiltration Rate COV	N/A
Engineered Media Depth (ft)	0.00
Engineered Media Porosity (0-1)	0.00
Percent solids reduction due to Engineered Media (0-100)	N/A
Inflow Hydrograph Peak to Average Flow Ratio	3.80
Number of Devices in Source Area or Upstream Drainage System	1

Activate Pipe or Box Storage Pipe Box

Diameter (ft) _____
Length (ft) _____
Within Biofilter (check if Yes)
Perforated (check if Yes)
Bottom Elevation (ft above datum) _____
Discharge Orifice Diameter (ft) _____

Select Native Soil Infiltration Rate

Sand - 8 in/hr Clay loam - 0.1 in/hr
 Loamy sand - 2.5 in/hr Silty clay loam - 0.05 in/hr
 Sandy loam - 1.0 in/hr Sandy clay - 0.05 in/hr
 Loam - 0.5 in/hr Silty clay - 0.04 in/hr
 Silt loam - 0.3 in/hr Clay - 0.02 in/hr
 Sandy silt loam - 0.2 in/hr Rain Barrel/Cistern - 0.00 in/hr

Use Random Number Generation to Account for Infiltration Rate Uncertainty

Add **Sharp Crested Weir**

Weir Length (ft) _____
Height from datum to bottom of weir opening (ft) _____

Remove **Broad Crested Weir-Rectd**

Weir crest length (ft) 30.00
Weir crest width (ft) 3.00
Height from datum to bottom of weir opening (ft) 1.50

Add **Vertical Stand Pipe**

Pipe diameter (ft) _____
Height above datum (ft) _____

Remove **Surface Discharge Pipe**

Pipe Diameter (ft) 0.50
Invert elevation above datum (ft) 0.10
Number of pipes at invert elev. 2

Add **Drain Tile/Underdrain**

Pipe Diameter (ft) _____
Invert elevation above datum (ft) _____
Number of pipes at invert elev. _____

Add **Other Outlet**

Stage Number	Stage (ft)	Other Outflow Rate (cfs)
1		
2		
3		
4		
5		

Add **Evapotranspiration**

Soil porosity (saturation moisture content, 0-1) _____
Soil field moisture capacity (0-1) _____
Permanent wilting point (0-1) _____
Supplemental irrigation used?
Fraction of available capacity when irrigation starts (0-1) _____
Fraction of available capacity when irrigation stops (0-1) _____
Fraction of biofilter that is vegetated _____
Plant type _____
Root depth (ft) _____
ET Crop Adjustment Factor _____

Evaporation **Add**

Month	Evapotranspiration (in/day)	Evaporation (in/day)
Jan		
Feb		
Mar		
Apr		
May		
Jun		
Jul		
Aug		
Sep		
Oct		
Nov		
Dec		

Plant Types 1 2 3 4

Biofilter Geometry Schematic

Estimated Surface Drain Time = 17.14 hrs.

Control Practice #: 6 CP Index #: 6

WinSLAMM Output Summary:

File Name:
Q:\Projects\LS-03-19\ECS\WM-McFarland\WinSLAMM.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	618908		0.36	97.15 (1)	3754 (1)	
Outfall Total with Controls	508794	17.79 %	0.30	20.32	645.3	82.81 %
Current File Output: Annualized Total After Outfall Controls	510192				647.1	

Years in Model Run: 1.00

(1) Values reduced to remove off-site loadings due to setting Other Control Device Concentration Reduction values to 1.

Total Area Modeled (ac) 14.776

Total Control Practice Costs

Capital Cost N/A
 Land Cost N/A
 Annual Maintenance Cost N/A
 Present Value of All Costs N/A
 Annualized Value of All Costs N/A

Receiving Water Impacts Due To Stormwater Runoff (CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.36	Poor
With Controls	0.30	Poor

SEDIMENT CONTROL CALCULATIONS

Wet Pond Pre-Treatment

Site Description:								
Col. #:	2	3	4	5	6	7	8	9
Control Practice No.	Control Practice Type	Control Practice Name or Location	Total Inflow Volume (cf)	Total Outflow Volume (cf)	Percent Volume Reduction	Total Influent Load (lbs)	Total Effluent Load (lbs)	Percent Load Reduction
1	Wet Detention Pond	East Wet Pond	199032	199578	-0.274	936.1	131.0	86.01
2	Wet Detention Pond	West Wet Pond	354614	355587	-0.274	2513	287.0	88.58

WinSLAMM Input Data:

Data file name: Q:\Projects\LS-03-19\ECSWM-McFarland\WinSLAMM.mdb
 WinSLAMM Version 10.4.1
 Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.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: 01/01/81 Study period ending date: 12/31/81
 Start of Winter Season: 12/02 End of Winter Season: 03/12
 Date: 08-01-2025 Time: 14:28:45
 Site information:

LU# 1 - Commercial: Onsite to East Wet Pond Total area (ac): 3.749
 1 - Roofs 1: 0.942 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - Paved Parking 1: 0.873 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.108 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 45 - Large Landscaped Areas 1: 0.277 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 46 - Large Landscaped Areas 2: 1.342 ac. Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.207 ac. Source Area PSD File:

LU# 2 - Commercial: Onsite to West Wet Pond Total area (ac): 5.427
 1 - Roofs 1: 1.376 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 13 - Paved Parking 1: 0.759 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.157 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

SEDIMENT CONTROL CALCULATIONS

37 - Streets 1: 0.529 ac. Intermediate Street Length = 0.29 curb-mi Street Width (assuming two curb-mi per street mile) = 30.09828 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

38 - Street Swapped for Uncontrolled Roof: 0.243 ac. Intermediate Street Length = 0.196 curb-mi Street Width (assuming two curb-mi per street mile) = 20.45663 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 2.083 ac. Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.280 ac. Source Area PSD File:

LU# 3 - Commercial: Offsite To West Wet Pond Total area (ac): 0.975

31 - Sidewalks 1: 0.265 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.186 ac. Intermediate Street Length = 0.236 curb-mi Street Width (assuming two curb-mi per street mile) = 13.00424 ft

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.524 ac. Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

LU# 4 - Commercial: Offsite to East Wet Pond Total area (ac): 0.056

45 - Large Landscaped Areas 1: 0.056 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 5 - Commercial: Onsite Uncontrolled Area Total area (ac): 2.186

45 - Large Landscaped Areas 1: 1.702 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

46 - Large Landscaped Areas 2: 0.241 ac. Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

57 - Area swapped to Wet Wet Pond: 0.243 ac. Normal Silty Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

LU# 6 - Commercial: Offsite Uncontrolled Area Total area (ac): 0.147

31 - Sidewalks 1: 0.064 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.083 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 7 - Commercial: Onsite to Infiltration Basin Total area (ac): 1.688

45 - Large Landscaped Areas 1: 1.245 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

46 - Large Landscaped Areas 2: 0.122 ac. Normal Clayey Low Density Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.321 ac. Source Area PSD File:

LU# 8 - Commercial: Offsite to Infiltration Basin Total area (ac): 0.548

1 - Roofs 1: 0.054 ac. Pitched Disconnected Normal Silty Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.494 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

SEDIMENT CONTROL CALCULATIONS

Control Practice 1: Wet Detention Pond CP# 1 (DS) - East Wet Pond
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 6
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:

- Outlet type: Orifice 1
 - 1. Orifice diameter (ft): 0.25
 - 2. Number of orifices: 1
 - 3. Invert elevation above datum (ft): 6

- Outlet type: Broad Crested Weir
 - 1. Weir crest length (ft): 10
 - 2. Weir crest width (ft): 10
 - 3. Height from datum to bottom of weir opening: 10

- Outlet type: Vertical Stand Pipe
 - 1. Stand pipe diameter (ft): 3
 - 2. Stand pipe height above datum (ft): 9

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0440	0.00	0.00
2	0.50	0.0510	0.00	0.00
3	1.50	0.0640	0.00	0.00
4	2.50	0.0780	0.00	0.00
5	3.50	0.0940	0.00	0.00
6	4.50	0.1120	0.00	0.00
7	5.50	0.1630	0.00	0.00
8	6.00	0.2070	0.00	0.00
9	6.50	0.2230	0.00	0.00
10	7.50	0.2590	0.00	0.00
11	8.50	0.2960	0.00	0.00
12	9.50	0.3370	0.00	0.00
13	10.50	0.3790	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - West Wet Pond
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 6
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:

- Outlet type: Orifice 1
 - 1. Orifice diameter (ft): 0.25
 - 2. Number of orifices: 1
 - 3. Invert elevation above datum (ft): 6

- Outlet type: Broad Crested Weir
 - 1. Weir crest length (ft): 20
 - 2. Weir crest width (ft): 10
 - 3. Height from datum to bottom of weir opening: 9.75

Outlet type: Vertical Stand Pipe

SEDIMENT CONTROL CALCULATIONS

1. Stand pipe diameter (ft): 3
2. Stand pipe height above datum (ft): 8.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0440	0.00	0.00
2	0.50	0.0480	0.00	0.00
3	1.50	0.0620	0.00	0.00
4	2.50	0.0760	0.00	0.00
5	3.50	0.0920	0.00	0.00
6	4.50	0.1060	0.00	0.00
7	5.50	0.1910	0.00	0.00
8	6.00	0.2750	0.00	0.00
9	6.50	0.2980	0.00	0.00
10	7.50	0.3510	0.00	0.00
11	8.50	0.4020	0.00	0.00
12	9.50	0.4570	0.00	0.00
13	10.25	0.4960	0.00	0.00

Control Practice 3: Other Device CP# 1 (DS) - DS Other Device # 1

- Fraction of drainage area served by device (ac) = 1.00
- Particulate Concentration reduction fraction = 1.00
- Filterable Concentration reduction fraction = 1.00
- Runoff volume reduction fraction = 0

Control Practice 4: Other Device CP# 2 (DS) - DS Other Device # 2

- Fraction of drainage area served by device (ac) = 1.00
- Particulate Concentration reduction fraction = 1.00
- Filterable Concentration reduction fraction = 1.00
- Runoff volume reduction fraction = 0

Control Practice 5: Other Device CP# 3 (DS) - DS Other Device # 3

- Fraction of drainage area served by device (ac) = 1.00
- Particulate Concentration reduction fraction = 1.00
- Filterable Concentration reduction fraction = 1.00
- Runoff volume reduction fraction = 0

Control Practice 6: Biofilter CP# 1 (DS) - Infiltration Basin

1. Top area (square feet) = 19000
2. Bottom area (square feet) = 14000
3. Depth (ft): 1.75
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.07
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0
12. Engineered soil depth (ft) = 0

SEDIMENT CONTROL CALCULATIONS

- 13. Engineered soil porosity = 0
- 14. Percent solids reduction due to flow through engineered soil = 0
- 15. Biofilter peak to average flow ratio = 3.8
- 16. Number of biofiltration control devices = 1
- 17. Particle size distribution file: Not needed - calculated by program
- 18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

- 1. Weir crest length (ft): 30
- 2. Weir crest width (ft): 3
- 3. Height of datum to bottom of weir opening: 1.5

Outlet type: Surface Discharge Pipe

- 1. Surface discharge pipe outlet diameter (ft): 0.5
- 2. Pipe invert elevation above datum (ft): 0.1
- 3. Number of surface pipe outlets: 2

Control Practice 7: Other Device CP# 4 (DS) - DS Other Device # 4

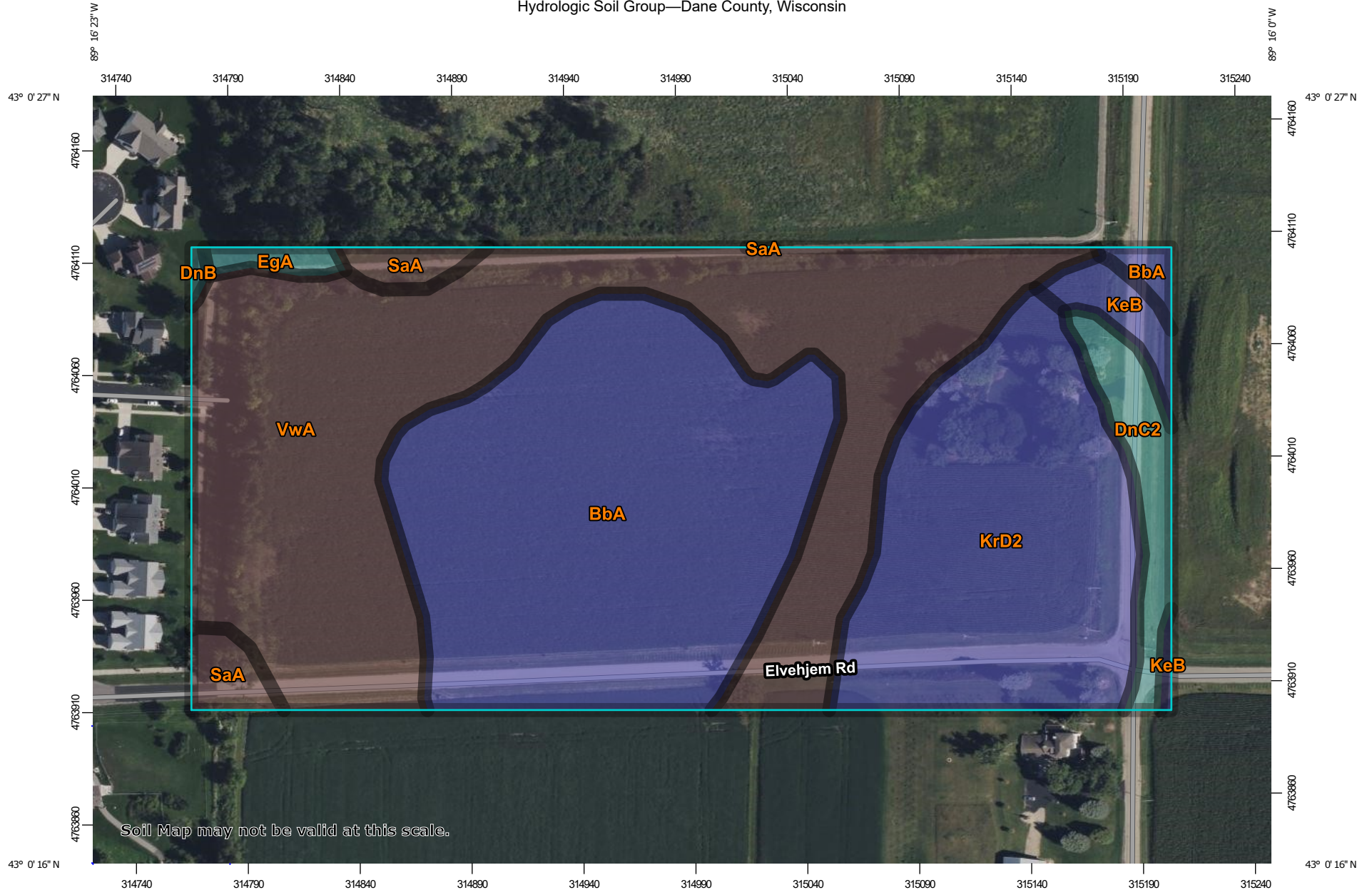
Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

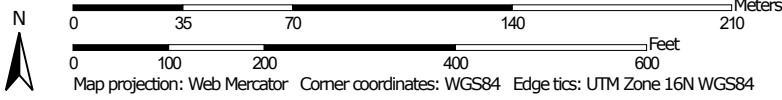
Runoff volume reduction fraction = 0

Hydrologic Soil Group—Dane County, Wisconsin




Soil Map may not be valid at this scale.

Map Scale: 1:2,410 if printed on A landscape (11" x 8.5") sheet.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
 Survey Area Data: Version 23, Sep 3, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BbA	Batavia silt loam, gravelly substratum, 0 to 2 percent slopes	B	7.1	31.7%
DnB	Dodge silt loam, 2 to 6 percent slopes	C	0.0	0.2%
DnC2	Dodge silt loam, 6 to 12 percent slopes, eroded	C	0.8	3.6%
EgA	Elburn silt loam, gravelly substratum, 0 to 3 percent slopes	C	0.2	0.8%
KeB	Kegonsa silt loam, 2 to 6 percent slopes	B	0.4	1.8%
KrD2	Kidder soils, 10 to 20 percent slopes, eroded	B	4.6	20.6%
SaA	Sable silty clay loam, 0 to 2 percent slopes	B/D	0.5	2.3%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	B/D	8.7	39.1%
Totals for Area of Interest			22.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Attachment 2:

1002-CPS-23
 Division of Industry Services
 P. O. Box 2658
 Madison, Wisconsin 53701
 Scott Walker, Governor
 Laura Gutierrez, Secretary

SOIL AND SITE EVALUATION – STORM

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Page 1 of 3

Attach a complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but 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

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]

Property Owner Lakestone Properties		Property Location Govt Lot SE 1/4 SE 1/4 S 2 T 6 N R 10 (E) or W	
Property Owner Mail Address		Lot #	Block #
City	State	Zip Code	Phone Number
Drainage area _____ <input type="checkbox"/> sq ft <input type="checkbox"/> acres		Hydraulic Application Test Method	
Test site suitable for (check all that apply): <input type="checkbox"/> Site not suitable;		Soil Moisture	
<input type="checkbox"/> Bioretention; <input type="checkbox"/> Subsurface Dispersal System;	<input type="checkbox"/> Reuse; <input type="checkbox"/> Irrigation; <input type="checkbox"/> Other _____	Date of soil borings: 1-29-25	
		USDA-NRCS WETS Value:	
		<input type="checkbox"/> Dry = 1;	
		<input checked="" type="checkbox"/> Normal = 2;	
		<input type="checkbox"/> Wet = 3.	

#OBS: Pit Boring Ground surface elevation: **860.96** ft. Elevation of limiting factor: **859.96** 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
1	0-12	10YR 3/2	—	sil	2mgr	mfr	CS	5	—	.13
2	12-60	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1Asbk	mfr	gw	5	—	.07
3	60-108	10YR 5/4	"	s	Osg	ml	—	5	—	3.6

Comments: **Water observed @ 60"**

#OBS: Pit Boring Ground surface elevation: **860.99** ft. Elevation of limiting factor: **859.99** 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
1	0-12	10YR 3/2	—	sil	2mgr	mfr	CS	5	—	.13
2	12-67	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1Asbk	mfr	gw	5	—	.07
3	67-170	10YR 5/4	"	s	Osg	ml	—	5	—	3.6

Comments: **Water observed @ 70"**

Name (Please Print) **Jeffrey T. Levake** Signature *[Signature]* Credential Number **CST #223322**

Address **P.O. Box 568 Lake Mills, WI 53551** Date Evaluation Conducted **1-29-25** Telephone Number **920-968-7567**

SBD-10793 (R01/17)

WDNR
September 2017

TP3 #OBS. Pit Boring Ground surface elevation 859.99 ft. Elevation of limiting factor 858.99 ft. Page 2 of 3

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
1	0-12	10YR 3/2	~	s.l	2mgr	mfr	CS	5	-	.13
2	12-60	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1fsbk	mfr	CS	5	-	.07
3	60-96	10YR 4/2	" "	scl	1fsbk	mfr	gw	5	-	.11
4	96-120	10YR 5/4	" "	S	Osg	ml	-	5	-	3.6

Comments: Water observed @ 60"

TP4 #OBS. Pit Boring Ground surface elevation 859.87 ft. Elevation of limiting factor 858.87 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
1	0-12	10YR 3/2	~	s.l	2mgr	mfr	CS	5	-	.13
2	12-50	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1fsbk	mfr	gw	5	-	.07
3	50-108	10YR 5/4	" "	S	Osg	ml	-	5	-	3.6

Comments: Water observed @ 50"

TP5 #OBS. Pit Boring Ground surface elevation 860.27 ft. Elevation of limiting factor 859.27 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
1	0-12	10YR 3/2	~	s.l	2mgr	mfr	CS	5	-	.13
2	12-55	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1fsbk	mfr	gw	5	-	.07
3	55-120	10YR 5/4	" "	S	Osg	ml	-	5	-	3.6

Comments: Water observed @ 55"

TP6 #OBS. Pit Boring Ground surface elevation 860 ft. Elevation of limiting factor 858.4 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
1	0-20	10YR 3/2	~	s.l	2mgr	mfr	CS	5	-	.13
2	20-103	10YR 4/2	C2d 7.5YR 5/8 10YR 7/2	sic	1fsbk	mfr	gw	5	-	.07
3	103-120	10YR 5/4	" "	S	Osg	ml	-	5	-	3.6

Comments: Water observed @ 103"

SBD-10793 (R 7/17)

Overall Site Comments:

WDNR
September 2017

STORM WATER MANAGEMENT SYSTEM MAINTENANCE AGREEMENT

THIS AGREEMENT (“Agreement”), entered into this _____ day of _____, 2022, by and between Ezra Properties (the "Owner"), and Village of McFarland, a Wisconsin Municipal Corporation (the "Village"), collectively, the “Parties”.

RECITALS

A. The Owner is developing certain real property located in the Village of McFarland legally described in paragraph 2 herein (the “Property”).

B. The Parties desire to set forth their obligations for the maintenance of certain storm water management improvements on the Property.

NOW THEREFORE, in consideration of the mutual covenants herein set forth and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows.

1. Sole Agreement. This agreement is the sole applicable agreement pertaining to storm water management for the described Property.

2. Site Legal Description. The Property subject to this agreement is legally described as follows: SEC 2-6-10 S 19 A SE1/4 SE1/4 EXC LOT 1 CSM 1455, Village of McFarland Dane County, WI

3. Responsible Party.

a. **CONSTRUCTION PHASE MAINTENANCE**. The Owner is responsible for satisfying the provisions of this agreement throughout the Property for the duration of the construction and warranty period.

b. **POST-CONSTRUCTION PERPETUAL MAINTENANCE**. The Owner is responsible for maintaining the storm water management system in perpetuity upon completion of all construction phases and expiration of the warranty period.

4. Permanent Components Of The Storm Water Management System.

a. The storm water management system for the property consists of the following management practices, their components, and the drainage conveyance as referenced in Section 4b:

- + Two (2) Wet Retention Pond
- + One (1) Infiltration Basin
- + One (1) Infiltration Swale
- + Three (3) Sorbent Inlet Filters

b. The drainage areas served by the storm water management practices include portions of the property referenced in Section 2 and some off-site run-on from the Elvehjem Road Right-of-Way, as shown on the Proposed Drainage Plan.

Recording area (Dane Co. Register of Deeds)

Send To: Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558
608-838-3151

0610-024-9691-1

Parcel Identification Numbers

5. Inspection And Maintenance Schedule.

- a. All components of the storm water management system shall be inspected by the Responsible Party:
 - at least semi-annually in early Spring and early Autumn; and
 - within 72 hours following any major storm or flood event of sufficient intensity or duration to pose significant risk of damage to the system.
- b. The following components shall be inspected by the Responsible Party more frequently as follows:

Wet Pond

- Annually inspect all components of the wet pond, including inlets, outlets, riprap, and safety shelf, and sediment depth.
- Keep embankments clear of woody vegetation.
- Mowing in buffer areas around stormwater ponds should be minimized. If occasional mowing is necessary, mow no shorter than 6 inches.
- Application of fertilizer, herbicide, pesticide or other chemicals is discouraged.
- Remove sediment from permanent pool once average depth is 3.5 feet or less. Protect liner from damage during sediment removal, if present.
- Excavation is prohibited below the original design depth unless approved by Dane County Water Resources Engineering Department.

Infiltration Basin

- Inspect quarterly to ensure proper function and check for any potential problems. Inspect overflow spillway for indication of failure and make note of vegetation condition. If standing water is observed over 50% of the basin floor 3 days after rainfall, the basin is clogged and must be restored.
- Remove trash and other debris regularly.
- Mowing or burning shall be used to maintain the vegetation.
- Mow newly planted seed once it reaches a height of 10 to 12 inches down to a height of 5 to 6 inches. After establishment, if burning cannot be accommodated, mowing shall occur once in the spring (prior to April 15) or in the fall (after November 1) to a height of 5 to 6 inches.
- Burning may begin the second year, in the early spring (prior to May 1st) or in the late fall (after November 1st). Burning shall be done two consecutive years, then up to three years passing before the next burning. Under no circumstances shall burning occur every other year.
- Restoration includes removing the top 2 to 3 inches, chisel plowing, then adding topsoil and compost before seeding. If deep tilling is used, the basin shall be drained and the soils dried to a depth of 8 inches. If the basin was planted in turf grass and clogging again occurs after these restoration procedures have been used, the owner /operator shall replant with prairie style vegetation using the soil preparation method recommended by the native nursery in the area.
- During winter months, all draw down devices in the pond shall be opened to discourage infiltration of runoff water containing high levels of chlorides.

Sorbent Inlet Filters

- Maintain Flexstorm PCP Inlet Filter, or equal, according to the manufacturer's guidelines.
- Inspect inlet filters quarterly. Repair when the performance of a filter is compromised.

- c. The Responsible Party shall make the appropriate repairs whenever the performance of a storm water management practice or component is compromised due to sediment or debris.

6. Regulations.

- a. Mowing in buffer areas, pond banks and drainage ways shall be minimized to the greatest extent possible in order to maximize filtration of runoff. If occasional mowing is necessary, the mowing height shall be no shorter than six inches.
- b. Applications of fertilizers, herbicides, pesticide or other chemical applications are prohibited in buffer areas, on pond banks and along drainage ways, unless specifically authorized by the Village Engineer on an individual event basis, and provided that the application is performed by professional personnel certified for that purpose.
- c. Snow shall not be dumped directly onto conditioned planting beds designed for infiltration or for bioretention, or on sites designated as buffer areas.

7. Maintenance Of Inspection Records.

a. The Owner shall maintain records of the results of all site inspections and any enforcement actions, correction actions or other documented contacts and any follow-up actions taken by or at the direction of Owner or Responsible Party for seven years after such action.

b. The Village Engineer shall maintain public records of the results of all Village inspections of the site, shall inform the Owner of the inspection results, and shall indicate any specific corrective actions required to bring the storm water management practice or component into accordance with this Agreement.

8. Default by Responsible Party. In the event that the Village determines that Responsible Party has failed to comply with any of the responsibilities as set forth in this Agreement, the Village shall give written notice to Owner identifying any said default and requiring compliance within five working days of receipt of the notice or such longer period of time as specified by the Village in the notice. In the event Owner fails to complete any actions required to remedy the default within said five day period, unless extended by the Village in writing, Owner consents that Village may enter the property on which private storm water management systems and practices are located, correct the default and charge the cost of such corrective action to Owner. If Owner fails to pay for said costs of corrective action then Village shall be entitled to place the cost of the corrective action on the tax roll for the Owner's property as a special charge pursuant to Wis. Stats. § 66.0627.

9. Severability. All provisions of this Agreement are severable, and if any one or more provision is deemed unenforceable for any reason, the remaining provisions shall remain in full force and effect.

10. Binding Agreement. All provisions of this Agreement, including the benefits and burdens hereunder, run with the property and are binding upon and inure to the benefit of the parties hereto and their successors and assigns.

11. Amendment; Termination. This Agreement may be amended or terminated by a document signed by the Owner and the Village.

12. Requirement to Record. This Agreement and any subsequent amendments thereto shall be recorded at the Dane County Register of Deeds.

13. Governing Law. This Agreement at all times shall be enforced in accordance with the laws of the State of Wisconsin.

14. Assignment. A Responsible Party's obligations may not be assigned to another party without the prior written consent of Village except that such consent is not required when a Responsible Party as property owner transfers fee simple title to a buyer who will assume the maintenance responsibilities of the owner / responsible party.

15. Notices. All notices to be given under the terms of this Agreement shall be in writing and signed by the person serving the notice and shall be sent registered or certified mail, return receipt requested, postage prepaid, or hand delivered to the addresses of the parties listed below:

FOR THE VILLAGE:

Village of McFarland
5915 Milwaukee Street
McFarland, WI 53558
608-838-3151

FOR THE OWNER:

Lakestone Properties and Management, LLC
5910 Main Street, Suite 1
McFarland, WI 53558

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

FOR THE OWNER:

By: _____

Name: _____

Title: _____

Date: _____

STATE OF WISCONSIN)
) ss.
COUNTY OF _____)

Personally came before me this _____ day of _____, 20__, the above-named _____, to me known to be the person who executed the foregoing and acknowledged the same.

Notary Public, State of Wisconsin
My Commission: _____

VILLAGE OF MCFARLAND

By: _____

By: _____

Name: _____

Name: _____

Title: Village President

Title: Village Clerk

Date: _____

Date: _____

September 8, 2025

Mr. Andrew Bremer, AICP
Community & Economic Development Director
Village of McFarland
5915 Milwaukee Street
P.O. Box 110
McFarland, WI 53558

Subject: Sperle Corners Development – Detailed Development Plan Submittal Review

Dear Andrew:

We have received the updated Detailed Development Plan submittal dated August 18, 2025 for Sperle Corners, a proposed new residential development north of Elvehjem Road and west of CTH AB, south of an existing multi-use trail, and east of some existing residential areas on Perrot Place. The preliminary plat, plans, and stormwater management report have been reviewed from a public works perspective. Our comments are shown below, organized by the appropriate document and/or drawing sheet number.

Construction Plans

All Sheets

- Confirm water main has 7 feet of cover. Some hydrant locations appear to show closer to 8 feet cover.
- Move all shutoffs for future large water laterals (6-inch and larger) to be within 6 feet of the main.
- Call out future private sewer and water mains as “PRIVATE”

Sheet C-3

- Spot grades should be provided at all lot corners and relative high/low points in the grading plan to allow for checking the final grades against the proposed grading plan.

Sheet C-6

- The existing hydrant at the current end of Devil’s Lake Way should be removed and relocated to the proposed new dead end at the Elvehjem Road intersection.
- Add main valves on both sides of the proposed hydrant near STA 5+05.
- Add a main valve on the east end of the proposed main connection for testing purposes.

Sheet C-7

- A valve should be added to the west leg of the tee at Elvehjem Road, and the northern valve on said tee be moved just north of the nearby proposed hydrant.

Sheet C-10

- The proposed hydrant near STA 55+28 on Elvehjem Road should have valves on both sides of the hydrant tee.
- Add a ditchline profile showing existing ground above the proposed water main to confirm proper bury depth.
- Add insulation between the new water main and proposed storm sewer crossing Elvehjem Road.

Sheet 16

- Confirm that the Village fire apparatus maneuver through the layout with parking as intended.

Final Plat

We have no further comments on the plat and recommend Village approval.

Stormwater Management Plan

The stormwater management design as proposed will meet the Village, County, and State performance standards, however there are several important items that will be needed prior to recommending Village approval:

- A plan view of the site showing the extent of overland water flow during a 200-year storm (assuming all inlets are plugged) must be provided to ensure water does not enter private properties.
- The Storm Sewer Sizing exhibit shows several pipes over capacity. Explanation should be provided for this (or upsizing of piping).

Please feel free to contact us with any questions or comments regarding this review.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.



Brian R. Berquist, P.E.
President

cc: Mr. Lee Igl, Director of Public Works, Village of McFarland (*via email*)
Mr. Matthew Schuenke, Administrator, Village of McFarland (*via email*)
Mr. Ryan Quam, Quam Engineering (*via email*)

BRB:sai

J:\JOB#S\McFarland\MC-236-M6 Teppo-Sperle Property Review\1. Admin and PM\Review Letter 3.docx

September 5, 2025

Re: Design Review of Lakestone Properties Sperle Corners Proposed Development

We completed our review of the detailed PUD plan dated August 5, 2025.

We recognize that the project is still developing, and not all items are fully designed and documented. Below is a list of items that we noted that aren't displaying compliance with applicable codes or should be considered during the design of the project.

- The fire lane plan that was submitted previously indicates that the maximum roadway width would be required to comply with turning radius. The current plan submission doesn't include where parking restrictions will be placed on Devils Lake Way. Based on our review on streeting will be permitted in front Lots 3-13. The north/south portion of Devils Lake Way will not be permitted to have street parking. It should be noted that the fire department access requires vertical clearance of 13' 6", with the design utilizing full street width the provided trees can't extend over the street unless they are taller than 13' 6".
 - The department's recommendation is not to permit the current proposed street width.
- Any curb area within 20' of fire hydrant will be required to be signed as no parking. The curb shall be painted to produce a 20-foot stripe extending ten feet to each side of the hydrant. Areas without curbs shall have a four-inch-wide yellow stripe placed on the pavement.
- The provide elevations for the apartment buildings on Lot 18 an eave height of 32' 1 1/2", which would require aerial access. The current access width doesn't comply with the 26' width for aerial access.
- The traffic calming devices (speed bumps) are required to be approved by the fire code official and will be required to be submitted. Speed bumps will not be accepted, and any traffic calming must comply with the following:

- Maintain angle of approach or departure for fire apparatus to be 8 degrees or less. (NFPA 1901 12.3.2.2)
 - Height less than 8" (NFPA 1901 12.3.2.2)
- The indicated phase 1 apartments site plan has a fire department access road that exceeds 150' without an approved turn-around. Occupancy of phase 1 will not be able to be granted until a turn-around is provided or the access is built out to provide the turn-around.
- When considering the Lot 18 units as a multi-family development the IFC requires (2) separate access roads unless all buildings are equipped with approved automatic fire sprinkler systems. It would be preferable to add a second access road to Elvehjem between the (37) unit and (40) unit apartment buildings. If not added, any building on the lot will require approved automatic fire sprinklers including a shed or an accessory building that is constructed in the future.
- Any building with 3 units or more will require an automatic fire sprinkler system and Knox key box. It is encouraged to provide Knox key boxes on all buildings and especially any buildings that are rented. The plans have not included floor plans for buildings, and it is understood that the floorplans more than likely haven't been developed. It should be noted though that any building with a fire sprinkler will require a riser room that is accessible without entering a private dwelling.
- The buildings will need to comply with IFC section 510 for emergency responder radio coverage.

Code sections for reference:

SPS 362.0903 (5)(a) Except as provided in pars. (b) to (cm), an automatic sprinkler system installed in accordance with IBC section 903.3 shall be provided throughout all buildings with a Group R fire area.

IBC 509.1 Fire protection equipment shall be identified in an approved manner. Rooms containing controls for air-conditioning systems, sprinkler risers and valves, or other fire detection, suppression or control elements shall be identified

for the use of the fire department. Approved signs required to identify fire protection equipment and equipment location shall be constructed of durable materials, permanently installed and readily visible.

IBC 916.1 Emergency responder radio coverage shall be provided in all new buildings in accordance with Section 510 of the International Fire Code.

IFC 503.2.1 Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

IFC 503.2.4 The required turning radius of a fire apparatus access road shall be determined by the fire code official.

IFC 503.3 Where required by the fire code official, approved signs or other approved notices or markings that include the words NO PARKING—FIRE LANE shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. The means by which fire lanes are designated shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

IFC 503.4.1. Traffic calming devices shall be prohibited unless approved by the fire code official.

IFC 504.1 Exterior doors and openings required by this code or the International Building Code shall be maintained readily accessible for emergency access by the fire department. An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided when required by the fire code official.

IFC 507.5.1 Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet (122 m) from a hydrant on a fire apparatus access road, as measured by an approved route

around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the fire code official.

Exceptions:

1. For Group R-3 and Group U occupancies, the distance requirement shall be 600 feet (183 m).

2. For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the distance requirement shall be 600 feet (183 m).

IFC D103.4 Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

IFC D105.1 Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

IFC D105.2 Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of the building or portion thereof.

IFC D105.3 At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official.

IFC D106.1 Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads. Exception: Projects having up to 200 dwelling units may have a single approved fire apparatus access road when all buildings, including

nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2.

VOM 26-146 (a) Required. Newly constructed commercial buildings and residential buildings containing three or more dwelling units, or when access to or within a structure or an area is unduly difficult because of secured openings or where immediate access is necessary for lifesaving or firefighting purposes, the Fire/EMS Chief may require that a key box be installed in an accessible location. The key box shall be a type approved by the Fire and Emergency Medical Services Department and shall contain those keys found to be necessary to provide emergency access.

VOM 26-176 Where the Village water system is available, and any portion of a commercial or industrial building containing 7,000 square feet or more of gross interior area, or a residential building containing more than two dwelling units and containing 7,000 square feet or more of gross interior area, is set back more than 300 feet from the centerline of the nearest abutting public right-of-way, the owner shall install approved fire hydrants at such owner's expense. The set back distances shall be determined by measuring the travel distance from a municipal hydrant along the centerline of a municipal street or private road suitable for travel by fire apparatus.

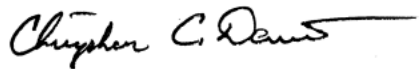
VOM 26-177 (a) One hydrant shall be located at the main entryway to such building or complex. Additional hydrants shall be provided around the perimeter of the building or complex so that no hydrant is more than 400 feet from any other approved hydrant as described in Section 26-176.

VOM 26-181 Fire hydrants shall be marked with the curb painted yellow. The curb shall be painted to produce a 20-foot stripe extending ten feet to each side of the hydrant. Areas without curbs shall have a four inch wide yellow stripe placed on the pavement.

The following items should be noted to assist in the project being completed smoothly and in a timely fashion:

- Village of McFarland is a delegated agent for the State of Wisconsin to perform fire protection and fire alarm systems reviews.
- Before the installation of any fire protection system a work permit is required to be issued by McFarland Fire & Rescue.
- Fire protection and fire alarm system reviews require the submission of architectural plans and would the owner to submit on behalf of the sprinkler and fire alarm contractors.
- Any privately owned piping including underground mains and laterals that are associated with or supply fire sprinkler systems require to be reviewed and inspected by McFarland Fire & Rescue before being concealed by building finishes or ground.
- Approval of the fire sprinkler system will require a flow test witnessed by McFarland Fire & Rescue within 1 year prior to the submission of plans for approval.
- The display of addresses for Lots 1, 10 and 11 may require additional signage at Devil's Lake Way. We would recommend reviewing with building inspection and McFarland Fire & Rescue Department before requesting occupancy inspections.

Sincerely,



Christopher C. Dennis, Chief
Fire & Rescue Department
Village of McFarland

CC:

McFarland Fire & Rescue Department Prevention
McFarland Community Development
McFarland Public Works