

## Permit Fact Sheet

### General Information

|                                       |                                                                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Permit Number                         | WI-0020362-10-0                                                                                                                                                                           |
| Permittee Name and Address            | CITY OF MONROE<br>1110 18th Ave, Monroe, WI 53566                                                                                                                                         |
| Permitted Facility Name and Address   | Monroe Wastewater Treatment Facility<br>1224-10TH AVENUE WEST, MONROE, WISCONSIN                                                                                                          |
| Permit Term                           | October 01, 2026 to September 30, 2031                                                                                                                                                    |
| Discharge Location                    | South of Structure 45 (chlorine contact tank) on the north bank of Honey Creek, SW1/4 SE1/4, Section 33, T2N, R7E                                                                         |
| Receiving Water                       | Honey Creek (Honey & Richland Creeks Watershed, SP01 – Sugar - Pecatonica River Basin) in Green County                                                                                    |
| Stream Flow (Q <sub>7,10</sub> )      | 1.8 cfs                                                                                                                                                                                   |
| Stream Classification                 | Warm Water Sport Fish, non-public water supply, and recreational use                                                                                                                      |
| Discharge Type                        | Existing, Continuous                                                                                                                                                                      |
| Annual Average Design Flow (MGD)      | 3.7 MGD                                                                                                                                                                                   |
| Industrial or Commercial Contributors | RRD Forms, Roth Kase Cheese, Minhas Creek Brewery, Wisconsin Cheese Group, Badger State Ethanol, Actus Nutrition, International Ingredients, The Swiss Colony Bakery, and La Vaquita Inc. |
| Plant Classification                  | A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; P - Total Phosphorus; D - Disinfection; L - Laboratory; SS - Sanitary Sewage Collection System     |
| Approved Pretreatment Program?        | N/A                                                                                                                                                                                       |

### Facility Description

The City of Monroe operates a wastewater treatment facility providing treatment for a combination of domestic, industrial, and commercial wastewaters. The facility accepts domestic holding and septic tanks wastes and commercial septage. The facility is an advanced activated sludge treatment plant consisting of a headworks, grit removal, primary clarification, diversion/equalization tank with an odor control biofilter, activated sludge and biological and chemical phosphorus removal, final clarification, effluent sand filtration, chlorine disinfection and dichlorination. Post aeration is accomplished via a cascade aerator. Sludge is thickened with dissolved air flotation (DAF), anaerobically digested, dewatered with a centrifuge, and stored as a cake in a storage building prior to land application on Department approved sites.

### Substantial Compliance Determination

**Enforcement During Last Permit:** Notices of Noncompliance (NONs) were issued for sewer service overflows (SSOs) and water quality trading violations. A NON dated June 30, 2025, addressed prohibited overflows and the exceedance of

available WQT credits in 2024 and 2025. A NON dated December 14, 2023, addressed noncompliance with the WQT Plan (WQT-2022-005) in 2022 and 2023. A NON dated October 7, 2021, addressed a prohibited overflow. The facility has completed all previously required actions as part of the enforcement process.

After a desk top review of all discharge monitoring reports, CMARs, land application reports, compliance schedule items, and a site visit on September 2, 2025, this facility has been found to be in substantial compliance with their current permit.

## Sample Point Descriptions

| Sample Point Designation |                                                           |                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sample Point Number      | Discharge Flow, Units, and Averaging Period               | Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)                                                                                                                                                                                                                                                                 |
| 701                      | 1.7 MGD<br>(Average, January 2021 – August 2025)          | Influent: 24-hr flow proportional composite samples collected after grit removal. Parshall flume and flow meter are located after grit removal.                                                                                                                                                                                                             |
| 105                      | N/A                                                       | Field Blank: Collect total recoverable mercury field blanks at the same time and location as the mercury effluent sample using standard sample handling procedures.                                                                                                                                                                                         |
| 001                      | 1.7 MGD<br>(Average, January 2021 – April 2026)           | Effluent: 24-hr flow proportional composite sampler located after cascade aeration. Grab samples are collected from the bottom of the cascade aeration steps. Flow measured from a stilling well and Parshall flume located prior to sand filters. Backwash water from the sand filter returns to the plant and is subtracted from the Parshall flume flow. |
| 002                      | 600 Dry U.S. Tons<br>(2025 Permit Application)            | Anaerobically digested, Dewatered Cake, Class B. Representative grab composite sludge samples shall be collected from the sludge storage dome.                                                                                                                                                                                                              |
| 003                      | N/A<br>Backup Outfall – Not used during prior permit term | Anaerobically digested, Liquid, Class B. Representative sludge samples shall be collected post digestion, prior to the centrifuge. Monitoring is only required when actively using the outfall.                                                                                                                                                             |

## Permit Requirements

### 1 Influent – Monitoring Requirements

#### 1.1 Sample Point Number: 701- INFLUENT

| Monitoring Requirements and Limitations |            |                 |                  |                      |       |
|-----------------------------------------|------------|-----------------|------------------|----------------------|-------|
| Parameter                               | Limit Type | Limit and Units | Sample Frequency | Sample Type          | Notes |
| Flow Rate                               |            | MGD             | Daily            | Continuous           |       |
| BOD5, Total                             |            | mg/L            | 5/Week           | 24-Hr Flow Prop Comp |       |

| Monitoring Requirements and Limitations |            |                 |                  |                      |                                        |
|-----------------------------------------|------------|-----------------|------------------|----------------------|----------------------------------------|
| Parameter                               | Limit Type | Limit and Units | Sample Frequency | Sample Type          | Notes                                  |
| Suspended Solids, Total                 |            | mg/L            | Daily            | 24-Hr Flow Prop Comp |                                        |
| Mercury, Total Recoverable              |            | ng/L            | Quarterly        | 24-Hr Flow Prop Comp | See Mercury Monitoring permit section. |

### Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit.

**Flow:** Sample frequency has changed from continuous to daily for eDMR reporting purposes.

**TSS:** Sample frequency has changed to daily to align with effluent monitoring.

### Explanation of Limits and Monitoring Requirements

Monitoring of influent flow, BOD5 and total suspended solids is required by s. NR 210.04(2), Wis. Adm. Code, to assess wastewater strengths and volumes and to demonstrate the percent removal requirements in s. NR 210.05, Wis. Adm. Code, and in the Standard Requirements section of the permit.

## 2 Inplant - Monitoring and Limitations

### 2.1 Sample Point Number: 105- GEN PLANT (Hg blank)

| Monitoring Requirements and Limitations |            |                 |                  |             |                                        |
|-----------------------------------------|------------|-----------------|------------------|-------------|----------------------------------------|
| Parameter                               | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes                                  |
| Mercury, Total Recoverable              |            | ng/L            | Quarterly        | Blank       | See Mercury Monitoring permit section. |

### Changes from Previous Permit:

In-plant limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

### Explanation of Limits and Monitoring Requirements

**Mercury Field Blank:** Monitoring is included in the permit pursuant to s. NR 106.145, Wis. Adm. Code. Field blanks must meet the requirements under s. NR 106.145(9) and (10), Wis. Adm. Code. The permittee shall collect a mercury field blank for each set of mercury samples (a set of samples may include a combination of influent, effluent or other samples all collected on the same day). Field blanks are required to verify a sample has not been contaminated during collection, transportation or analysis.

## 3 Surface Water - Monitoring and Limitations

### 3.1 Sample Point Number: 001- EFFLUENT

| Monitoring Requirements and Limitations |             |                 |                  |                      |                  |
|-----------------------------------------|-------------|-----------------|------------------|----------------------|------------------|
| Parameter                               | Limit Type  | Limit and Units | Sample Frequency | Sample Type          | Notes            |
| Flow Rate                               |             | MGD             | Daily            | Continuous           |                  |
| BOD5, Total                             | Weekly Avg  | 13 mg/L         | 5/Week           | 24-Hr Flow Prop Comp | November - April |
| BOD5, Total                             | Weekly Avg  | 8.0 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | May - October    |
| BOD5, Total                             | Monthly Avg | 13 mg/L         | 5/Week           | 24-Hr Flow Prop Comp | November - April |
| BOD5, Total                             | Monthly Avg | 8.0 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | May - October    |
| BOD5, Total                             | Weekly Avg  | 390 lbs/day     | 5/Week           | Calculated           | November - April |
| BOD5, Total                             | Weekly Avg  | 246 lbs/day     | 5/Week           | Calculated           | May - October    |
| Suspended Solids, Total                 | Weekly Avg  | 13 mg/L         | Daily            | 24-Hr Flow Prop Comp | November - April |
| Suspended Solids, Total                 | Weekly Avg  | 10 mg/L         | Daily            | 24-Hr Flow Prop Comp | May - October    |
| Suspended Solids, Total                 | Monthly Avg | 13 mg/L         | Daily            | 24-Hr Flow Prop Comp | November - April |
| Suspended Solids, Total                 | Monthly Avg | 10 mg/L         | Daily            | 24-Hr Flow Prop Comp | May - October    |
| Suspended Solids, Total                 | Weekly Avg  | 390 lbs/day     | Daily            | Calculated           | November - April |
| Suspended Solids, Total                 | Weekly Avg  | 309 lbs/day     | Daily            | Calculated           | May - October    |
| pH Field                                | Daily Max   | 9.0 su          | Daily            | Grab                 |                  |
| pH Field                                | Daily Min   | 6.0 su          | Daily            | Grab                 |                  |
| Dissolved Oxygen                        | Daily Min   | 7.0 mg/L        | Daily            | Grab                 |                  |
| Nitrogen, Ammonia (NH3-N) Total         | Daily Max   | 8.7 mg/L        | 5/Week           | 24-Hr Flow Prop Comp |                  |
| Nitrogen, Ammonia (NH3-N) Total         | Weekly Avg  | 8.7 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | October - March  |
| Nitrogen, Ammonia (NH3-N) Total         | Weekly Avg  | 7.0 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | April            |
| Nitrogen, Ammonia (NH3-N) Total         | Weekly Avg  | 3.3 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | May - September  |
| Nitrogen, Ammonia                       | Monthly Avg | 4.4 mg/L        | 5/Week           | 24-Hr Flow           | October - March  |



| Monitoring Requirements and Limitations |                          |                 |                  |                      |                                                                                                                          |
|-----------------------------------------|--------------------------|-----------------|------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------|
| Parameter                               | Limit Type               | Limit and Units | Sample Frequency | Sample Type          | Notes                                                                                                                    |
| (NH3-N) Total                           |                          |                 |                  | Prop Comp            |                                                                                                                          |
| Nitrogen, Ammonia (NH3-N) Total         | Monthly Avg              | 2.7 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | April                                                                                                                    |
| Nitrogen, Ammonia (NH3-N) Total         | Monthly Avg              | 1.3 mg/L        | 5/Week           | 24-Hr Flow Prop Comp | May - September                                                                                                          |
| E. coli                                 | Geometric Mean - Monthly | 126 #/100 ml    | 2/Week           | Grab                 | May - September                                                                                                          |
| E. coli                                 | % Exceedance             | 10 Percent      | Monthly          | Calculated           | May - September. See the E. coli Percent Limit permit section. Enter the result in the DMR on the last day of the month. |
| Chlorine, Total Residual                | Daily Max                | 24 ug/L         | Daily            | Grab                 |                                                                                                                          |
| Chlorine, Total Residual                | Weekly Avg               | 7.9 ug/L        | Daily            | Grab                 |                                                                                                                          |
| Chlorine, Total Residual                | Monthly Avg              | 7.9 ug/L        | Daily            | Grab                 |                                                                                                                          |
| Chloride                                |                          | mg/L            | Monthly          | 24-Hr Flow Prop Comp | Monitoring in 2030.                                                                                                      |
| Mercury, Total Recoverable              |                          | ng/L            | Quarterly        | Grab                 | See Mercury Monitoring permit section.                                                                                   |
| PFOS                                    |                          | ng/L            | 1/ 2 Months      | Grab                 | Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.                                         |
| PFOA                                    |                          | ng/L            | 1/ 2 Months      | Grab                 | Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.                                         |
| Phosphorus, Total                       | Monthly Avg              | 0.88 mg/L       | Daily            | 24-Hr Flow Prop Comp | Limit effective throughout the permit term, as it represents a minimum control level.                                    |
| Phosphorus, Total                       |                          | lbs/day         | Daily            | Calculated           | Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) permit                                |

| Monitoring Requirements and Limitations |              |                 |                  |                      |                                                                                                                                                                                                                                      |
|-----------------------------------------|--------------|-----------------|------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter                               | Limit Type   | Limit and Units | Sample Frequency | Sample Type          | Notes                                                                                                                                                                                                                                |
|                                         |              |                 |                  |                      | section.                                                                                                                                                                                                                             |
| WQT Credits Used (TP)                   |              | lbs/month       | Monthly          | Calculated           | Report WQT TP Credits used per month using Equation 2c. in the Water Quality Trading (WQT) permit section. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.                             |
| WQT Computed Compliance (TP)            | Monthly Avg  | 0.28 mg/L       | Monthly          | Calculated           | Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) permit section. Value entered on the last day of the month.                                                                        |
| WQT Computed Compliance (TP)            | 6-Month Avg  | 0.092 mg/L      | Monthly          | Calculated           | Compliance with the six-month average limit is evaluated at the end of the six-month period on June 30 and Dec 31.                                                                                                                   |
| WQT Computed Compliance (TP)            | 6-Month Avg  | 2.8 lbs/day     | Monthly          | Calculated           | Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) permit section. Compliance with the six-month average limit is evaluated at the end of the six-month period on June 30 and Dec 31. |
| WQT Credits Used (TP)                   | Annual Total | 340.03 lbs/yr   | Annual           | Calculated           | The sum of total monthly credits used may not exceed values listed in Table 2 in the permit.                                                                                                                                         |
| Temperature Maximum                     |              | deg F           | Daily            | Continuous           |                                                                                                                                                                                                                                      |
| Nitrogen, Total Kjeldahl                |              | mg/L            | Quarterly        | 24-Hr Flow Prop Comp |                                                                                                                                                                                                                                      |
| Nitrogen, Nitrite + Nitrate Total       |              | mg/L            | Quarterly        | 24-Hr Flow Prop Comp |                                                                                                                                                                                                                                      |

| Monitoring Requirements and Limitations |            |                 |                   |                      |                                                                                                                                    |
|-----------------------------------------|------------|-----------------|-------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Parameter                               | Limit Type | Limit and Units | Sample Frequency  | Sample Type          | Notes                                                                                                                              |
| Nitrogen, Total                         |            | mg/L            | Quarterly         | Calculated           | Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen. |
| Acute WET                               |            | TUa             | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See Whole Effluent Toxicity (WET) Testing permit section.                                                                          |
| Chronic WET                             |            | TUc             | See Listed Qtr(s) | 24-Hr Flow Prop Comp | See Whole Effluent Toxicity (WET) Testing permit section.                                                                          |

## Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit.

**Flow:** Sample frequency has changed from continuous to daily for eDMR reporting purposes.

**BOD:** Monthly average concentration limits and weekly average concentration and mass limits have been updated.

**TSS:** Monthly average concentration limits and weekly average concentration and mass limits have been updated. Sample frequency has changed to daily.

**pH and DO:** Sample frequency has changed to daily. The DO daily minimum limit has been updated.

**Ammonia:** The weekly average limit effective October – March has been updated.

**Chlorine:** Daily maximum, and weekly and monthly average limits have been updated.

**PFOS and PFOA:** Monitoring once every two months is included in the permit in accordance with s. NR 106.98(2)(b), Wis. Adm. Code.

**Phosphorus:** Sample frequency has changed to daily. WQT Credits Used, Annual Total limit has been updated.

**Temperature:** Monitoring throughout the permit term at a sample frequency of daily has been included in the permit.

## Explanation of Limits and Monitoring Requirements

Detailed discussions of limits and monitoring requirements can be found in the attached water quality-based effluent limits (WQBEL) memo for the Monroe Wastewater Treatment Facility dated July 14, 2026, prepared by Nicole Krueger, and used for this reissuance.

**E. coli:** Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying E. coli WPDES permit implementation procedures became effective May 1, 2020.

Section NR 102.04(5)(a), Wis. Adm. Code, states that all surface waters shall be suitable for recreational use and meet the E. coli criteria established to protect this use.

**Bis(2-Ethylhexyl) phthalate:** Monitoring once during the permit term was recommended in the WQBEL memo for this parameter. The permit does not include monitoring for this parameter because the permittee had resampled for this parameter prior to reissuance of this permit, and the result was non-detect. The permittee will be required to sample as

part of the permit reissuance application. Appropriately sensitive approved analytical methods are required such that the limit of detection is less than or equal to one-fifth of the most restrictive calculated limits to better determine the need for limits at the next permit reissuance per s. NR 200.027(1), Wis. Adm. Code. For bis(2-ethylhexyl)phthalate the limit of detection is less than or equal to 0.94 µg/L.

**PFOS and PFOA:** NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for major municipal dischargers with an average flow rate greater than 1 MGD but less than 5 MGD, at a minimum sample effluent once every two-months for PFOS and PFOA pursuant s. NR 106.98(2)(b), Wis. Adm. Code.

A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

**Phosphorus:** Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. Currently in NR 217 Wis. Adm. Code there are two methods used to determine if a phosphorus limit is needed: a technology based effluent limit (TBEL) and a water quality based effluent limit (WQBEL). Based on the size and classification of the stream, the water quality criteria for Honey Creek is 75 ug/L. In this case, the WQBEL is 0.28 mg/L (monthly average), 0.092 mg/L & 2.8 lbs/day (6-month average). For the reasons explained in the April 30, 2012 paper entitled ‘Justification for Use of Monthly, Growing Season and Annual Average Periods for Expression of WPDES Permit Limits for Phosphorus Discharges in Wisconsin’, WDNR has determined that it is impracticable to express the phosphorus WQBEL for the permittee as a maximum daily, weekly or monthly value. The final effluent limit for phosphorus is expressed as a six-month average. It is also expressed as a monthly average equal to three times the derived WQBEL (which equates to 0.3 mg/L). This final effluent limit was derived from and complies with the applicable water quality criterion. A phosphorus concentration limit is necessary to prevent backsliding during the term of the permit. The minimum control level (MCL) limit of 0.88 mg/L will be retained in the permit.

The wastewater treatment facility is not able to meet the WQBEL. This permit authorizes the use of trading as a tool to demonstrate compliance with the phosphorus WQBELs. The permittee has entered into a credit purchase agreement with the Water Quality Trading Clearinghouse pursuant to s. 283.84(1)(f), Wis. Stats. This permit includes terms and conditions related to the Credit Verification Package CVP-2025-02 submitted by the Water Quality Trading Clearinghouse and the Water Quality Trading Plan (WQT-2026-0014) or approved amendments thereof. The total ‘WQT TP Credits’ available are designated in the approved WQT Plan and credit purchase agreement between the permittee and Clearinghouse. The credit generators are implementing a variety of management practices including streambank stabilization and crop land improvements. The Credit Verification Package proposes the generation of 192 lbs/yr of phosphorus credits and the WQT Plan proposes the generation of 148.03 lbs/yr of phosphorus credits. The City of Monroe implements the Credit Verification Package and WQT Plan, together, generating 340.03 lbs/yr of phosphorus credit for the next five years.

Additional WQT subsections in the permit provide information on compliance determinations, annual reporting and re-opening of the permit.

**Total Nitrogen Monitoring:** The department has included effluent monitoring for Total Nitrogen through the authority under s. 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. More information on the justification

to include total nitrogen monitoring in wastewater permits can be found in the “Guidance for Total Nitrogen Monitoring in Wastewater Permits” dated October 1, 2019.

**Monitoring Frequencies:** The Monitoring Frequencies for Individual Wastewater Permits guidance (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The minimum monitoring frequency in guidance is appropriate for those parameters in which the facility has minimal variability, no effluent limit violations, and good compliance history. The sample frequency for pH and DO is daily to better capture effluent quality of these operational parameters. Sample frequency will be evaluated at permit reissuance.

**Expression of Limits:** In accordance with the federal regulation 40 CFR 122.45(d) and s. NR 205.065, Wis. Adm. Code, limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable. Minor changes have been made to BOD, TSS, Ammonia, and Chlorine.

## 4 Land Application - Monitoring and Limitations

| Municipal Sludge Description                                                                                                                                                                                                                                       |                       |                              |                           |                           |                  |                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|---------------------------|---------------------------|------------------|----------------------------------------|
| Sample Point                                                                                                                                                                                                                                                       | Sludge Class (A or B) | Sludge Type (Liquid or Cake) | Pathogen Reduction Method | Vector Attraction Method  | Reuse Option     | Amount Reused/Disposed (Dry Tons/Year) |
| 002                                                                                                                                                                                                                                                                | B                     | Cake                         | Anaerobic Digestion       | Volatile Solids Reduction | Land Application | 600                                    |
| 003                                                                                                                                                                                                                                                                | B                     | Liquid                       | Anaerobic Digestion       | Volatile Solids Reduction | Land Application | 0                                      |
| Does sludge management demonstrate compliance? <b>Yes</b>                                                                                                                                                                                                          |                       |                              |                           |                           |                  |                                        |
| Is additional sludge storage required? <b>No</b>                                                                                                                                                                                                                   |                       |                              |                           |                           |                  |                                        |
| Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? <b>Yes</b><br>If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in land applying sludge from this facility.        |                       |                              |                           |                           |                  |                                        |
| Is a priority pollutant scan required? <b>No, design flow less than 5 MGD</b><br>Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD. |                       |                              |                           |                           |                  |                                        |

### 4.1 Sample Point Number: 002- SLUDGE and 003- LIQUID SLUDGE

| Monitoring Requirements and Limitations |              |                 |                  |             |       |
|-----------------------------------------|--------------|-----------------|------------------|-------------|-------|
| Parameter                               | Limit Type   | Limit and Units | Sample Frequency | Sample Type | Notes |
| Solids, Total                           |              | Percent         | Quarterly        | Composite   |       |
| Arsenic Dry Wt                          | Ceiling      | 75 mg/kg        | Quarterly        | Composite   |       |
| Arsenic Dry Wt                          | High Quality | 41 mg/kg        | Quarterly        | Composite   |       |

| <b>Monitoring Requirements and Limitations</b> |                   |                        |                         |                    |                                                                                 |
|------------------------------------------------|-------------------|------------------------|-------------------------|--------------------|---------------------------------------------------------------------------------|
| <b>Parameter</b>                               | <b>Limit Type</b> | <b>Limit and Units</b> | <b>Sample Frequency</b> | <b>Sample Type</b> | <b>Notes</b>                                                                    |
| Cadmium Dry Wt                                 | Ceiling           | 85 mg/kg               | Quarterly               | Composite          |                                                                                 |
| Cadmium Dry Wt                                 | High Quality      | 39 mg/kg               | Quarterly               | Composite          |                                                                                 |
| Copper Dry Wt                                  | Ceiling           | 4,300 mg/kg            | Quarterly               | Composite          |                                                                                 |
| Copper Dry Wt                                  | High Quality      | 1,500 mg/kg            | Quarterly               | Composite          |                                                                                 |
| Lead Dry Wt                                    | Ceiling           | 840 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Lead Dry Wt                                    | High Quality      | 300 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Mercury Dry Wt                                 | Ceiling           | 57 mg/kg               | Quarterly               | Composite          |                                                                                 |
| Mercury Dry Wt                                 | High Quality      | 17 mg/kg               | Quarterly               | Composite          |                                                                                 |
| Molybdenum Dry Wt                              | Ceiling           | 75 mg/kg               | Quarterly               | Composite          |                                                                                 |
| Nickel Dry Wt                                  | Ceiling           | 420 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Nickel Dry Wt                                  | High Quality      | 420 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Selenium Dry Wt                                | Ceiling           | 100 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Selenium Dry Wt                                | High Quality      | 100 mg/kg              | Quarterly               | Composite          |                                                                                 |
| Zinc Dry Wt                                    | Ceiling           | 7,500 mg/kg            | Quarterly               | Composite          |                                                                                 |
| Zinc Dry Wt                                    | High Quality      | 2,800 mg/kg            | Quarterly               | Composite          |                                                                                 |
| Nitrogen, Total Kjeldahl                       |                   | Percent                | Quarterly               | Composite          |                                                                                 |
| Nitrogen, Ammonium (NH <sub>4</sub> -N) Total  |                   | Percent                | Quarterly               | Composite          |                                                                                 |
| Phosphorus, Total                              |                   | Percent                | Quarterly               | Composite          |                                                                                 |
| Phosphorus, Water Extractable                  |                   | % of Tot P             | Quarterly               | Composite          |                                                                                 |
| Potassium, Total Recoverable                   |                   | Percent                | Quarterly               | Composite          |                                                                                 |
| Radium 226 Dry Wt                              |                   | pCi/g                  | Annual                  | Composite          |                                                                                 |
| PCB Total Dry Wt                               | Ceiling           | 50 mg/kg               | Once                    | Composite          | Once in 2030                                                                    |
| PCB Total Dry Wt                               | High Quality      | 10 mg/kg               | Once                    | Composite          | Once in 2030                                                                    |
| PFOA + PFOS                                    |                   | ug/kg                  | Annual                  | Calculated         | Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information. |
| PFAS Dry Wt                                    |                   |                        | Annual                  | Grab               | Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR              |

| Monitoring Requirements and Limitations |            |                 |                  |             |                                                           |
|-----------------------------------------|------------|-----------------|------------------|-------------|-----------------------------------------------------------|
| Parameter                               | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes                                                     |
|                                         |            |                 |                  |             | PFAS List. See PFAS Permit Sections for more information. |

### Changes from Previous Permit:

Sludge limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit.

**PCB:** The year in which to monitor for PCB is 2030.

**PFAS:** Monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

### Explanation of Limits and Monitoring Requirements

Requirements for disposal, including land application of municipal sludge, are determined in accordance with ch. NR 204, Wis. Adm. Code. Ceiling and high-quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k). Radium requirements are addressed in s. NR 204.07(3)(n).

**PFAS:** The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS” should be followed.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

## 5 Schedules

### 5.1 PFOS/PFOA Minimization Plan Determination of Need

| Required Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Due Date   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <p><b>Report on Effluent Discharge:</b> Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.</p>                                                                                                                                                                                    | 09/30/2027 |
| <p><b>Report on Effluent Discharge and Evaluation of Need:</b> Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan.</p> <p>This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.</p> <p>The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA</p> | 09/30/2028 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>minimization plan.</p> <p>If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued.</p> <p>If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.</p> |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

## Explanation of Schedule

As stated above, ch. NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Section NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

## 5.2 Water Quality Trading (WQT) Annual Report

| Required Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Due Date   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <p><b>Annual WQT Report:</b> Submit an annual WQT report that shall cover the first year of the permit term. The WQT Report shall include:</p> <p>The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance;</p> <p>The source of each month's pollutant reduction credits by identifying the approved water quality trading plan that details the source;</p> <p>Results of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and</p> <p>Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.</p> | 01/31/2027 |
| <b>Annual WQT Report #2:</b> Submit an annual WQT report that shall cover the previous year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 01/31/2028 |
| <b>Annual WQT Report #3:</b> Submit an annual WQT report that shall cover the previous year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 01/31/2029 |
| <b>Annual WQT Report #4:</b> Submit an annual WQT report that shall cover the previous year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 01/31/2030 |
| <b>Annual WQT Report #5:</b> Submit the 5th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 01/31/2031 |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| a revised WQT plan including a demonstration of credit need, compliance record of the existing WQT, and any additional practices needed to maintain compliance over time.                                                                                                                                                                                                                                                                                                                                                               |  |
| <b>Annual WQT Report Required After Permit Expiration:</b> In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year. |  |

## Explanation of Schedule

Reports are required that include the following information:

- Verification that site inspections occurred;
- Results of site inspection findings;
- Identification of noncompliance or failure to implement any terms or conditions of the permit or credit verification package that have not been reported in discharge monitoring reports;
- Any applicable notices of termination or management practice registration; and
- A summary of credits used each month over the calendar year

## 5.3 Land Application Management Plan

A management plan is required for the land application system.

| Required Action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Due Date   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>Land Application Management Plan Submittal:</b> Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code, by the Due Date. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; and 10) include any other pertinent information. Once approved, all landspreading activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes. | 08/31/2029 |

## Explanation of Schedule

An up-to-date Land Application Management Plan is required that documents how the permittee will manage the land application of biosolids consistent with ch. NR 204, Wis. Adm. Code.

## Attachments

Water Quality Based Effluent Limits dated July 14, 2026

WQT Plan Conditional Approval Letter dated June 09, 2026

Water Quality Trading Plan dated May 2026

CVP DNR Verification Letter dated May 16, 2025

Credit Verification Package dated May 14, 2025

## **Justification Of Any Waivers From Permit Application Requirements**

No waivers requested or granted as part of this permit reissuance.

**Prepared By:** BetsyJo Howe, Wastewater Specialist

**Date:** 8/5/2026

# CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 07/14/2026

TO: BetsyJo Howe – SER

FROM: Nicole Krueger – SER *Nicole Krueger*

SUBJECT: Water Quality-Based Effluent Limitations for Monroe Wastewater Treatment Facility  
WPDES Permit No. WI-0020362-10

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable) for the discharge from Monroe Wastewater Treatment Facility in Green County. This municipal wastewater treatment facility (WWTF) discharges to the Honey Creek, located in the Honey & Richland Creek Watershed in the Sugar-Pecatonica River Basin.

Based on our review, the following recommendations are made on a chemical-specific basis at Outfall 001:

| Parameter                  | Daily Maximum | Daily Minimum | Weekly Average          | Monthly Average                | Six-Month Average         | Footnotes |
|----------------------------|---------------|---------------|-------------------------|--------------------------------|---------------------------|-----------|
| Flow Rate                  |               |               |                         |                                |                           | 1,2       |
| BOD <sub>5</sub>           |               |               |                         |                                |                           | 3         |
| May – October              |               |               | 8.0 mg/L<br>246 lbs/day | <b>8.0 mg/L</b>                |                           |           |
| November – April           |               |               | 13 mg/L<br>390 lbs/day  | <b>13 mg/L</b>                 |                           |           |
| TSS                        |               |               |                         |                                |                           | 3         |
| May – October              |               |               | 10 mg/L<br>309 lbs/day  | <b>10 mg/L</b>                 |                           |           |
| November – April           |               |               | 13 mg/L<br>390 lbs/day  | <b>13 mg/L</b>                 |                           |           |
| pH                         | 9.0 s.u.      | 6.0 s.u.      |                         |                                |                           | 1         |
| Dissolved Oxygen           |               | 7.0 mg/L      |                         |                                |                           |           |
| Ammonia Nitrogen           |               |               |                         |                                |                           | 3         |
| April                      | 8.7 mg/L      |               | 7.0 mg/L                | 2.7 mg/L                       |                           |           |
| May – September            | 8.7 mg/L      |               | 3.3 mg/L                | 1.3 mg/L                       |                           |           |
| October – March            | 8.7 mg/L      |               | <b>8.7 mg/L</b>         | 4.4 mg/L                       |                           |           |
| Bacteria                   |               |               |                         |                                |                           | 1,4       |
| <i>E. coli</i>             |               |               |                         | 126 #/100 mL<br>geometric mean |                           |           |
| Residual Chlorine          | 24 µg/L       |               | 7.9 µg/L                | <b>7.9 µg/L</b>                |                           | 3         |
| Chloride                   |               |               |                         |                                |                           | 1,5       |
| Mercury                    |               |               |                         |                                |                           | 1,2       |
| Bis(2-ethylhexyl)phthalate |               |               |                         |                                |                           | 6         |
| PFOS and PFOA              |               |               |                         |                                |                           | 7         |
| Phosphorus                 |               |               |                         |                                |                           | 1,8       |
| MCL                        |               |               |                         | 0.88 mg/L                      |                           |           |
| NR 217.13 WQBEL            |               |               |                         | 0.28 mg/L                      | 0.092 mg/L<br>2.8 lbs/day |           |

| Parameter                                | Daily Maximum | Daily Minimum | Weekly Average | Monthly Average | Six-Month Average | Footnotes |
|------------------------------------------|---------------|---------------|----------------|-----------------|-------------------|-----------|
| Temperature                              |               |               |                |                 |                   | 1,2       |
| TKN, Nitrite+Nitrate, and Total Nitrogen |               |               |                |                 |                   | 1,9       |
| Acute WET                                |               |               |                |                 |                   | 10,11     |
| Chronic WET                              |               |               |                |                 |                   | 10,11     |

Footnotes:

1. No changes from the current permit.
2. Monitoring only.
3. Limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
4. Bacteria limits apply during the disinfection season of May through September. Additional limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
5. Monitoring at a frequency to ensure that 11 samples are available at the next permit issuance.
6. Monitoring once with an LOD more stringent than 0.94 µg/L unless Monroe resamples prior to permit reissuance.
7. PFOS and PFOA monitoring is recommended at a frequency of once every two months in accordance with s. NR 106.98(2), Wis. Adm. Code.
8. Monroe is complying with the ch. NR 217, Wis. Adm. Code, WQBELs through water quality trading. The end of pipe minimum control level (MCL) of 0.88 mg/L is recommended to continue in the reissued permit.
9. As recommended in the Department's October 1, 2019 Guidance for Total Nitrogen Monitoring in Wastewater Permits, quarterly total nitrogen monitoring is recommended for all municipal major permittees. Sections 283.37(5) and 283.55(1)(e), Wis. Stats, and ss. NR 200.065(1)(g) and NR 200.065(1)(h), Wis. Adm. Codes, provide the authority to request this monitoring during the permit term. Total Nitrogen is the sum of nitrate (NO<sub>3</sub>), nitrite (NO<sub>2</sub>), and total Kjeldahl nitrogen (TKN) (all expressed as N).
10. Annual acute and chronic WET testing is recommended. The Instream Waste Concentration (IWC) to assess chronic test results is 93%. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), chronic testing shall be performed using a dilution series of 100%, 75%, 50%, 25% & 12.5%. The primary control water used in chronic WET tests conducted on Outfall 001 shall be a grab sample collected from Honey Creek, upstream of the discharge.
11. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge. Testing should continue after the permit expiration date (until the permit is reissued).

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Nicole Krueger at [Nicole.Krueger@wisconsin.gov](mailto:Nicole.Krueger@wisconsin.gov) or Diane Figiel at [Diane.Figiel@wisconsin.gov](mailto:Diane.Figiel@wisconsin.gov).

Attachments (4) – Narrative, Outfall Map, 2007 Ammonia Limits Calculations, & Thermal Table

PREPARED BY: Nicole Krueger, Water Resources Engineer – SER

E-cc: Kenzie Ostien, Wastewater Engineer – SCR  
Lisa Creegan, Regional Wastewater Supervisor – SCR  
Diane Figiel, Water Resources Engineer – WY/3

Nate Willis, Wastewater Engineer – WY/3

Attachment #1  
**Water Quality-Based Effluent Limitations for  
Monroe Wastewater Treatment Facility**

**WPDES Permit No. WI-0020362-10**

Prepared by: Nicole Krueger

**PART 1 – BACKGROUND INFORMATION**

**Facility Description**

The City of Monroe operates a wastewater treatment facility providing treatment for domestic, commercial, and industrial wastewater. The facility serves the community of Monroe and receives industrial and commercial discharge from RRD Forms, Roth Kase Cheese, Minhas Creek Brewery, Wisconsin Cheese Group, Badger State Ethanol, Actus Nutrition, International Ingredients, The Swiss Colony Bakery, and La Vaquita.

The facility is an advanced activated sludge treatment plant consisting of a headworks, grit removal, primary clarification, diversion/equalization tank with an odor control biolfilter, activated sludge and biological and chemical phosphorus removal, final clarification, effluent sand filtration, chlorine disinfection, and dechlorination. Post aeration is accomplished via a cascade aerator. Sludge is thickened with dissolved air flotation (DAF), anaerobically digested, dewatered with a centrifuge, and stored as a cake in a storage building. The facility is designed to treat an annual average daily flow rate of 3.7 MGD.

Attachment #2 is a map of the area showing the approximate location of Outfall 001.

**Existing Permit Limitations**

The current permit, which expired on December 31, 2025, includes the following effluent limitations and monitoring requirements.

| Parameter                         | Daily<br>Maximum | Daily<br>Minimum | Weekly<br>Average      | Monthly<br>Average | Six-Month<br>Average | Footnotes |
|-----------------------------------|------------------|------------------|------------------------|--------------------|----------------------|-----------|
| Flow Rate                         |                  |                  |                        |                    |                      | 1         |
| BOD <sub>5</sub><br>May – October |                  |                  | 10 mg/L<br>309 lbs/day | <b>10 mg/L</b>     |                      | 2         |
| November – April                  |                  |                  | 20 mg/L<br>617 lbs/day | <b>20 mg/L</b>     |                      |           |
| TSS<br>May – October              |                  |                  | 10 mg/L<br>309 lbs/day | <b>10 mg/L</b>     |                      | 2         |
| November – April                  |                  |                  | 20 mg/L<br>617 lbs/day | <b>20 mg/L</b>     |                      |           |
| pH                                | 9.0 s.u.         | 6.0 s.u.         |                        |                    |                      | 3         |
| Dissolved Oxygen                  |                  | 6.0 mg/L         |                        |                    |                      |           |
| Ammonia Nitrogen<br>April         | 8.7 mg/L         |                  | 7.0 mg/L               | 2.7 mg/L           |                      |           |
| May – September                   | 8.7 mg/L         |                  | 3.3 mg/L               | 1.3 mg/L           |                      |           |
| October – March                   | 8.7 mg/L         |                  | 11 mg/L                | 4.4 mg/L           |                      |           |

Attachment #1

| Parameter                                      | Daily Maximum | Daily Minimum | Weekly Average | Monthly Average               | Six-Month Average         | Footnotes |
|------------------------------------------------|---------------|---------------|----------------|-------------------------------|---------------------------|-----------|
| <i>E. coli</i><br>May – September              |               |               |                | 126#/100 mL<br>geometric mean |                           | 4         |
| Residual Chlorine                              | 38 µg/L       |               | 9.6 µg/L       | <b>9.6 µg/L</b>               |                           | 2         |
| Chloride                                       |               |               |                |                               |                           | 1         |
| Mercury                                        |               |               |                |                               |                           | 1         |
| Phosphorus<br>MCL<br>s. NR 217.13              |               |               |                | 0.88 mg/L<br>0.28 mg/L        | 0.092 mg/L<br>2.8 lbs/day | 5         |
| Temperature                                    |               |               |                |                               |                           | 1         |
| Acute WET                                      |               |               |                |                               |                           | 6         |
| Chronic WET                                    |               |               |                |                               |                           | 6         |
| TKN,<br>Nitrite+Nitrate, and<br>Total Nitrogen |               |               |                |                               |                           | 1         |

Footnotes:

1. Monitoring only.
2. Limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, are included in bold.
3. These limitations are not being evaluated as part of this review. Because the water quality criteria (WQC), reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.
4. The *E. coli* limits became effective 05/01/2025. Additional limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
5. Monroe is complying with the s. NR 217.13, Wis. Adm. Code WQBELs through water quality trading. The monthly average limit of 0.88 mg/L acts as the minimum control level for the end of pipe discharge.
6. Annual acute and chronic WET testing is required. The IWC for chronic WET was 90%.

**Receiving Water Information**

- Name: Honey Creek
- Waterbody Identification Code (WBIC): 892300
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply and recreational use.
- Low flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q<sub>10</sub> and 7-Q<sub>2</sub> values are from USGS at SW1/4E1/4 sec. 33, T. 2M., R. 7E., in Green County where Outfall 001 is located.

7-Q<sub>10</sub> = 1.8 cubic feet per second (cfs)

7-Q<sub>2</sub> = 2.0 cfs

90-Q<sub>10</sub> = 1.7 cfs

Harmonic Mean Flow = 2.9 cfs using a drainage area of 4.74 mi<sup>2</sup>

The Harmonic Mean has been estimated based on average flow and the 7-Q<sub>10</sub> using an equation from U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991, EPA/505/2-90-001, pgs. 88-89).

Attachment #1

- Hardness = 415 mg/L as CaCO<sub>3</sub>. This value represents the geometric mean of data from chronic WET testing from 08/16/2022 – 05/13/2025.
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: 25%
- Source of background concentration data: Metals data from Richland Creek (Station IDs 10022363, 10022365, 10012774) in Green County and chloride data from the Pecatonica River (Station ID 233002) is used for this evaluation because there is no data available for Honey Creek. Richland Creek is within the same ecological landscape, so ambient water quality characteristics are expected to be similar. The numerical values are shown in the tables below. If no data is available, the background concentration is assumed to be negligible and a value of zero is used in the computations. Background data for calculating effluent limitations for ammonia nitrogen are described later.
- Multiple dischargers: Badger State Ethanol LLC discharges approximately 1000 feet upstream of Monroe to Honey Creek; however, it is not in the immediate vicinity, and the mixing zones do not overlap. Therefore, it does not impact this evaluation.
- Impaired water status: Honey Creek is 303(d) listed as impaired for total phosphorus and total suspended solids.

**Effluent Information**

- Design flow rate(s):  
Annual average = 3.7 million gallons per day (MGD)  
For reference, the actual average flow from 01/01/2021 – 04/30/2026 was 1.71 MGD.
- Hardness = 277 mg/L as CaCO<sub>3</sub>. This value represents the geometric mean of four samples collected in August and September 2024 which were reported on the permit application.
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Wastewater source: Domestic wastewater with 9 industrial contributors.
- Water supply: Municipality waterworks and private wells.
- Additives: Monroe has included 4 additives in the permit application that have the potential to be present in Outfall 001. These additives are listed below:
  - Kemira Water Solutions: Ferric chloride – struvite and odor control and phosphorus removal
  - Polydyne Inc.: Clarifloc C-6296: Sodium hypochlorite – Coagulant
  - Chemtrec: Sodium Hypochlorite – Disinfection
  - PVS Solution: Sodium bisulfite – Dechlorination
  - An additive review is not necessary for any additives where either the toxicity is well documented and understood, can be controlled by a WQBEL, or are not believed to be present in the discharge. This is the case upon review of the listed additives. Therefore, an additive review is not needed at this time.
- Effluent characterization: This facility is categorized as a major municipal, so the permit application required effluent sample analyses for all the “priority pollutants” except for the Dioxins and Furans as specified in s. NR 200.065, Table 1, Wis. Adm. Code. The permit-required monitoring for chloride, mercury, ammonia, phosphorus, and chlorine is used in this evaluation.
- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2, in the column titled “MEAN EFFL. CONC.”. Otherwise, substances with multiple effluent data are shown in the tables below or in their respective parts in this evaluation.



## Attachment #1

**Copper Effluent Data**

| Sample Date        | Copper (µg/L) | Sample Date | Copper (µg/L) | Sample Date | Copper (µg/L) |
|--------------------|---------------|-------------|---------------|-------------|---------------|
| 08/28/2024         | <3.2          | 09/09/2024  | <3.2          | 09/21/2024  | 6.7           |
| 08/31/2024         | <3.2          | 09/12/2024  | <3.2          | 09/24/2024  | <3.2          |
| 09/03/2024         | <3.2          | 09/15/2024  | <3.2          | 09/27/2024  | 4.3           |
| 09/06/2024         | <3.2          | 09/18/2024  | <3.2          |             |               |
| Average = 1.0 µg/L |               |             |               |             |               |

“<” means that the pollutant was not detected at the indicated limit of detection. The mean concentration was calculated using zero in place of the non-detected results.

**Chloride Effluent Data**

| Sample Date                      | Chloride (mg/L) | Sample Date | Chloride (mg/L) | Sample Date | Chloride (mg/L) |
|----------------------------------|-----------------|-------------|-----------------|-------------|-----------------|
| 01/17/2023                       | 274             | 05/05/2023  | 296             | 09/19/2023  | 404             |
| 02/24/2023                       | 376             | 06/19/2023  | 284             | 10/10/2023  | 313             |
| 03/07/2023                       | 294             | 07/31/2023  | 286             | 11/07/2023  | 272             |
| 04/11/2023                       | 304             | 08/22/2023  | 304             | 12/05/2023  | 308             |
| 1-day P <sub>99</sub> = 415 mg/L |                 |             |                 |             |                 |
| 4-day P <sub>99</sub> = 359 mg/L |                 |             |                 |             |                 |

**Mercury Effluent Data**

|                        | Mercury (ng/L) |
|------------------------|----------------|
| 1-day P <sub>99</sub>  | 0.58           |
| 4-day P <sub>99</sub>  | 0.43           |
| 30-day P <sub>99</sub> | 0.32           |
| Mean*                  | 0.27           |
| Std                    | 0.10           |
| Sample size            | 22             |
| Range                  | <0.12 - 0.61   |

“<” means that the pollutant was not detected at the indicated limit of detection. The mean concentration was calculated using zero in place of the non-detected results.

The following table presents the average concentrations and loadings at Outfall 001 from 01/01/2021 – 04/30/2026 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

**Parameters with Effluent Limits**

|                   | Average Measurement | Average Mass Discharged |
|-------------------|---------------------|-------------------------|
| BOD <sub>5</sub>  | 3.04 mg/L*          | 45.4 lbs/day            |
| TSS               | 2.08 mg/L*          | 28.0 lbs/day            |
| pH field          | 7.65 s.u.           |                         |
| Dissolved Oxygen  | 9.3 mg/L            |                         |
| Ammonia Nitrogen  | 0.30 mg/L*          |                         |
| <i>E. coli</i>    | 56.6 #/100 mL       |                         |
| Phosphorus        | 0.30 mg/L           |                         |
| Residual chlorine | 2.87 µg/L*          |                         |

\*Results below the limit of detection (LOD) were included as zeroes in calculation of average.

## PART 2 - BOD<sub>5</sub> and TSS

In establishing BOD<sub>5</sub> (Biochemical Oxygen Demand) limitations, the primary intent is to prevent a lowering of dissolved oxygen levels in the receiving water below water quality standards as specified in ss. NR 102.04(4)(a) and (b). The 26-lb method is the most frequently used approach for calculating BOD<sub>5</sub> limits when resources are not available to develop a detailed water quality model. This simplified model was developed in the 1970's by the Wisconsin Committee on Water Pollution on the Fox, Wisconsin, Oconto, and Flambeau Rivers. Further studies throughout the 1970's proved this model to be relatively accurate. The model has since then been used by the Department on many occasions when resources are not available to perform a site-specific model. The "26" value stems from the following equation:

$$\frac{26 \text{ lbs/day}}{\text{ft}^3/\text{sec}} * \frac{1 \text{ day}}{86,400 \text{ sec}} * \frac{454,000 \text{ mg}}{\text{lbs}} * \frac{1 \text{ ft}^3}{28.32 \text{ L}} = 4.8 = 2.4 * 2 \text{ mg/L}$$

The 4.8 has been calculated by taking 2.4 which is the number one receives when converting 26 lbs of BOD/day/cfs into mg/L, multiplied by 2.0 which is the change in the DO level. A typical background DO level for Wisconsin waters is 7 mg/L, so a 2 mg/L decrease is allowed in order to meet the 5 mg/L standard for warm water streams. The above relationship is temperature dependent and an appropriate temperature correction factor is applied. The 26-lb method is based on a typical 24°C summer value for warm water streams. Adjustments for temperature are made using the following equation:

$$k_t = k_{24} (0.967^{(T-24)})$$

Where  $k_{24}$  = 26 lbs of BOD/day/cfs

Calculations based on Full Assimilative Capacity at 7Q10 Conditions:

$$Limitation(mg / L) = 2.4(DO_{stream} - DO_{std}) \left( \frac{(7Q_{10} + Q_{eff})}{Q_{eff}} \right) (0.967^{(T-24)})$$

Where:

$Q_{eff}$  = effluent design flow = 3.7 MGD

$DO_{stream}$  = background dissolved oxygen = 7 mg/L

$DO_{std}$  = dissolved oxygen criteria from s. NR 102.04(4) = 5.0 mg/L

$7Q_{10}$  = 1.8 cfs

T = Receiving water temperature from s. NR 102.25

**BOD Effluent Limitations**

| (26 LB Method)                 |                         | May - October | November – April |
|--------------------------------|-------------------------|---------------|------------------|
| <b>Background Information:</b> | 7-Q <sub>10</sub> (cfs) | 1.8           | 1.8              |
|                                | River Temperature (°C)  | 17            | 3.3              |
| <b>Dissolved Oxygen mg/L:</b>  | Effluent                | 7.0           | 7.0              |
|                                | Background              | 7.0           | 7.0              |
|                                | Mix DO                  | 7.0           | 7.0              |
|                                | Criteria                | 5.0           | 5.0              |

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| (26 LB Method)                                     |                             | May - October | November – April |
|----------------------------------------------------|-----------------------------|---------------|------------------|
| <b>Weekly Ave<br/>BOD Effluent<br/>Limitations</b> | Concentration Limits (mg/L) | <b>8.0</b>    | <b>13</b>        |
|                                                    | Mass (lbs/day)              | <b>246</b>    | <b>390</b>       |

The TSS limitations are primarily given to maintain or improve water clarity and are not water quality based. However, the Department typically does not require TSS limits lower than 10 mg/L, otherwise suspended solids limitations are established as the same concentration as the BOD<sub>5</sub> limitations. Therefore, **there are no changes recommended for the TSS limits for May – October and the TSS limits for November – April are recommended to be set equal to the calculated BOD<sub>5</sub> limits.**

**The DO limit is recommended to increase to 7.0 mg/L as a daily minimum** as well which results in less stringent BOD<sub>5</sub> limit calculations.

### Effluent Data

Effluent data from the current permit term is shown in the table below for BOD<sub>5</sub>, TSS and DO data (01/01/2021 – 04/30/2026).

| Effluent Data          |                         |            |            |
|------------------------|-------------------------|------------|------------|
|                        | BOD <sub>5</sub> (mg/L) | TSS (mg/L) | DO (mg/L)  |
| 1-day P <sub>99</sub>  | 9.27                    | 9.30       | 11.5       |
| 4-day P <sub>99</sub>  | 5.71                    | 5.35       | 10.4       |
| 30-day P <sub>99</sub> | 3.88                    | 3.06       | 9.7        |
| Mean*                  | 3.04                    | 2.08       | 9.3        |
| Std                    | 1.78                    | 1.93       | 0.87       |
| Sample size            | 1390                    | 1389       | 1390       |
| Range                  | <0 - 34                 | <2 - 32    | 7.4 - 12.2 |

“<” means that the pollutant was not detected at the indicated limit of detection. The mean concentration was calculated using zero in place of the non-detected results.

Monroe is consistently able to meet the newly calculated BOD<sub>5</sub>, TSS and DO limits besides a temporary upset so the limits are recommended to become effective upon reissuance.

### PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99<sup>th</sup> percentile (or P<sub>99</sub>) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

**Acute Limits based on 1-Q<sub>10</sub>**

Daily maximum effluent limitations for toxic substances are based on the acute toxicity criteria (ATC), listed in ch. NR 105, Wis. Adm. Code. Previously daily maximum limits for toxic substances were calculated as two times the ATC. However, changes to ch. NR 106, Wis. Adm. Code, (September 1, 2016) require the Department to calculate acute limitations using the same mass balance equation as used for other limits along with the 1-Q<sub>10</sub> receiving water low flow to determine if more restrictive effluent limitations are needed to protect the receiving stream from discharges which may cause or contribute to an exceedance of the acute water quality standards. The mass balance equation is provided below.

$$\text{Limitation} = \frac{(\text{WQC}) (Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)}{Q_e}$$

Where:

WQC = Acute toxicity criterion or secondary acute value according to ch. NR 105, Wis. Adm. Code.

Q<sub>s</sub> = average minimum 1-day flow which occurs once in 10 years (1-day Q<sub>10</sub>)  
if the 1-day Q<sub>10</sub> flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q<sub>10</sub>).

Q<sub>e</sub> = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06(4)(d), Wis. Adm. Code.

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

C<sub>s</sub> = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

If the receiving water is effluent dominated under low stream flow conditions, the 1-Q<sub>10</sub> method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is the case for Monroe.

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling for all the detected substances. All concentrations are expressed in terms of micrograms per Liter (µg/L), except for hardness and chloride (mg/L) and mercury (ng/L).

**Daily Maximum Limits based on Acute Toxicity Criteria (ATC)**

RECEIVING WATER FLOW = 1.44 cfs, (1-Q<sub>10</sub> (estimated as 80% of 7-Q<sub>10</sub>)), as specified in s. NR 106.06(3)(bm), Wis. Adm. Code.

| SUBSTANCE       | REF.<br>HARD.*<br>mg/L | ATC  | MEAN<br>BACK-<br>GRD. | MAX.<br>EFFL.<br>LIMIT** | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 1-day<br>P <sub>99</sub> | 1-day<br>MAX.<br>CONC. |
|-----------------|------------------------|------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|------------------------|
| Chlorine        |                        | 19.0 |                       | 23.8                     |                          |                        | 17.7                     | <b>28</b>              |
| Arsenic         |                        | 340  |                       | 425                      | 85.1                     | <1.1                   |                          |                        |
| Cadmium         | 277                    | 33.2 |                       | 41.5                     | 8.3                      | <0.17                  |                          |                        |
| Chromium        | 277                    | 4153 |                       | 5198                     | 1040                     | <3.3                   |                          |                        |
| Copper          | 277                    | 40.6 |                       | 50.8                     | 10.2                     | 1.0                    |                          |                        |
| Lead            | 277                    | 286  | 1.3                   | 358                      | 71.6                     | <3.2                   |                          |                        |
| Mercury (ng/L)  |                        | 830  |                       | 1039                     |                          |                        | 0.58                     | 0.61                   |
| Nickel          | 268                    | 1080 |                       | 1352                     | 270                      | <4.7                   |                          |                        |
| Zinc            | 277                    | 293  | 5.33                  | 366                      | 73.2                     | 9.9                    |                          |                        |
| Chloride (mg/L) |                        | 757  | 19.5                  | 943                      |                          |                        | 415                      | 404                    |

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| SUBSTANCE                               | REF.<br>HARD.*<br>mg/L | ATC  | MEAN<br>BACK-<br>GRD. | MAX.<br>EFFL.<br>LIMIT** | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 1-day<br>P <sub>99</sub> | 1-day<br>MAX.<br>CONC. |
|-----------------------------------------|------------------------|------|-----------------------|--------------------------|--------------------------|------------------------|--------------------------|------------------------|
| Bis(2-ethylhexyl)phthalate <sup>#</sup> |                        | 33.9 |                       | 33.9                     | 6.78                     | <b>82</b>              |                          |                        |

\* The indicated hardness may differ from the effluent hardness because the effluent hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the acute criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

\*\* Per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016 consideration of ambient concentrations and 1-Q<sub>10</sub> flow rates yields a more restrictive limit than the 2 × ATC method of limit calculation.

# The limit for this substance is based on a secondary value. Acute limits are set equal to the secondary value rather than two times or using the 1-Q<sub>10</sub> s. NR 106.06(3)(b)2 and s. NR 105.05(2)(f)6, Wis. Adm Code.

### Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 0.45 cfs (¼ of the 7-Q<sub>10</sub>), as specified in s. NR 106.06(4)(c), Wis. Adm. Code

| SUBSTANCE                               | REF.<br>HARD.*<br>mg/L | CTC  | MEAN<br>BACK-<br>GRD. | WEEKLY<br>AVE.<br>LIMIT | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 4-day<br>P <sub>99</sub> |
|-----------------------------------------|------------------------|------|-----------------------|-------------------------|--------------------------|------------------------|--------------------------|
| Chlorine                                |                        | 7.28 |                       | 7.85                    |                          |                        | <b>10.1</b>              |
| Arsenic                                 |                        | 152  |                       | 164                     | 32.8                     | <1.1                   |                          |
| Cadmium                                 | 175                    | 3.82 |                       | 4.12                    | 0.82                     | <0.17                  |                          |
| Chromium                                | 301                    | 326  |                       | 351                     | 70.3                     | <3.3                   |                          |
| Copper                                  | 415                    | 35.0 |                       | 37.7                    | 7.55                     | 1.0                    |                          |
| Lead                                    | 356                    | 95.5 | 1.3                   | 103                     | 20.6                     | <3.2                   |                          |
| Mercury (ng/L)                          |                        | 440  |                       | 475                     |                          |                        | 0.43                     |
| Nickel                                  | 268                    | 120  |                       | 130                     | 25.9                     | <4.7                   |                          |
| Zinc                                    | 333                    | 345  | 5.33                  | 371                     | 74.3                     | 9.9                    |                          |
| Chloride (mg/L)                         |                        | 395  | 19.5                  | 425                     |                          |                        | 359                      |
| Bis(2-ethylhexyl)phthalate <sup>#</sup> |                        | 4.36 |                       | 4.70                    | 0.94                     | <b>82</b>              |                          |

\* The indicated hardness may differ from the receiving water hardness because the receiving water hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the chronic criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

# The limit for this substance is based on a secondary value.

### Monthly Average Limits based on Wildlife Criteria (WC)

RECEIVING WATER FLOW = 0.43 cfs (¼ of the 90-Q<sub>10</sub>), as specified in s. NR 106.06(4), Wis. Adm. Code

| SUBSTANCE      | WC  | MEAN<br>BACK-<br>GRD. | MO'LY<br>AVE.<br>LIMIT | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 30-day<br>P <sub>99</sub> |
|----------------|-----|-----------------------|------------------------|--------------------------|------------------------|---------------------------|
| Mercury (ng/L) | 1.3 |                       | 1.4                    |                          |                        | 0.32                      |

### Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 0.73 cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

| SUBSTANCE     | HTC     | MEAN<br>BACK-<br>GRD. | MO'LY<br>AVE.<br>LIMIT | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 30-day<br>P <sub>99</sub> |
|---------------|---------|-----------------------|------------------------|--------------------------|------------------------|---------------------------|
| Cadmium       | 370     |                       | 417                    | 83.5                     | <0.17                  |                           |
| Chromium (+3) | 3818000 |                       | 4306950                | 861390                   | <3.3                   |                           |

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| SUBSTANCE                  | HTC   | MEAN<br>BACK-<br>GRD. | MO'LY<br>AVE.<br>LIMIT | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. | 30-day<br>P <sub>99</sub> |
|----------------------------|-------|-----------------------|------------------------|--------------------------|------------------------|---------------------------|
| Lead                       | 140   | 1.3                   | 158                    | 31.6                     | <3.2                   |                           |
| Mercury (ng/L)             | 1.5   |                       | 1.7                    |                          |                        | 0.32                      |
| Nickel                     | 43000 |                       | 48507                  | 9701                     | <4.7                   |                           |
| Diethyl phthalate          | 68000 |                       | 76708                  | 15342                    | 0.12                   |                           |
| Total Phenols <sup>#</sup> | 2379  |                       | 2684                   | 537                      | 0.016                  |                           |

# The limit for this substance is based on a secondary value.

### Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = 0.73 cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

| SUBSTANCE            | HCC  | MEAN<br>BACK-<br>GRD. | MO'LY<br>AVE.<br>LIMIT | 1/5 OF<br>EFFL.<br>LIMIT | MEAN<br>EFFL.<br>CONC. |
|----------------------|------|-----------------------|------------------------|--------------------------|------------------------|
| Arsenic              | 13.3 |                       | 15.0                   | 3.0                      | <1.1                   |
| Chloroform           | 1960 |                       | 2211                   | 442                      | 6.3                    |
| Dichlorobromomethane | 1960 |                       | 2211                   | 442                      | 4.1                    |

In addition to evaluating the need for limits for each individual substance for which HCC exist, s. NR 106.06(8), Wis. Adm. Code, requires the evaluation of the cumulative cancer risk. Because no effluent limits are needed based on HCC, determination of the cumulative cancer risk is not needed per s. NR 106.06(8), Wis. Adm. Code.

### Conclusions and Recommendations

Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are required for chlorine. Limits and/or monitoring recommendations are made in the paragraphs below:

Total Residual Chlorine – Much of the chlorine data was reported incorrectly during the permit term and were actually nondetect. However, because chlorine is added as a disinfectant, effluent limitations are recommended to assure proper operation of the de-chlorination system. Section NR 210.06(2)(b), Wis. Adm. Code, states, “When chlorine is used for disinfection, the daily maximum total residual chlorine concentration of the discharge may not exceed 0.10 mg/L.” Because the WQBELs are more restrictive, they are recommended instead. Specifically, a daily maximum limit of 24 µg/L is required. The weekly effluent limitation of 7.9 µg/L should be included in the permit because it is more restrictive than the daily maximum limit.

Sections NR 106.07(3) and NR 205.067(7), Wis. Adm. Code require WPDES permits contain weekly average and monthly average limitations for municipal dischargers whenever practicable and necessary to protect water quality. **Therefore, a monthly average limit of 7.9 µg/L is required** to meet expression of limits requirements in addition to the daily max and weekly average limits.

Chloride – Considering available effluent data from the current permit term (01/17/2023 – 12/05/2023), the 1-day P<sub>99</sub> chloride concentration is 415 mg/L, and the 4-day P<sub>99</sub> of effluent data is 359 mg/L.

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These effluent concentrations are below the calculated QBELs for chloride, therefore no effluent limits are needed. **Chloride monitoring is recommended to ensure that 11 sample results are available at the next permit issuance to meet the data requirements of s. NR 106.85, Wis. Adm. Code.**

Mercury – The QBEL for total recoverable mercury is set equal to the most stringent criterion of 1.3 ng/L, according to s. NR 106.06(6), Wis. Adm. Code, because the background concentration in the receiving water and similar inland streams is known to exceed 1.3 ng/L.

The current permit requires quarterly monitoring of the influent and effluent for total recoverable mercury. A total of 22 effluent sampling results are available from 02/16/2021 – 04/07/2026 for total recoverable mercury. The average concentration was 0.27 ng/L, and the maximum was 0.61 ng/L. Because the 30-day P<sub>99</sub> of available data (0.32 ng/L) is less than the most stringent QBEL of 1.3 ng/L, **no QBEL for mercury is required for permit reissuance. Monitoring is recommended to continue for permit reissuance.**

Bis(2-ethylhexyl)phthalate – The permit application included one sample for bis(2-ethylhexyl)phthalate which was reported as 82 µg/L which is greater than 1/5<sup>th</sup> of the most stringent calculated limit based on CTC of 0.94 µg/L.

False positives for this parameter are common and due to automatic sampler contamination. It is recommended that bis(2-ethylhexyl)phthalate is resampled using an amber glass bottle, rather than an automatic sampler. **A more sensitive approved analytical method is recommended for the sample such that the limit of detection is less than or equal to 0.94 µg/L per s. NR 200.027(1), Wis. Adm. Code, to determine reasonable potential.** One sample is recommended in the reissued permit unless the permittee resamples prior to permit reissuance.

PFOS and PFOA – The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98(2), Wis. Adm. Code. Available monitoring sample data from the Monroe Waterworks (PWS ID: 12300783) is provided in the table below:

**Water Supply PFAS Data**

| Sample Date | Sample ID  | Well # | PFOS (ng/L) | PFOA (ng/L) |
|-------------|------------|--------|-------------|-------------|
| 03/08/2023  | CB02261-01 | BF902  | ND          | ND          |
| 03/08/2023  | CB02263-01 | BF903  | ND          | ND          |
| 03/08/2023  | CB02256-01 | SB763  | ND          | ND          |
| 03/08/2023  | CB02246-01 | EM266  | ND          | ND          |
| 03/08/2023  | CB02258-01 | BF901  | ND          | ND          |
| 06/02/2026  | CE05926-05 | BF902  | ND          | ND          |
| 06/02/2026  | CE05926-07 | BF903  | ND          | ND          |
| 06/02/2026  | CE05926-03 | BF901  | ND          | ND          |
| 06/02/2026  | CE05914-01 | EM266  | ND          | ND          |
| 06/02/2026  | CE05926-01 | SB763  | ND          | ND          |
| Average =   |            |        | 0           | 0           |

The limited data above shows the municipal water supply is below 1/5<sup>th</sup> of the applicable PFOS and PFOA criteria. Based on the effluent flow rate and the types of indirect dischargers contributing to the

collection system, **PFOS and PFOA monitoring is recommended at a once every two months frequency.**

#### **PART 4 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN**

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. The current permit has daily maximum, weekly average and monthly average limits. These limits are re-evaluated at this time due to the following changes:

- Subchapter IV of ch. NR 106, Wis. Adm. Code allows limits based on available dilution instead of limits set to twice the acute criteria.
- The maximum expected effluent pH has changed

##### **Daily Maximum Limits based on Acute Toxicity Criteria (ATC)**

Daily maximum limitations are based on acute toxicity criteria in ch. NR 105, Wis. Adm. Code, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation:

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - \text{pH})})] + [B \div (1 + 10^{(\text{pH} - 7.204)})]$$

Where:

A = 0.411 and B = 58.4 for a Warm Water Sport fishery, and  
pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 1946 sample results were reported from 01/02/2021 – 04/30/2026. The maximum reported value was 8.17 s.u. (Standard pH Units). The effluent pH was 7.90 s.u. or less 99% of the time. The 1-day P<sub>99</sub>, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 7.98 s.u. The mean plus the standard deviation multiplied by a factor of 2.326, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 7.98 s.u. Therefore, a value of 7.90 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 7.90 s.u. into the equation above yields an ATC = 10 mg/L.

##### **Daily Maximum Ammonia Nitrogen Effluent Limitations Calculation Method**

In accordance with s. NR 106.32(2), Wis. Adm. Code daily maximum ammonia limitations are calculated using the the 1-Q<sub>10</sub> receiving water low flow if it is determined that the previous method of acute ammonia limit calculation (2×ATC) is not sufficiently protective of the fish and aquatic life. The more restrictive calculated limits shall apply.

The calculated daily maximum ammonia nitrogen effluent limits using the mass balance approach with the 1-Q<sub>10</sub> (estimated as 80 % of 7-Q<sub>10</sub>) and the 2×ATC approach are shown below.

##### **Daily Maximum Ammonia Nitrogen Determination**

|                   | Ammonia Nitrogen<br>Limit mg/L |
|-------------------|--------------------------------|
| 2×ATC             | 20                             |
| 1-Q <sub>10</sub> | 13                             |

The 1-Q<sub>10</sub> method yields the most stringent limits for Monroe.



This limit is greater than the current daily maximum limit of 8.7 mg/L. If Monroe would like to request an increase to the existing permit limits an assessment of their effluent data consistent with the requirements of ss. NR 207.04(1)(a) and (c), Wis. Adm. Code, must be provided. This evaluation is on a parameter by parameter basis and includes consideration of operations, maintenance and temporary upsets. Without a demonstration of need for a higher limit in accordance with s. NR 207.04, Wis. Adm. Code, the current limits must be continued in the reissued permit.

There were several exceedances of the current daily maximum limit in September and October 2021. However, these exceedances were caused by biological nutrient removal issues at the plant as a result of heavy industrial loading. Therefore, these results are not representative of normal conditions and the effective daily maximum limit of 8.7 mg/L is not recommended to be increased.

### **Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)**

**The weekly and monthly average ammonia nitrogen limits calculation from the previous memo do not change** because there have been no changes in the effluent and receiving water flow rates. The calculations from the previous WQBEL memo are shown in Attachment #3.

### **Effluent Data**

The following table evaluates the statistics based upon ammonia data reported from 01/01/2021 – 04/30/2026.

**Ammonia Nitrogen Effluent Data**

| Ammonia Nitrogen<br>mg/L | April         | May - September | October - March |
|--------------------------|---------------|-----------------|-----------------|
| 1-day P <sub>99</sub>    | 0.87          | 0.33            | 0.98            |
| 4-day P <sub>99</sub>    | 0.48          | 0.17            | 0.54            |
| 30-day P <sub>99</sub>   | 0.20          | 0.08            | 0.23            |
| Mean*                    | 0.07          | 0.03            | 0.08            |
| Std                      | 0.30          | 0.10            | 0.33            |
| Sample size              | 129           | 545             | 704             |
| Range                    | <0.068 - 2.13 | <0.068 - 0.86   | <0.068 - 4.36   |

\*Values lower than the limit of detection were substituted with a zero

### **Reasonable Potential**

The need to include ammonia limits in Monroe's permit is determined by calculating 99<sup>th</sup> upper percentile (or P<sub>99</sub>) values for ammonia year round and comparing those to the calculated limits. Based on this comparison, there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. However, since the permit currently has weekly and monthly average limits year-round, **the limits must be retained regardless of reasonable potential**, consistent with s. NR 106.33(1)(b), Wis. Adm. Code:

- (b) If a permittee is subject to an ammonia limitation in an existing permit, the limitation shall be included in any reissued permit. Ammonia limitations shall be included in the permit if the permitted facility will be providing treatment for ammonia discharges.

### **Expression of Limits**

Sections NR 106.07(3) and NR 205.067(7), Wis. Adm. Code require WPDES permits contain weekly average and monthly average limitations for municipal dischargers whenever practicable and necessary to

protect water quality. **Therefore a weekly average limit of 8.7 mg/L is required** to meet expression of limits requirements, equivalent to the daily maximum limit for October – March.

### Conclusions and Recommendations

In summary, after rounding to two significant figures, the following ammonia nitrogen limitations are recommended. No mass limitations are recommended in accordance with s. NR 106.32(5), Wis. Adm Code.

**Final Ammonia Nitrogen Limits**

|                 | Daily<br>Maximum<br>mg/L | Weekly<br>Average<br>mg/L | Monthly<br>Average<br>mg/L |
|-----------------|--------------------------|---------------------------|----------------------------|
| April           | 8.7                      | 7.0                       | 2.7                        |
| May – September | 8.7                      | 3.3                       | 1.3                        |
| October – March | 8.7                      | <b>8.7</b>                | 4.4                        |

## PART 5 – PHOSPHORUS

Monroe is currently complying with the phosphorus WQBELs of 0.092 mg/L and 2.8 lbs/day as six-month averages as well as 0.28 mg/L as a monthly average through treatment and water quality trading. The end of pipe minimum control level is 0.88 mg/L.

### Technology-Based Effluent Limit

Subchapter II of Chapter NR 217, Wis. Adm. Code, requires municipal wastewater treatment facilities that discharge greater than 150 pounds of total phosphorus per month to comply with a monthly average limit of 1.0 mg/L, or an approved alternative concentration limit.

**Since Monroe has phosphorus limits in effect that are more stringent than 1.0 mg/L, the need for a TBEL will not be considered further.**

In addition, the need for a WQBEL for phosphorus must be considered.

### Water Quality-Based Effluent Limits (WQBEL)

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

Section NR 102.06(3)(a), Wis. Adm. Code, specifically names river segments for which a phosphorus criterion of 0.100 mg/L applies. For other stream segments that are not specified in s. NR 102.06(3)(a), Wis. Adm. Code, s. NR 102.06(3)(b), Wis. Adm. Code, specifies a phosphorus criterion of 0.075 mg/L. The phosphorus criterion of 0.075 mg/L applies for Honey Creek.

The conservation of mass equation is described in s. NR 217.13(2)(a), Wis. Adm. Code, for phosphorus WQBELs and includes variables of water quality criterion (WQC), receiving water flow rate (Qs), effluent flow rate (Qe), and upstream phosphorus concentrations (Cs) provided below.

$$\text{Limitation} = [(WQC)(Qs + (1-f) Qe) - (Qs - f Qe) (Cs)] / Qe$$

Where:

WQC = 0.075 mg/L for Honey Creek

Qs = 100% of the 7-Q<sub>2</sub> of 2.0 cfs

Cs = background concentration of phosphorus in the receiving water pursuant to s. NR 217.13(2)(d), Wis. Adm. Code

Qe = effluent flow rate = 3.7 MGD = 5.7 cfs

f = the fraction of effluent withdrawn from the receiving water = 0

Section NR 217.13(2)(d), Wis. Adm. Code, specifies that the background phosphorus concentration used in the limit calculation formula shall be calculated as a median using the procedures specified in s. NR 102.07(1)(b) to (c), Wis. Adm. Code. All representative data from the most recent 5 years shall be used, but data from the most recent 10 years may be used if representative of current conditions.

A previous evaluation resulted in a WQBEL of 0.092 mg/L using a background concentration of 0.025 mg/L. Section NR 217.13(2)(d), Wis. Adm. Code, states that the determination of upstream concentrations shall be evaluated at each permit reissuance.

The same background data is used in this evaluation. However, since the previous WQBEL memo was completed, the calculation for background concentrations in s. NR 102.07(1)(b) to (c), Wis. Adm. Code, has changed so that the background concentration is equivalent to the median of sampling for at least one year during May – October. Previously, all samples collected during a 28-day period were considered a single sample for the calculation of the median. In stream total phosphorus data upstream is available at multiple locations, shown below:

| <b>Background Phosphorus Data</b> |                                                       |                                                      |
|-----------------------------------|-------------------------------------------------------|------------------------------------------------------|
| <b>Sample Date</b>                | <b>200' Upstream of Badger State Ethanol<br/>mg/L</b> | <b>50' Upstream of Badger State Ethanol<br/>mg/L</b> |
| 05/23/2019                        |                                                       | 0.061                                                |
| 05/29/2029                        |                                                       | 0.031                                                |
| 06/28/2019                        | 0.005                                                 | 0.014                                                |
| 07/01/2019                        | 0.014                                                 | 0.015                                                |
| 08/01/2019                        | 0.005                                                 | 0.008                                                |
| 08/29/2019                        | 0.028                                                 | 0.011                                                |
| 09/24/2019                        | 0.022                                                 | 0.04                                                 |
| 10/23/2019                        | 0.038                                                 | 0.042                                                |
| <b>Median</b>                     |                                                       | <b>0.019 mg/L</b>                                    |

Substituting a median value of 0.019 mg/L into the limit calculation equation above, **the calculated limit is 0.095 mg/L.**

This limit is greater than the currently effective WQBEL of 0.092 mg/L as a six-month average limit. Because Monroe is currently complying with this WQBEL through treatment and water quality trading, this limit is not recommended to increase in the reissued permit per antidegradation and antibacksliding requirements in ch. NR 207, Wis. Adm. Code.

#### **Effluent Data**

The following table summarizes effluent total phosphorus monitoring data from 01/01/2021 –

04/30/2026.

**Total Phosphorus Effluent Data**

|                        | <b>Concentration<br/>mg/L</b> | <b>Mass<br/>lbs/day</b> |
|------------------------|-------------------------------|-------------------------|
| 1-day P <sub>99</sub>  | 2.82                          | 44.3                    |
| 4-day P <sub>99</sub>  | 1.68                          | 27.1                    |
| 30-day P <sub>99</sub> | 0.71                          | 11.3                    |
| Mean                   | 0.30                          | 4.47                    |
| Std                    | 0.69                          | 11.4                    |
| Sample size            | 1944                          | 1944                    |
| Range                  | 0.01 - 7.88                   | 0.133 - 185             |

**Reasonable Potential Determination**

The discharge has reasonable potential to cause or contribute to an exceedance of the water quality criterion and is currently operating the treatment facility to remove phosphorus and use water quality trading credits to meet the WQBELs. Therefore, **the current WQBELs are required to continue in the reissued permit per ss. NR 217.15 and 205.067(5), Wis. Adm. Codes.**

**Water Quality Trading Minimum Control Level**

A WQT plan has been submitted as an alternative compliance option to offset any total phosphorus discharged from Outfall 001 that exceeds the phosphorus WQBELs. The phosphorus WQBELs may be expressed as computed compliance limits, but a minimum control level (MCL) must be set as a limit not to be exceeded at the outfall. **Therefore, the phosphorus limit of 0.88 mg/L as a monthly average is recommended during the reissued permit term to serve as the MCL.**

**PART 6 – WATER QUALITY-BASED EFFLUENT LIMITATIONS  
FOR THERMAL**

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

In accordance with s. NR 106.53(2)(b), Wis. Adm. Code, the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), Wis. Adm. Code, the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. These values were based off actual flow reported from 01/01/2021 – 04/30/2026.

The table below summarizes the maximum temperatures reported during monitoring from 01/01/2021 – 04/30/2026.

**Monthly Temperature Effluent Data & Limits**

| Month | Representative Highest Monthly Effluent Temperature |               | Calculated Effluent Limit          |                                   |
|-------|-----------------------------------------------------|---------------|------------------------------------|-----------------------------------|
|       | Weekly Maximum                                      | Daily Maximum | Weekly Average Effluent Limitation | Daily Maximum Effluent Limitation |
|       | (°F)                                                | (°F)          | (°F)                               | (°F)                              |
| JAN   | 61                                                  | 64            | <b>51</b>                          | 81                                |
| FEB   | 63                                                  | 63            | <b>52</b>                          | 80                                |
| MAR   | 63                                                  | 66            | <b>54</b>                          | 81                                |
| APR   | 66                                                  | 68            | <b>56</b>                          | 81                                |
| MAY   | 72                                                  | 73            | <b>66</b>                          | 85                                |
| JUN   | 79                                                  | 80            | <b>77</b>                          | 86                                |
| JUL   | 79                                                  | 81            | 83                                 | 86                                |
| AUG   | 80                                                  | 81            | 83                                 | 86                                |
| SEP   | 78                                                  | 79            | <b>75</b>                          | 84                                |
| OCT   | 77                                                  | 78            | <b>63</b>                          | 84                                |
| NOV   | 68                                                  | 70            | <b>50</b>                          | 83                                |
| DEC   | 63                                                  | 64            | <b>51</b>                          | 81                                |

**Reasonable Potential**

Permit limits for temperature are recommended based on the procedures in s. NR 106.56, Wis. Adm. Code.

- An acute limit for temperature is recommended for each month in which the representative daily maximum effluent temperature for that month exceeds the acute WQBEL. The representative daily maximum effluent temperature is the greater of the following:
  - (a) The highest recorded representative daily maximum effluent temperature
  - (b) The projected 99th percentile of all representative daily maximum effluent temperatures
- A sub-lethal limitation for temperature is recommended for each month in which the representative weekly average effluent temperature for that month exceeds the weekly average WQBEL. The representative weekly average effluent temperature is the greater of the following:
  - (a) The highest weekly average effluent temperature for the month.
  - (b) The projected 99th percentile of all representative weekly average effluent temperatures for the month

Comparing the representative highest effluent temperature to the calculated effluent limits determines the reasonable potential of exceeding the effluent limits. The months in which limitations are recommended are shown in bold. Based on this analysis, weekly average temperature maximum limits are necessary for the months of September – May.

Monroe has submitted a request for consideration of dissipative cooling (DC). The DC study, which was completed in October - December 2017, demonstrated that instream temperatures on the South Bank of the creek remained at ambient conditions so that there is a zone of free passage for aquatic life and there is also rapid mixing. Based on this information, the department has found that it is not necessary to

include temperature limits in the reissued permit. **Temperature monitoring is recommended** per the requirements of s. NR 106.59(7), Wis. Adm. Code.

It is recommended that Monroe investigate potential heat sources, including the industrial dischargers to the facility. If effluent temperature increases, another DC study may be required in the future.

### Future WPDES Permit Reissuance

Dissipative cooling (DC) requests must be re-evaluated every permit reissuance. The permittee is responsible for submitting an updated DC request prior to permit reissuance. Such a request must either include:

- a) A statement by the permittee that there have been no substantial changes in operation of, or thermal loadings to, the treatment facility and the receiving water; or
- b) New information demonstrating DC to supplement the information used in the previous DC determination. If significant changes in operation or thermal loads have occurred, additional DC data must be submitted to the Department.

## PART 7 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document* (2022).

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC<sub>50</sub> (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm Code.
- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC<sub>25</sub> (Inhibition Concentration) greater than the instream waste concentration (IWC), according to s. NR 106.09(3)(b), Wis. Adm Code. The IWC is an estimate of the proportion of effluent to total volume of water (receiving water + effluent). The **IWC of 93%**, shown in the WET Checklist summary below, was calculated according to the following equation, as specified in s. NR 106.03(6), Wis. Adm Code:

$$\text{IWC (as \%)} = Q_e \div \{(1 - f) Q_e + Q_s\} \times 100$$

Where:

$Q_e$  = annual average flow = 3.7 MGD = 5.73 cfs

$f$  = fraction of the  $Q_e$  withdrawn from the receiving water = 0

$Q_s$  =  $\frac{1}{4}$  of the 7- $Q_{10}$  = 1.8 cfs  $\div$  4 = 0.45 cfs

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests, unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.

Attachment #1

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), receiving water must be used as the dilution water and primary control in chronic WET tests, unless the use of different dilution water is approved by the Department prior to use. The dilution water used in WET tests conducted on Outfall 001 shall be a grab sample collected from the receiving water location, upstream and out of the influence of the mixing zone and any other known discharge. The specific receiving water location must be specified in the WPDES permit.
- Shown below is a tabulation of all available WET data for Outfall 001. Efforts are made to ensure that decisions about WET monitoring and limits are made based on representative data, as specified in s. NR 106.08(3), Wis. Adm. Code. Data which is not believed to be representative of the discharge was not included in reasonable potential calculations. The table below differentiates between tests used and not used when making WET determinations. Significant changes were made to WET test methods in 2004 and these changes were assumed to be fully implemented by certified labs by no later than June 2005. Data collected before July 1, 2005 is excluded in this evaluation.

**WET Data History**

| Date<br>Test<br>Initiated | Acute Results<br>LC <sub>50</sub> % |                   |                  |                | Chronic Results<br>IC <sub>25</sub> % |                   |                  |               |
|---------------------------|-------------------------------------|-------------------|------------------|----------------|---------------------------------------|-------------------|------------------|---------------|
|                           | <i>C. dubia</i>                     | Fathead<br>minnow | Pass or<br>Fail? | Used in<br>RP? | <i>C. dubia</i>                       | Fathead<br>Minnow | Pass or<br>Fail? | Use in<br>RP? |
| 07/25/2006                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 08/25/2009                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 05/18/2010                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 08/23/2011                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 10/06/2015                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 08/16/2016                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 05/07/2017                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 02/20/2018                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 08/06/2019                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 06/01/2021                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 08/16/2022                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 10/24/2023                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 02/27/2024                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |
| 05/13/2025                | >100                                | >100              | Pass             | Yes            | >100                                  | >100              | Pass             | Yes           |

- According to s. NR 106.08, Wis. Adm. Code, WET reasonable potential is determined by multiplying the highest toxicity value that has been measured in the effluent by a safety factor, to predict the likelihood (95% probability) of toxicity occurring in the effluent above the applicable WET limit. The safety factor used in the equation changes based on the number of toxicity detects in the dataset. The fewer detects present, the higher the safety factor, because there is more uncertainty surrounding the predicted value. **WET limits must be given, according to s. NR 106.08(6), Wis. Adm. Code, whenever the applicable Reasonable Potential equation results in a value greater than 1.0.**

$$\text{Acute Reasonable Potential} = [(TUa \text{ effluent}) (B)(AMZ)]$$

$$\text{Chronic Reasonable Potential} = [(TUC \text{ effluent}) (B)(IWC)]$$

According to s. NR 106.08(6)(d), Wis. Adm. Code, TUa and TUC effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC<sub>50</sub>, IC<sub>25</sub> or IC<sub>50</sub> ≥ 100%).

Attachment #1

Acute Reasonable Potential =  $0 < 1.0$ , reasonable potential is not shown, and a limit is not required.

Chronic Reasonable Potential =  $0 < 1.0$ , reasonable potential is not shown, and a limit is not required.

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table. For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: <https://dnr.wisconsin.gov/topic/Wastewater/WET.html>.

**WET Checklist Summary**

|                                       | <b>Acute</b>                                                                                                                                                                                                                                                   | <b>Chronic</b>                                                                                                                                                                                                                                                 |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AMZ/IWC</b>                        | Not Applicable.<br><b>0 Points</b>                                                                                                                                                                                                                             | IWC = 93%.<br><b>15 Points</b>                                                                                                                                                                                                                                 |
| <b>Historical Data</b>                | 14 tests used to calculate RP.<br>No tests failed.<br><b>0 Points</b>                                                                                                                                                                                          | 14 tests used to calculate RP.<br>No tests failed.<br><b>0 Points</b>                                                                                                                                                                                          |
| <b>Effluent Variability</b>           | Some variability due to heavy industrial loading.<br><b>5 Points</b>                                                                                                                                                                                           | Same as Acute.<br><b>5 Points</b>                                                                                                                                                                                                                              |
| <b>Receiving Water Classification</b> | WWSF<br><b>5 Points</b>                                                                                                                                                                                                                                        | Same as Acute.<br><b>5 Points</b>                                                                                                                                                                                                                              |
| <b>Chemical-Specific Data</b>         | Reasonable potential for limits for chlorine based on ATC; Ammonia nitrogen limit carried over from the current permit. Copper, mercury, zinc, chloride, and ammonia detected. Additional Compounds of Concern: Bis(2-ethylhexyl)phthalate<br><b>10 Points</b> | Reasonable potential for limits for chlorine based on CTC; Ammonia nitrogen limit carried over from the current permit. Copper, mercury, zinc, chloride, and ammonia detected. Additional Compounds of Concern: Bis(2-ethylhexyl)phthalate<br><b>10 Points</b> |
| <b>Additives</b>                      | 1 biocide and 3 water quality conditioners added. Permittee has proper P chemical SOPs in place<br><b>6 Points</b>                                                                                                                                             | 3 out of 4 additives are used more than once per 4 days.<br><b>6 Points</b>                                                                                                                                                                                    |
| <b>Discharge Category</b>             | 9 Industrial Contributors.<br><b>13 Points</b>                                                                                                                                                                                                                 | Same as Acute.<br><b>13 Points</b>                                                                                                                                                                                                                             |
| <b>Wastewater Treatment</b>           | Secondary or better.<br><b>0 Points</b>                                                                                                                                                                                                                        | Same as Acute.<br><b>0 Points</b>                                                                                                                                                                                                                              |
| <b>Downstream</b>                     | No impacts known                                                                                                                                                                                                                                               | Same as Acute.                                                                                                                                                                                                                                                 |



## Attachment #1

|                                                           | Acute            | Chronic          |
|-----------------------------------------------------------|------------------|------------------|
| <b>Impacts</b>                                            | <b>0 Points</b>  | <b>0 Points</b>  |
| <b>Total Checklist Points:</b>                            | <b>39 Points</b> | <b>54 Points</b> |
| <b>Recommended Monitoring Frequency (from Checklist):</b> | 1x yearly        | 2x yearly        |
| <b>Limit Required?</b>                                    | No               | No               |
| <b>TRE Recommended? (from Checklist)</b>                  | No               | No               |

- After consideration of the guidance provided in the Department's *WET Program Guidance Document* (2022) and other information described above, 1x yearly acute and 2x yearly chronic WET tests are recommended in the reissued permit. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge. Testing should continue after the permit expiration date (until the permit is reissued).
- It's recommended that chronic WET testing frequency be lowered to 1x yearly. The single detect of bis(2-ethylhexyl)phthalate is most likely from the sampling contamination rather than being present in the wastewater itself which adds 3 points to the checklist. The checklist also adds 3 points for the use of chlorine for disinfection; however, there are chlorine limits in the permit and a dechlorination additive used which will control any toxicity caused by chlorine. Additionally, there are also no toxicity detects historically.



## Monroe Outfall Location



**Legend:** some may look incorrect on desktop

▲ Surface Water Outfalls

**Notes:**



Map: 0 530 1,060 Feet  
0 150 300 Meters

Service Layer Credits:  
Latest Leaflet, DNR Detailed Feature VTL (WMT), Outfalls & Determinations: WI DNR Bureau of Watershed Management

Map projection: NAD 1983 HARN Wisconsin TM

This map is a product generated by a DNR web mapping application.

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**Ammonia Nitrogen Calculations from the WQBEL Memo Dated January 30, 2007**

The following sections summarize the effluent quality and associated limitations calculated in accordance with chs. NR 105, and 106 (Wis. Adm. Code).

|                                   |       |                            |                   |
|-----------------------------------|-------|----------------------------|-------------------|
| <b>AMMONIA (as N) LIMITS</b>      |       |                            |                   |
| <b>CLASSIFICATION:</b>            |       | <b>WARMWATER SPORTFISH</b> |                   |
| EFFLUENT FLOW (mgd):              | 3.7   |                            |                   |
| EFFLUENT FLOW (cfs):              | 5.725 |                            |                   |
| MAX. EFFLUENT pH (s.u.):          | 8.10  | (6/2002 – 11/2006)         |                   |
| <b>BACKGROUND INFO:</b>           |       | <b>May-Sept.</b>           | <b>Oct.-March</b> |
| 7Q10 (cfs)                        | 1.8   | 1.8                        | 1.8               |
| 7Q2 (cfs)                         | 2     | 2                          | 2                 |
| Ammonia (mg/L)                    | 0.06  | 0.19                       | 0.07              |
| Temperature (deg C)               | 23    | 3                          | 9                 |
| pH (std. units)                   | 8.21  | 7.97                       | 7.97              |
| % of river flow used:             | 100   | 25                         | 25                |
| Reference weekly flow:            | 1.8   | 0.45                       | 0.45              |
| Reference monthly flow:           | 1.7   | 0.425                      | 0.425             |
| <b>CRITERIA (in mg/L):</b>        |       |                            |                   |
| 4-day Chronic (@ backgrd. pH):    |       |                            |                   |
| early life stages present         | 2.55  | 6.35                       | 6.35              |
| early life stages absent          | 2.55  | 10.31                      | 9.06              |
| 30-day Chronic (@ backgrd. pH)    |       |                            |                   |
| early life stages present         | 1.02  | 2.54                       | 2.54              |
| early life stages absent          | 1.02  | 4.12                       | 3.63              |
| <b>EFFLUENT LIMITS (in mg/L):</b> |       |                            |                   |
| <b>Weekly average</b>             |       |                            |                   |
| early life stages present         | 3.34  | 6.83                       | 6.84              |
| early life stages absent          |       | 11.11                      | 9.77              |
| <b>Monthly average</b>            |       |                            |                   |
| early life stages present         | 1.31  | 2.71                       | 2.72              |
| early life stages absent          |       | 4.42                       | 3.89              |

Early life stages present limits apply during the months of April through September and the early life stages absent limits apply to October through March because burbot are not expected to be present in the receiving water.

**Temperature limits for receiving waters with unidirectional flow**

(calculation using default ambient temperature data)

|                                     |             |                                |                                       |     |                   |                   |
|-------------------------------------|-------------|--------------------------------|---------------------------------------|-----|-------------------|-------------------|
| <b>Facility:</b>                    | Monroe WWTF | <b>7-Q<sub>10</sub>:</b>       | 1.80                                  | cfs | <b>Temp Dates</b> | <b>Flow Dates</b> |
| <b>Outfall(s):</b>                  | 001         | <b>Dilution:</b>               | 25%                                   |     | <b>Start:</b>     | 01/01/21 01/01/21 |
| <b>Date Prepared:</b>               | 6/24/2026   | <b>f:</b>                      | 0                                     |     | <b>End:</b>       | 04/30/26 04/30/26 |
| <b>Design Flow (Q<sub>e</sub>):</b> | 3.70 MGD    | <b>Stream type:</b>            | Small warm water sport or forage fish |     |                   |                   |
| <b>Storm Sewer Dist.</b>            | 0 ft        | <b>Qs:Q<sub>e</sub> ratio:</b> | 0.1                                   | :1  |                   |                   |
|                                     |             | <b>Calculation Needed?</b>     | YES                                   |     |                   |                   |

| Month | Water Quality Criteria |                |           | Receiving Water Flow Rate (Qs)<br>(cfs) | Representative Highest Effluent Flow Rate (Qe) |                               | f | Representative Highest Monthly Effluent Temperature |               | Calculated Effluent Limit          |                                   |
|-------|------------------------|----------------|-----------|-----------------------------------------|------------------------------------------------|-------------------------------|---|-----------------------------------------------------|---------------|------------------------------------|-----------------------------------|
|       | Ta<br>(default)        | Sub-Lethal WQC | Acute WQC |                                         | 7-day Rolling Average (Qesl)                   | Daily Maximum Flow Rate (Qea) |   | Weekly Average                                      | Daily Maximum | Weekly Average Effluent Limitation | Daily Maximum Effluent Limitation |
|       | (°F)                   | (°F)           | (°F)      |                                         | (MGD)                                          | (MGD)                         |   | (°F)                                                | (°F)          | (°F)                               | (°F)                              |
| JAN   | 33                     | 49             | 76        | 1.80                                    | 1.980                                          | 2.305                         | 0 | 61                                                  | 64            | 51                                 | 81                                |
| FEB   | 34                     | 50             | 76        | 1.80                                    | 1.872                                          | 2.873                         | 0 | 63                                                  | 63            | 52                                 | 80                                |
| MAR   | 38                     | 52             | 77        | 1.80                                    | 2.138                                          | 2.607                         | 0 | 63                                                  | 66            | 54                                 | 81                                |
| APR   | 48                     | 55             | 79        | 1.80                                    | 2.800                                          | 3.715                         | 0 | 66                                                  | 68            | 56                                 | 81                                |
| MAY   | 58                     | 65             | 82        | 1.80                                    | 1.813                                          | 2.232                         | 0 | 72                                                  | 73            | 66                                 | 85                                |
| JUN   | 66                     | 76             | 84        | 1.80                                    | 2.333                                          | 2.841                         | 0 | 79                                                  | 80            | 77                                 | 86                                |
| JUL   | 69                     | 81             | 85        | 1.80                                    | 2.316                                          | 3.160                         | 0 | 79                                                  | 81            | 83                                 | 86                                |
| AUG   | 67                     | 81             | 84        | 1.80                                    | 2.037                                          | 2.534                         | 0 | 80                                                  | 81            | 83                                 | 86                                |
| SEP   | 60                     | 73             | 82        | 1.80                                    | 2.188                                          | 2.851                         | 0 | 78                                                  | 79            | 75                                 | 84                                |
| OCT   | 50                     | 61             | 80        | 1.80                                    | 1.838                                          | 2.205                         | 0 | 77                                                  | 78            | 63                                 | 84                                |
| NOV   | 40                     | 49             | 77        | 1.80                                    | 1.748                                          | 1.946                         | 0 | 68                                                  | 70            | 50                                 | 83                                |
| DEC   | 35                     | 49             | 76        | 1.80                                    | 1.996                                          | 2.489                         | 0 | 63                                                  | 64            | 51                                 | 81                                |



June 09, 2026

Brittney Rindy  
City Administrator  
1110 18th Ave  
Monroe, WI 53566

Subject: Monroe Wastewater Treatment Facility - WPDES Permit WI-0020362  
Water Quality Trading Plan – CONDITIONAL APPROVAL

Dear Brittney Rindy:

The Department recently received a water quality trading plan (WQT Plan) for compliance with phosphorus effluent limits at the Monroe Wastewater Treatment Facility. The initial plan was received in July of 2025 and updated versions were received in December of 2025 and May of 2026. Based on WDNR review, the final WQT Plan (dated May 2026) is in general conformance with the WDNR Water Quality Trading Guidance and Section 283.84 of the Wisconsin Statutes. The WQT plan proposes utilizing streambank stabilization, cover crop practices on agricultural lands, and a stormwater pond. All practices have been installed, as set forth in the WQT plan. Credits generated from approved practices result in available credit quantities shown in Table 1. These credits will be incorporated into the reissued WPDES permit and will be used to demonstrate compliance with final phosphorus effluent limits.

Please note that this WQT plan approval is not to be construed as approval to commence work regulated under other state or local authorities, such as Chapter 30 waterways and wetlands permitting, floodplain, or construction activities.

Table 1: Total Phosphorus Credits Available per WQT-2026-0014

| Year | Available Credits<br>(lbs/yr) – Total |
|------|---------------------------------------|
| 2026 | 148.03                                |
| 2027 | 148.03                                |
| 2028 | 148.03                                |
| 2029 | 148.03                                |
| 2030 | 148.03                                |
| 2031 | 148.03                                |
| 2032 | 148.03                                |

The Department conditionally approves the WQT Plan as a basis for water quality trading during the next WPDES permit term. The Department has assigned the WQT plan a tracking number of WQT-2026-0014 and will be referenced as such in the draft WPDES permit. The final WQT plan will be included as part of the public notice package for permit reissuance. The draft WPDES permit will include a requirement for an annual trading report and effluent monitoring for total phosphorus.

If you have any questions or comments, please contact me at 608-419-4155 or at [betsyjo.howe@wisconsin.gov](mailto:betsyjo.howe@wisconsin.gov)

Thank You,

A handwritten signature in black ink that reads "BetsyJo Howe". The signature is written in a cursive, flowing style.

BetsyJo Howe  
SCR WQT Coordinator  
Wisconsin Department of Natural Resources

e-CC:

Jennifer Buholzer, PE, Fehr Graham  
Lisa Creegan, WDNR  
Kenzie Ostien, WDNR

**City of Monroe  
Monroe, Wisconsin**

**Water Quality Trading Plan**

**WPDES Permit No. WI-0020362-08-0**

**Project No. 20-385**

**Updated May 2026**  
**Updated April 2022**  
**March 2021**



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**1107 16th Avenue**

**Monroe, Wisconsin 53566**

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**Prepared for:**

**City of Monroe**

**1224 10th Avenue West**

**Monroe, Wisconsin 53566**

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## Exhibits

|            |                                                     |
|------------|-----------------------------------------------------|
| Exhibit 1  | HUC-12 Map, HUC-8 Map and PRESTO-Lite Results       |
| Exhibit 2  | January 2021-December 2024                          |
| Exhibit 3  | WI DNR WQBEL Calculations                           |
| Exhibit 4  | WQT Location Map                                    |
| Exhibit 5  | Industrial Park WQT information - updated           |
| Exhibit 6  | Dolan Property Information – updated                |
| Exhibit 7  | WWTP Expansion Site Information - updated           |
| Exhibit 8  | Honey Creek Park Streambank Restoration Information |
| Exhibit 9  | Water Quality Trading Clearinghouse Trade Agreement |
| Exhibit 10 | WQT Annual Reports (2022,2023,2024)                 |
| Exhibit 11 | Water Quality Trading Agreement                     |

## **I. INTRODUCTION AND BACKGROUND**

### **A. Study Purpose and Scope**

The purpose of this report is to provide the Wisconsin Department of Natural Resources (WI DNR) with **an update to the City of Monroe's Water Quality Trading (WQT) Plan for the duration of the WPDES permit term. The permit term is January 2026 – December 2031.**

### **B. Government Organization**

The City of Monroe is incorporated and located in Green County in southern Wisconsin. The governing body is a City Council with a mayor and nine elected alderpersons. The elected officials are assisted by appointed officials, including City Administrator, Assistant City Administrator, City Clerk, Director of Public Works, Utilities Supervisor, Chief of Police, City Attorney, and Fire Chief.

The City has a Board of Public Works responsible for making recommendations to the City Council regarding the sanitary sewer collection system and wastewater treatment plant (WWTP). Any recommendations made by the Board of Public Works is presented to the City Council for review and final approval.

### **C. Economic, Demographic, and Land Use Information**

According to the 2020 Census, the City of Monroe has a population of 10,509 persons and approximately 4,810 households. The residents of the City present a mix of people who work in Monroe and those that work outside of the community. In addition to several large businesses, there are several small businesses located in the community. The community has a number of industries that discharge wastewater into the collection system for treatment at the WWTP. The City's comprehensive plan notes that 77 percent of the planning area consists of urban land use with the remaining land being defined as rural.

### **D. Watershed Information**

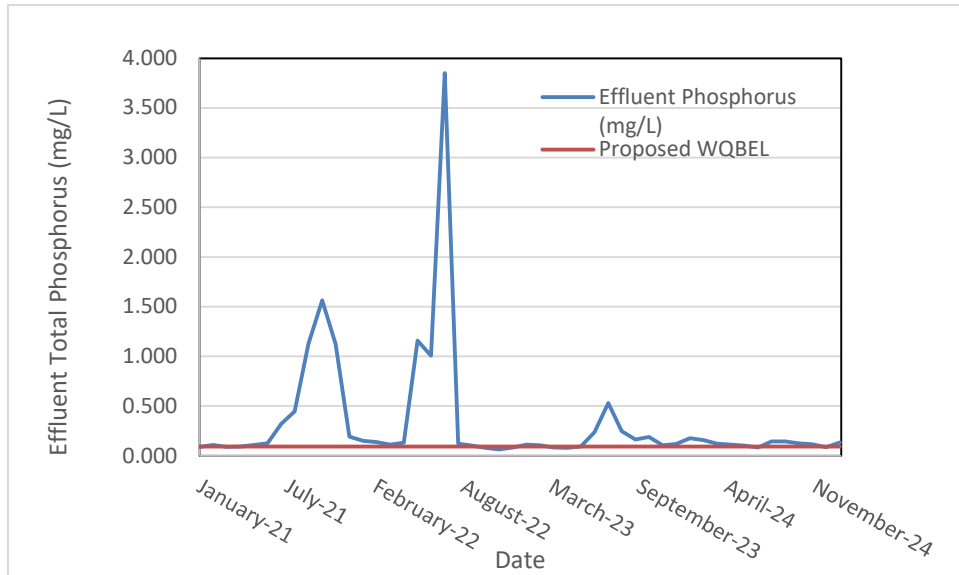
The WWTP discharges to Honey Creek (Honey Creek and Richland Creek Watershed, SP01 - Sugar-Pecatonica River Basin) in Green County. Exhibit 1 contains a copy of the HUC-12

Watershed Map, the HUC-8 Watershed Map, and the PRESTO-Lite Results. Looking at the PRESTO data it appears as if the PS:NPS ratio is 8 percent:92 percent.

## II. HISTORICAL EFFLUENT QUALITY

Exhibit 2 includes the WWTP effluent flow and effluent phosphorus concentrations from January 2021 to December 2024 as reported to the WI DNR. The monthly average phosphorus data from January 2021 to December 2024 is provided in Figure 1.

Figure 1 – WWTP Effluent Phosphorus Data from January 2021 to December 2024



As this figure demonstrates the City phosphorus discharge has periodic spikes. This is a result of changes to the inflow from the various industries in the community. The Average phosphorus discharge over the WPDES permit term (permit valid January 2021 – December 2025) was 0.3318 mg/l. Due to this increase in phosphorus discharge from the previous WPDES permit term, the City has taken steps to secure additional phosphorus credits through the Water Quality Trading Clearinghouse.

Table 1 – Water Quality Trading Credit Needs 2021 – 2025

| Year                            | Credits Used |
|---------------------------------|--------------|
| 2022 (1/2 year of credits used) | 19.81        |
| 2023                            | 447.93       |
| 2024                            | 181.76       |

Because of the unexpected increase in industrial flows at the WWTP, the City has taken several steps to handle the new flows. The most important step the City has taken is to begin the process of facilities planning to expand the WWTP. This expansion will include an expanded aeration system and expanded tertiary treatment for enhanced phosphorus removal prior to discharge. Second, the City has met with the industrial customers to find a solution to the high discharges being received by the WWTP.

The City uses a variable rate structure for the discharge of phosphorus to the Category C user fees for sewer. The purpose of this rate structure was to provide an incentive for the wet industries in the City to control phosphorus from their facility and, if they choose not to control their phosphorus, the surcharge will provide the City funds to remove the phosphorus at the WWTP. This rate structure will be evaluated further in the Facilities Planning for the aforementioned expansion.

### III. WATER QUALITY TRADING

#### A. Background

Before the implementation of the stringent Water Quality Based Effluent Limits (WQBELs), the City had implemented many Best Management Practices (BMPs) throughout the watershed to help protect the watershed. These efforts predated phosphorus removal requirements from the WI DNR and these projects are unable to be counted towards the needed trading credits to meet the WQBEL. As a result of these improvements, the creek upstream of the outfall had very low levels of phosphorus, and the City submitted a stream study to the WI DNR to request an increase in the WQBEL discharge level to reflect the high quality of water in the receiving stream. The results of this stream study are a WQBEL of 0.092 mg/L. A copy of the WI DNR calculations for the updated WQBEL are located in Exhibit 3.

#### B. Needed Credits Calculations

Reviewing the phosphorus data the following are the annual averages to be considered for the needed credit calculation:

| Date Range                   | Discharge (MGD) | Phosphorus Effluent (mg/l) |
|------------------------------|-----------------|----------------------------|
| January 2021-December 2024   | 1.7317          | 0.3318                     |
| January 2021-December 2021   | 1.750           | 0.448                      |
| January 2022 - December 2022 | 1.676           | 0.583                      |
| January 2023 - December 2023 | 1.682           | 0.172                      |
| January 2024 - December 2024 | 1.8193          | 0.1240                     |
| January 2023- December 2024  | 1.750           | 0.148                      |

January 2021 – December 2024 Needed Credits

Average Discharged Flow: 1.7317 MGD

Average Phosphorus Discharge: 0.3318 mg/L

Allowable TP =  $0.092 \text{ mg/L} \times 8.34 \times 1.7317 \text{ MGD} \times 365 \text{ days} = 484.98 \text{ lbs./year}$

Discharged TP =  $0.3318 \text{ mg/L} \times 8.34 \times 1.7317 \text{ MGD} \times 365 = 1749.1 \text{ lbs./year}$

Needed Credits =  $1749.1 - 484.98 = \mathbf{1264.1 \text{ lbs./year}}$

2021 and 2022 had phosphorus discharges that are a lot higher than 2023 and 2024. To provide an adequate range of credit needs a calculation of needs for the 2023 and 2024 years were also calculated.

January 2023 – December 2024 Needed Credits

Average Discharged Flow: 1.750 MGD

Average Phosphorus Discharge: 0.148mg/L

Allowable TP =  $0.092 \text{ mg/L} \times 8.34 \times 1.75 \text{ MGD} \times 365 \text{ days} = 490.1 \text{ lbs./year}$

Discharged TP =  $0.148 \text{ mg/L} \times 8.34 \times 1.75 \text{ MGD} \times 365 = 788.4 \text{ lbs./year}$

Needed Credits =  $788.4 - 490.1 = \mathbf{298.3 \text{ lbs./year}}$

Using this information, the City will need a minimum of 298.3 lbs./year and could need as much as 1,264.1 lbs./year if the industrial discharges increase unexpectedly. The City is continually searching for additional trades to allow for the City to have adequate credits to meet the water quality trading needs. Additionally, in an effort to keep the phosphorus levels lower, the City has met with the large users to help balance the flows sent to the WWTP.

C. Water Quality Trading Locations

Exhibit 4 has a map showing all WQT locations.

a. Industrial Park

The City of Monroe has an industrial park and recently modified one of the ponds to allow for phosphorus removal. Exhibit 4 shows the location of the pond upgraded to include for phosphorus removal. Notice of Intent (NOI) for the ponds is located in Exhibit 5. The phosphorus credits were calculated using Windows Source Loading and Management Model (WinSLAMM). Both ponds have been constructed and are in operation. The design life for the ponds is 20 years and the City intends to complete maintenance on these ponds to maximize the removal efficiency of the ponds.

It should be noted, after conversations with the WI DNR, the City can only gain credits for the phosphorus reduction from the stormwater pond for all improvements that took place in the industrial park prior to 2015. City records and past aerial photos were used to determine what development occurred in the industrial park after 2015. Any improvements that occurred after 2015 were assumed to be undeveloped for the purposes of this calculation. **No changes have been made to the pond. At the time of the submittal of the**

2022 Water Quality Trading Plan the industrial park build out was nearly complete and no changes have been made to the watershed land use.

#### WEST POND

Trade Ratio (TR) (West Pond): 2:1

TR = (Delivery + Equivalency + Downstream + Uncertainty):1

TR = 0+0+0+2 = 2:1

#### Credits Generated

Pre-BMP Phosphorus Discharge: 29.7 lbs./year

Post-BMP Phosphorus Discharge: 11.21 lbs./year

Total Credits Generated by Practice: 18.49 lbs./year

With Trade Ratio: **9.25 lbs./year**

#### i. Total Credits from Industrial Park Pond

**Total Industrial Park Pond WQT Credits = 9.25 lbs./year**

The City of Monroe used WinSLAMM to calculate the available credits for this practice.

A copy of the WinSLAMM results is located in Exhibit 5. Construction of this pond is complete, and the credits will be available upon the processing of Form 304-207. Copies of all forms are located in Exhibit 5.

#### ii. Inspections and Reporting

The City recognizes the need to inspect and maintain the sites to ensure the proposed BMPs are removing phosphorus in the most efficient method possible. A detailed breakdown of the reporting requirements is in Exhibit 5.

#### iii. Trade Agreement

Because this property is owned by the City, the trade agreement for this trade will be completed with the WI DNR. The City will monitor the sediment levels and verify the ponds are dredged, as needed, to maximize the removal efficiency of the ponds.

#### iv. Applicable Standards

Wet Detention Pond (1001): Wisconsin DNR Conservation Practice Standard.



v. Operation and Maintenance

An Operation and Maintenance (O&M) Plan for this trade is included in Exhibit 5. The O&M plan describes how the best management practices (BMPs) will be operated and maintained. The operation and maintenance for these credits will be as dictated by the WI DNR Standard, Wet Detention Pond (1001): Wisconsin DNR Conservation Practice Standard.

b. Dolan Property

i. Location

This is a property recently acquired by the City and will be used as a second industrial park for the community. The location of this property is shown on the map in Exhibit 4.

This property was originally cropped with a soybean/corn rotation. **Due to the water quality trading plan the land is now cropped with alfalfa.** The acreage to this property has changed due to buildout of the industrial park. The original Water Quality Trading plan contained a carve out for growth in the industrial park. The City filled that carve out and permitted buildings in the property to be used for water quality trading. The permits and expansion beyond the initial carve out took place in mid 2025. At present no additional industrial expansion is planned. The City will contact DNR with any potential changes that will impact the water quality trade on that property.

ii. Site Details

**Revised** Soil samples were pulled **in 2025** to allow for an accurate accounting of the fields impact on phosphorus, using the most recent data available. Because this property is owned by the City, it makes an advantageous location for creating trading credits. The Notice of Intent for this property is located in Exhibit 6.

iii. Existing Discharge

The first step was to run the farm though SnapPlus to determine how much phosphorus **would be discharged if no WQT measures are in place.** The printouts from SNAP are located in Exhibit 6. Summary of the existing runoff is as follows:

**2020: 32 lbs./year**

**2021: 69 lbs./year**

2022: 30 lbs./year

2023: 67 lbs./year

2024: 28 lbs./year

2025: 66 lbs./year

Average rotational phosphorus discharge: 48.7 lbs/year

iv. Proposed Discharge/ Available Credits

TR: 1.2:1

TR = Delivery + Equivalency + Downstream + Uncertainty:1

TR = 0+0+0+1.2 = 1.2:1

v. Cropping Alfalfa:

The possibility of cropping alfalfa was analyzed in SnapPlus. The phosphorus runoff after the cropping change is as follows:

2026: 23lbs./year

2027: 21 lbs./year

2028: 19 lbs./year

2029: 18 lbs./year

2030: 17 lbs./year

2031: 15 lbs./year

Average rotational phosphorus discharge: 18.8 lbs/year

Assuming a TR of 1.2:1 the available credits from 2020 until 2025 are:

2026:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

2027:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

2028:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

2029:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

2030:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

2031:  $(48.7-18.8)/1.2 = 24.92$  lbs./year

No Fertilizers to be used on the field.

vi. Credits

The Credits available for the permit term will be:

**2026-2031:  $(48.7-18.8)/1.2 = 24.92$  lbs./year**

Modifications to the renter's agreement have been completed so the credits are now in place. Form 3400-207 to register the practice is located in Exhibit 6.

vii. Trade Agreement

Because this property is owned by the City, the trade agreement for this trade will be completed with the WI DNR. The City will monitor the cropped property to ensure it is maintained as agreed in the renter's agreement.

i. Inspections and Reporting

The City recognizes the need to inspect and maintain the sites to ensure the proposed BMPs are removing phosphorus in the most efficient method possible. A detailed breakdown of the reporting requirements is in Exhibit 6.

ix. Operation and Maintenance

An Operation and Maintenance (O&M) Plan for this trade is included in Exhibit 6. The O&M plan describes how the best management practices (BMPs) will be operated and maintained.

c. WWTP Expansion Site

i. Location

This is a property acquired by the City to allow for the expansion of the WWTP. Before the WQT plan was put into place the property was planted with corn every year. Per the WQT agreement the property is now cropped as oats. The location of this property is shown on the map in Exhibit 4.

ii. Site Details

**Revised** Soil samples were pulled **in 2025** to allow for an accurate accounting of the fields impact on phosphorus, using the most recent data available. Because this property is owned by the City, it makes an advantageous location for creating trading credits. The Notice of Intent for this property is located in Exhibit 7.

iii. Existing Discharge

The first step was to run the farm through SnapPlus to determine how much phosphorus is currently being discharged. The printouts from SNAP are located in Exhibit 7.

Summary of the existing runoff is as follows:

2020: 16 lbs./year

2021: 15 lbs./year

2022: 15 lbs./year

2023: 15 lbs./year

2024: 15 lbs./year

2025: 16 lbs./year

Average Rotational Discharge: 15.3 lbs/year

iv. Trade Ratio

TR: 1.2:1

TR = Delivery + Equivalency + Downstream + Uncertainty:1

TR = 0+0+0+1.2+0 = 1.2:1

v. Cover Crop:

Using updated soil data, the use of a cover crop, such as oats, on the site was analyzed in SnapPlus. The phosphorus runoff after the cropping change is as follows:

2026: 3 lbs./year

2027: 2 lbs./year

2028: 2 lbs./year

2029: 2 lbs./year

2030: 2 lbs./year

2031: 2 lbs./year

Average Rotational Discharge: 2.16 lbs/year

Assuming a TR of 1.2:1 the available credits from 2026 until 2031 are:

2026:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

2027:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

2028:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

2029:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

2030:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

2031:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$

Phosphorus runoff value shown was determined by averaging the rotational average as instructed by DNR reviewer.

vi. Credits

It is recommended these acres be continue to use a no-till practice and plant oats or similar crop. The farmer's current agreement with the City involves the planting of Oats. These changes this will yield a long-term phosphorus discharge of 2 lbs./year for this site. [The Credits available for the permit term](#)

**2026-2031:  $(15.3 - 2.16) / 1.2 = 10.95 \text{ lbs./year}$  starting in 2026**

Form 3400-207 registering the credits is located in Exhibit 7.

viii. Trade Agreement

Because this property is owned by the City, the trade agreement for this trade will be completed with the WI DNR. The City will monitor the cropped property to ensure it is maintained as agreed in the renter's agreement.

ii. Inspections and Reporting

The City recognizes the need to inspect and maintain the sites to ensure the proposed BMPs are removing phosphorus in the most efficient method possible. A detailed breakdown of the reporting requirements is in Exhibit 7.

x. Operation and Maintenance

An Operation and Maintenance (O&M) Plan for this trade is included in Exhibit 7. The O&M plan describes how the best management practices (BMPs) will be operated and maintained.

d. Honey Creek Streambank Restoration

i. Locations

The map in Exhibit 4 shows the WQT location. Photos showing the location of the streambank improvement project are located in Exhibit 8. The flooding experienced, along this stretch of Honey Creek, caused significant erosion.

ii. Project Description

The project **completed** streambank restoration for 3,500 feet of Honey Creek. The restoration will involved the placement of Boulder Toe, Bank Slope Reduction, and Tree Preservation. A copy of the streambank restoration plans are included in Exhibit 8. The Notice of Intent for this property is in Exhibit 8.

iii. Trade Agreement

During the completion of the topographic survey, it was determined the centerline of the stream was not the property boundary; therefore, an agreement was made with the landowner to allow the City to construct and maintain the BMPs. A copy of the agreement is located in Exhibit 8. The remainder of the project falls onto City property and a trade agreement will be put into place with the DNR for the City owned property.

#### iv. Credit Calculation

The entire stretch of the creek to be restored has experienced some level of erosion and needs restoration. Because of the varied degree of erosion throughout the reach and the differing slopes at the points of erosion, the banks were separated into 13 segments of similar erosion and slope.

The streambank erosion for each eroding bank was estimated using the process defined in the NRCS Erosion Calculator, which uses the Direct Volume Method to estimate streambank erosion (NRCS Field Office Technical Guide, 2017). The Direct Volume Method was used to estimate phosphorus loss from each eroding streambank. The sum of phosphorus loss from all eroding banks was used to estimate the amount of potential phosphorus credits, which could be generated by stabilizing eroding streambanks.

To accurately estimate the phosphorus loss using the Direct Volume method, several items need to be determined for each segment.

Exhibit 8 has the results from the soil sampling, photos of each segment, creek cross-sections from the topographic survey, and spreadsheet calculation results are included in Exhibit 8.

##### a. Annual Lateral Recession Rate

Because the City did not have time to measure the lateral recession rate using field measurements, the annual recession rate was estimated using the qualitative descriptions outlined in the NRCS erosion control calculator. These estimates were based on field observations of the banks. In our project area, the bank erosion varies from moderate to severe. None of the banks in the project area appear to be very severe. Photographs for each segment are included in Exhibit 8.

##### b. Soil Bulk Density

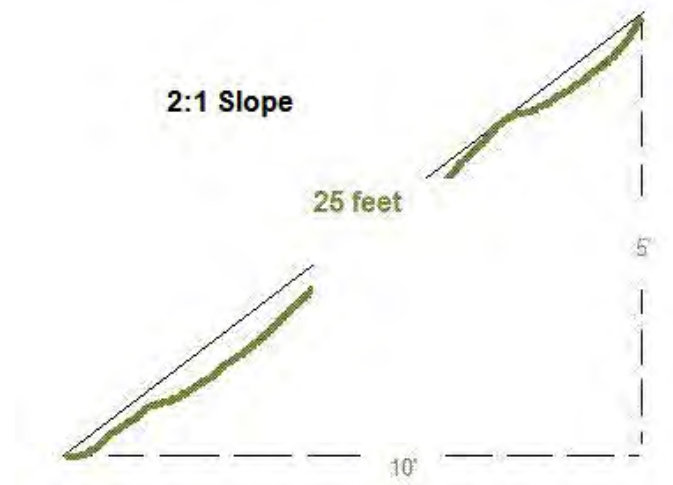
Soil bulk densities were estimated using published data from Web Soil Survey based on the mapped soil type in which each eroding bank was located. The

soil type was entered into the NRCS calculator using the soil weights provided in the calculator. The soil type for the project area is predominately Huntsville Silt Loam or Arenzville Silt Loam.

c. Eroding Bank Height and Lateral Length

A detailed survey was completed for the project area. This included the survey of cross sections to get elevations across the creek with effort being made to collect exact locations of the top of slope and toe of slope. The survey information was used to calculate the eroded lengths and the eroding bank height for each segment. Because each bank generally exhibits variability in slope height, depending on where the measurements are taken, slope heights were measured for each bank in several locations, each cross-section was approximately the same distance apart. The average bank slope height was used to estimate phosphorus loss.

**\*\*** Eroding bank height is measured along the bank, not the vertical height of bank. Example: if vertical height of an eroding streambank is 5 feet, and the bank is on a 2:1 slope, the total eroding bank distance is 25 feet --  $1/2$  (Base X Height).





#### d. Soil Samples

Soil samples were collected from the eroding bank for each segment to estimate the total phosphorus concentration of the eroding soil. The sampling was done using the probe provided by the local Green County USDA Land Conservation office.

- Cores were taken to a depth of 6-inches.
- A composite sample was created by placing all soil cores for each section into a 5-gallon bucket and mixing the cores together before filling the sample bag with a single composite sample. The composite samples were well mixed.
- Sampling was conducted taking a core near the top of bank, in the middle of the bank, and immediately above the waterline. Each group of three will be called a subset for the purposes of this analysis. Each segment of stream had multiple subsets of soil collected for analysis.
- All subsets for each segment were placed into the bucket and mixed to create a composite sample.
- The composite samples were placed in the sampling bag. The bucket was emptied and rinsed between each testing segment to guarantee no cross-contamination of soil from one segment to the next would occur.
- Per guidance from the NRCS office, a minimum of 15 cores was taken at each location. This allows for both a representative sample and enough soil for the soil lab to test.
  - Sections 1, 2, 4 and 10: 10 subsets taken (30 total cores)
  - Sections: 3, 5, 12 and 13: 5 subsets taken (15 total cores)
  - Section 6: 7 subsets taken (21 total cores)
  - Sections 7 and 11: 8 subsets taken (24 total cores)
  - Sections 8 and 9: 14 subsets taken (42 total cores)

All sample bags were labeled with the proper stream segment and mailed to the UW Soil and Forage Analysis Laboratory in Marshfield, Wisconsin and were analyzed for total leachable phosphorus. Soil Results are located in Exhibit 8.

v. Trade Ratio Calculation:

Trade Ratio (TR): 3:1

TR = Delivery + Equivalency + Downstream + Uncertainty:1

TR = 0+0+0+3 = 3:1

vi. Credits Generated

Per NRCS Estimator Credits Total Credits Generated by Practice:

**308.73 lbs./year**

With Trade Ratio: **102.91 lbs./year**

vii. Inspections and Reporting

The City recognizes the need to inspect and maintain the sites to ensure the proposed BMPs are removing phosphorus in the most efficient method possible. The agreement with the landowner outlines the allowed access for inspection and the maintenance agreement on the BMPs. A detailed breakdown of the reporting requirements is in Exhibit 8.

viii. Applicable Standards

NRCS 580 – Streambank and Shoreline Protection.

ix. Operation and Maintenance

An Operation and Maintenance (O&M) Plan for this trade is included in Exhibit 8. The O&M plan describes how the best management practices (BMPs) will be operated and maintained.

e. Brokered Trade

- i. A trade was brokered through the Wisconsin Water Quality Trading Clearinghouse (Clearinghouse). This trade involves 403.2 lbs at a trade ration of 2.1. This results in 192 lbs/ year in trading credits. A copy of the trade agreement is located in Exhibit 9.

#### IV. AVAILABLE CREDITS & PRACTICE TRACK RECORD

| Trade                                                   | Trade Ratio<br>(TR) | Available Credits | Credits with TR |
|---------------------------------------------------------|---------------------|-------------------|-----------------|
| Industrial Park Pond (W)                                | 2:1                 | 18.49             | 9.25            |
| Dolan Property                                          | 1.2:1               | 29.9              | 24.92           |
| WWTP Expansion Site                                     | 1.2:1               | 13.14             | 10.95           |
| Honey Creek Park Streambank<br>Restoration              | 3:1                 | 308.73            | 102.91          |
| Water Quality Trading<br>Clearinghouse (available 2025) | 2.1:1               | 403.2             | 192             |
| Total                                                   | -                   | -                 | 340.03          |

The City intends to continue pursuing credit opportunities for future growth opportunities both through projects they complete and through clearinghouse credits. See Exhibit 4 for the map showing the WQT locations managed by the City. The trade managed by the Water Quality Clearinghouse are located at W6710 Melvin Road just outside of Monroe.

The City conducts inspections on the non-point sources to verify the trade locations are being properly maintained. These inspections are included in Exhibit 10.

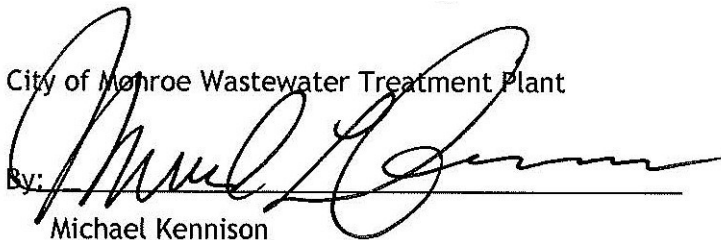
## V. CONCLUSION

The City requires between 298.3 lbs/year to 1,264.1 lbs /year of phosphorus credits to meet their current credit needs. Because of this wide range in needed credits, in addition to exploring the expansion of treatment at the WWTP, City personnel will continue conversations with landowners to build additional water quality trading project. The City will continue to work with the largest WWTP contributors to control the loads and flows received by the City and will lastly keep in touch with the Water Quality Trading Clearing house to procure additional credits until such time the construction of the WWTP is complete.

## VI. CERTIFICATION

The undersigned hereby certifies that this Water Quality Trading Plan is accurate and correct to the best of his knowledge.

City of Monroe Wastewater Treatment Plant

By: 

Michael Kennison  
Water and Wastewater Supervisor  
1224 10th Avenue West  
Monroe, WI 53566  
Phone: (608) 329-2485  
Email: [mkennison@cityofmonroe.org](mailto:mkenison@cityofmonroe.org)

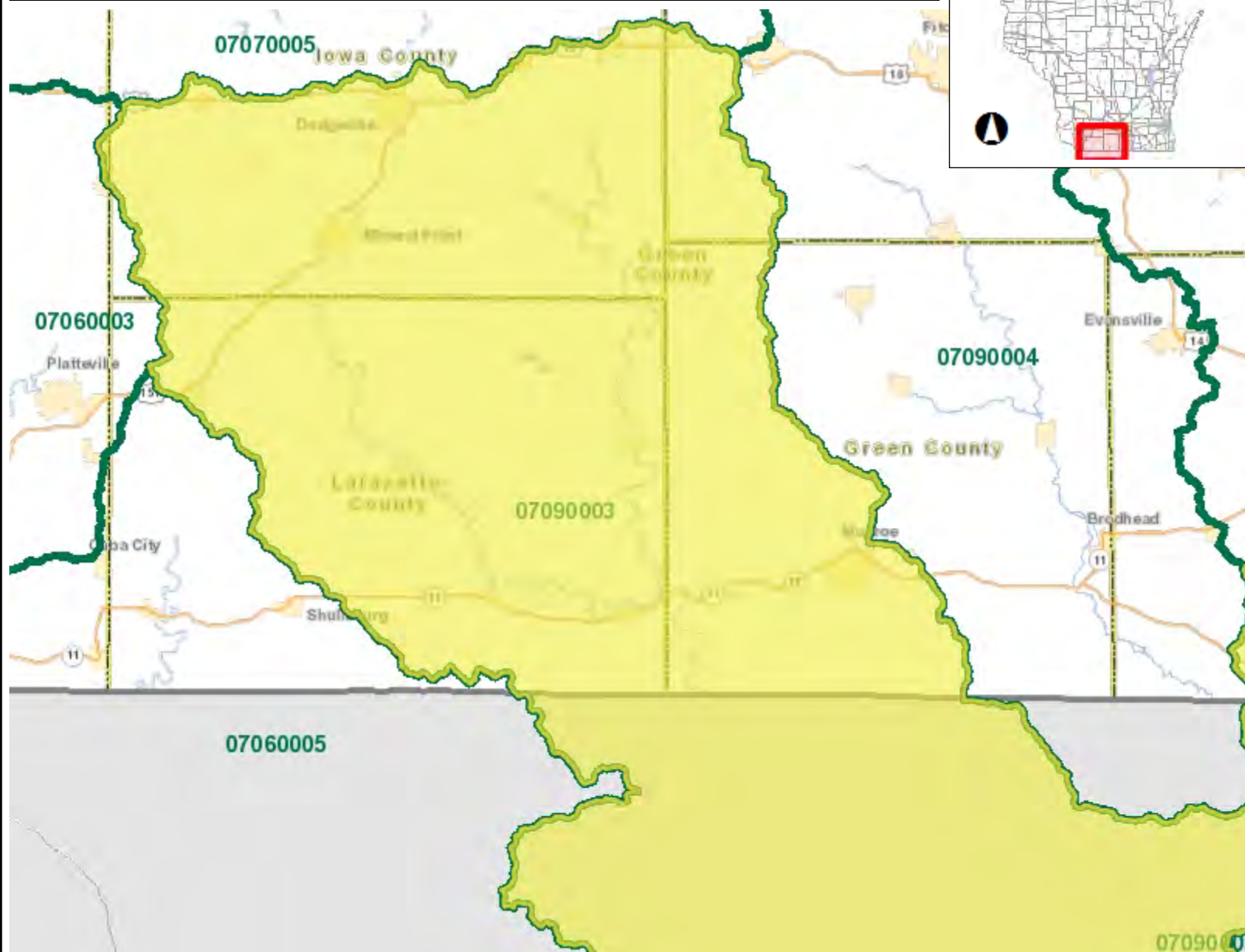
## **Exhibits**

## **Exhibit 1**

### **HUC-12 Map, HUC-8 Map and PRESTO-Lite Results**



# City of Monroe - HUC 8 Watershed



## Legend

- ▲ Surface Water Outfalls
- 8-digit HUCs (Subbasins)
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- + Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

16.0 0 8.00 16.0 Miles

NAD\_1983\_HARN\_Wisconsin\_TM

1: 506,880

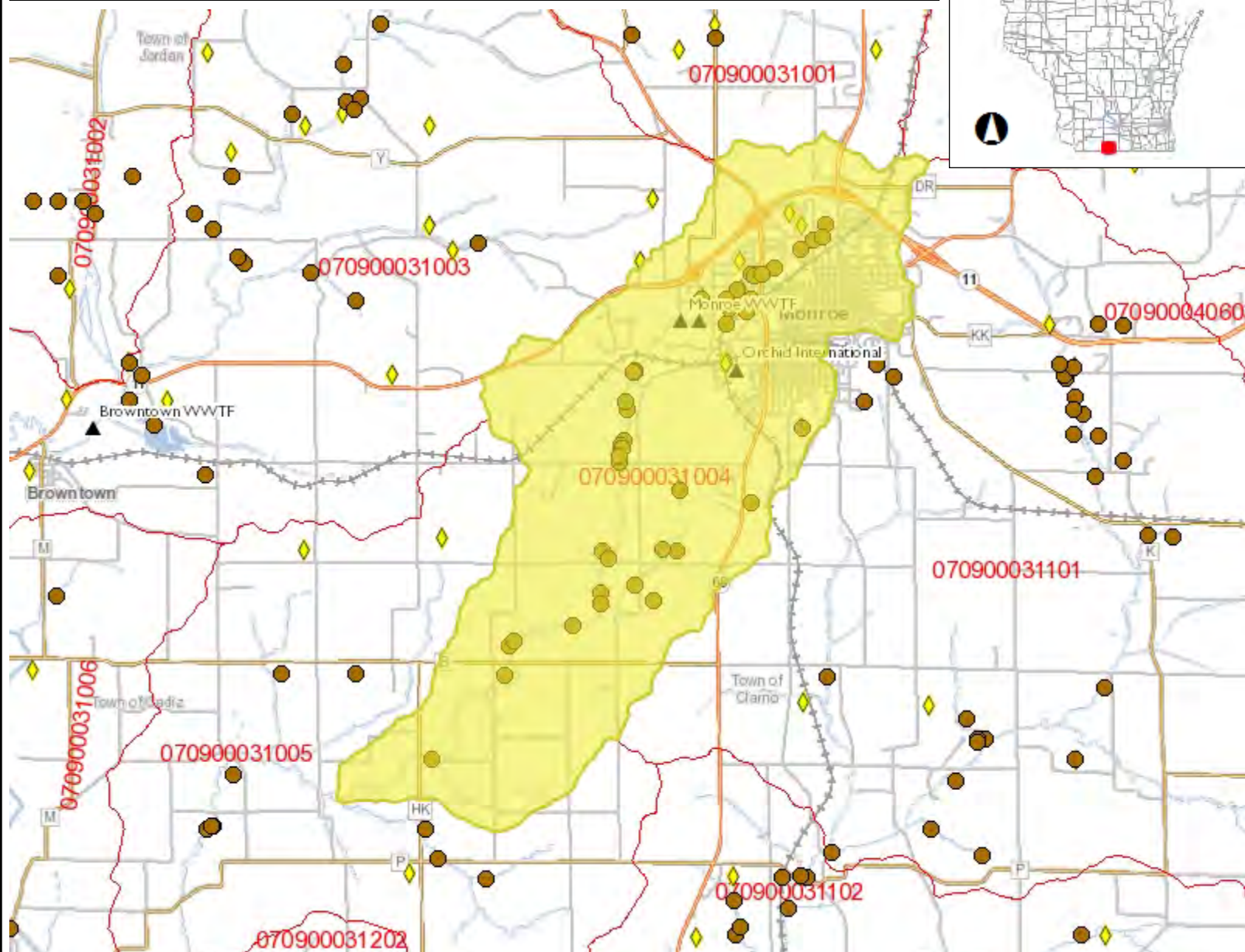
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

## Notes





# City of Monroe - HUC 12 Watershed



## Legend

- Waterway and Wetland Alterations
- Informal Actions
- Exemption Determinations
- Ordinary High Water Mark Determinations
- Navigability Determinations
  - Yes
  - Yes with Agricultural Exemption
  - No
- Surface Water Outfalls
- 12-digit HUCs (Subwatersheds)
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

3.0 0 1.50 3.0 Miles

NAD\_1983\_HARN\_Wisconsin\_TM

1: 95,040

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

## Notes



# PRESTO-Lite Watershed Delineation Report

Reach ID: 200004058

Watershed Name: Hawthorn Creek-Honey Creek

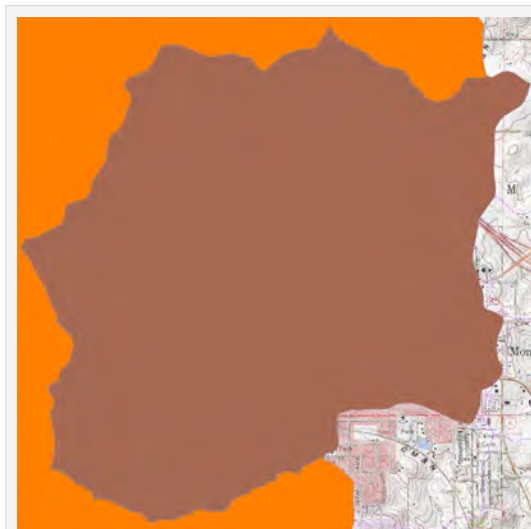
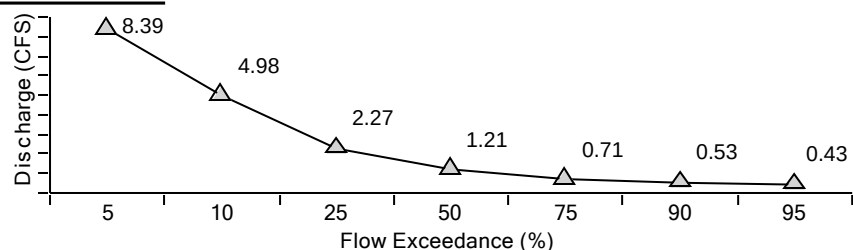
Waterbody Name: Honey Creek

HUC08: Pecatonica River

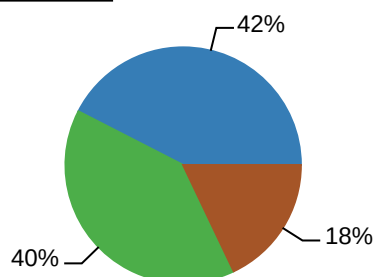
Watershed Area: 4.74 mi<sup>2</sup>

Average Annual Precipitation: 36.14in

## Stream Flow

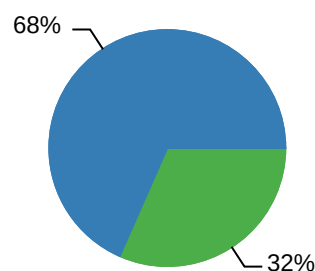


## Tributary Stream Type



| Type                | Length  |
|---------------------|---------|
| Cool-Cold Headwater | 5167 ft |
| Cold Headwater      | 4821 ft |
| Macroinvertebrates  | 2182 ft |
| Coldwater           | 0 ft    |
| Cool-Cold Mainstem  | 0 ft    |
| Cold Mainstem       | 0 ft    |
| Large River         | 0 ft    |
| Warm Headwater      | 0 ft    |
| Warm Mainstem       | 0 ft    |

## Landcover



| Type        | Area                 |
|-------------|----------------------|
| Urban       | 3.21 mi <sup>2</sup> |
| Agriculture | 1.48 mi <sup>2</sup> |
| Forest      | 0.02 mi <sup>2</sup> |
| Barren      | 0.01 mi <sup>2</sup> |
| Grassland   | 0.01 mi <sup>2</sup> |
| Wetland     | 0.01 mi <sup>2</sup> |

## PRESTO Phosphorus Load Estimate

|                                                                                 |                            |
|---------------------------------------------------------------------------------|----------------------------|
| Avg. Annual Nonpoint Phosphorous Load (80% Confidence Interval)                 | 9,714 (2,150 - 43,896) lbs |
| Number of Facilities (Individual Facility Information below)                    | 1                          |
| Avg. Annual Point-source Phosphorous Load (2010 - 2012 total of all facilities) | 3,997lbs                   |
| Most Likely Point : Nonpoint Phosphorous Ratio                                  | 29% : 71%                  |
| Low Estimate Point : Nonpoint Phosphorous Ratio (Adaptive Management)           | 8% : 92%                   |

## Adaptive Management Results

Facilities Discharging to the Hawthorn Creek-Honey Creek Watershed:

| Facility Name                        | Permit # | Outfall # | Waste<br>Type | Receiving Water | Avg.<br>Phosphorus<br>Load (lbs.)<br>(2010 - 2012) |
|--------------------------------------|----------|-----------|---------------|-----------------|----------------------------------------------------|
|                                      |          |           |               |                 |                                                    |
| MONROE WASTEWATER TREATMENT FACILITY | 0020362  | 001       | Municipal     | Honey Creek     | 3997                                               |

### Watershed Analysis Limitations

- This analysis relies on pre-defined catchments from the Wisconsin Hydrography Data-Plus and may not delineate from the exact location required. When assessing phosphorus loads for specific facility in support of efforts such as adaptive management, care should be taken to ensure that additional downstream point sources do not exist. For adaptive management information related to specific facilities please reference the PRESTO website <http://dnr.wi.gov/topic/surfacewater/presto.html>
- Delineation of watersheds is based on a topographic assessment and therefore do not account for modified drainage networks such as stormwater sewer systems and ditched agriculture.
- If a watershed requires delineation from an exact location the user may use the desktop version of PRESTO that requires ESRI ArcGIS. The PRESTO tool and default datasets can be downloaded at <http://dnr.wi.gov/topic/surfacewater/presto.html>
- Data sources for this report originate from the WDNR's Wisconsin Hydrography Data-Plus value-added dataset and the point and non-point source loading information including in the WDNR's PRESTO model.
- If you have questions about the report generated from the PRESTO-Lite application please contact: [DNRWATERQUALITYMODELING@wisconsin.gov](mailto:DNRWATERQUALITYMODELING@wisconsin.gov)

## **Exhibit 2**

**January 2021 – December 2024**

**Flow and Phosphorus Results**

| Phosphorus & Flow Data |                          |                       |                   |                             |                                      |                                            |                                           |
|------------------------|--------------------------|-----------------------|-------------------|-----------------------------|--------------------------------------|--------------------------------------------|-------------------------------------------|
| Month                  | Daily Average Flow (MGD) | Actual Discharge Flow | Phosphorus (mg/L) | Phosphorus Loading (ld/day) | Flow Rolling 12 Month Average (mg/l) | Phosphorus Rolling 12 month Average (mg/L) | Phosphorus 6-month Rolling Average (mg/L) |
| January-21             | 1.788                    | 1.592                 | 0.089             | 1.18167792                  |                                      |                                            |                                           |
| February-21            | 1.789                    | 1.606                 | 0.109             | 1.45995036                  |                                      |                                            |                                           |
| March-21               | 2.069                    | 1.865                 | 0.087             | 1.3532067                   |                                      |                                            |                                           |
| April-21               | 1.884                    | 1.682                 | 0.092             | 1.29056496                  |                                      |                                            |                                           |
| May-21                 | 1.832                    | 1.639                 | 0.108             | 1.47628008                  |                                      |                                            |                                           |
| June-21                | 2.014                    | 1.843                 | 0.123             | 1.89058626                  |                                      |                                            | 0.101                                     |
| July-21                | 2.068                    | 1.906                 | 0.320             | 5.0867328                   |                                      |                                            | 0.140                                     |
| August-21              | 2.201                    | 2.030                 | 0.447             | 7.5677994                   |                                      |                                            | 0.196                                     |
| September-21           | 2.055                    | 1.864                 | 1.126             | 17.50452576                 |                                      |                                            | 0.369                                     |
| October-21             | 2.041                    | 1.836                 | 1.563             | 23.93303112                 |                                      |                                            | 0.615                                     |
| November-21            | 1.782                    | 1.599                 | 1.124             | 14.98928184                 |                                      |                                            | 0.784                                     |
| December-21            | 1.713                    | 1.543                 | 0.193             | 2.48364366                  | 1.936                                | 0.448                                      | 0.796                                     |
| January-22             | 1.725                    | 1.546                 | 0.150             | 1.934046                    | 1.931                                | 0.454                                      | 0.767                                     |
| February-22            | 1.704                    | 1.521                 | 0.137             | 1.73786418                  | 1.924                                | 0.456                                      | 0.716                                     |
| March-22               | 1.710                    | 1.526                 | 0.111             | 1.41267924                  | 1.894                                | 0.458                                      | 0.546                                     |
| April-22               | 1.852                    | 1.649                 | 0.131             | 1.80159846                  | 1.891                                | 0.461                                      | 0.308                                     |
| May-22                 | 1.828                    | 1.628                 | 1.159             | 15.73634568                 | 1.891                                | 0.549                                      | 0.314                                     |
| June-22                | 1.856                    | 1.658                 | 1.008             | 13.93834176                 | 1.878                                | 0.622                                      | 0.449                                     |
| July-22                | 2.069                    | 1.871                 | 3.853             | 60.12275142                 | 1.878                                | 0.917                                      | 1.067                                     |
| August-22              | 2.105                    | 1.911                 | 0.122             | 1.94440428                  | 1.870                                | 0.890                                      | 1.064                                     |
| September-22           | 2.043                    | 1.844                 | 0.102             | 1.56865392                  | 1.869                                | 0.804                                      | 1.063                                     |
| October-22             | 1.752                    | 1.563                 | 0.080             | 1.0428336                   | 1.845                                | 0.681                                      | 1.054                                     |
| November-22            | 1.783                    | 1.590                 | 0.065             | 0.861939                    | 1.845                                | 0.593                                      | 0.872                                     |
| December-22            | 1.991                    | 1.800                 | 0.081             | 1.215972                    | 1.868                                | 0.583                                      | 0.717                                     |
| January-23             | 1.877                    | 1.682                 | 0.111             | 1.55709468                  | 1.881                                | 0.580                                      | 0.094                                     |
| February-23            | 1.881                    | 1.688                 | 0.106             | 1.49225952                  | 1.896                                | 0.577                                      | 0.091                                     |
| March-23               | 2.021                    | 1.828                 | 0.083             | 1.26537816                  | 1.922                                | 0.575                                      | 0.088                                     |
| April-23               | 1.968                    | 1.771                 | 0.078             | 1.15207092                  | 1.931                                | 0.571                                      | 0.087                                     |
| May-23                 | 1.855                    | 1.665                 | 0.093             | 1.2914073                   | 1.933                                | 0.482                                      | 0.092                                     |
| June-23                | 1.882                    | 1.696                 | 0.238             | 3.36642432                  | 1.936                                | 0.418                                      | 0.118                                     |
| July-23                | 1.948                    | 1.762                 | 0.531             | 7.80308748                  | 1.926                                | 0.141                                      | 0.188                                     |
| August-23              | 1.921                    | 1.736                 | 0.246             | 3.56164704                  | 1.910                                | 0.151                                      | 0.212                                     |
| September-23           | 1.761                    | 1.606                 | 0.162             | 2.16983448                  | 1.887                                | 0.156                                      | 0.225                                     |
| October-23             | 1.804                    | 1.633                 | 0.187             | 2.54679414                  | 1.891                                | 0.165                                      | 0.243                                     |
| November-23            | 1.731                    | 1.548                 | 0.106             | 1.36849392                  | 1.887                                | 0.169                                      | 0.245                                     |
| December-23            | 1.734                    | 1.564                 | 0.117             | 1.52611992                  | 1.865                                | 0.172                                      | 0.225                                     |
| January-24             | 1.781                    | 1.612                 | 0.176             | 2.36615808                  | 1.857                                | 0.177                                      | 0.166                                     |
| February-24            | 1.871                    | 1.704                 | 0.155             | 2.2027608                   | 1.856                                | 0.181                                      | 0.151                                     |
| March-24               | 1.782                    | 1.611                 | 0.121             | 1.62572454                  | 1.837                                | 0.184                                      | 0.144                                     |
| April-24               | 2.172                    | 1.991                 | 0.112             | 1.85975328                  | 1.854                                | 0.187                                      | 0.131                                     |
| May-24                 | 1.921                    | 1.745                 | 0.101             | 1.4698833                   | 1.859                                | 0.188                                      | 0.130                                     |
| June-24                | 2.229                    | 2.044                 | 0.083             | 1.41489768                  | 1.888                                | 0.175                                      | 0.125                                     |
| July-24                | 2.342                    | 2.154                 | 0.142             | 2.55093912                  | 1.921                                | 0.142                                      | 0.119                                     |
| August-24              | 2.092                    | 1.920                 | 0.144             | 2.3058432                   | 1.935                                | 0.134                                      | 0.117                                     |
| September-24           | 2.043                    | 1.884                 | 0.123             | 1.93264488                  | 1.959                                | 0.131                                      | 0.118                                     |
| October-24             | 1.937                    | 1.774                 | 0.113             | 1.67185308                  | 1.970                                | 0.124                                      | 0.118                                     |
| November-24            | 1.918                    | 1.756                 | 0.086             | 1.25947344                  | 1.985                                | 0.123                                      | 0.115                                     |
| December-24            | 1.798                    | 1.636                 | 0.132             | 1.80103968                  | 1.991                                | 0.124                                      | 0.123                                     |

|                              |        |        |
|------------------------------|--------|--------|
| January 2021-December 2024   | 1.7317 | 0.3318 |
| January 2024 - December 2024 | 1.8193 | 0.1240 |
| January 2023 - December 2023 | 1.682  | 0.172  |
| January 2022 - December 2022 | 1.676  | 0.583  |
| January 2021-December 2021   | 1.750  | 0.448  |
| January 2023- December 2024  | 1.750  | 0.148  |

## **Exhibit 3**

### **WI DNR WQBEL Calculations**

DATE: December 19, 2019

TO: Michael Kennison – Monroe Wastewater Treatment Facility

FROM: Sarah Luck – SCR/Fitchburg

SUBJECT: Preliminary Phosphorus Water Quality-Based Effluent Limitations for Monroe Wastewater Treatment Facility  
WPDES Permit No. WI-0020362

This is in response to your request for an evaluation of the water quality-based effluent limitations (WQBELs) for total phosphorus for the discharge from Monroe Wastewater Treatment Facility in Green County. This municipal wastewater treatment facility discharges to Honey Creek in the Honey and Richland Creek Watershed (SP01) of the Sugar-Pecatonica River Basin.

**Receiving Water Information**

- Name: Honey Creek
- Classification: Warm water sport fish community, non-public water supply  
Low Flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code:  
7-Q<sub>10</sub> = 1.8 cfs (cubic feet per second)  
7-Q<sub>2</sub> = 2 cfs

**Effluent Information**

- Flow Rate – Monroe Wastewater Treatment Facility  
Design Annual average = 3.7 MGD (Million Gallons per Day)
- Flow Rate – Badger State Ethanol  
Annual average = 0.090 MGD, which is the actual average flow (excluding zeros) from 10/1/2018 to 10/31/2019

**Phosphorus Water Quality-Based Effluent Limits (WQBEL)**

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

Section NR 102.06(3)(a), Wis. Adm. Code, specifically names river segments for which a phosphorus criterion of 0.100 mg/L applies. For other stream segments that are not specified in s. NR 102.06(3)(a), , Wis. Adm. Code, s. NR 102.06(3)(b), Wis. Adm. Code, specifies a phosphorus criterion of 0.075 mg/L. The phosphorus criterion of 0.075 mg/L applies to Honey Creek.

A previous evaluation of background phosphorus data, calculated in 2015, resulted in a WQBEL of 0.075 mg/L using a background concentration of 0.553 mg/L. Section NR 217.13(2)(d), Wis. Adm. Code, states that the determination of upstream concentrations shall be evaluated at each permit reissuance. Additional data were considered in estimating the background phosphorus concentration.

The Department received a study titled “Phosphorus Stream Study Testing Report” dated December 2019 that contained the results of an in-stream sampling study conducted on Honey Creek from May 2019 through October 2019. Section NR 217.13(2)(d), Wis. Adm. Code, specifies that the background phosphorus concentration used in the limit calculation formula shall equal the median of at least four

samples collected during the months of May through October, and that all samples collected during a 28-day period shall be considered as a single sample and the average of these concentrations used to determine a median. Averaging begins at the date of the first sample in the range of May through October. Using this methodology and the samples collected upstream of Badger State Ethanol (BSE) and the Monroe Wastewater Treatment Facility outfall (see table below), the median of the background phosphorus concentration was calculated to be 0.025 mg/L.

| Sample Date | In-stream phosphorus concentration (mg/L) |                               |
|-------------|-------------------------------------------|-------------------------------|
|             | 200 ft upstream of BSE outfall            | 50 ft upstream of BSE outfall |
| 5/23/2019   | -                                         | 0.061                         |
| 5/29/2019   | -                                         | 0.031                         |
| 6/28/2019   | 0.005                                     | 0.014                         |
| 7/1/2019    | 0.014                                     | 0.015                         |
| 8/1/2019    | 0.005                                     | 0.008                         |
| 8/29/2019   | 0.028                                     | 0.011                         |
| 9/24/2019   | 0.022                                     | 0.040                         |
| 10/23/2019  | 0.038                                     | 0.042                         |

The conservation of mass equation is described in s. NR 217.13 (2)(a), Wis. Adm. Code, for phosphorus QBELs and includes variables of water quality criterion (WQC), receiving water flow rate (Qs), effluent flow rate (Qe), and upstream phosphorus concentrations (Cs). In accordance with NR 217.13(6), Wis. Adm. Code, when there are multiple dischargers affecting water quality, the resultant combined allowable load shall be divided among the various discharges using an allocation method based on site-specific considerations. Thus, the combined effluent flow rates (Qe) of BSE and Monroe Wastewater Treatment Facility were used. Furthermore, substituting a median value of 0.025 mg/L into the limit calculation equation below, the calculated limit is 0.092 mg/L for both Monroe Wastewater Treatment Facility and BSE.

$$\text{Limitation} = [(WQC)(Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)] / Q_e$$

Where:

WQC = 0.075 mg/L for Honey Creek

Qs = 100% of the 7-Q<sub>2</sub> of 2.0 cfs

Cs = background concentration of phosphorus in the receiving water pursuant to s. NR 217.13(2)(d), Wis. Adm. Code = 0.025 mg/L

Qe = effluent flow rate = 3.7 MGD + 0.090 MGD = 3.79 MGD = 5.864 cfs

f = the fraction of effluent withdrawn from the receiving water = 0

### Phosphorus Limit Expression

According to s. NR 217.14 (2), Wis. Adm. Code, because the calculated QBEL is less than or equal to 0.3 mg/L, the effluent limit of 0.092 mg/L may be expressed as a six-month average. If a concentration limitation expressed as a six-month average is included in the permit, a monthly average concentration limitation of 0.28 mg/L, equal to three times the QBEL calculated under s. NR 217.13, Wis. Adm. Code shall also be included in the permit. The six-month average should be averaged during the months of May – October and November – April.



### Mass Limits

Because the discharge is to a surface water that upstream of a receiving water that listed as phosphorus impaired, a mass limit is also required, pursuant to s. NR 217.14(1)(a), Wis. Adm. Code. **This final mass limit shall be  $0.092 \text{ mg/L} \times 8.34 \times 3.7 \text{ MGD} = 2.8 \text{ lbs/day}$  expressed as a six-month average.**

### Summary

The following is a summary of effluent limitations:

| Parameter        | Monthly Average | Six-Month Average                |
|------------------|-----------------|----------------------------------|
| Total Phosphorus | 0.28 mg/L       | 0.092 mg/L<br><b>2.8 lbs/day</b> |

If there are any questions or comments, please contact Sarah Luck at (608) 275-3230 (Sarah.Luck@wisconsin.gov) or Diane Figiel at (608) 264-6274 (Diane.Figiel@wisconsin.gov).

E-cc: Nathan Wells, Wastewater Engineer – SCR/Fitchburg  
Diane Figiel, Water Resources Engineer – WY/3  
Joseph Solawetz – Monroe Wastewater Treatment Facility  
Jennifer Buholzer – Fehr Graham

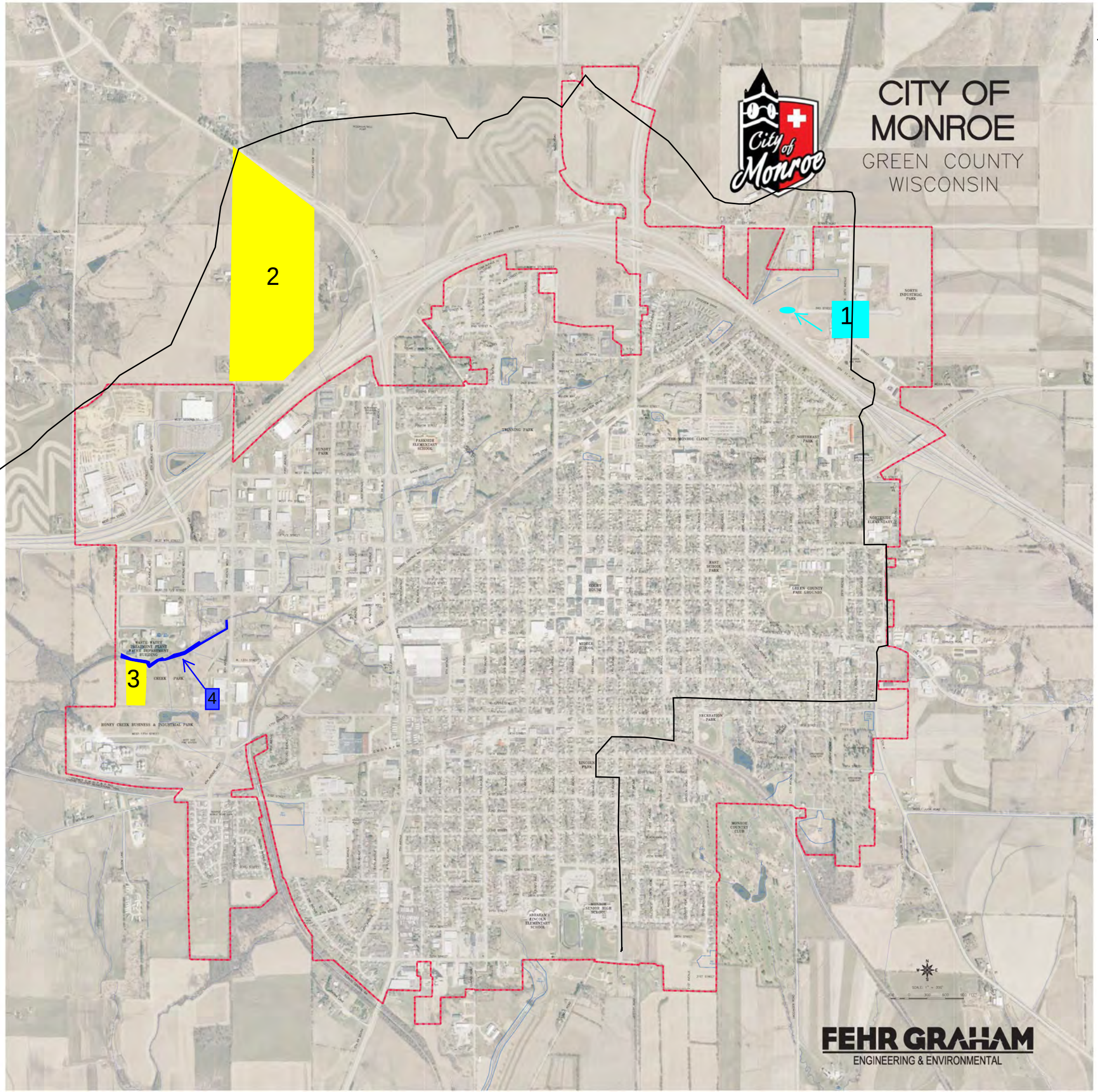
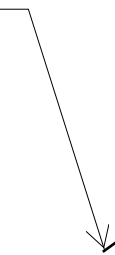
## **Exhibit 4**

### **WQT Location Map**



EXHIBIT 4  
Water Quality  
Trading Locations

Approximate  
HUC- 12  
Boundary



Location Description:

- 1 - City Owned Industrial Park install wet detention pond.
- 2 - Dolan Property - City Owned Property
- 3- WWTP Expansion Site
- 4-Honey Creek Stream Bank Restoration



## **Exhibit 5**

### **Industrial Park WQT Information**

Notice: Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

**Applicant Information**

|                                                          |  |                           |        |                             |          |
|----------------------------------------------------------|--|---------------------------|--------|-----------------------------|----------|
| Permittee Name                                           |  | Permit Number             |        | Facility Site Number        |          |
| City of Monroe                                           |  | WI- 0020362-08-0          |        | 31428                       |          |
| Facility Address                                         |  |                           | City   | State                       | ZIP Code |
| 1110 18th Ave                                            |  |                           | Monroe | WI                          | 53566    |
| Project Contact Name (if applicable)                     |  | Address                   |        | City                        | State    |
| Jesse Duff                                               |  | 1107 16th Ave             |        | Monroe                      | WI       |
|                                                          |  |                           |        | State                       | ZIP Code |
|                                                          |  |                           |        | WI                          | 53566    |
| Project Name                                             |  |                           |        |                             |          |
| Monroe Business & Industrial Park Detention Improvements |  |                           |        |                             |          |
| Receiving Water Name                                     |  | Parameter(s) being traded |        | HUC 12(s)                   |          |
| Honey Creek/ Richland Creek                              |  | Phosphorus                |        | 070900031004 / 070900031101 |          |

Is the permittee in a point or nonpoint source dominated watershed?  
(See PRESTO results - <http://dnr.wi.gov/topic/surfacewater/presto.html>)

- ☐ Point source dominated  
☒ Nonpoint source dominated

**Credit Generator Information**

Credit generator type (select all that apply):

|                                                             |                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Permitted Discharge (non-MS4/CAFO) | <input type="checkbox"/> Urban nonpoint source discharge        |
| <input checked="" type="checkbox"/> Permitted MS4           | <input type="checkbox"/> Agricultural nonpoint source discharge |
| <input type="checkbox"/> Permitted CAFO                     | <input type="checkbox"/> Other - Specify: _____                 |

Are any of the credit generators in a different HUC 12 than the applicant? ☒ Yes; HUC 12: 070900031101

- ☐ No  
☐ Unsure

Are any of the credit generators downstream of the applicant?

- ☐ Yes  
☒ No  
☐ Unsure

Will a broker/exchange be used to facilitate trade?

- ☐ Yes; Name: \_\_\_\_\_  
☐ No  
☒ Unsure

**Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)**

| Discharge Type                                                                                          | Permit Number | Name           | Contact Address                   | Is the point source credit generator currently in compliance with their permit requirements? |
|---------------------------------------------------------------------------------------------------------|---------------|----------------|-----------------------------------|----------------------------------------------------------------------------------------------|
| <input type="radio"/> Traditional<br><input checked="" type="radio"/> MS4<br><input type="radio"/> CAFO | S050075       | City of Monroe | 1110 18th Ave<br>Monroe, WI 53566 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |

# Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

Page 2 of 2

## Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)

List the practices that will be used to generate credits:

Installation of detention ponds designed for the removal of Phosphorus. See attached construction documents and Win SLAMM calculations.

Method for quantifying credits generated:

☐ Monitoring

☒ Modeling, Names: WinSLAMM

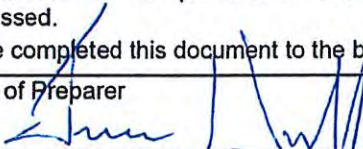
☐ Other: \_\_\_\_\_

Projected date credits will be available:

### The preparer certifies all of the following:

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer



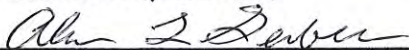
Date Signed

5/2/2019

### Authorized Representative Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative



Date Signed

5/2/2019

Data file name: O:\Monroe City of\20-385 - Water Quality Trading Plan\Dolan Property SNAP\archive (1)\Monroe Ind Park-W Pond\14-1049 TP Analysis.mdb

Data file description:

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

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI\_GEO03.ppdx

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 03-29-2021 Time of run: 10:26:40

Total Area Modeled (acres): 28.000

Years in Model Run: 1.00

|                                          | Runoff<br>Volume<br>(cu ft) | Percent<br>Runoff<br>Volume<br>Reduction | Particulate<br>Solids<br>Conc.<br>(mg/L) | Particulate<br>Solids<br>Yield<br>(lbs) | Percent<br>Particulate<br>Solids<br>Reduction |
|------------------------------------------|-----------------------------|------------------------------------------|------------------------------------------|-----------------------------------------|-----------------------------------------------|
| Total of all Land Uses without Controls: | 1.65E+06                    | -                                        | 123.7                                    | 12754                                   | -                                             |
| Outfall Total with Controls:             | 1.66E+06                    | -0.24%                                   | 28.48                                    | 2945                                    | 76.91%                                        |
| Annualized Total After Outfall Controls: | 1.66E+06                    |                                          |                                          | 2953                                    |                                               |

| Pollutant              | Concentration - No Controls | Concentration - With Controls | Conc. Units | Pollutant Yield - No Controls | Pollutant Yield - With Controls | Pol. Yield Units | Percent Reduction |
|------------------------|-----------------------------|-------------------------------|-------------|-------------------------------|---------------------------------|------------------|-------------------|
| Particulate Solids     | 123.7                       | 28.48                         | mg/L        | 12754                         | 2945                            | lbs              | 76.91%            |
| Filterable Solids      | 60.82                       | 60.82                         | mg/L        | 6272                          | 6288                            | lbs              | -0.26%            |
| Total Solids           | 184.5                       | 89.3                          | mg/L        | 19026                         | 9233                            | lbs              | 51.47%            |
| Particulate Phosphorus | 0.2348                      | 0.05521                       | mg/L        | 24.21                         | 5.708                           | lbs              | 76.42%            |
| Filterable Phosphorus  | 0.05321                     | 0.05319                       | mg/L        | 5.487                         | 5.5                             | lbs              | -0.23%            |
| Total Phosphorus       | 0.288                       | 0.1084                        | mg/L        | 29.7                          | 11.21                           | lbs              | 62.26%            |



**Water Quality Trading Management  
Practice Registration**  
Form 3400-207 (R 1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

**Applicant Information**

|                                                                                      |  |                                   |                |                               |                   |
|--------------------------------------------------------------------------------------|--|-----------------------------------|----------------|-------------------------------|-------------------|
| Permittee Name<br>City of Monroe                                                     |  | Permit Number<br>WI- 0020362-08-0 |                | Facility Site Number<br>31428 |                   |
| Facility Address<br>1110 18th Ave                                                    |  |                                   | City<br>Monroe | State<br>WI                   | ZIP Code<br>53566 |
| Project Contact Name (if applicable)<br>Jennifer Buholzer                            |  | Address<br>1107 16th Ave          |                | City<br>Monroe                | State<br>WI       |
|                                                                                      |  |                                   |                | ZIP Code<br>53566             |                   |
| Project Name<br>Monroe Business & Industrial Park Detention Improvements - West Pond |  |                                   |                |                               |                   |

**Broker/Exchange Information (if applicable)**

Was a broker/exchange be used to facilitate trade? ☐ Yes  
☒ No

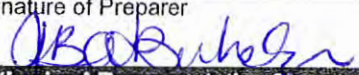
|                                   |  |              |       |
|-----------------------------------|--|--------------|-------|
| Broker/Exchange Organization Name |  | Contact Name |       |
| Address                           |  | Phone Number | Email |

**Trade Registration Information (Use a separate form for each trade agreement)**

| Type                                                                                                                | Trade Agreement Number | Practices Used to Generate Credits          | Anticipated Load Reduction     | Trade Ratio                             | Method of Quantification |
|---------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------|--------------------------------|-----------------------------------------|--------------------------|
| <input checked="" type="radio"/> Urban NPS<br><input type="radio"/> Agricultural NPS<br><input type="radio"/> Other | I                      | Installation of Wet Detention Pond          | 9.05                           | 2:1                                     | SLAMM                    |
| County<br>Green                                                                                                     |                        | Closest Receiving Water Name<br>Honey Creek | Land Parcel ID(s)<br>5001.1525 | Parameter(s) being traded<br>phosphorus |                          |

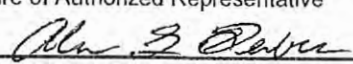
**The preparer certifies all of the following:**

- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

|                                                                                                              |                          |
|--------------------------------------------------------------------------------------------------------------|--------------------------|
| Signature of Preparer<br> | Date Signed<br>2/22/2020 |
|--------------------------------------------------------------------------------------------------------------|--------------------------|

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

|                                                                                                                               |                        |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Signature of Authorized Representative<br> | Date Signed<br>7-22-20 |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------|

**Leave Blank - For Department Use Only**

|                                                         |                     |
|---------------------------------------------------------|---------------------|
| Date Received                                           | Trade Docket Number |
| Entered in Tracking System <input type="checkbox"/> Yes | Date Entered        |
| Name of Department Reviewer                             |                     |



## **Operation & Maintenance– Industrial Park Pond**

For the purposes of this Operation and Maintenance Plan, severe floods are defined as any hydrologic event resulting from a 24-hour cumulative precipitation in excess of 3.8 inches of rainfall (i.e., the 5-year, 24-hour precipitation event based on the annual maximum time series as defined by NOAA Atlas 14, Volume 8, Version 2).

Refer to Inspection and Reporting requirements to be followed as part of the proper operation and maintenance of the BMPs installed as part of this water quality trading plan.

### **Wet Detention Pond (1001): Wisconsin DNR Conservation Practice Standard:**

1. Check the slopes of the pond banks for erosion. This will include sloughing, erosion, or damage to vegetative cover. Damaged areas shall be graded, shaped, and revegetated.
2. Inspect the outfall for excess erosion and fix any areas of washout.
3. Removed excess vegetative debris
4. Repair any vandalism or vehicle damage.
5. Determine the depth of sediment accumulation in the pond. This depth to be tracked every other year.
6. Depth of sediment shall be placed onto a map to allow for easy tracking of where sediment build up is occurring.
7. As necessary, dredge pond of accumulated sediment.

### **Additional Conditions:**

1. All repairs should be approved by WI DNR before implementing the repair to determine if a permit is needed to complete the repair.
2. Clip and/or mechanically harvest vegetated areas, as needed, to control undesirable species and woody vegetation.
3. The BMPs will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions to maintain the installed BMPs for continuous TP credit generation.

4. The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT plan. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**

### **Inspection Reporting– Industrial Park Pond**

a. Tracking Procedures

The City will track credits monthly and report credit usage to the DNR in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The City will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

b. Inspection

Inspection of the BMPs shall occur to ensure they are installed per the design and meet all applicable codes and permits. Inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the City remains in compliance.

The inspection reports will include:

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. When and how any issues identified were addressed
- vi. When and how any issues identified will be addressed in the future Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the City to DNR.
- vii. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**

c. Annual Water Quality Trading Report Submittal

Each year the following shall be submitted to the DNR:

- i. The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance.
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be

completed by a licensed Professional Engineer.

- iii. **Report to include analysis of structural and vegetative conditions.**
- iv. Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.
- v. **Photos documenting condition of practice to be completed annually.**
- vi. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vii. An updated WQT plan if management practices have or will change.

d. Certification of Management Practices

The city will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance:

“I certify, to the best of my knowledge, the management practices identified in the approved water quality trading plan are installed, established and properly maintained.”

e. Notification of Failure to Generate Credits

The City will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by City are not being generated as outlined in this Water Quality Trading Plan.

The City will submit a written notification within five days after the City recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. The DNR may waive the requirement for submittal for a written notice within five days and instruct the City to submit the written notice with the next regularly scheduled monitoring report required by City's WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined, the steps taken or planned to prevent reoccurrence of the identified problem, and the length of time it will take to address the issue.

f. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the City's trade agreement with the DNR and this Water Quality Trading Plan remain in effect.

# MONROE BUSINESS AND INDUSTRIAL PARK DETENTION IMPROVEMENTS

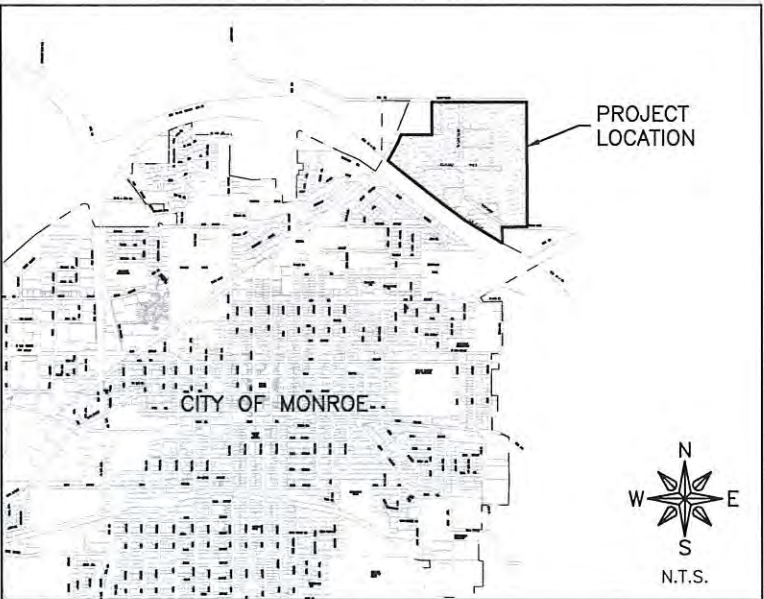
FOR

## CITY OF MONROE MONROE, WISCONSIN

PROPOSED SITE PLANS  
GREEN COUNTY  
MARCH 2019



| INDEX OF SHEETS |                               |
|-----------------|-------------------------------|
| SHEET NUMBER    | SHEET TITLE                   |
| 1               | TITLE SHEET                   |
| 2               | STANDARD LEGEND               |
| 3               | GENERAL NOTES                 |
| 4               | GENERAL NOTES                 |
| 5               | OVERALL DEVELOPEMENT          |
| 6               | SOIL BORING LOGS              |
| 7               | EAST DETENTION POND GRADING   |
| 8               | EAST POND GRADING SPOILS AREA |
| 9               | EAST POND CROSS-SECTION       |
| 10              | WEST DETENTION POND GRADING   |
| 11              | WEST POND GRADING SPOILS AREA |
| 12              | WEST POND CROSS-SECTION       |
| 13              | DETAILS                       |
| 14              | DETAILS                       |



LOCATION MAP

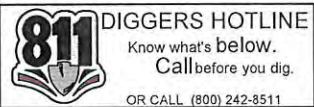
CONTOURS AND ELEVATIONS DEPICTED HEREON ARE BASED ON THE NAVD88 DATUM  
HORIZONTAL DATUM IS BASED ON NAD83 WISCONSIN SOUTH

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS IOWA WISCONSIN

| UTILITIES     |                        |
|---------------|------------------------|
| UTILITY TYPE  | COMMON NAME            |
| WATER & SEWER | CITY OF MONROE         |
| ELECTRIC      | ALLIANT ENERGY         |
| TELEPHONE     | TDS TELECOM            |
| GAS           | WE ENERGIES            |
| CABLE         | CHARTER COMMUNICATIONS |

(CONTRACTOR TO BE RESPONSIBLE  
FOR ANY ADJUSTMENTS TO BE MADE.)



WISCONSIN  
JESSE W. DUFF  
43495-6  
MONROE, WI  
PROFESSIONAL ENGINEER  
SIGNATURE DATE  
3/18/2019

OUT TO BID

| ORIGINAL SET FOR PROJECT: 14-1049 |             | DATE CREATED: 3/18/19 |
|-----------------------------------|-------------|-----------------------|
| REVISIONS                         |             |                       |
| REV. NO.                          | DESCRIPTION | DATE                  |
|                                   |             |                       |
|                                   |             |                       |
|                                   |             |                       |
|                                   |             |                       |
|                                   |             |                       |
|                                   |             |                       |
|                                   |             |                       |

|           |                                           |          |                                                |
|-----------|-------------------------------------------|----------|------------------------------------------------|
| ANGLE     | ANGLE                                     | PI       | POLYETHYLENE PIPE                              |
| ABC       | AGGREGATE BASE COURSE                     | PL       | POINT OF INTERSECTION                          |
| AC        | ACRE(S)                                   | PL       | PLATE                                          |
| ACI       | AMERICAN CONCRETE INSTITUTE               | PLG      | PLUG VALVE                                     |
| AGR       | AGGREGATE                                 | PLP      | POLYPROPYLENE PIPE                             |
| AISC      | AMERICAN INSTITUTE OF STEEL CONSTRUCTION  | PLYWD    | PLYWOOD                                        |
| ALT       | ALTERNATE                                 | PM       | PRINCIPAL MERIDIAN                             |
| ARCH      | ARCHITECT                                 | PR       | PRESSURE REGULATORS                            |
| ASPH      | ASPHALT                                   | PRC      | POINT OF REVERSE CURVATURE                     |
| ASTM      | AMERICAN SOCIETY OF TESTING AND MATERIALS | PRESS    | PRESSURE                                       |
| B         | BALL VALVE                                | PR, PROP | PROPOSED                                       |
| BFP       | BACKFLOW PREVENTER                        | PRV      | PRESSURE REDUCING VALVE                        |
| BIT       | BITUMINOUS                                | PSF      | POUNDS PER SQUARE FOOT                         |
| BLDG      | BUILDING                                  | PSI      | POUNDS PER SQUARE INCH                         |
| BLK       | BLOCKING                                  | PSL      | PIPE SLEEVE                                    |
| BM        | BENCHMARK                                 | PT       | POINT OF TANGENCY                              |
| BOT       | BOTTOM                                    | PLG      | PLUG VALVE                                     |
| BSMT      | BASEMENT                                  | PVC      | POLYVINYL CHLORIDE (PLASTIC) PIPE              |
| BV        | BUTTERFLY VALVE                           | R        | RADIUS                                         |
| B-B       | BACK-TO-BACK OF CURB DIMENSION            | RDCR     | REDUCER                                        |
| CL or C   | CENTERLINE                                | RCCP     | REINFORCED CONCRETE CYLINDER PIPE              |
| C to C    | CENTER TO CENTER                          | RCP      | REINFORCED CONCRETE PIPE                       |
| C & G     | CURB AND GUTTER                           | RD       | ROOF DRAIN                                     |
| CF        | CUBIC FEET                                | REINF    | REINFORCING                                    |
| CHD       | CHORD LENGTH                              | REQD     | REQUIRED                                       |
| CJ        | CAST IRON PIPE                            | ROW      | RIGHT OF WAY                                   |
| CHK       | CHECK VALVE                               | RFR      | RAFTER                                         |
| CLR       | CLEAR                                     | RND      | ROUND                                          |
| CMP       | CORRUGATED METAL PIPE                     | RR       | RAILROAD                                       |
| CMU       | CONCRETE MASONRY UNIT                     | RRSP     | RAILROAD SPIKE                                 |
| CTY       | COUNTY                                    | RT       | RIGHT                                          |
| CONC      | CONCRETE                                  | R&R      | REMOVE AND REPLACE                             |
| CONT      | CONTINUOUS                                | S        | SOUTH                                          |
| C-B       | CENTERLINE TO BACK OF CURB DIMENSION      | SB       | STREAM BED                                     |
| C-COORD   | COORDINATE                                | SCHED    | SCHEDULE                                       |
| CU        | COPPER PIPING                             | SEC      | SECTION                                        |
| CTRS      | CENTERS                                   | SF       | SQUARE FEET                                    |
| CY        | CUBIC YARDS                               | SHR      | SHOWER                                         |
| CS        | CORPORATION STOP                          | SHT      | SHEET                                          |
| D         | DEGREE OF CURVE                           | SHTG     | SHEATHING                                      |
| DEP       | DEPRESSED                                 | SP       | SANITARY PIPE                                  |
| DET       | DETAIL                                    | SPA      | SPACING OR SPACES                              |
| DIAG      | DIAGONAL                                  | SPEC     | SPECIFICATION                                  |
| DIM       | DIMENSION                                 | SQ       | SQUARE                                         |
| DI        | DUCTILE IRON PIPE                         | SS       | SANITARY SERVICE                               |
| DN        | DOWN                                      | STA      | STATION                                        |
| DNSTR     | DOWNSTREAM                                | STD      | STANDARD                                       |
| DP        | DRAINAGE PIPE/STORM PIPE                  | STL      | STEEL                                          |
| DWG       | DRAWING                                   | STRUCT   | STRUCTURAL                                     |
| E         | EAST                                      | SW       | SIDEWALK                                       |
| EJ        | EXPANSION JOINT                           | SY       | SQUARE YARDS                                   |
| EL, ELEV  | ELEVATION                                 | SYM      | SYMMETRICAL                                    |
| EP        | EDGE OF PAVEMENT                          | TAN      | TANGENT LENGTH                                 |
| EQUIP     | EQUIPMENT                                 | TBC      | TOP BACK OF CURB                               |
| EQUIV     | EQUIVALENT                                | TBM      | TEMPORARY BENCH MARK; BASED ON BENCHMARK DATUM |
| EW        | EACH WAY                                  | TD       | TILE DRAIN                                     |
| EXP       | EXPANSION                                 | THK      | THICK                                          |
| EX, EXIST | EXISTING                                  | TR       | TREAD                                          |
| EXT       | EXTERIOR                                  | TY       | TYPE                                           |
| E =       | EXTERNAL DISTANCE                         | TYP      | TYPICAL                                        |
| FD        | FLOOR DRAIN                               | U.O.N.   | UNLESS OTHERWISE NOTED                         |
| FDN       | FOUNDATION                                | UP       | UTILITY POLE                                   |
| FE        | FIELD ENTRANCE                            | UPSTR    | UPSTREAM                                       |
| FIL       | FINISH FLOOR                              | UR       | URINAL                                         |
| FILF      | FILLET                                    | USGS     | US GEOLOGICAL SURVEY                           |
| FIN       | FINISH                                    | VC       | VERTICAL CURVE                                 |
| FL        | FLOW LINE                                 | VCP      | VITRIFIED CLAY PIPE                            |
| FLR       | FLOOR                                     | VERT     | VERTICAL                                       |
| FM        | FORCE MAIN                                | VOL      | VOLUME                                         |
| FND       | FOUND                                     | VPC      | VERTICAL POINT OF CURVATURE                    |
| FRMG      | FRAMING                                   | VPI      | VERTICAL POINT OF INTERSECTION                 |
| FTG       | FOOTING                                   | VPRC     | VERTICAL POINT OF REVERSE CURVATURE            |
| F-F       | FACE TO FACE                              | VPT      | VERTICAL POINT OF TANGENCY                     |
| GA        | GAUGE                                     | W        | WEST                                           |
| GI        | GALVANIZED IRON PIPE                      | WC       | WATER CLOSET                                   |
| GRD       | GRADE                                     | WF       | WIDE FLANGE                                    |
| GRS       | GRATING SUPPORT                           | WM       | WATER MAIN                                     |
| GRT       | GROUT                                     | WMQ      | WATER MAIN QUALITY                             |
| GV        | GAS VALVE                                 | WV       | WATER VALVE                                    |
| GYP       | GYPSUM                                    | WGT      | WEIGHT                                         |
| HSE       | HOUSE                                     | WP       | WEATHER PROOF                                  |
| HC        | HORIZONTAL CURVE                          | WS       | WATER SERVICE                                  |
| HMA       | HOT MIX ASPHALT                           | WWF      | WELDED WIRE FABRIC                             |
| HNGR      | HANGER                                    | W/O      | WITH                                           |
| HORIZ     | HORIZONTAL                                | W/O      | WITHOUT                                        |
| H.P.      | HIGH POINT                                | XP       | EXPLOSION PROOF                                |
| HW        | HOT WATER                                 |          |                                                |
| HWH       | HOT WATER HEATER                          |          |                                                |
|           | CENTRAL ANGLE                             |          |                                                |

|          |                                             |                                                                                     |                     |                                                                                      |                          |
|----------|---------------------------------------------|-------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------|--------------------------|
| 12       | MOMENT OF INERTIA                           | <u>HATCH PATTERNS</u>                                                               |                     |                                                                                      |                          |
| ID       | INSIDE DIAMETER                             |  | EARTH - FILL        |  | BRICK                    |
| INT      | INTERIOR                                    |  | EARTH - UNDISTURBED |  | STEEL                    |
| INV      | INVERT ELEVATION; BASED ON BENCH MARK DATUM |  | ROCK (GEOLOGICAL)   |  | INSULATION (LOOSE/ BATT) |
| IP       | IRON PIPE                                   |  | STONE OR RIP RAP    |  | INSULATION (RIGID)       |
| JUST     | JOIST                                       |  | GRAVEL              |  | WOOD (ROUGH)             |
| L        | LENGTH OF CURVE                             |  | CONCRETE            |  | WOOD (BLOCKING)          |
| LAT      | LATERAL                                     |  | CONCRETE BLOCK      |  | WOOD (FINISH)            |
| LAV      | LAVATORY                                    |  | CMU                 |  | DETECTABLE WARNING       |
| LF       | LINEAL FEET                                 |  | ASPHALT PAVEMENT    |                                                                                      |                          |
| L.P.     | LOW POINT                                   |                                                                                     |                     |                                                                                      |                          |
| LT       | LEFT OF SURVEY BASE LINE                    |                                                                                     |                     |                                                                                      |                          |
| MAX      | MAXIMUM                                     |                                                                                     |                     |                                                                                      |                          |
| ME       | MATCH EXISTING                              |                                                                                     |                     |                                                                                      |                          |
| MH       | MANHOLE                                     |                                                                                     |                     |                                                                                      |                          |
| MIN      | MINIMUM                                     |                                                                                     |                     |                                                                                      |                          |
| MJ       | MECHANICAL JOINT                            |                                                                                     |                     |                                                                                      |                          |
| MTL      | METAL                                       |                                                                                     |                     |                                                                                      |                          |
| N        | NORTH                                       |                                                                                     |                     |                                                                                      |                          |
| No. OR # | NUMBER                                      |                                                                                     |                     |                                                                                      |                          |
| NOM      | NOMINAL                                     |                                                                                     |                     |                                                                                      |                          |
| NTS      | NOT TO SCALE                                |                                                                                     |                     |                                                                                      |                          |
| OC       | ON CENTER                                   |                                                                                     |                     |                                                                                      |                          |
| OD       | OUTSIDE DIAMETER                            |                                                                                     |                     |                                                                                      |                          |
| OO       | OUTSIDE TO OUTSIDE                          |                                                                                     |                     |                                                                                      |                          |
| OPNG     | OPENING                                     |                                                                                     |                     |                                                                                      |                          |
| OPP      | OPPOSITE                                    |                                                                                     |                     |                                                                                      |                          |
| PC       | POINT OF CURVATURE                          |                                                                                     |                     |                                                                                      |                          |
| PCC      | PORTLAND CEMENT CONCRETE                    |                                                                                     |                     |                                                                                      |                          |
| PCF      | POUNDS PER CUBIC FOOT                       |                                                                                     |                     |                                                                                      |                          |
| PDP      | PERFORATED DRAIN PIPE                       |                                                                                     |                     |                                                                                      |                          |

|                                                                                       |  |                                                  |  |                                                                                       |  |
|---------------------------------------------------------------------------------------|--|--------------------------------------------------|--|---------------------------------------------------------------------------------------|--|
| <u>EXISTING</u>                                                                       |  | <u>CIVIL</u>                                     |  | <u>PROPOSED</u>                                                                       |  |
| EXISTING R.O.W.                                                                       |  | RIGHT-OF-WAY LINE                                |  | PROPOSED R.O.W.                                                                       |  |
|                                                                                       |  | PROPERTY LINE                                    |  |                                                                                       |  |
|                                                                                       |  | CENTERLINE                                       |  |                                                                                       |  |
|                                                                                       |  | SETBACK LINE                                     |  |                                                                                       |  |
|                                                                                       |  | EASEMENT LINE                                    |  |                                                                                       |  |
|                                                                                       |  | SECTION LINE                                     |  |                                                                                       |  |
|    |  | SECTION CORNER                                   |  |                                                                                       |  |
| N 1000.00<br>E 1000.00                                                                |  | COORDINATE POINT ON GRID SYSTEM                  |  |                                                                                       |  |
|    |  | FOUND OR SET PROPERTY PIN                        |  |    |  |
|    |  | RIGHT-OF-WAY MARKER                              |  |    |  |
|    |  | BENCHMARK                                        |  |                                                                                       |  |
|    |  | CONTOUR LINE                                     |  |    |  |
|    |  | SPOT ELEVATION (AT ●)                            |  |    |  |
|    |  | FENCE LINE                                       |  |    |  |
|    |  | SILT FENCE LINE                                  |  |    |  |
|    |  | CURB AND GUTTER                                  |  |    |  |
|                                                                                       |  | TIP OUT CURB AND GUTTER                          |  |    |  |
|                                                                                       |  | SAWCUT, LIMITS OF PAVEMENT REMOVAL & REPLACEMENT |  |    |  |
|    |  | DECIDUOUS TREE W/ SIZE X"                        |  |    |  |
|    |  | CONIFEROUS TREE W/ SIZE X"                       |  |    |  |
|    |  | TREE STUMP                                       |  |                                                                                       |  |
|    |  | HEDGEROW                                         |  |    |  |
|    |  | BUSH OR SHRUB                                    |  |    |  |
|    |  | TREE LINE                                        |  |    |  |
|   |  | CONSTRUCTION LIMIT LINE                          |  |   |  |
|  |  | SIGN (MULTIPLE POST, SINGLE POST)                |  |  |  |
|  |  | SIGN (PYLON)                                     |  |  |  |
|  |  | GUARD RAIL                                       |  |  |  |
|  |  | RAILROAD TRACKS                                  |  |  |  |
|  |  | BUILDING                                         |  |  |  |
|  |  | MAILBOX                                          |  |  |  |
|  |  | FLAGPOLE                                         |  |                                                                                       |  |
|  |  | BOLLARD                                          |  |  |  |
|  |  | AIR CONDITIONER                                  |  |  |  |
| <u>EXISTING</u>                                                                       |  | <u>MISC</u>                                      |  | <u>PROPOSED</u>                                                                       |  |
|  |  | SOIL BORING LOCATION AND NUMBER S.B. #XX         |  |  |  |

|                                                                                     |  |                      |  |                                                                                     |  |
|-------------------------------------------------------------------------------------|--|----------------------|--|-------------------------------------------------------------------------------------|--|
| <u>EXISTING</u>                                                                     |  | <u>WATER</u>         |  | <u>PROPOSED</u>                                                                     |  |
|  |  | WATER SERVICE        |  |  |  |
|  |  | WATER PIPE           |  |  |  |
|  |  | FIRE HYDRANT         |  |  |  |
|  |  | YARD HYDRANT         |  |  |  |
|  |  | WATER VALVE WITH BOX |  |  |  |
|  |  | CURB STOP W/CURB BOX |  |  |  |
|  |  | REDUCER              |  |  |  |
|  |  | WATER VALVE VAULT    |  |  |  |
|                                                                                     |  | 11.25° BEND          |  |  |  |
|                                                                                     |  | 22.50° BEND          |  |  |  |
|                                                                                     |  | 45° BEND             |  |  |  |
|                                                                                     |  | 90° BEND             |  |  |  |
|                                                                                     |  | TEE                  |  |  |  |
|                                                                                     |  | CAP                  |  |  |  |
|  |  | WATER METER          |  |  |  |
|  |  | SPRINKLER HEAD       |  |  |  |
|  |  | TRACER WIRE BOX      |  |  |  |

|                                                                                     |  |                    |  |                                                                                     |  |
|-------------------------------------------------------------------------------------|--|--------------------|--|-------------------------------------------------------------------------------------|--|
| <u>EXISTING</u>                                                                     |  | <u>STORM SEWER</u> |  | <u>PROPOSED</u>                                                                     |  |
|  |  | STORM SEWER        |  |  |  |
|  |  |                    |  |                                                                                     |  |

|                                   |  | LOWER NUMERAL INDICATES SIZE AND TYPE |  |
|-----------------------------------|--|---------------------------------------|--|
| UNDISTURBED AREA                  |  | LUMINAIRE                             |  |
| STABILIZED CONSTRUCTION ENTRANCE  |  |                                       |  |
| SILT FENCE                        |  | ARROW - THROUGH, TURN LEFT            |  |
| INLET PROTECTION                  |  | ARROW - THROUGH                       |  |
| TEMPORARY SEDIMENT TRAP           |  | ARROW - TURN LEFT                     |  |
| CULVERT INLET PROTECTION          |  | ARROW - TURN RIGHT                    |  |
| ROCK OUTLET PROTECTION            |  | ONE DIRECTION TURN ONLY               |  |
| ROCK CHECK DAM - COURSE AGGREGATE |  | HANDICAPPED PARKING STALL             |  |
| ROCK CHECK DAM - RIP RAP          |  | TRAFFIC DETECTOR LOOP                 |  |
| DITCH CHECK                       |  | TRAFFIC CONTROL BOX                   |  |

|                                                                  |                                              |
|------------------------------------------------------------------|----------------------------------------------|
| <p><b>FEHR GRAHAM</b></p> <p>ENGINEERING &amp; ENVIRONMENTAL</p> | <p>ILLINOIS</p> <p>IOWA</p> <p>WISCONSIN</p> |
|------------------------------------------------------------------|----------------------------------------------|

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
CITY OF MONROE

PROJECT AND LOCATION:  
MONROE BUSINESS AND  
INDUSTRIAL PARK DETENTION  
IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: G.B.  
APPROVED BY: J.D.  
DATE: 3/18/19  
SCALE: AS NOTED

| REVISIONS |             |      |
|-----------|-------------|------|
| REV. NO.  | DESCRIPTION | DATE |
|           |             |      |
|           |             |      |
|           |             |      |
|           |             |      |

DRAWING:

STANDARD LEGEND

SET TYPE: OUT TO BID

G:\C30\14\14-1049\Plans\14-1049 Plans.dwg, LEGEND

JOB NUMBER:  
14-1049

SHEET NUMBER:  
2 of 14

SHEET NUMBER:  
2 of 14



GENERAL NOTES

1. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL CODE, CITY OF MONROE, WISCONSIN, CURRENT EDITION, THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, SPECIAL PROVISIONS AND THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION. SIGN CONSTRUCTION AND PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITION.
2. IN THESE CONTRACT DOCUMENTS MENTION IS MADE OF THE "ENGINEER", WHICH SHALL MEAN FEHR GRAHAM OR THEIR DULY AUTHORIZED AGENT. IN THESE CONTRACT DOCUMENTS MENTION IS MADE OF THE "OWNER", WHICH SHALL MEAN CITY OF MONROE, OR THEIR DULY AWARDED AGENT.
3. AS PART OF THE BIDDING PROCEDURE, THE CONTRACTOR SHALL VERIFY THAT THE QUANTITIES FOR PAY ITEMS, AS PRESENTED IN THESE PLAN DOCUMENTS, ARE SUBSTANTIALLY CORRECT. IF DISCREPANCIES ARE DETECTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE DISCREPANCY PRIOR TO THE BID DATE.
4. QUANTITIES SHOWN ARE ESTIMATES FOR INFORMATION ONLY. PAYMENT WILL BE BASED ON ACTUAL QUANTITIES MEASURED IN THE FIELD OR ON PAYMENT LIMIT DETAILS.
5. THE CONTRACTOR SHALL BE PAID FOR MATERIALS AND EQUIPMENT SUCCESSFULLY INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AS MEASURED OR VERIFIED IN PLACE BY THE ENGINEER OR HIS AGENT.
6. IN CASE OF CONFLICT BETWEEN THE ABOVE MENTIONED SPECIFICATIONS, THE ENGINEER SHALL DETERMINE WHICH OF THE SPECIFICATIONS SHALL GOVERN. THE ENGINEER'S DECISION SHALL BE FINAL AND NO ADDITIONAL COMPENSATION SHALL BE AWARDED UNLESS APPROVED BY THE ENGINEER.
7. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY THE OWNER. IMPROVEMENT REPRESENTATIONS AS SHOWN ON THESE PLANS ARE AS ACCURATE AS POSSIBLE FROM THE INFORMATION AVAILABLE. HOWEVER, SOME FIELD REVISIONS MAY BE REQUIRED TO ACCOMMODATE UNFORESEEN CIRCUMSTANCES – THE ENGINEER SHALL BE ADVISED OF ANY NECESSARY REVISIONS WITH SUFFICIENT LEAD TIME ALLOWED TO PROPERLY CONSIDER AND ACT UPON SAID REQUESTS. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED IN CONSTRUCTING THOSE IMPROVEMENTS AS DETAILED IN THIS ENGINEERING PLAN.
8. THE ENGINEER SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE OR REJECT THE WORKMANSHIP AND/OR MATERIALS WHICH GO TO MAKE UP IMPROVEMENTS AS DETAILED IN THESE PLANS AND SPECIFICATIONS.
9. GENERAL SAFETY PROVISION: TO PROVIDE DRIVERS WITH SAFE TRAVEL CONDITIONS DURING THE CONSTRUCTION PROJECT, AND TO PROVIDE SAFE WORKING CONDITIONS FOR ALL EMPLOYEES, THE RULES, REGULATIONS, AND CONDITIONS STATED BELOW WILL PREVAIL FOR THE DURATION OF THIS CONTRACT. ANY EMPLOYEE OF THE CONTRACTOR OR HIS SUBCONTRACTORS WHO REFUSES TO COMPLY WITH THESE GENERAL SAFETY PROVISIONS SHALL BE REMOVED FROM THE JOB SITE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS. THE CONTRACTOR AND ANY SUBCONTRACTORS RETAINED BY HIM SHALL COMPLY WITH THE STATE AND FEDERAL REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA), JULY 1, 1987 AS IT RELATES TO CONTRACTOR'S OPERATIONS.
10. THE CONTRACTOR SHALL COMPLY WITH ALL STATE REGULATIONS REGARDING AIR, WATER, AND NOISE POLLUTION. THE CONTRACTOR WILL NOT BE ALLOWED TO BUILD FIRES ON THE SITE.
11. THE SCALE SHOWN ON THE DRAWINGS APPLIES ONLY TO THE FULL SIZE PLANS NOT THE REDUCED SIZE PLANS.
12. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DRAINAGE FLOWS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. METHODS USED BY THE CONTRACTOR SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. COST OF MAINTAINING DRAINAGE FLOWS SHALL BE INCIDENTAL TO THE CONTRACT.
13. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR DISTURBED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS, MONUMENTS AND RIGHT-OF-WAY PINS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS. REPLACEMENT OF MONUMENTS WILL BE DETERMINED BY THE ENGINEER.
14. THE CONTRACTOR SHALL REMOVE, STORE, AND RELOCATE TO THE SATISFACTION OF THE ENGINEER ALL EXISTING SIGNAGE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS, AND CONSIDER THIS AS INCIDENTAL TO THE CONTRACT.
15. OUTSIDE THE EXISTING RIGHT-OF-WAY, THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATION NEAR ANY AND ALL EXISTING SIGNS OUTSIDE THE RIGHT-OF-WAY. ANY SIGNS REMOVED FOR CONSTRUCTION PURPOSES SHALL BE CAREFULLY REMOVED AND RE-ERECTED BY THE CONTRACTOR AT A LOCATION NEAREST TO THE ORIGINAL LOCATION, OR AT A LOCATION DETERMINED BY THE ENGINEER IN THE FIELD. REMOVAL AND RE-ERECTED SIGNS AND ANY DAMAGE DONE TO EXISTING SIGNS BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
16. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. MATERIALS AND LABOR NOT SPECIFICALLY IDENTIFIED SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
17. AT THE END OF EACH DAY, THE CONTRACTOR SHALL SECURE THE CONSTRUCTION WORK ZONE FROM POTENTIAL INTRUDERS.
18. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
19. THE CONTRACTOR SHALL CONTACT THE ENGINEER OF ANY ERRORS OR DISCREPANCIES WHICH MAY BE SUSPECTED IN LINES AND GRADES, AND SHALL NOT PROCEED WITH THE WORK UNTIL ALL LINES AND GRADES WHICH ARE BELIEVED TO BE IN ERROR HAVE BEEN VERIFIED OR CORRECTED BY THE ENGINEER OR HIS REPRESENTATIVE.
20. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF THEIR WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
21. ALL ITEMS TO BE REMOVED AND NOT DEFINED AS A PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
22. ALL EXCESS EARTH EXCAVATION, EXCESS MATERIALS, OR OTHER REMOVED ITEMS SHALL BE HAULED OFF-SITE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE APPROVED BY THE OWNER.
23. ROADWAY AND DRAINAGE EXCAVATION WORK SHALL BE IN ACCORDANCE WITH SECTION 205 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL OBSTRUCTIONS, TREES, DEBRIS AND BRUSH AS DESIGNATED BY THE OWNER AND AS INDICATED ON THE PLANS. ALL MATERIALS SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DURING CONSTRUCTION, CARE SHALL BE TAKEN TO MINIMIZE DAMAGE TO THE EXISTING TREES AND LANDSCAPING. ONLY THOSE ITEMS DESIGNATED BY THE OWNER SHALL BE REMOVED.
24. ALL ROADWAY REMOVAL ITEMS SHALL CONFORM TO SECTION 204 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. ALL JOINTS BETWEEN THE PORTION REMOVED AND THAT LEFT IN PLACE SHALL BE SAWED TO SUCH A DEPTH THAT A CLEAN, NEAT EDGE WILL RESULT WITH NO SPALLING TO THE REMAINING PORTION. THE COST OF SAWING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ADDITIONAL SAWING OR RE-SAWING MAY BE REQUIRED AS DIRECTED BY THE ENGINEER WITH NO ADDITIONAL COMPENSATION BEING ALLOWED. THE COST OF SAWCUTTING THE EXISTING PAVEMENT SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

GENERAL NOTES

25. WHEN ARTIFICIAL LIGHTING IS UTILIZED DURING NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC, AS WELL AS ADJOINING RESIDENTIAL AREAS.
26. THE CONTRACTOR IS REQUIRED TO STAY WITHIN THE NOTED PROPERTY BOUNDARIES RIGHT-OF-WAY AND EASEMENTS AS SHOWN IN THE PLANS. ANY ADDITIONAL EASEMENTS SHALL BE SECURED BY THE CONTRACTOR AT NO EXTRA COST.
27. ANY AREAS DAMAGED OR DISTURBED DURING THE PROJECT AS A DIRECT OR INDIRECT RESULT OF CONTRACTOR OPERATIONS, SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION. THE COST OF SAID RESTORATION OR REPAIR SHALL BE BORNE TOTALLY BY THE CONTRACTOR, WITH NO EXTRA COMPENSATION BEING AWARDED UNDER THIS CONTRACT. THE RESPONSIBILITY FOR THE REPAIR OR REPLACEMENT OF ANY UTILITY, STRUCTURE, LANDSCAPING, ETC., DAMAGED OR DESTROYED BY THE CONTRACTOR DURING MOBILIZATION OR CONSTRUCTION SHALL BE BORNE SOLELY BY THE CONTRACTOR, WITH NO EXPENSE BEING CHARGED TO THE ENGINEER OR OWNER. PRIOR TO ACCEPTANCE OF THIS REPAIR OR REPLACEMENT, THE CONTRACTOR SHALL PRESENT THE OWNER WITH A "SIGNOFF LETTER", SIGNED BY A RESPONSIBLE OFFICIAL OF THE OWNER OF THE DAMAGED UTILITY STATING THAT THE REPAIR OR REPLACEMENT IS ACCEPTABLE.

CONSTRUCTION STAKING

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING THE PROPOSED IMPROVEMENTS AND SHALL INCLUDE THE COST OF STAKING IN THEIR QUOTE. CONTROL POINTS ARE INDICATED ON THE PLANS.

EROSION CONTROL NOTES

1. UNLESS OTHERWISE SPECIFIED, ALL EROSION AND SEDIMENT CONTROL MEASURES AND THEIR MAINTENANCE, CLEARING AND REMOVAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
2. THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES, THE WISCONSIN STORM WATER MANUAL, THE WISCONSIN DEPARTMENT TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
3. A WATER RESOURCES APPLICATION FOR PROJECT PERMITS (WRAPP) WILL BE COMPLETED AND SUBMITTED TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES BY THE OWNER PRIOR TO CONSTRUCTION.
4. THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS AND WILL BE AVAILABLE FOR REVIEW DURING THE BIDDING PROCESS.
5. A COPY OF THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN AT THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.
6. THE CONTRACTOR SHALL LEGIBLY MARK ANY CHANGES OR REVISIONS IMPLEMENTED TO THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL DELIVER THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN (INCLUDING ALL REVISIONS, RECORDS, AND INSPECTION REPORTS) TO THE OWNER.
7. THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL MEASURES OR CONSTRUCTION ACTIVITIES THAT DISTURB SITE SOIL WILL BE REQUIRED TO CERTIFY THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN BEFORE A NOTICE TO PROCEED IS ISSUED.
8. A COPY OF THE CONSTRUCTION SITE STORM WATER RUNOFF GENERAL WPDES PERMIT MUST BE AVAILABLE FOR PUBLIC VIEWING AT THE CONSTRUCTION SITE BY THE GENERAL CONTRACTOR.
9. THE CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THESE EROSION CONTROL PLANS AND IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN BEFORE CONSTRUCTION BEGINS.
10. THE CONTROLS SHALL BE INSTALLED AS DETAILED AND WHERE INDICATED ON THE EROSION CONTROL PLAN SHEETS AND AS DIRECTED BY THE INSPECTOR.
11. SITE ACTIVITIES SHOULD ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE PRACTICABLE.
12. EXCEPT AS PROVIDED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN, DISTURBED PORTIONS OF THE SITE SHALL BE STABILIZED (TEMPORARILY OR PERMANENTLY SEEDED, MULCHED, SODDED OR PAVED) AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN 7 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
13. UNTIL SUCH TIME AS THE PROJECT SITE REACHES FINAL STABILIZATION AND A NOTICE OF TERMINATION IS FILED BY THE OWNER, THE CONTRACTOR SHALL BE RESPONSIBLE TO ADJUST, REPAIR, OR REPLACE, ALL VEGETATION, EROSION CONTROLS, SEDIMENT CONTROLS, AND ANY OTHER PROTECTIVE MEASURES AS REQUIRED IN ORDER TO MAINTAIN THEIR INTENDED FUNCTION IN A GOOD AND EFFECTIVE OPERATING CONDITION.
14. EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, SOURCES OF NON-STORM WATER EXPECTED DURING THE CONSTRUCTION PROCESS THAT MAY BE COMBINED WITH STORM WATER DISCHARGES ARE IDENTIFIED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. THESE DISCHARGES SHALL BE DIRECTED AWAY FROM UNPROTECTED, BARE, OR OTHERWISE UNSTABILIZED SOIL, AND APPROPRIATE POLLUTION PREVENTION MEASURES SHALL BE IMPLEMENTED SO THAT THESE DISCHARGES DO NOT CAUSE EROSION OR DEGRADE THE QUALITY OF RUNOFF FROM THE CONSTRUCTION SITE.
15. REGULAR INSPECTIONS WILL BE MADE AS REQUIRED UNDER THE GENERAL WPDES PERMIT NO. WI-S067831-04 AND SPECIFIED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. BASED ON THE RESULTS OF THE INSPECTIONS, POLLUTION PREVENTION MEASURES SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER EACH INSPECTION. SUCH REVISIONS SHALL BE IMPLEMENTED WITHIN 7 CALENDAR DAYS FOLLOWING EACH INSPECTION.
16. THE INSPECTOR SHALL HAVE AUTHORIZATION TO DETERMINE THE ADEQUACY OF THE CONTRACTOR'S EROSION CONTROL EFFORTS. THE OWNER OR THE INSPECTOR SHALL HAVE FULL AUTHORITY OVER THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR WHATEVER ELSE IS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL OR TO SUSPEND OR LIMIT THE CONTRACTORS OPERATIONS PENDING ADEQUATE PERFORMANCE.
17. PERIMETER EROSION BARRIER TO BE CONSTRUCTED OF SILT FENCE UNLESS NOTED OTHERWISE.
18. INLET PROTECTION SHALL BE A TYPE A, B, C OR D, OR APPROVED EQUAL.
19. EROSION CONTROL BLANKET SHALL BE OF NORTH AMERICAN GREEN DS75 OR APPROVED EQUAL.
20. A TEMPORARY CONCRETE WASHOUT FACILITY SHALL BE CONSTRUCTED AT A LOCATION APPROVED BY THE ENGINEER. WASHOUT FACILITY SHALL BE UTILIZED FOR ALL APPLICABLE OPERATIONS.

EROSION CONTROL NOTES

21. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED, TO THE DIMENSIONS AS SHOWN, AT APPROVED LOCATIONS FOR THIS PROJECT. ALL CONSTRUCTION TRAFFIC MUST UTILIZE THE STABILIZED CONSTRUCTION ENTRANCES WHEN EXITING THE SITE. ALL COST FOR EROSION CONTROL AND RESTORATION WORK ASSOCIATED WITH THE APPROVED STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
22. TEMPORARY EROSION CONTROL MEASURES INCLUDE TEMPORARY DITCH CHECKS, PERIMETER EROSION BARRIER, INLET AND PIPE PROTECTION, TEMPORARY SEEDING, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURE NEEDED TO LIMIT THE AMOUNT OF SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION.
23. AT THE COMPLETION OF THE PROJECT, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED FROM THE SITE, AND BECOME THE PROPERTY OF THE CONTRACTOR. CONTRACTOR MUST STABILIZE ANY AREA DISTURBED BY THE REMOVAL OF EROSION CONTROL ITEMS.
24. CONTRACTOR SHALL CLEAN ANY DEBRIS TRACKED OFFSITE DAILY.

SEEDING OF DISTURBED AREAS

1. THE FINAL TOP 6" INCHES OF SOIL IN ANY DISTURBANCE AREA MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION.
2. FERTILIZER HAVING AN ANALYSIS OF 16-6-6 SHALL BE APPLIED AT A RATE OF 7 LBS/1000 SF TO ALL DISTURBED AREAS AND INCORPORATED INTO THE SEEDBED PRIOR TO SOWING THE SEED.
3. THE CONTRACTOR SHALL SEED AND MULCH ALL DISTURBED AREAS ADJACENT TO IMPROVEMENTS WITH SEEDING, WISDOT SEED MIXTURE NO. 10 AND MULCH, WISDOT METHOD C IN ACCORDANCE WITH WISDOT STANDARD SPECIFICATION OR AS APPROVED BY THE ENGINEER.
4. GUARANTEE: ALL SEEDED AREAS SHALL BE MAINTAINED AND MOWED FOR AT LEAST 30 DAYS AFTER GERMINATION. SCATTERED BARE SPOTS NO LARGER THAN TWO SQUARE FOOT WILL BE ALLOWED UP TO A MAXIMUM OF 5% OF ANY SEEDED AREA INCLUDING 30-DAY MAINTENANCE, MOWING AND WATERING AS NECESSARY.
5. THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES, THE WISCONSIN STORM WATER MANUAL, THE WISCONSIN DEPARTMENT TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
6. RESTORATION – THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED DURING CONSTRUCTION OF THE IMPROVEMENTS AND RELATED APPURTENANCES OR AS PART OF ANY OF THEIR ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION.



ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
CITY OF MONROE

PROJECT AND LOCATION:  
MONROE BUSINESS AND  
INDUSTRIAL PARK DETENTION  
IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: G.B.  
APPROVED BY: J.D.  
DATE: 3/18/19  
SCALE: HOR  
VERT

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DRAWING:  
GENERAL NOTES

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JOB NUMBER:  
14-1049

SHEET NUMBER:  
3 of 14

STORM SEWER

1. STORM SEWERS THAT CROSS OVER ANY PROPOSED WATER MAIN SHALL BE CONSTRUCTED WITH RUBBER GASKETED JOINTS (ASTM C443).
2. ALL EXISTING MANHOLE CONNECTIONS MUST BE CORE-DRILLED, UNLESS A PRE-CORED HOLE, SUITABLY LOCATED, EXISTS IN THE MANHOLE.
3. THE LENGTH OF FLARED END SECTIONS IS NOT INCLUDED IN THE INDICATED PIPE LENGTH. HOWEVER, THE ENTIRE LENGTH OF THE FLARED END SECTION IS TAKEN INTO ACCOUNT FOR THE INDICATED SLOPE AND INVERT GRADES.
4. STORM SEWERS MATERIALS AND INSTALLATION SHALL CONFORM TO SECTION 508 OF THE STANDARD SPECIFICATIONS FOR REINFORCED CONCRETE PIPE STORM SEWERS. THIS WORK SHALL INCLUDE SEWER PIPE, PIPE BEDDING, TRENCH BACKFILL, MAKING CONNECTIONS TO EXISTING STRUCTURES, PATCHING EXISTING STRUCTURES AT NEW CONNECTIONS, STOPPERS AND PLUGS, AND ANY OTHER INCIDENTAL COSTS. ALL WORK SHALL CONFORM TO DETAILS INCLUDED IN THE CONTRACT DOCUMENTS, OR TO ORDERED MODIFICATIONS THEREFORE, AND TO APPLICABLE PORTIONS OF SECTIONS 607 AND 608 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER. PIPE BEDDING OF 4" WELL GRADED DURABLE GRAVEL, CRUSHED STONE, OR SLAG WILL BE REQUIRED. IN STRUCTURAL LOCATIONS AND ROADWAY PAVEMENT, BEDDING MATERIAL SHALL BE PLACED TO ONE FOOT ABOVE THE TOP OF THE PIPE. TRENCH BACKFILL FROM THIS ELEVATION TO PAVEMENT SUBGRADE WILL BE REQUIRED. COST FOR BACKFILL, BEDDING, AND ALL NECESSARY WORK REQUIRED FOR INSTALLATION SHALL BE INCLUDED WITH THE COST OF THE PIPE.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STORM SEWER ELEVATIONS THAT PROJECT CONNECTS TO.

UTILITIES

1. UTILITIES SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND NO GUARANTEE OF THEIR ACCURACY IS MADE OR INFERRED. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE DRAWINGS REPRESENT DATA RECEIVED FROM VARIOUS SOURCES. IT IS NOT GUARANTEED TO BE CORRECT OR ALL-INCLUSIVE. THE CONTRACTOR SHALL CONDUCT HIS OWN INVESTIGATION INTO THE LOCATION, SIZE, DEPTH AND NATURE OF ANY AND ALL EXISTING UTILITIES THAT MAY INTERFERE WITH THE WORK UNDER THIS CONTRACT. ANY EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE SHALL BE FULLY PROTECTED BY THE CONTRACTOR AND ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER OR THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ANY AND ALL UTILITY COMPANIES REGARDING ADJUSTMENTS NECESSARY. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE AND CONSIDERED INCIDENTAL TO THE PROJECT COST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND, OVERHEAD, OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR THE OWNER OR REPLACED. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.
2. THE CONTRACTOR MUST VERIFY AND LOCATE ALL EXISTING UTILITIES ON OR ADJACENT TO THE SITE. PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, CONTACT DIGGERS HOTLINE AT 1-800-242-8511 (OR 811) FOR EXACT FIELD LOCATION OF UTILITIES. DAMAGE, AND THE COST THEREOF, TO ANY AND ALL UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY AND ALL EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE. THE ENGINEER AND SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF THE EXISTING UTILITIES SHOWN HEREON.
3. IF THERE ARE ANY UTILITIES WHICH ARE NOT MEMBERS OF THE DIGGERS HOTLINE SYSTEM, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THIS AND REQUESTING SAID UTILITIES TO FIELD VERIFY AND MARK PERTINENT UTILITY LOCATIONS.
4. THE UTILITY LOCATIONS, DEPTHS, ETC. SHOWN ON THESE PLANS ARE APPROXIMATE ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR WITH ALL AFFECTED UTILITY COMPANIES PRIOR TO INITIATING CONSTRUCTION OPERATIONS; THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY FOR THE ADEQUACY, SUFFICIENCY OR EXACTNESS OF THESE UTILITY REPRESENTATIONS.
5. THE CONTRACTOR SHALL CONTACT THE NECESSARY UTILITY COMPANIES FOR ANY UTILITY RELOCATIONS. THE CONTRACTOR SHALL PAY FOR ALL COSTS ASSOCIATED WITH RELOCATION OF UTILITIES ON OR ADJACENT TO THE SUBJECT PROPERTY OR WITHIN THE ROAD RIGHT-OF-WAY.
6. TRENCH BACKFILL SHALL BE FILL MATERIAL TYPE A, OR TYPE C, IN ACCORDANCE WITH AASHTO T27 GUIDELINES AND THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION. COST SHALL BE INCLUDED IN UNIT PRICE OF PIPE.
7. TRENCH BACKFILL SHALL BE USED IN LOCATIONS WHERE THERE IS AN EXISTING OR PROPOSED PERMANENT SURFACE.
8. ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION OR HAVE THE POTENTIAL FOR CREATING FUTURE PROBLEMS SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE PROJECT AT AN APPROVED LOCATION OBTAINED BY THE CONTRACTOR, ACCORDING TO THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION, AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
9. COST FOR REPAIRS, REPLACEMENT, AND/OR CONNECTION SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.

SUBGRADES, SUBBASES, AND BASE COURSES

1. THE CONTRACTOR WILL BE REQUIRED TO SUBSTANTIATE BASE COURSE THICKNESSES AND FINISH PAVEMENT THICKNESSES. THE ENGINEER SHALL INSPECT BASE COURSE COREOUT PRIOR TO PLACING BASE COURSE TO ENSURE REQUIRED BASE COURSE DEPTH IS PRESENT. IN ADDITION, THE ENGINEER AND/OR THE CITY ENGINEER SHALL WITNESS THE PLACEMENT OF BITUMINOUS BINDER AND SURFACE COURSE. CORE DRILLING MAY BE REQUIRED TO DEMONSTRATE THAT BASE COURSE AND PAVEMENT THICKNESSES CONFORM TO THE SPECIFICATIONS. PRIOR TO PLACING BASE COURSE MATERIAL, THE CONTRACTOR SHALL TEST ROLL THE SUBGRADE, IN THE PRESENCE OF THE ENGINEER OR HIS AGENT TO DEMONSTRATE THAT SAID SUBGRADE IS READY FOR BASE. PRIOR TO PLACEMENT OF THE BITUMINOUS SURFACE, THE SAME VERIFICATION PROCEDURE SHALL BE PERFORMED ON THE BASE COURSE MATERIAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 48 HOURS PRIOR TO PERFORMING ANY OF THE REQUIRED TESTS SO THAT A REPRESENTATIVE MAY BE PRESENT.
2. PRIOR TO ANY EMBANKMENT OR ROAD BASE BEING PLACED, SHOULD IT BE DETERMINED BY THE ENGINEER THAT THE SUBGRADE MATERIAL IS UNSUITABLE ON WHICH TO CONSTRUCT THE ROADWAY STRUCTURE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING THE UNSUITABLE MATERIAL TO THE SATISFACTION OF THE ENGINEER AND REPLACING SAME WITH STABILIZING SUBBASE CONSISTING OF SELECT CRUSHED MATERIAL IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. TO HELP MINIMIZE THE AMOUNT OF SUBBASE MATERIAL INSTALLED FOR GROUND STABILIZATION, GEOTECHNICAL FABRIC MAY BE INSTALLED AS APPROVED BY THE ENGINEER. GEOTEXTILE FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 645 OF THE WISDOT STANDARD SPECIFICATIONS. THE COARSE AGGREGATE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR SELECT CRUSHED MATERIAL. THE EXCAVATION BELOW SUBGRADE AND DISPOSAL OF THE UNSUITABLE MATERIAL SHALL BE CONSIDERED INCIDENTAL TO SELECT CRUSHED MATERIAL. STABILIZING FABRIC SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR GEOTEXTILE FABRIC.

EXCAVATION/EARTHWORK

1. THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATION NEAR ANY AND ALL EXISTING ITEMS WHICH ARE NOT INDICATED TO BE REMOVED. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
2. PRIOR TO STARTING EARTHWORK OR UTILITY TRENCHING, THE CONTRACTOR SHALL STRIP THE SITE OF TOPSOIL TO A DEPTH OF 6" AND TO THE LIMITS APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE STOCKPILED IN A REMOTE LOCATION OF THE SITE (APPROVED BY THE ENGINEER) UNTIL THE PLAN IMPROVEMENTS ARE COMPLETED AND THE EXCESS MATERIAL SPREAD AS DIRECTED. IT SHALL THEN BE THE RESPONSIBILITY OF THE CONTRACTOR TO SPREAD THIS TOPSOIL MATERIAL IN AREAS OF THE SITE, OVER AREAS WHERE EXCESS EXCAVATED MATERIAL, SAND, GRAVEL HAS BEEN SPREAD OR IN OTHER AREAS AS DESIGNATED BY THE ENGINEER. THE MATERIAL SHALL THEN BE COMPACTED TO A MINIMAL DEPTH OF 6" AND FINE GRADED IN A MANNER ACCEPTABLE TO THE ENGINEER. THIS WORK SHALL BE IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION.
3. CONSTRUCTION AND DEMOLITION (C&D) MATERIALS ARE TO BE MANAGED ACCORDINGLY PER THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MANAGE THE DIVERSION OF C&D MATERIAL AWAY FROM LANDFILLS ACCORDING TO STATE REQUIREMENTS.
4. ROCK REMOVAL TO BE PROVIDED BY MECHANICAL MEANS ONLY, NO BLASTING PERMITTED. ROCK EXCAVATION SHALL BE CONSIDERED WHEN THE PHYSICAL CHARACTERISTICS AND DIFFICULTY OF ROCK REMOVAL BY USE OF HYDRAULIC EXCAVATION IS DETERMINED BY ENGINEER TO NOT BE POSSIBLE. ROCK EXCAVATION TO BE PAID FOR AT THE BID PRICE FOR EXCAVATION. CONTRACTOR SHALL REVIEW SOIL BORINGS WHEN PREPARING BIDS.
5. ALL EXCAVATIONS FOR STRUCTURES AND PIPE SHALL BE KEPT DEWATERED DURING CONSTRUCTION UNTIL BACKFILL IS IN PLACE. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. (COST INCIDENTAL)
6. EXCAVATION COMMON SHALL CONFORM TO SECTION 205 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. THIS WORK SHALL INCLUDE THE EXCAVATION OF ALL MATERIALS TO DESIGN SUBGRADE ELEVATIONS INDICATED IN THE PLANS.
7. A SOIL REPORT CAN BE PROVIDED IN AN ELECTRONIC FORMAT TO THE CONTRACTOR UPON REQUEST FROM THE OWNER.
8. SHEETING AND SHORING SHALL BE CONSIDERED INCIDENTAL TO CONTRACT IF REQUIRED.
9. WHENEVER THE CONTRACTOR WORKS NEAR EXISTING FACILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS DURING TRENCHING OPERATIONS, HE WILL BE REQUIRED TO HAND TRENCH IN THAT AREA IN ORDER NOT TO DAMAGE THESE FACILITIES. PUSH HOLES AND SEARCH HOLES THAT ARE DUG BY THE CONTRACTOR SHALL BE BACKFILLED BY TAMPING THE EXCAVATED MATERIAL BACK IN PLACE TO KEEP SETTLEMENT TO A MINIMUM. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
10. EMBANKMENT WORK SHALL CONSIST OF THE CONSTRUCTION OF EMBANKMENTS BY DEPOSITING, PLACING AND COMPACTING EARTH, STONE, GRAVEL OR OTHER MATERIALS OF ACCEPTABLE QUALITY ABOVE THE NATURAL GROUND OR OTHER SURFACE IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION.
11. IF SUFFICIENT TOPSOIL IS NOT PRESENT, THE CONTRACTOR SHALL SPREAD FURNISHED TOPSOIL SO AS TO MEET THE REQUIREMENTS OF THE CONTRACT. FURNISHED TOPSOIL SHALL ONLY BE USED WITH APPROVAL BY THE ENGINEER. THIS FURNISHED TOPSOIL SHALL BE PAID FOR AS TOPSOIL, DEPTH SPECIFIED.
12. IN PROPOSED FILL AREAS FOR PAVEMENT AND EMBANKMENT, TOPSOIL AND TURF SHALL BE SCARIFIED AND REMOVED PRIOR TO CONSTRUCTING THE EMBANKMENT.

ROCK EXCAVATION CONSIDERATIONS

1. IT IS ASSUMED THAT ALL EXCAVATIONS TO LEVELS AND DIMENSIONS REQUIRED BY THE CONTRACT DOCUMENTS ARE EXCAVATION COMMON. EXCAVATION INCLUDES REMOVAL AND DISPOSAL OF ALL MATERIALS ENCOUNTERED EXCEPT ROCK/SOUND BEDROCK WHICH IS DEFINED AS NATURAL MATERIALS WHICH:
  - A. CANNOT BE EXCAVATED WITH A MINIMUM 3/4 CUBIC YARD CAPACITY BACKHOE WITHOUT DRILLING AND BLASTING;
  - B. CANNOT BE ECONOMICALLY REMOVED WITH A ONE-TOOTH RIPPER ON A D8 CAT (OR EQUIVALENT);
  - C. REQUIRES THE USE OF SPECIAL EQUIPMENT SUCH AS A PNEUMATIC HAMMER;
  - D. REQUIRES THE USE OF EXPLOSIVES (AFTER OBTAINING WRITTEN PERMISSION OF THE OWNER).
2. EXAMPLES OF MATERIAL CLASSIFIED AS ROCK ARE BOULDERS 1/2 CUBIC YARD OR MORE IN VOLUME, BEDROCK, ROCK IN LEDGES, AND ROCK-HARD CEMENTITIOUS AGGREGATE DEPOSITS.
3. DO NOT PROCEED WITH ROCK EXCAVATION WORK UNTIL ENGINEER AND/OR TESTING FIRM (I.E., CGC) HAS TAKEN THE NECESSARY MEASURES TO DETERMINE QUANTITY OF ROCK EXCAVATION REQUIRED TO COMPLETE THE WORK. MEASUREMENTS WILL BE TAKEN AFTER PROPERLY STRIPPED OF EARTH BY THE CONTRACTOR. CONTRACTOR WILL BE PAID THE DIFFERENCE BETWEEN THE COST OF ROCK AND EXCAVATION COMMON BASED ON AND AGREED UPON UNIT PRICE ESTABLISHED PRIOR TO STARTING ROCK EXCAVATION.
4. STATED MODELS OF EXCAVATION EQUIPMENT ARE MERELY FOR PURPOSES OF DEFINING THE VARIOUS EXCAVATION CATEGORIES AND ARE NOT INTENDED TO INDICATE THE BRAND OR TYPE OF EQUIPMENT THAT IS TO BE USED.

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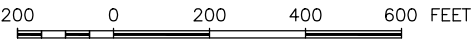




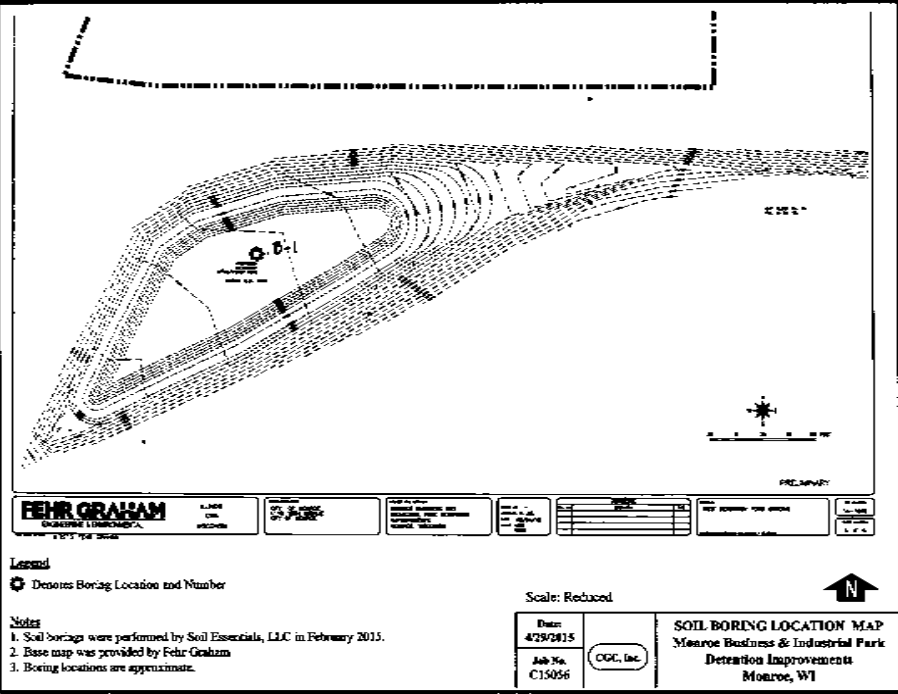
SUMMARY OF QUANTITIES

| DESCRIPTION                                                    | UNIT | QUANTITY |
|----------------------------------------------------------------|------|----------|
| EXCAVATION COMMON                                              | L.S. | 1        |
| TYPE B CLAY LINER, 12" *PPQ*                                   | S.Y. | 13,629   |
| EROSION CONTROL MAT (CLASS URBAN TYPE A)                       | S.Y. | 3,152    |
| TRACKING PAD                                                   | EA.  | 2        |
| SILT FENCE                                                     | L.F. | 1,467    |
| RIPRAP HEAVY                                                   | C.Y. | 401      |
| RIPRAP LIGHT                                                   | C.Y. | 149      |
| STORM SEWER PIPE REINFORCED CONCRETE CLASS III, 12 - INCH      | L.F. | 37       |
| STORM SEWER PIPE REINFORCED CONCRETE CLASS III, 24 - INCH      | L.F. | 70       |
| STORM SEWER PIPE REINFORCED CONCRETE CLASS III, 30 - INCH      | L.F. | 36       |
| APRON END WALLS FOR CULVERT PIPE REINFORCED CONCRETE 12 - INCH | EA.  | 2        |
| APRON END WALLS FOR CULVERT PIPE REINFORCED CONCRETE 24 - INCH | EA.  | 1        |
| APRON END WALLS FOR CULVERT PIPE REINFORCED CONCRETE 30 - INCH | EA.  | 1        |
| INLET MEDIAN 2 GRATE                                           | EA.  | 2        |
| INLET COVER TYPE MS                                            | EA.  | 4        |
| CONCRETE ANTI-SEEP COLLAR                                      | EA.  | 2        |
| TOPSOIL, SEEDING AND RESTORATION                               | L.S. | 1        |

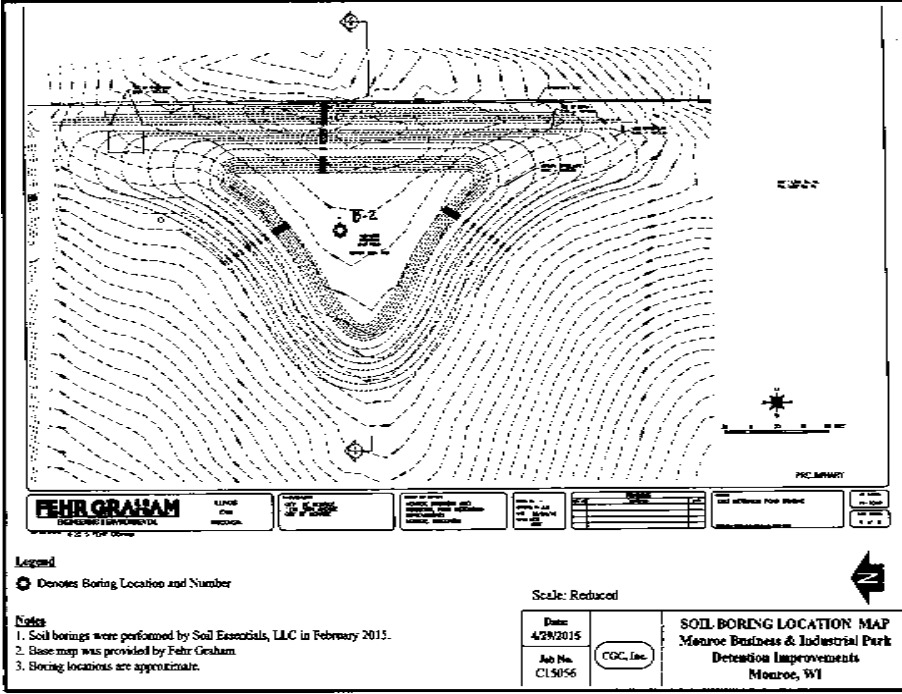
\*PPQ\* - PAY PLAN QUANTITY



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SOIL BORING #1  
SURFACE ELEVATION = 1066.04



SOIL BORING #2  
SURFACE ELEVATION = 1068.54

| LOG OF TEST BORING                                                                                                              |             |              |     | Boring No. 1                                                                                                                                                                                |    |    |                                   |                 |        |        |  |
|---------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|-----------------------------------|-----------------|--------|--------|--|
| CGC Inc.                                                                                                                        |             |              |     | Surface Elevation (ft) 1066.0                                                                                                                                                               |    |    |                                   |                 |        |        |  |
| Project Business/Industrial Park Redevelopment                                                                                  |             |              |     | Job No. C15056                                                                                                                                                                              |    |    |                                   |                 |        |        |  |
| Location West Stormwater Basin                                                                                                  |             |              |     | Sheet 1 of 1                                                                                                                                                                                |    |    |                                   |                 |        |        |  |
| Location Monroe, WI                                                                                                             |             |              |     |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 2011 Policy Street, Madison, WI 53713 (608) 299-4395 FAX (608) 299-9997                                                         |             |              |     |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| SAMPLE                                                                                                                          |             |              |     | VISUAL CLASSIFICATION and Remarks                                                                                                                                                           |    |    |                                   | SOIL PROPERTIES |        |        |  |
| No.                                                                                                                             | Depth (ft.) | Moisture (%) | W   | LL                                                                                                                                                                                          | PL | LI | W (%)                             | LL (%)          | PL (%) | LI (%) |  |
| 1                                                                                                                               | 18          | M            | 15  |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 2                                                                                                                               | 13          | M            | 6   |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 3                                                                                                                               | 10          | M            | 13  |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 4                                                                                                                               | 3           | M            | 10  |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 5                                                                                                                               | 14          | M            | 9   |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
| 6                                                                                                                               | 1           | M            | 100 |                                                                                                                                                                                             |    |    |                                   |                 |        |        |  |
|                                                                                                                                 |             |              |     | Stiff, Dark Brown to Black Organic/Lean Clay (OLCL - Topsoil)<br>USDA: Organic Clay Loam                                                                                                    |    |    |                                   | (1.5-1.75)      |        |        |  |
|                                                                                                                                 |             |              |     |                                                                                                                                                                                             |    |    |                                   | (1.0-1.5) 31.5  |        |        |  |
|                                                                                                                                 |             |              |     | Medium Dense, Brown Fine to Medium SAND,<br>Some Silt, Trace to Little Gravel, Occasional Brown<br>Lean Clay Layers (SM)<br>USDA: Loamy Sand                                                |    |    |                                   |                 |        |        |  |
|                                                                                                                                 |             |              |     | Loose to Very Dense, Gravelly Brown Fine SAND,<br>Little Silt, Scattered Cobbles/Boulders (SP-SM -<br>Possible Highly Weathered Dolomite Bedrock with<br>Depth)<br>USDA: Very Gravelly Sand |    |    |                                   | 8.1             |        |        |  |
|                                                                                                                                 |             |              |     | Firm Drilling noted at 16 ft                                                                                                                                                                |    |    |                                   |                 |        |        |  |
|                                                                                                                                 |             |              |     | Hard Drilling noted at 18 ft<br>End Boring/Auger Refusal at 18.9 ft<br>Borehole backfilled with bentonite chips<br>*Frozen to 2 ft                                                          |    |    |                                   |                 |        |        |  |
| WATER LEVEL OBSERVATIONS                                                                                                        |             |              |     |                                                                                                                                                                                             |    |    | GENERAL NOTES                     |                 |        |        |  |
| While Drilling <input checked="" type="checkbox"/> NW Upon Completion of Drilling _____                                         |             |              |     |                                                                                                                                                                                             |    |    | Start 2/12/15 End 2/12/15         |                 |        |        |  |
| Time After Drilling _____                                                                                                       |             |              |     |                                                                                                                                                                                             |    |    | Driller NE Chief DAP Rig Geoprobe |                 |        |        |  |
| Depth to Water _____                                                                                                            |             |              |     |                                                                                                                                                                                             |    |    | Logger DAP Editor BSM 7822        |                 |        |        |  |
| Depth to Cave in _____                                                                                                          |             |              |     |                                                                                                                                                                                             |    |    | Drill Method 2.25" HSA DT         |                 |        |        |  |
| The classification lines represent the approximate boundary between soil types and the classification may be subject to change. |             |              |     |                                                                                                                                                                                             |    |    | Automated _____                   |                 |        |        |  |

| LOG OF TEST BORING                                                                                                |            |              |                  | Boring No. <u>2</u>                                                          |                          |                                                 |       |       |        |        |  |
|-------------------------------------------------------------------------------------------------------------------|------------|--------------|------------------|------------------------------------------------------------------------------|--------------------------|-------------------------------------------------|-------|-------|--------|--------|--|
| CGC Inc.                                                                                                          |            |              |                  | Surface Elevation (ft) <u>1068.5</u>                                         |                          |                                                 |       |       |        |        |  |
| Project <u>Business/Industrial Park Redevelopment</u>                                                             |            |              |                  | Job No. <u>C15056</u>                                                        |                          |                                                 |       |       |        |        |  |
| Location <u>East Stormwater Basin</u>                                                                             |            |              |                  | Sheet <u>1</u> of <u>1</u>                                                   |                          |                                                 |       |       |        |        |  |
| Location <u>Monroe, WI</u>                                                                                        |            |              |                  | Sheet <u>1</u> of <u>1</u>                                                   |                          |                                                 |       |       |        |        |  |
| 2355 Barry Street, Madison, WI 53713 (608) 368-4300, FAX (608) 288-7667                                           |            |              |                  |                                                                              |                          |                                                 |       |       |        |        |  |
| SAMPLE                                                                                                            |            |              |                  | VISUAL CLASSIFICATION and Remarks                                            |                          | SOIL PROPERTIES                                 |       |       |        |        |  |
| No.                                                                                                               | Depth (ft) | Moisture (%) | Soil Description | Soil Classification                                                          | Remarks                  | W (%)                                           | L (%) | P (%) | LL (%) | PL (%) |  |
| 1                                                                                                                 | 16         | M            | 22               | Medium Stiff to Stiff Dark Brown to Black Organic/Lean CLAY (OLCL - Topsoil) | USDA: Organic Clay Loam  | (1.0)                                           | 24.1  | 39    | 24     | 6.3    |  |
| 2                                                                                                                 | 12         | M            | 9                | Medium Stiff to Stiff, Brown Lean CLAY, Some Sand, Little Gravel (CL)        | USDA: Gravelly Clay Loam | (1.0)                                           | 25.6  | 36    | 21     |        |  |
| 3                                                                                                                 | 10         | M            | 2                | Very Loose to Loose, Brown Clayey fine SAND, Some Gravel (SC)                | USDA: Very Gravelly Loam | (0.5-1.0)                                       | 14.0  | 20    | 16     |        |  |
| 4                                                                                                                 | 10         | M            | 5                |                                                                              |                          | (0.5-0.75)                                      | 6.9   |       |        |        |  |
| 5                                                                                                                 | 14         | M            | 12               | Brown Sandy Lean CLAY, Trace Gravel (CL)                                     | USDA: Loam               | (2.5)                                           | 13.6  | 23    | 14     |        |  |
| 6                                                                                                                 | 17         | M            | 10               |                                                                              |                          | (1.0-1.5)                                       |       |       |        |        |  |
| 7                                                                                                                 | 12         | M            | 16               | Medium Dense, Brown Clayey SILT, Occasional Silty Sand Seams (ML)            | USDA: Silt Loam          |                                                 |       |       |        |        |  |
|                                                                                                                   |            |              |                  | End of Boring at 25 ft                                                       |                          |                                                 |       |       |        |        |  |
|                                                                                                                   |            |              |                  | Borehole backfilled with bentonite chips                                     |                          |                                                 |       |       |        |        |  |
| WATER LEVEL OBSERVATIONS                                                                                          |            |              |                  |                                                                              |                          | GENERAL NOTES                                   |       |       |        |        |  |
| While Drilling <input checked="" type="checkbox"/> NW Upon Completion of Drilling _____                           |            |              |                  |                                                                              |                          | Start <u>2/12/15</u> End <u>2/12/15</u>         |       |       |        |        |  |
| Time After Drilling _____                                                                                         |            |              |                  |                                                                              |                          | Driller <u>SE</u> Chief <u>DAP</u> Rig Geoprobe |       |       |        |        |  |
| Depth to Water _____                                                                                              |            |              |                  |                                                                              |                          | Logger <u>DAP</u> Editor <u>BSM</u> 7822        |       |       |        |        |  |
| Depth to Cave in _____                                                                                            |            |              |                  |                                                                              |                          | Drill Method <u>2.25" HSA</u> NIT               |       |       |        |        |  |
| The classification lines represent the approximate boundary between soil types and the transition may be gradual. |            |              |                  |                                                                              |                          | Automated _____                                 |       |       |        |        |  |

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
CITY OF MONROE

PROJECT AND LOCATION:  
MONROE BUSINESS AND  
INDUSTRIAL PARK DETENTION  
IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: G.B.  
APPROVED BY: J.D.  
DATE: 3/18/19  
SCALE: -----

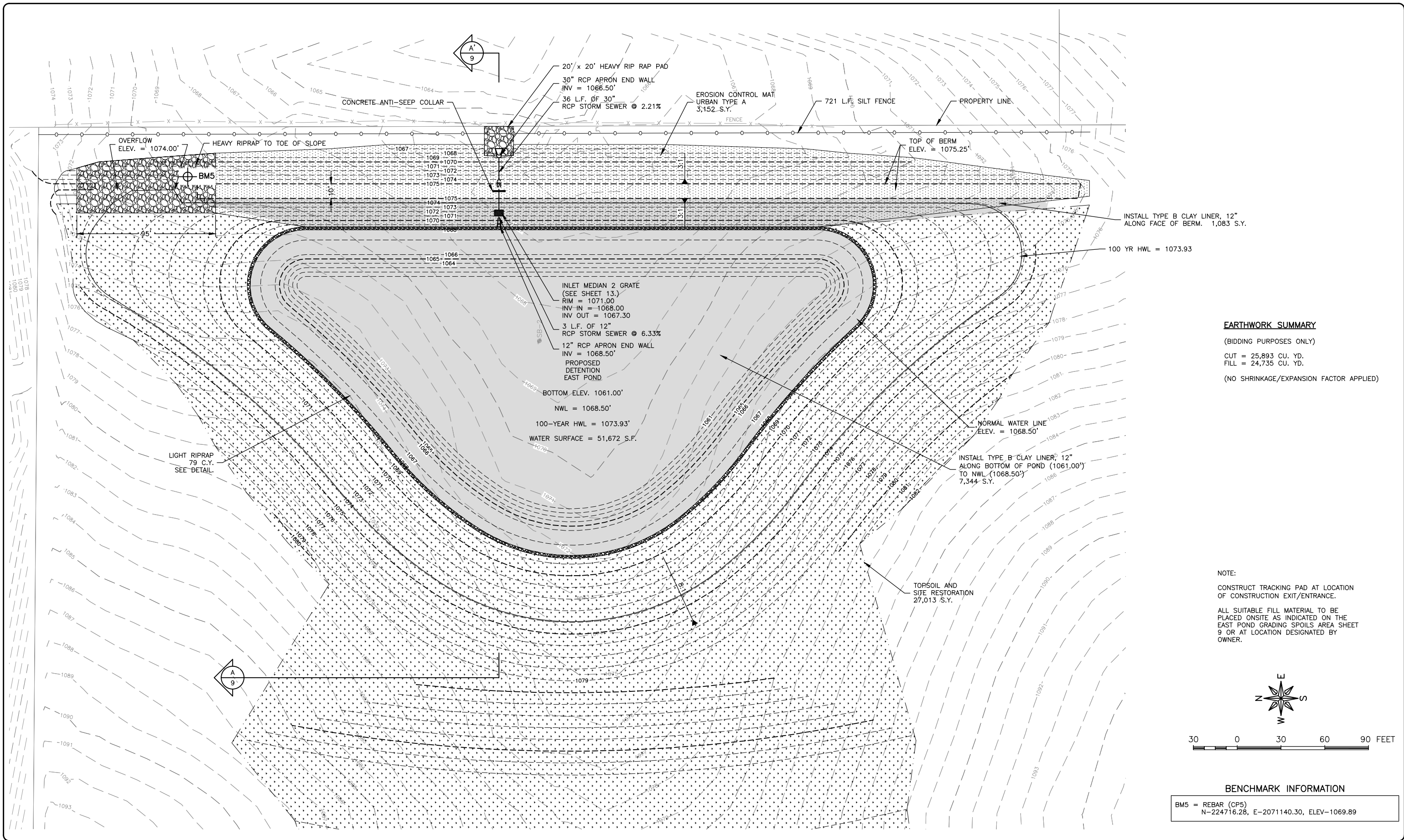
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DRAWING:  
SOIL BORING LOGS

SET TYPE: OUT TO BID  
C:\330\14\14-1049\Plans\14-1049 Plans.dwg, SOIL REP

JOB NUMBER:  
14-1049

SHEET NUMBER:  
6 of 14



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DEBRA K. AND DENNIS L. STONEBACK

MEXICAN CHEESE  
PRODUCERS INC.

CITY OF MONROE  
INDUSTRIAL PARK

CURTIS W. WYSS

W & W DAIRY INC.

TOPSOIL AND SITE RESTORATION  
27,013 S.Y.

AMLAT LLC

**EARTHWORK SUMMARY**

(BIDDING PURPOSES ONLY)

CUT = 25,893 CU. YD.  
FILL = 24,733 CU. YD.

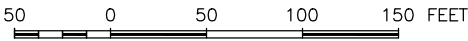
QUANTITIES LISTED FOR BALANCE PURPOSES.  
(NO SHRINKAGE/EXPANSION FACTOR APPLIED.)

**NOTE:**

CONSTRUCT TRACKING PAD AT LOCATION  
OF CONSTRUCTION EXIT/ENTRANCE.

TOPSOIL STOCKPILE LOCATION TO BE  
DETERMINED BY CONTRACTOR. EROSION  
CONTROL MEASURES AT STOCKPILE ARE  
TO BE CONSIDERED INCIDENTAL.

SEEDING AND RESTORATION BEYOND  
PLAN LIMITS DUE TO CONTRACTOR  
OPERATIONS INCLUDING ALL HAUL  
ROUTES SHALL BE CONSIDERED  
INCIDENTAL.



**BENCHMARK INFORMATION**

BM5 = REBAR (CP5)  
N=224716.28, E=2071140.30, ELEV=1069.89

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

**OWNER/DEVELOPER:**

CITY OF MONROE  
1110 18TH AVENUE  
CITY OF MONROE

**PROJECT AND LOCATION:**

MONROE BUSINESS AND  
INDUSTRIAL PARK DETENTION  
IMPROVEMENTS  
MONROE, WISCONSIN

**DRAWN BY:** G.B.

APPROVED BY: J.D.

DATE: 3/18/19

SCALE: ----  
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**REVISIONS**

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**DRAWING:**

EAST POND GRADING SPOILS AREA

SET TYPE: OUT TO BID

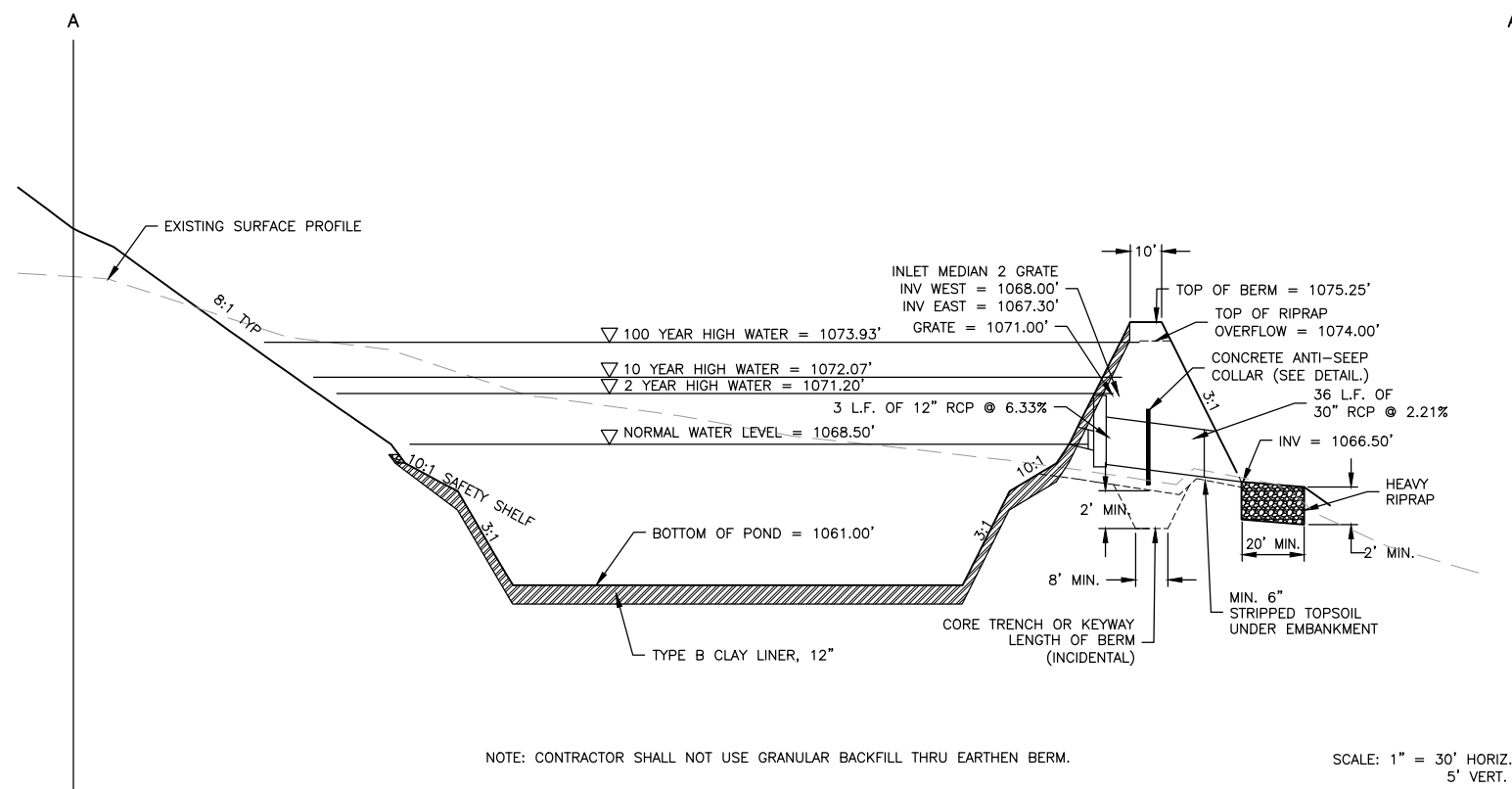
C:\C30\14\14-1049\Plan\14-1049 Plans.dwg, EAST SPOILS AREA

**JOB NUMBER:**

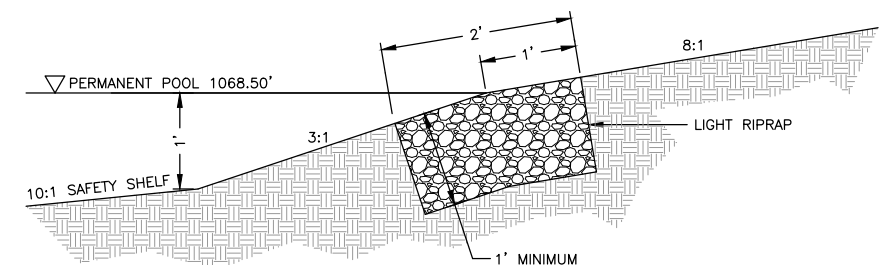
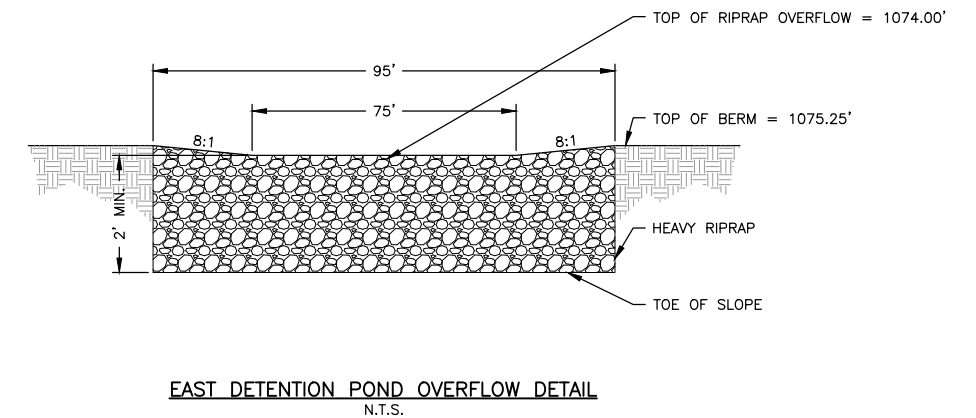
14-1049

**SHEET NUMBER:**

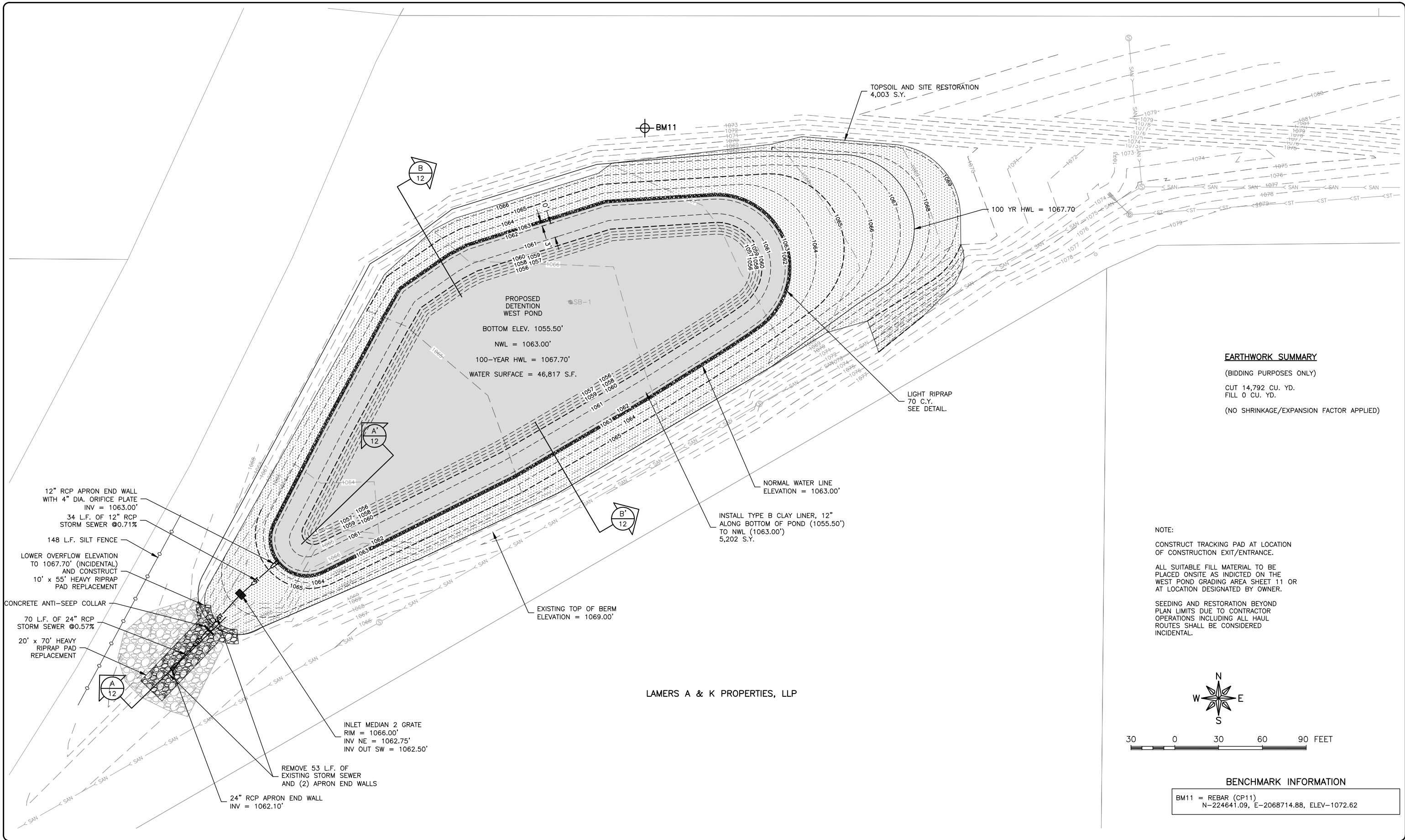
8 of 14



**EAST DETENTION POND CROSS-SECTION**



| REVISIONS |             |      |
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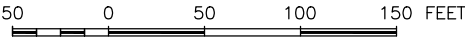




**EARTHWORK SUMMARY**

(BIDDING PURPOSED ONLY)  
CUT 2 CU. YD.  
FILL 7,906 CU. YD.  
(NO SHRINKAGE/EXPANSION FACTOR APPLIED)

NOTE:  
CONSTRUCT TRACKING PAD AT LOCATION OF CONSTRUCTION EXIT/ENTRANCE.  
TOPSOIL STOCKPILE LOCATION TO BE DETERMINED BY CONTRACTOR. EROSION CONTROL MEASURES AT STOCKPILE ARE TO BE CONSIDERED INCIDENTAL.  
SEEDING AND RESTORATION DUE TO CONTRACTOR OPERATIONS INCLUDING HAUL ROUTES SHALL BE CONSIDERED INCIDENTAL.



**BENCHMARK INFORMATION**

BM11 = REBAR (CP11)  
N-224641.09, E-2068714.88, ELEV-1072.62

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ILLINOIS  
IOWA  
WISCONSIN

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CITY OF MONROE  
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CITY OF MONROE

PROJECT AND LOCATION:  
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INDUSTRIAL PARK DETENTION  
IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: G.B.  
APPROVED BY: J.D.  
DATE: 3/18/19  
SCALE: -----

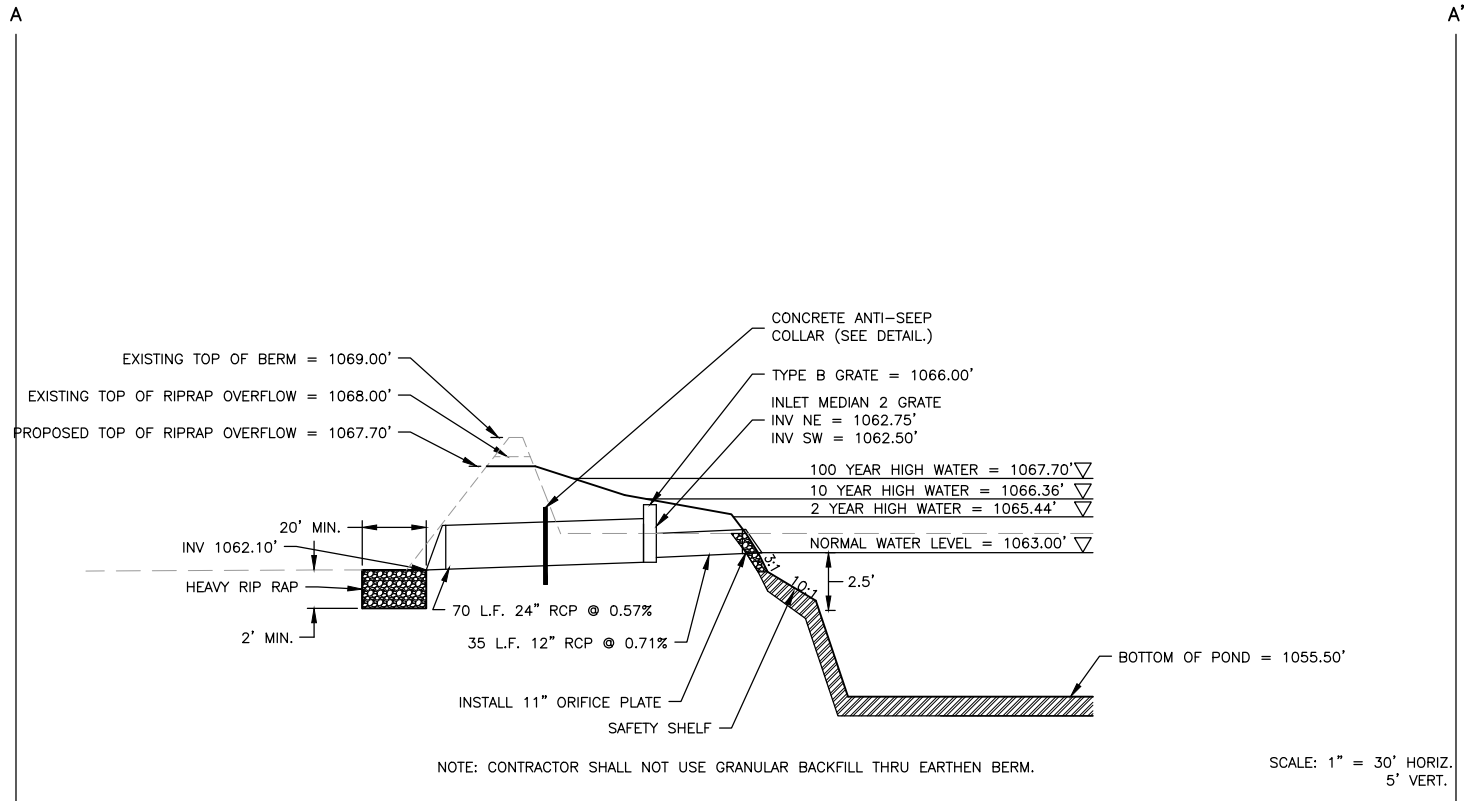
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DRAWING:  
WEST POND GRADING SPOILS AREA

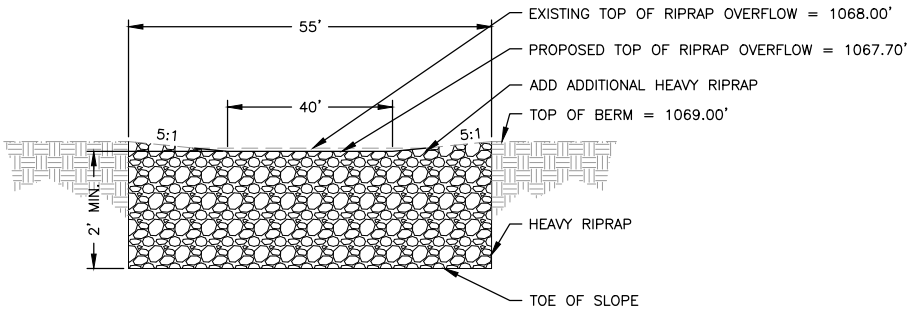
SET TYPE: OUT TO BID  
C:\C30\14\14-1049\Plans\14-1049 Plans.dwg, WEST SPOILS

JOB NUMBER:  
14-1049

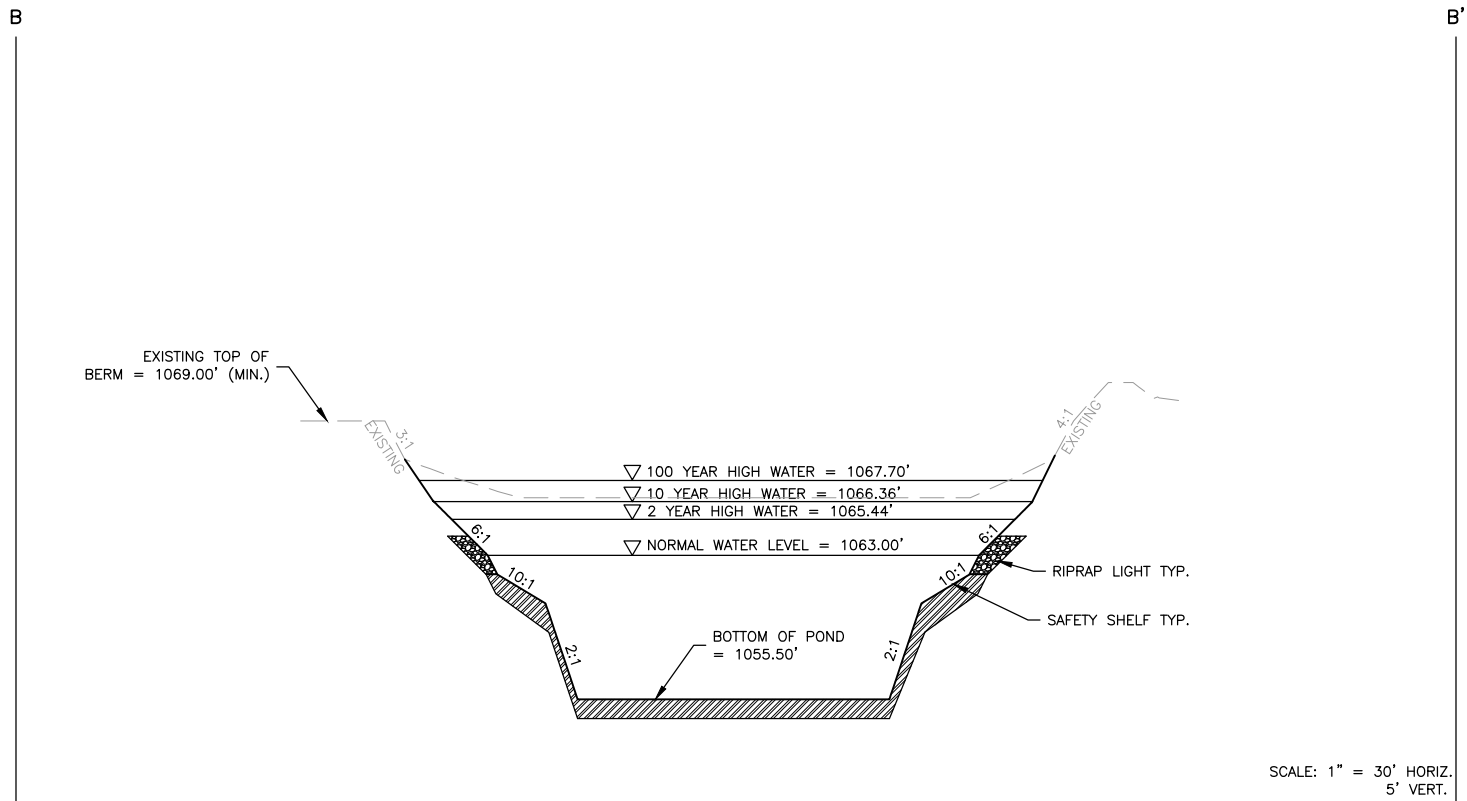
SHEET NUMBER:  
11 of 14



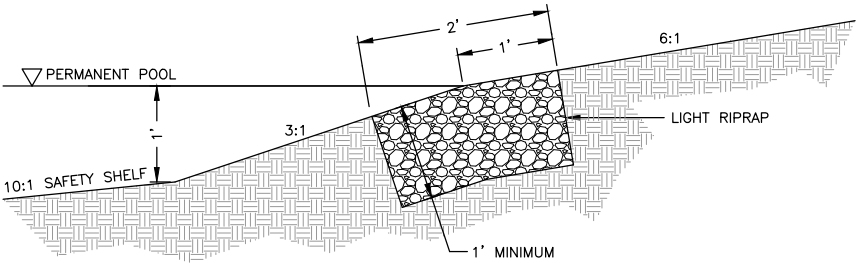
WEST DETENTION POND CROSS-SECTION A - A'



WEST DETENTION POND OVERFLOW DETAIL  
N.T.S.



WEST DETENTION POND CROSS-SECTION B - B'

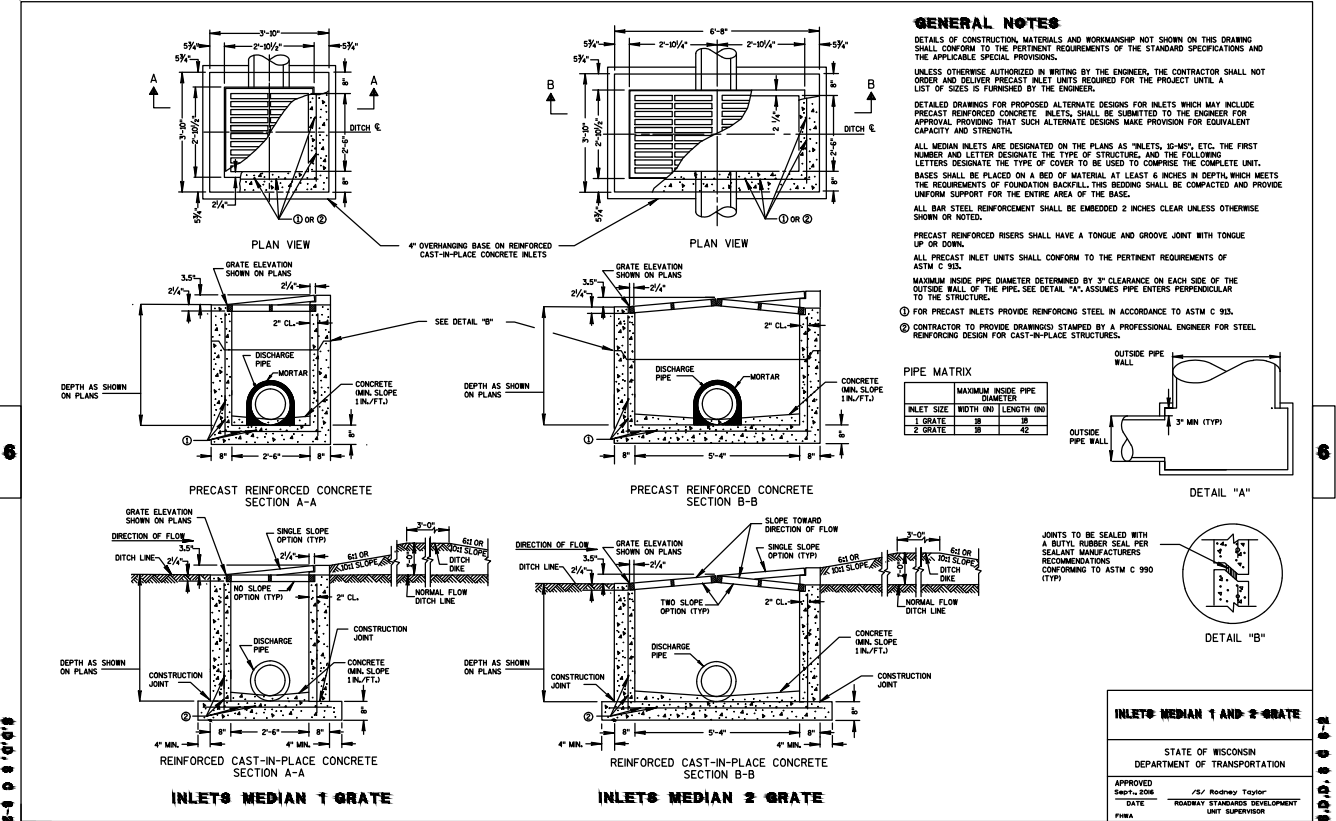


WATER LEVEL RIPRAP DETAIL  
N.T.S.

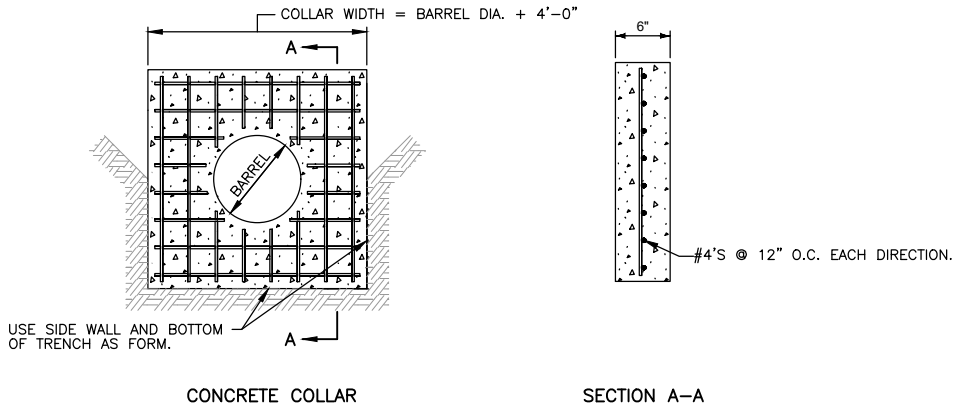
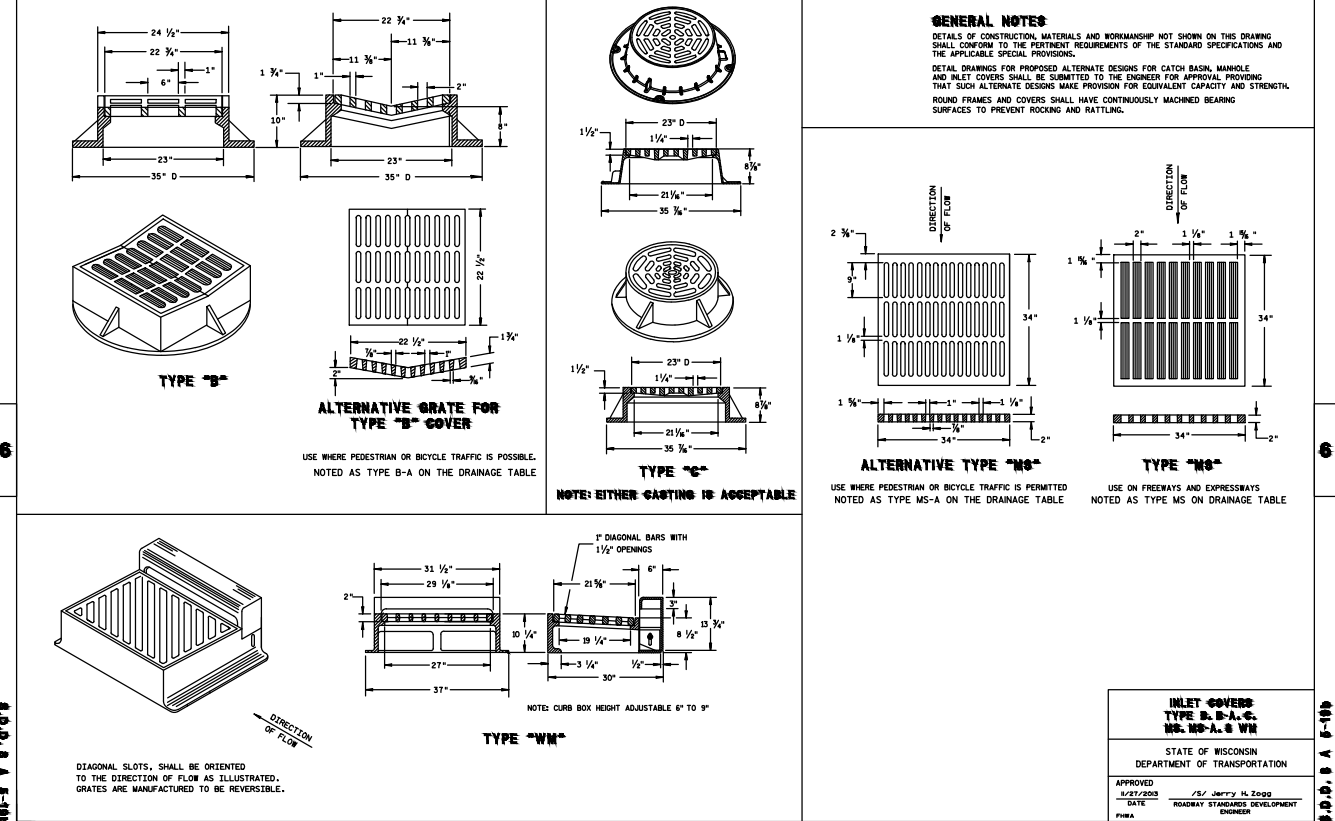
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8C8: Inlets Median 1 & 2 Grate



8A5 sheet b: Inlet Covers Type B, B-A, C, MS, MS-A, & WM



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| REV. NO.  | DESCRIPTION | DATE |
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# Surface Water Data Viewer Map - SPARROW



## Legend

### SPARROW Model Catchment

- 0.092600 - 0.459700
- 0.459701 - 0.621400
- 0.621401 - 0.825600
- 0.825601 - 0.947100
- 0.947101 - 1.000000

- Impaired Rivers and Streams
- Impaired Lakes
- Stream Assessments
- Lake Assessments
- Municipality
- State Boundaries
- County Boundaries
- Major Roads
  - Interstate Highway
  - State Highway
  - US Highway
- County and Local Roads
  - County HWY
  - Local Road
- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

1.0 0 0.50 1.0 Miles

NAD\_1983\_HARN\_Wisconsin\_TM

1: 31,680

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

## Notes

## **Exhibit 6**

### **Dolan Property Information**



# Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

Page 1 of 2

**Notice:** Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

## Applicant Information

|                                         |  |                           |        |                      |          |
|-----------------------------------------|--|---------------------------|--------|----------------------|----------|
| Permittee Name                          |  | Permit Number             |        | Facility Site Number |          |
| City of Monroe                          |  | WI- 0020362-08-0          |        | 31428                |          |
| Facility Address                        |  |                           | City   | State                | ZIP Code |
| 1110 18th Ave                           |  |                           | Monroe | WI                   | 53566    |
| Project Contact Name (if applicable)    |  | Address                   |        | City                 | State    |
| Jennifer Buholzer                       |  | 1107 16th Ave             |        | Monroe               | WI       |
|                                         |  |                           |        | State                | ZIP Code |
|                                         |  |                           |        | WI                   | 53566    |
| Project Name                            |  |                           |        |                      |          |
| Monroe Industrial Park - Dolan Property |  |                           |        |                      |          |
| Receiving Water Name                    |  | Parameter(s) being traded |        | HUC 12(s)            |          |
| Honey Creek                             |  | Phosphorus                |        | 070900031004         |          |

Is the permittee in a point or nonpoint source dominated watershed? ☐ Point source dominated  
(See PRESTO results - <http://dnr.wi.gov/topic/surfacewater/presto.html>) ☒ Nonpoint source dominated

## Credit Generator Information

Credit generator type (select all that apply): ☐ Permitted Discharge (non-MS4/CAFO) ☐ Urban nonpoint source discharge  
☒ Permitted MS4 ☐ Agricultural nonpoint source discharge  
☐ Permitted CAFO ☐ Other - Specify: \_\_\_\_\_

Are any of the credit generators in a different HUC 12 than the applicant? ☐ Yes; HUC 12: \_\_\_\_\_  
☒ No  
☐ Unsure

Are any of the credit generators downstream of the applicant? ☐ Yes  
☒ No  
☐ Unsure

Will a broker/exchange be used to facilitate trade? ☐ Yes; Name: \_\_\_\_\_  
☒ No  
☐ Unsure

## Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)

| Discharge Type                                                                                          | Permit Number | Name           | Contact Address                   | Is the point source credit generator currently in compliance with their permit requirements? |
|---------------------------------------------------------------------------------------------------------|---------------|----------------|-----------------------------------|----------------------------------------------------------------------------------------------|
| <input type="radio"/> Traditional<br><input checked="" type="radio"/> MS4<br><input type="radio"/> CAFO | S050075       | City of Monroe | 1110 18th Ave<br>Monroe, WI 53566 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |

**Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)**

List the practices that will be used to generate credits:

Removal of the 90 Ac. field known as the Dolan property from Agricultural use. Currently the land is being used to crop corn. Until the land is developed as an industrial park the land will have a cover crop in place. Once the land is made into an industrial park all necessary storm water BMPs will be put in place to limit phosphorus runoff. Please see attached map for project location.

Method for quantifying credits generated: ☐ Monitoring  
☒ Modeling, Names: SNAP + (to be completed)  
☐ Other: \_\_\_\_\_

Projected date credits will be available: 10/01/2020

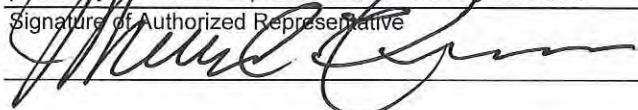
**The preparer certifies all of the following:**

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

|                                                                                                           |                       |
|-----------------------------------------------------------------------------------------------------------|-----------------------|
| Signature of Preparer  | Date Signed 4/30/2020 |
|-----------------------------------------------------------------------------------------------------------|-----------------------|

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

|                                                                                                                            |                     |
|----------------------------------------------------------------------------------------------------------------------------|---------------------|
| Signature of Authorized Representative  | Date Signed 4/29/20 |
|----------------------------------------------------------------------------------------------------------------------------|---------------------|

# PRESTO-Lite Watershed Delineation Report

Reach ID: 200004058

Watershed Name: Hawthorn Creek-Honey Creek

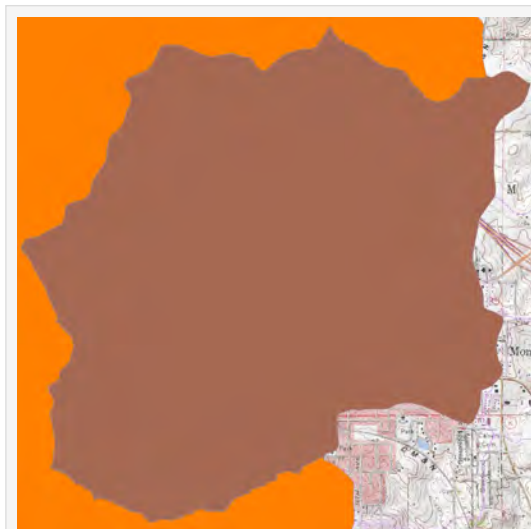
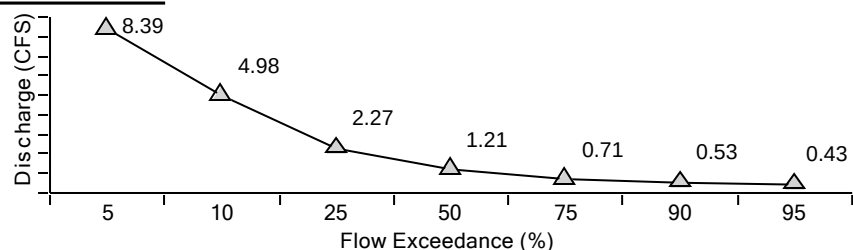
Waterbody Name: Honey Creek

HUC08: Pecatonica River

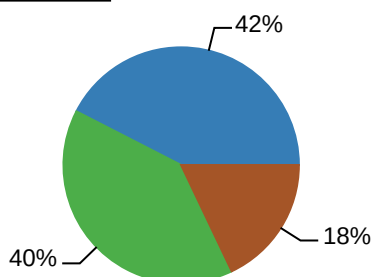
Watershed Area: 4.74 mi<sup>2</sup>

Average Annual Precipitation: 36.14in

## Stream Flow

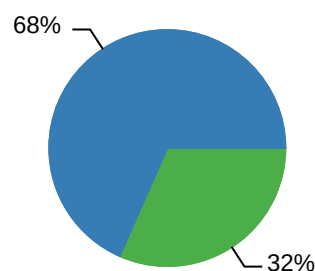


## Tributary Stream Type



| Type                | Length  |
|---------------------|---------|
| Cool-Cold Headwater | 5167 ft |
| Cold Headwater      | 4821 ft |
| Macroinvertebrates  | 2182 ft |
| Coldwater           | 0 ft    |
| Cool-Cold Mainstem  | 0 ft    |
| Cold Mainstem       | 0 ft    |
| Large River         | 0 ft    |
| Warm Headwater      | 0 ft    |
| Warm Mainstem       | 0 ft    |

## Landcover



| Type        | Area                 |
|-------------|----------------------|
| Urban       | 3.21 mi <sup>2</sup> |
| Agriculture | 1.48 mi <sup>2</sup> |
| Forest      | 0.02 mi <sup>2</sup> |
| Barren      | 0.01 mi <sup>2</sup> |
| Grassland   | 0.01 mi <sup>2</sup> |
| Wetland     | 0.01 mi <sup>2</sup> |

## PRESTO Phosphorus Load Estimate

|                                                                                 |                            |
|---------------------------------------------------------------------------------|----------------------------|
| Avg. Annual Nonpoint Phosphorous Load (80% Confidence Interval)                 | 9,714 (2,150 - 43,896) lbs |
| Number of Facilities (Individual Facility Information below)                    | 1                          |
| Avg. Annual Point-source Phosphorous Load (2010 - 2012 total of all facilities) | 3,997lbs                   |
| Most Likely Point : Nonpoint Phosphorous Ratio                                  | 29% : 71%                  |
| Low Estimate Point : Nonpoint Phosphorous Ratio (Adaptive Management)           | 8% : 92%                   |

## Adaptive Management Results

Facilities Discharging to the Hawthorn Creek-Honey Creek Watershed:

| Facility Name                        | Permit # | Outfall # | Waste Type | Receiving Water | Avg. Phosphorus Load (lbs.) (2010 - 2012) |
|--------------------------------------|----------|-----------|------------|-----------------|-------------------------------------------|
| MONROE WASTEWATER TREATMENT FACILITY | 0020362  | 001       | Municipal  | Honey Creek     | 3997                                      |



### Watershed Analysis Limitations

- This analysis relies on pre-defined catchments from the Wisconsin Hydrography Data-Plus and may not delineate from the exact location required. When assessing phosphorus loads for specific facility in support of efforts such as adaptive management, care should be taken to ensure that additional downstream point sources do not exist. For adaptive management information related to specific facilities please reference the PRESTO website <http://dnr.wi.gov/topic/surfacewater/presto.html>
- Delineation of watersheds is based on a topographic assessment and therefore do not account for modified drainage networks such as stormwater sewer systems and ditched agriculture.
- If a watershed requires delineation from an exact location the user may use the desktop version of PRESTO that requires ESRI ArcGIS. The PRESTO tool and default datasets can be downloaded at <http://dnr.wi.gov/topic/surfacewater/presto.html>
- Data sources for this report originate from the WDNR's Wisconsin Hydrography Data-Plus value-added dataset and the point and non-point source loading information including in the WDNR's PRESTO model.
- If you have questions about the report generated from the PRESTO-Lite application please contact:  
[DNRWATERQUALITYMODELING@wisconsin.gov](mailto:DNRWATERQUALITYMODELING@wisconsin.gov)

## **Operation & Maintenance– Dolan Property**

For the purposes of this Operation and Maintenance Plan, severe floods are defined as any hydrologic event resulting from a 24-hour cumulative precipitation in excess of 3.8 inches of rainfall (i.e., the 5-year, 24-hour precipitation event based on the annual maximum time series as defined by NOAA Atlas 14, Volume 8, Version 2).

Refer to Inspection and Reporting requirements to be followed as part of the proper operation and maintenance of the BMPs installed as part of this water quality trading plan.

### **Conditions for Alfalfa:**

1. Check planted crop to ensure alfalfa has been planted
2. Verify crop management matches the standards set forth by the Nutrient Management Standard 590.
3. After rain events check levels of erosion on the property.
4. If a crop, other than alfalfa, is planted SNAP + must be run and DNR notified of change. An update to the Water Quality Trading plan may be required at this time.
5. No Fertilizer to be used onsite.
6. The field shall maintain alfalfa vegetative practices at a minimum of 70% live cover during growing season.

### **Additional Conditions:**

1. The property will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions to maintain the installed BMPs for continuous TP credit generation. This may require replanting if a crop washout has occurred.
2. The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT plan. Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.

## **Inspection Reporting– Dolan Property**

a. Tracking Procedures

The City will track credits monthly and report credit usage to the DNR in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The City will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

b. Inspection

Inspection of the BMPs shall occur to ensure they are installed per the design and meet all applicable codes and permits. Inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. **If bare soil, erosion, or a concentrated flow path is noted during the inspection, the area shall be regraded and reseeded to prevent the development of permanent rills or gullies.** A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the City remains in compliance. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**

**Location shall be cropped with Alfalfa. The field shall maintain alfalfa vegetative practices at a minimum of 70% live cover during growing season. No fertilizer shall be used onsite.**

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**
- vi. When and how any issues identified were addressed
- vii. When and how any issues identified will be addressed in the future Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the City to DNR.

Annual inspections by a professional engineer will typically occur in the late spring. This time of year is ideal for evaluating the condition of BMPs as it follows the freeze/thaw which poses the greatest potential for changes to the BMPs. Minimal vegetation cover will allow for adequate visual inspection.

c. Annual Water Quality Trading Report Submittal

Each year the following shall be submitted to the DNR:

- i. The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance.
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be completed by a licensed Professional Engineer.
- iii. Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.
- iv. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**
- v. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vi. An updated WQT plan if management practices have or will change.

ci. Certification of Management Practices

The city will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance:

“I certify, to the best of my knowledge, the management practices identified in the approved water quality trading plan are installed, established and properly maintained.”

e. Notification of Failure to Generate Credits

The City will notify DNR by telephone call to DNR’s regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by City are not being generated as outlined in this Water Quality Trading Plan.

The City will submit a written notification within five days after the City recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. The DNR may waive the requirement for submittal for a written notice within five days and instruct the City to submit the written notice with the next regularly scheduled monitoring report required by City's WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined, the steps taken or planned to prevent reoccurrence of the identified problem, and the length of time it will take to address the issue.

f. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the City's trade agreement with the DNR and this Water Quality Trading Plan remain in effect.

# Revised Dolan Acreage

Farm: Monroe Dolan Property WQT - Existing, V20 Generated:5/21/2026, Crop year: 2020, Township Range Section:2N 7E s27



- Counties
- Township/Range
- Not farmed
- Water
- Nutrient prohibited buffers
- Nutrient prohibited drawn areas
- Nutrient prohibited winter only
- Fields



## NM1: Narrative and Crops Report

|                                                                                                                                                                                                                            |                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Starting Year                                                                                                                                                                                                              | 2017                                 |
| Reported For                                                                                                                                                                                                               | Monroe Dolan Property WQT - Existing |
| Printed                                                                                                                                                                                                                    | 2026-05-21                           |
| Plan Completion/Update Date:                                                                                                                                                                                               | 2020-06-11                           |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                  |                                      |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\May 2026 Dolan Property - Update\Monroe Dolan Property WQT.snapDb |                                      |

### Prepared for:

Monroe Dolan Property WQT - Existing  
attn: Monroe Dolan Property WQT - Existing  
State Highway 11/81  
Monroe, 53566

Farm has 1 fields totalling 97 cropped acres.

Farm Narrative: Nutrient Management Plan for WQT

### Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Custom applications

### Narrative and Crops:

| Field Name | Field Acres | 2017                                        | 2018                                                      | 2019                                        | 2020                                                      |
|------------|-------------|---------------------------------------------|-----------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------|
| DOLAN      | 80.2        | Corn grain<br>No Till<br>191-210<br>bu/acre | Soybeans 15-20<br>inch row<br>No Till<br>56-65<br>bu/acre | Corn grain<br>No Till<br>191-210<br>bu/acre | Soybeans 15-20<br>inch row<br>No Till<br>56-65<br>bu/acre |

### Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

| Crops Grouped By Category |             | 2017         | 2018 | 2019         | 2020 |
|---------------------------|-------------|--------------|------|--------------|------|
| Corn grain                | Acres<br>bu | 80<br>16,040 |      | 80<br>16,040 |      |

| Crops Grouped By Category |             | 2017 | 2018        | 2019 | 2020        |
|---------------------------|-------------|------|-------------|------|-------------|
| Soybeans 15-20 inch row   | Acres<br>bu |      | 80<br>4,840 |      | 80<br>4,840 |



## WQ1: P Trade Report

|                                                                                                                                                                                                                            |                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Reported For                                                                                                                                                                                                               | Monroe Dolan Property WQT - Existing |
| Printed                                                                                                                                                                                                                    | 2026-05-21                           |
| Plan Completion/Update Date                                                                                                                                                                                                | 2020-06-11                           |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                  |                                      |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\May 2026 Dolan Property - Update\Monroe Dolan Property WQT.snapDb |                                      |

### Prepared for:

Monroe Dolan Property WQT - Existing  
attn: Monroe Dolan Property WQT - Existing  
State Highway 11/81  
Monroe, 53566

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

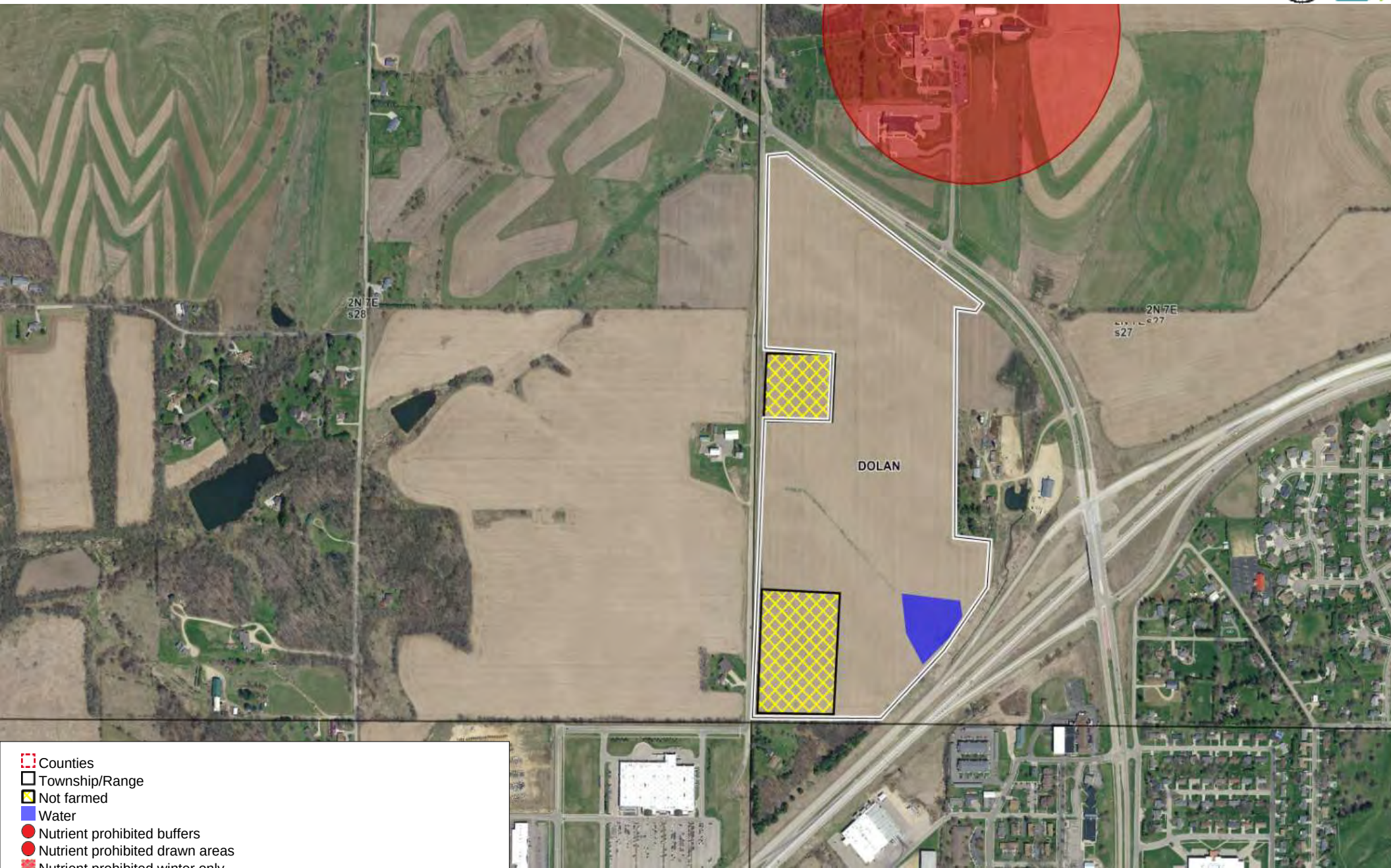
**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

| P Trade Report |             |             |           | PTP       |           |           |           |           |           |           |
|----------------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Field Name     | Soil Series | Soil Symbol | Acres     | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      | 2025      |
| DOLAN          | ASHDALE     | AsB2        | 80        | 74        | 32        | 69        | 30        | 67        | 28        | 66        |
| <b>Total</b>   |             |             | <b>80</b> | <b>74</b> | <b>32</b> | <b>69</b> | <b>30</b> | <b>67</b> | <b>28</b> | <b>66</b> |

# Proposed Dolan Property

Farm: Monroe Dolan Property WQT - Alfalfa, V20 Generated:5/21/2026, Crop year: 2020, Township Range Section:2N 7E s27



- Counties
- Township/Range
- Not farmed
- Water
- Nutrient prohibited buffers
- Nutrient prohibited drawn areas
- Nutrient prohibited winter only
- Fields

## NM1: Narrative and Crops Report

|                                                                                                                                                                                                                                      |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Starting Year                                                                                                                                                                                                                        | 2022                                |
| Reported For                                                                                                                                                                                                                         | Monroe Dolan Property WQT - Alfalfa |
| Printed                                                                                                                                                                                                                              | 2026-05-21                          |
| Plan Completion/Update Date:                                                                                                                                                                                                         | 2020-06-11                          |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                            |                                     |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\May 2026 Dolan Property - Update\Monroe Dolan Property WQT - Alfalfa.snapDb |                                     |

### Prepared for:

Monroe Dolan Property WQT - Alfalfa  
attn: Monroe Dolan Property WQT - Alfalfa  
State Highway 11/81  
Monroe, 53566

Farm has 1 fields totalling 97 cropped acres.

Farm Narrative: Nutrient Managment Plan for WQT

### Annual Farm Notes:

No Annual Farm Notes

Spreader Calibration Methods: Custom applications

### Narrative and Crops:

| Field Name | Field Acres | 2022                                   | 2023                                   | 2024                                   | 2025                                   | 2026                                   | 2027                                   | 2028                                   | 2029                                   |
|------------|-------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| DOLAN      | 80.2        | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre | Alfalfa<br>None<br>3.6-4.5<br>ton/acre |

### Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

| Crops Grouped By Category |              | 2022      | 2023      | 2024      | 2025      | 2026      | 2027      | 2028      | 2029      |
|---------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Alfalfa                   | Acres<br>ton | 80<br>324 | 80<br>324 | 80<br>324 | 80<br>324 | 80<br>324 | 80<br>324 | 80<br>324 | 80<br>324 |

## WQ1: P Trade Report

|                                                                                                                                                                                                                                      |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Reported For                                                                                                                                                                                                                         | Monroe Dolan Property WQT - Alfalfa |
| Printed                                                                                                                                                                                                                              | 2026-05-21                          |
| Plan Completion/Update Date                                                                                                                                                                                                          | 2020-06-11                          |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                            |                                     |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\May 2026 Dolan Property - Update\Monroe Dolan Property WQT - Alfalfa.snapDb |                                     |

### Prepared for:

Monroe Dolan Property WQT - Alfalfa  
attn: Monroe Dolan Property WQT - Alfalfa  
State Highway 11/81  
Monroe, 53566

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

| P Trade Report |             |             |           | PTP       |           |           |           |           |           |           |           |           |           |           |
|----------------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Field Name     | Soil Series | Soil Symbol | Acres     | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      | 2025      | 2026      | 2027      | 2028      | 2029      |
| DOLAN          | ASHDALE     | AsB2        | 80        | 74        | 32        | 30        | 28        | 25        | 23        | 20        | 23        | 21        | 19        | 18        |
| <b>Total</b>   |             |             | <b>80</b> | <b>74</b> | <b>32</b> | <b>30</b> | <b>28</b> | <b>25</b> | <b>23</b> | <b>20</b> | <b>23</b> | <b>21</b> | <b>19</b> | <b>18</b> |

| PTP  |      |
|------|------|
| 2030 | 2031 |
| 17   | 15   |
| 17   | 15   |



Report Number  
F25178-4001

Account Number  
99990



a&lgreatlakes  
LABORATORIES  
*Scientists who don't mind getting dirty.™*

3505 Conestoga Dr.  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

To: JENNIFER BUHOLZER  
1107 16TH AVE  
MONROE, WI 53566

For: KADERLY AG LLC  
Farm: CITY OF MONROE  
Field: DOLAN

County: GREEN  
Soil: ASHDALE  
Plow Depth: 7  
Acres: 81

Date Received: 6/27/2025

Date Reported: 7/1/2025

Page: 1 of 1

## SOIL TEST REPORT

| Sample ID | Lab Number | OM *<br>% | P *<br>ppm | K *<br>ppm | Mg **<br>ppm | Ca **<br>ppm | Soil pH | Buffer pH | CEC **<br>meq/100g | Cation Saturation ** |      |      |      | S<br>ppm | Zn<br>ppm | Mn<br>ppm | Fe<br>ppm | Cu<br>ppm | B<br>ppm | Bicarb-P<br>ppm | NO3-N<br>ppm** |
|-----------|------------|-----------|------------|------------|--------------|--------------|---------|-----------|--------------------|----------------------|------|------|------|----------|-----------|-----------|-----------|-----------|----------|-----------------|----------------|
|           |            |           |            |            |              |              |         |           |                    | %K                   | %Mg  | %Ca  | %H   |          |           |           |           |           |          |                 |                |
| 1         | 41116      | 3.6       | 6          | 54         | 430          | 1350         | 6.3     | 7.1       | 10.5               | 1.3                  | 34.2 | 64.5 |      |          |           |           |           |           |          |                 |                |
| 2         | 41117      | 3.8       | 5          | 54         | 465          | 1450         | 6.5     | 7.1       | 11.3               | 1.2                  | 34.4 | 64.4 |      |          |           |           |           |           |          |                 |                |
| 3         | 41118      | 4.3       | 11         | 80         | 670          | 1700         | 6.9     |           | 14.3               | 1.4                  | 39.1 | 59.5 |      |          |           |           |           |           |          |                 |                |
| 4         | 41119      | 4.1       | 22         | 88         | 465          | 1350         | 6.2     | 7.0       | 10.9               | 2.1                  | 35.7 | 62.2 |      |          |           |           |           |           |          |                 |                |
| 5         | 41120      | 3.5       | 12         | 52         | 455          | 1250         | 6.0     | 7.0       | 10.2               | 1.3                  | 37.3 | 61.4 |      |          |           |           |           |           |          |                 |                |
| 6         | 41121      | 3.8       | 12         | 60         | 520          | 1450         | 6.2     | 7.0       | 11.7               | 1.3                  | 36.9 | 61.8 |      |          |           |           |           |           |          |                 |                |
| 7         | 41122      | 3.6       | 18         | 57         | 390          | 1250         | 5.7     | 6.8       | 12.0               | 1.2                  | 27.0 | 51.9 | 19.9 |          |           |           |           |           |          |                 |                |
| 8         | 41123      | 4.8       | 9          | 70         | 635          | 1750         | 6.6     |           | 14.2               | 1.3                  | 37.2 | 61.5 |      |          |           |           |           |           |          |                 |                |
| 9         | 41124      | 4.1       | 24         | 68         | 365          | 1250         | 5.7     | 6.9       | 10.7               | 1.6                  | 28.5 | 58.6 | 11.3 |          |           |           |           |           |          |                 |                |
| 10        | 41125      | 4.2       | 21         | 117        | 405          | 1400         | 6.1     | 7.0       | 10.7               | 2.8                  | 31.6 | 65.6 |      |          |           |           |           |           |          |                 |                |
| 11        | 41126      | 4.9       | 34         | 93         | 810          | 2150         | 7.3     |           | 17.7               | 1.3                  | 38.1 | 60.6 |      |          |           |           |           |           |          |                 |                |
| 12        | 41127      | 4.7       | 38         | 115        | 675          | 1750         | 7.1     |           | 14.7               | 2.0                  | 38.3 | 59.6 |      |          |           |           |           |           |          |                 |                |
| 13        | 41128      | 4.0       | 32         | 81         | 650          | 1700         | 7.0     |           | 14.1               | 1.5                  | 38.3 | 60.2 |      |          |           |           |           |           |          |                 |                |
| 14        | 41129      | 4.1       | 35         | 97         | 620          | 1650         | 6.9     |           | 13.7               | 1.8                  | 37.8 | 60.4 |      |          |           |           |           |           |          |                 |                |
| 15        | 41130      | 4.3       | 37         | 121        | 705          | 1900         | 7.2     |           | 15.7               | 2.0                  | 37.5 | 60.6 |      |          |           |           |           |           |          |                 |                |
| 16        | 41131      | 4.1       | 23         | 64         | 510          | 1500         | 6.5     | 7.1       | 11.9               | 1.4                  | 35.7 | 63.0 |      |          |           |           |           |           |          |                 |                |
| 17        | 41132      | 4.9       | 24         | 74         | 475          | 1700         | 6.4     | 6.9       | 13.8               | 1.4                  | 28.6 | 61.4 | 8.7  |          |           |           |           |           |          |                 |                |
| Average   |            | 4.2       | 19^        | 74^        | 544          | 1562         | 6.5     |           | 12.8               | 1.6                  | 35.1 | 61.0 | 13.3 |          |           |           |           |           |          |                 |                |

WI DATCP Laboratory Certification Number 01-15-03-201

Report reviewed and approved by our professional agronomy staff.

Wtsol-RES

\* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. \*\* Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A2809.

Report No: F25178-4001

Account No: 99990

Date Received

6/27/2025

Date Reported

7/1/2025

JENNIFER BUHOLZER

1107 16TH AVE

MONROE, WI 53566

For: KADERLY AG LLC

Farm: CITY OF MONROE



3505 Conestoga Drive  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

## Field

DOLAN

## County

Green

## Soil Name (or subsoil group)

Ashdale

(loamy soil / high yield potential)

## Acres Depth Tiled Irrigated

81 7 N N

| NUTRIENT RECOMMENDATIONS |                      |                      |      |     |          |                      |      |     |                      |      |     |
|--------------------------|----------------------|----------------------|------|-----|----------|----------------------|------|-----|----------------------|------|-----|
| Cropping Sequence        | Yield Goal           | Crop Nutrient Need   |      |     | Legume N | Fertilizer Credit    |      |     | Nutrients to Apply   |      |     |
|                          |                      | N                    | P2O5 | K2O |          | Manure N             | P2O5 | K2O | N                    | P2O5 | K2O |
|                          | ----- per acre ----- | ----- lbs/acre ----- |      |     | lbs/acre | ----- lbs/acre ----- |      |     | ----- lbs/acre ----- |      |     |
| Alfalfa, established (1) | 5.6-6.5 ton          | 0                    | 80   | 415 | 0        | 0                    | 0    | 0   | 0                    | 80   | 415 |
| Alfalfa, established (1) | 5.6-6.5 ton          | 0                    | 80   | 415 | 0        | 0                    | 0    | 0   | 0                    | 80   | 415 |
| Alfalfa, established (1) | 5.6-6.5 ton          | 0                    | 80   | 415 | 0        | 0                    | 0    | 0   | 0                    | 80   | 415 |
| Alfalfa, established (1) | 5.6-6.5 ton          | 0                    | 80   | 415 | 0        | 0                    | 0    | 0   | 0                    | 80   | 415 |

The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

## ADDITIONAL INFORMATION

- The lime required for this rotation to reach pH 6.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.
- Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
- If alfalfa will be maintained for more than three years, increase recommended K2O by 20% each year.
- N.R.=Not required for calculation of lime requirement when soil pH is 6.6 or higher.
- Parts of this field may not benefit from liming. Please see the unadjusted lime requirements in the Laboratory Analysis section below.
- If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.

## TEST INTERPRETATION

| Cropping Sequence | Very Low     | Low          | Optimum  | High | Very High | Excessive |
|-------------------|--------------|--------------|----------|------|-----------|-----------|
| Phosphorus        | PPPPPPPPPPPP | PPPPPPPPPPPP | PPPPPPPP |      |           |           |
| Potassium         | KKKKKK       |              |          |      |           |           |
| Rotation pH       | XXXXXXXXXXXX | XXXXXXX      |          |      |           |           |

## LABORATORY ANALYSIS SUMMARY

| Adjusted Averages | Soil pH | Buffer pH | O.M. % | Phosphorus ppm | Potassium ppm | Calcium ppm | Magnesium ppm | Estimated CEC | Boron ppm | Manganese ppm | Zinc ppm | Sulfate-S ppm | Texture Code | Sample Density |
|-------------------|---------|-----------|--------|----------------|---------------|-------------|---------------|---------------|-----------|---------------|----------|---------------|--------------|----------------|
|                   | 6.5     | 7.1       | 4.2    | 19             | 74            |             |               |               |           |               |          |               | 2            | 4.77           |

## SECONDARY AND MICRONUTRIENT RECOMMENDATIONS

Interpretations →

Comments:

## **Exhibit 7**

### **WWTP Expansion Site Information**



**Notice:** Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

### Applicant Information

|                                                                                          |  |                                         |                |                               |                   |
|------------------------------------------------------------------------------------------|--|-----------------------------------------|----------------|-------------------------------|-------------------|
| Permittee Name<br>City of Monroe                                                         |  | Permit Number<br>WI- 0020362-08-0       |                | Facility Site Number<br>31428 |                   |
| Facility Address<br>1110 18th Ave                                                        |  |                                         | City<br>Monroe | State<br>WI                   | ZIP Code<br>53566 |
| Project Contact Name (if applicable)<br>Jennifer Buholzer                                |  | Address<br>1107 16th Ave                |                | City<br>Monroe                | State<br>WI       |
|                                                                                          |  |                                         |                | ZIP Code<br>53566             |                   |
| Project Name<br>Monroe WWTP Expansion Site - Buffer Strips, No Till, Nutrient Management |  |                                         |                |                               |                   |
| Receiving Water Name<br>Honey Creek                                                      |  | Parameter(s) being traded<br>Phosphorus |                | HUC 12(s)<br>070900031004     |                   |

Is the permittee in a point or nonpoint source dominated watershed?  
(See PRESTO results - <http://dnr.wi.gov/topic/surfacewater/presto.html>)

☐ Point source dominated  
☒ Nonpoint source dominated

### Credit Generator Information

Credit generator type (select all that apply):

|                                                             |                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Permitted Discharge (non-MS4/CAFO) | <input type="checkbox"/> Urban nonpoint source discharge        |
| <input checked="" type="checkbox"/> Permitted MS4           | <input type="checkbox"/> Agricultural nonpoint source discharge |
| <input type="checkbox"/> Permitted CAFO                     | <input type="checkbox"/> Other - Specify: _____                 |

Are any of the credit generators in a different HUC 12 than the applicant? ☐ Yes; HUC 12: \_\_\_\_\_  
☒ No  
☐ Unsure

Are any of the credit generators downstream of the applicant? ☐ Yes  
☒ No  
☐ Unsure

Will a broker/exchange be used to facilitate trade? ☐ Yes; Name: \_\_\_\_\_  
☒ No  
☐ Unsure

### Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)

| Discharge Type                                                                                          | Permit Number | Name           | Contact Address                   | Is the point source credit generator currently in compliance with their permit requirements? |
|---------------------------------------------------------------------------------------------------------|---------------|----------------|-----------------------------------|----------------------------------------------------------------------------------------------|
| <input type="radio"/> Traditional<br><input checked="" type="radio"/> MS4<br><input type="radio"/> CAFO | S050075       | City of Monroe | 1110 18th Ave<br>Monroe, WI 53566 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                   | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |

**Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)**

List the practices that will be used to generate credits:

Addition of buffer strips and creation of a nutrient management plan for property. The property is ~5.0 Ac and currently the land is being used to crop corn.

Method for quantifying credits generated: ☐ Monitoring  
☒ Modeling, Names: SNAP + (to be completed)  
☐ Other: \_\_\_\_\_

Projected date credits will be available: 10/31/2021

**The preparer certifies all of the following:**

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer

Date Signed

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative

Date Signed

3/19/21

## **Operation & Maintenance– WWTP Expansion Site**

For the purposes of this Operation and Maintenance Plan, severe floods are defined as any hydrologic event resulting from a 24-hour cumulative precipitation in excess of 3.8 inches of rainfall (i.e., the 5-year, 24-hour precipitation event based on the annual maximum time series as defined by NOAA Atlas 14, Volume 8, Version 2).

Refer to Inspection and Reporting requirements to be followed as part of the proper operation and maintenance of the BMPs installed as part of this water quality trading plan.

### **Conditions for Oats:**

1. Check planted crop to ensure Oats has been planted
2. Verify crop management matches the standards set forth by the Nutrient Management Standard 590.
3. After rain events check levels of erosion on the property.
4. If a crop, other than oats, is planted SNAP + must be run and DNR notified of change. An update to the Water Quality Trading plan may be required at this time.
5. No Fertilizer to be used onsite.
6. The field shall maintain vegetative practices at a minimum of 70% live cover during growing season.

### **Additional Conditions:**

1. The property will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions to maintain the installed BMPs for continuous TP credit generation. This may require replanting if a crop washout has occurred.
2. The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT plan. Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.

## **Inspection Reporting – WWTP Expansion Site**

### **a. Tracking Procedures**

The City will track credits monthly and report credit usage to the DNR in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The City will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

b. Inspection

Inspection of the BMPs shall occur to ensure they are installed per the design and meet all applicable codes and permits. Inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. **If bare soil, erosion, or a concentrated flow path is noted during inspection, the area shall be regraded and reseeded to prevent the development of permanent rills or gullies.** A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the City remains in compliance. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**

**Location shall be cropped with Oats. The field shall maintain vegetative practices at a minimum of 70% live cover during growing season. No fertilizer shall be used onsite.**

The inspection reports will include:

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**
- vi. When and how any issues identified were addressed
- vii. When and how any issues identified will be addressed in the future Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the City to DNR.

Annual inspections by a professional engineer will typically occur in the late spring. This time of year is ideal for evaluating the condition of BMPs as it follows the freeze/thaw which poses the greatest potential for changes to the BMPs. Minimal vegetation cover will allow for adequate visual inspection.

c. Annual Water Quality Trading Report Submittal

Each year the following shall be submitted to the DNR:

- i. The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance.
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be completed by a licensed Professional Engineer.

- iii. Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.
- iv. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**
- v. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vi. An updated WQT plan if management practices have or will change.

d. Certification of Management Practices

The city will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan. The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance:

“I certify, to the best of my knowledge, the management practices identified in the approved water quality trading plan are installed, established and properly maintained.”

e. Notification of Failure to Generate Credits

The City will notify DNR by telephone call to DNR’s regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by City are not being generated as outlined in this Water Quality Trading Plan.

The City will submit a written notification within five days after the City recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. The DNR may waive the requirement for submittal for a written notice within five days and instruct the City to submit the written notice with the next regularly scheduled monitoring report required by City’s WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined, the steps taken or planned to prevent reoccurrence of the identified problem, and the length of time it will take to address the issue.

f. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the City’s trade agreement with the DNR and this Water Quality Trading Plan remain in effect.

## NM1: Narrative and Crops Report

|                                                                                                                                                                                                                                                  |                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Starting Year                                                                                                                                                                                                                                    | 2017               |
| Reported For                                                                                                                                                                                                                                     | WTP Expansion Site |
| Printed                                                                                                                                                                                                                                          | 2026-05-21         |
| Plan Completion/Update Date:                                                                                                                                                                                                                     | 2020-10-30         |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                                        |                    |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\May 2026 WTP Expansion Site\Monroe - Land Application Site\Land Application Site.snapDb |                    |

**Prepared for:**  
WTP Expansion Site  
attn:WTP Expansion Site  
1224 W. 10th Street  
Monroe, 53566

Farm has 1 fields totalling 0 cropped acres.

Farm Narrative: Land Application Site

### Annual Farm Notes:

No Annual Farm Notes

**Spreader Calibration Methods:** Custom applications

### Narrative and Crops:

| Field Name | Field Acres | 2017                                                   | 2018                                                   | 2019                                                   | 2020                                                   |
|------------|-------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| WTP        | 5.2         | Corn grain<br>Spring Cultivation<br>191-210<br>bu/acre | Corn grain<br>Spring Cultivation<br>191-210<br>bu/acre | Corn grain<br>Spring Cultivation<br>191-210<br>bu/acre | Corn grain<br>Spring Cultivation<br>191-210<br>bu/acre |

### Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

| Crops Grouped By Category |             | 2017       | 2018       | 2019       | 2020       |
|---------------------------|-------------|------------|------------|------------|------------|
| Corn grain                | Acres<br>bu | 5<br>1,003 | 5<br>1,003 | 5<br>1,003 | 5<br>1,003 |

## WQ1: P Trade Report

|                                                                                                                                                                                               |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Reported For</b>                                                                                                                                                                           | <b>WTP Expansion Site</b> |
| <b>Printed</b>                                                                                                                                                                                | <b>2022-04-25</b>         |
| <b>Plan Completion/Update Date</b>                                                                                                                                                            | <b>2020-10-30</b>         |
| <b>SnapPlus Version 20.0 built on 2020-10-21</b>                                                                                                                                              |                           |
| <b>C:\Users\jbuholzer\OneDrive - Fehr Graham\2022 - City of Monroe Water Quality Submittal to DNR\Modeling\WTP Expansion Site\Monroe - Land Application Site\Land Application Site.snapDb</b> |                           |

**Prepared for:**  
WTP Expansion Site  
attn:WTP Expansion Site  
1224 W. 10th Street  
Monroe, 53566

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

| P Trade Report |             |             |          | PTP       |           |           |           |           |           |           |
|----------------|-------------|-------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Field Name     | Soil Series | Soil Symbol | Acres    | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      | 2025      |
| WTP            | TAMA        | TaB2        | 5        | 16        | 15        | 15        | 15        | 15        | 15        | 16        |
| <b>Total</b>   |             |             | <b>5</b> | <b>16</b> | <b>15</b> | <b>15</b> | <b>15</b> | <b>15</b> | <b>15</b> | <b>16</b> |

## NM1: Narrative and Crops Report

|                                                                                                                                                                                                                                                          |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Starting Year                                                                                                                                                                                                                                            | 2024                          |
| Reported For                                                                                                                                                                                                                                             | WTP Expansion Site - Proposed |
| Printed                                                                                                                                                                                                                                                  | 2026-05-21                    |
| Plan Completion/Update Date:                                                                                                                                                                                                                             | 2020-10-30                    |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                                                |                               |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2025 - City of Monroe Water Quality Trading Plan Update to the DNR\2025 Modeling\Modeling\WTP Expansion Site\Monroe - Land Application Site - Proposed Cover\Land Applicati - Copy.snapDb |                               |

**Prepared for:**  
WTP Expansion Site - Proposed  
attn:WTP Expansion Site  
1224 W. 10th Street  
Monroe, 53566

Farm has 1 fields totalling 0 cropped acres.

Farm Narrative: Land Application Site

### Annual Farm Notes:

No Annual Farm Notes

**Spreader Calibration Methods:** Custom applications

### Narrative and Crops:

| Field Name | Field Acres | 2024                                | 2025                                | 2026                                | 2027                                | 2028                                | 2029                                | 2030                                |
|------------|-------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| WTP        | 5.2         | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre | Oats<br>No Till<br>61-90<br>bu/acre |

### Summary by Crop:

NOTE: Yields calculated using the midpoint of the SnapPlus yield goal range for each crop.

| Crops Grouped By Category |             | 2024     | 2025     | 2026     | 2027     | 2028     | 2029     | 2030     |
|---------------------------|-------------|----------|----------|----------|----------|----------|----------|----------|
| Oats                      | Acres<br>bu | 5<br>378 | 5<br>378 | 5<br>378 | 5<br>378 | 5<br>378 | 5<br>378 | 5<br>378 |



## WQ1: P Trade Report

|                                                                                                                                                                                                                                                           |                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Reported For                                                                                                                                                                                                                                              | WTP Expansion Site - Proposed |
| Printed                                                                                                                                                                                                                                                   | 2025-12-22                    |
| Plan Completion/Update Date                                                                                                                                                                                                                               | 2020-10-30                    |
| SnapPlus Version 20.4 built on 2021-06-03                                                                                                                                                                                                                 |                               |
| C:\Users\jbuholzer\OneDrive - Trilon Group Family of Companies\2022 - City of Monroe Water Quality Submittal to DNR\2025 Modeling\Modeling\WTP Expansion Site\Monroe - Land Application Site - Proposed Cover\Land Application Site Proposed Cover.snapDb |                               |

**Prepared for:**  
WTP Expansion Site - Proposed  
attn:WTP Expansion Site  
1224 W. 10th Street  
Monroe, 53566

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

| P Trade Report |             |             |          | PTP      |          |          |          |          |          |          |          |          |          |          |
|----------------|-------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Field Name     | Soil Series | Soil Symbol | Acres    | 2019     | 2020     | 2021     | 2022     | 2023     | 2024     | 2025     | 2026     | 2027     | 2028     | 2029     |
| WTP            | TAMA        | TaB2        | 5        | 8        | 7        | 6        | 4        | 3        | 2        | 2        | 3        | 2        | 2        | 2        |
| <b>Total</b>   |             |             | <b>5</b> | <b>8</b> | <b>7</b> | <b>6</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>2</b> | <b>3</b> | <b>2</b> | <b>2</b> | <b>2</b> |

| PTP  |      |
|------|------|
| 2030 | 2031 |
| 2    | 2    |
| 2    | 2    |

Report Number  
F25178-4000

Account Number  
99990



**a&lgreatlakes**  
LABORATORIES  
*Scientists who don't mind getting dirty.™*

3505 Conestoga Dr.  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

To: JENNIFER BUHOLZER  
1107 16TH AVE  
MONROE, WI 53566

For: KADERLY AG LLC  
Farm: CITY OF MONROE  
Field: WTP

County: GREEN  
Soil: ASHDALE  
Plow Depth: 7  
Acres: 5

Date Received: 6/27/2025

Date Reported: 7/1/2025

Page: 1 of 1

## SOIL TEST REPORT

| Sample ID | Lab Number | OM * | P * | K * | Mg ** | Ca ** | Soil pH | Buffer pH | CEC ** | Cation Saturation ** |      |      |      | S  | Zn | Mn | Fe | Cu | B | Bicarb-P | NO3-N |
|-----------|------------|------|-----|-----|-------|-------|---------|-----------|--------|----------------------|------|------|------|----|----|----|----|----|---|----------|-------|
|           |            |      |     |     |       |       |         |           |        | meq/100g             | %K   | %Mg  | %Ca  | %H |    |    |    |    |   |          |       |
| 1         | 41113      | 2.1  | 49  | 49  | 220   | 750   | 5.3     | 6.7       | 9.3    | 1.3                  | 19.7 | 40.3 | 38.7 |    |    |    |    |    |   |          |       |
| 2         | 41114      | 2.1  | 48  | 43  | 220   | 850   | 5.2     | 6.8       | 8.6    | 1.3                  | 21.3 | 49.5 | 27.9 |    |    |    |    |    |   |          |       |
| 3         | 41115      | 1.8  | 40  | 40  | 260   | 800   | 5.2     | 6.8       | 8.7    | 1.2                  | 25.0 | 46.1 | 27.7 |    |    |    |    |    |   |          |       |
| Average   |            | 2.0  | 46^ | 44^ | 233   | 800   | 5.2     |           | 8.9    | 1.3                  | 22.0 | 45.3 | 31.4 |    |    |    |    |    |   |          |       |

WI DATCP Laboratory Certification Number 01-15-03-201

Report reviewed and approved by our professional agronomy staff.

Wtsol-RES

\* Soil Test Recommendations for Field, Vegetable and Fruit Crops, UW A2809, 2012. \*\* Recommended Chemical Soil Test Procedures for the North Central Region, NCR No. 221, 2012. ^ Weighted average, UW-A2809.

**Account No: 99990**

## SOIL TEST REPORT (UW RECOMMENDATIONS)



JENNIFER BUHOLZER  
1107 16TH AVE  
MONROE, WI 53566

**For: KADERLY AG LLC**

**Farm:** CITY OF MONROE

3505 Conestoga Drive  
Fort Wayne, IN 46808  
260.483.4759  
algreatlakes.com

**Field**

WTP

County

Green

Soil Name (or subsoil group)

Ashdale

(loamy soil / high yield potential)

[illegible]

5      7      N      N

## NUTRIENT RECOMMENDATIONS

| FERTILIZER RECOMMENDATIONS |                      |                      |      |     |          |                      |      |     |                      |      |     |
|----------------------------|----------------------|----------------------|------|-----|----------|----------------------|------|-----|----------------------|------|-----|
| Cropping Sequence          | Yield Goal           | Crop Nutrient Need   |      |     | Legume N | Fertilizer Credit    |      |     | Nutrients to Apply   |      |     |
|                            |                      | N                    | P2O5 | K2O |          | Manure N             | P2O5 | K2O | N                    | P2O5 | K2O |
|                            | ----- per acre ----- | ----- lbs/acre ----- |      |     | lbs/acre | ----- lbs/acre ----- |      |     | ----- lbs/acre ----- |      |     |
| Oats, grain (75)           | 61-90 bu             | 40                   | 0    | 60  | 0        | 0                    | 0    | 0   | 40                   | 0    | 60  |
| Oats, grain (75)           | 61-90 bu             | 40                   | 0    | 60  | 0        | 0                    | 0    | 0   | 40                   | 0    | 60  |
| Oats, grain (75)           | 61-90 bu             | 40                   | 0    | 60  | 0        | 0                    | 0    | 0   | 40                   | 0    | 60  |
| Oats, grain (75)           | 61-90 bu             | 40                   | 0    | 60  | 0        | 0                    | 0    | 0   | 40                   | 0    | 60  |

The lime required for this rotation to reach pH 5.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.

### ADDITIONAL INFORMATION

- The lime required for this rotation to reach pH 5.8 is 2 T/a of 60-69 lime or 1.5 T/a of 80-89 lime.
- Recommended rates are the total amount of nutrients to apply (N-P-K), including starter fertilizer.
- If barley or oats are underseeded with a legume forage, eliminate or reduce N by half.
- If lime has been applied in the last two years, more lime may not be needed due to incomplete reaction.

## TEST INTERPRETATION

| Cropping Sequence | Very Low     | Low          | Optimum      | High         | Very High    | Excessive |
|-------------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Phosphorus        | PPPPPPPPPPPP | PPPPPPPPPPPP | PPPPPPPPPPPP | PPPPPPPPPPPP | PPPPPPPPPPPP | PPPPPPPP  |
| Potassium         | KKKKKK       |              |              |              |              |           |
| Rotation pH       | XXXXXXXXXXXX | XXXXXX       |              |              |              |           |

## LABORATORY ANALYSIS SUMMARY

[illegible]

## SECONDARY AND MICRONUTRIENT RECOMMENDATIONS

## Interpretations

**Comments:**

## **Exhibit 8**

### **Honey Creek Park Streambank Restoration Information**

## Notice of Intent to Conduct Water Quality Trading

Form 3400-206 (1/14)

Page 1 of 2

Notice: Pursuant to s. 283.84, Wis. Stats., and ch. NR 217 Wis. Adm. Code, this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

### Applicant Information

|                                                               |  |                                         |                |                               |                   |
|---------------------------------------------------------------|--|-----------------------------------------|----------------|-------------------------------|-------------------|
| Permittee Name<br>City of Monroe                              |  | Permit Number<br>WI- 0020362-08-0       |                | Facility Site Number<br>31428 |                   |
| Facility Address<br>1110 18th Ave                             |  |                                         | City<br>Monroe | State<br>WI                   | ZIP Code<br>53566 |
| Project Contact Name (if applicable)<br>Jennifer Buholzer     |  | Address<br>1107 16th Ave                |                | City<br>Monroe                | State<br>WI       |
|                                                               |  |                                         |                | ZIP Code<br>53566             |                   |
| Project Name<br>Honey Creek Park/ WWTP Streambank Restoration |  |                                         |                |                               |                   |
| Receiving Water Name<br>Honey Creek                           |  | Parameter(s) being traded<br>Phosphorus |                | HUC 12(s)<br>070900031004     |                   |

Is the permittee in a point or nonpoint source dominated watershed?  
(See PRESTO results - <http://dnr.wi.gov/topic/surfacewater/presto.html>)

☐ Point source dominated

☒ Nonpoint source dominated

### Credit Generator Information

Credit generator type (select all that apply):

|                                                             |                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> Permitted Discharge (non-MS4/CAFO) | <input type="checkbox"/> Urban nonpoint source discharge        |
| <input checked="" type="checkbox"/> Permitted MS4           | <input type="checkbox"/> Agricultural nonpoint source discharge |
| <input type="checkbox"/> Permitted CAFO                     | <input type="checkbox"/> Other - Specify: _____                 |

Are any of the credit generators in a different HUC 12 than the applicant? ☐ Yes; HUC 12: \_\_\_\_\_

☐ No

☐ Unsure

Are any of the credit generators downstream of the applicant? ☐ Yes

☐ No

☐ Unsure

Will a broker/exchange be used to facilitate trade? ☐ Yes; Name: \_\_\_\_\_

☐ No

☐ Unsure

### Point to Point Trades (Traditional Municipal / Industrial Discharge, MS4, CAFO)

| Discharge Type                                                                                          | Permit Number | Name           | Contact Address                 | Is the point source credit generator currently in compliance with their permit requirements? |
|---------------------------------------------------------------------------------------------------------|---------------|----------------|---------------------------------|----------------------------------------------------------------------------------------------|
| <input type="radio"/> Traditional<br><input checked="" type="radio"/> MS4<br><input type="radio"/> CAFO | S050075       | City of Monroe | 1110 18th Ave. Monroe, WI 53566 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |
| <input type="radio"/> Traditional<br><input type="radio"/> MS4<br><input type="radio"/> CAFO            |               |                |                                 | <input type="radio"/> Yes<br><input type="radio"/> No<br><input type="radio"/> Unsure        |

**Point to Nonpoint Trades (Non-permitted Agricultural, Non-Permitted Urban, etc.)**

List the practices that will be used to generate credits:

Streambank restoration will be conducted on 2,760 ft of Honey Creek in Honey Creek Park and near the WWTP. See attached map. Preliminary Modeling has been completed and final model will be provided upon the completion of the topographic survey and soil testing. The modeling will be completed using the NRCS Streambank Irrigation Ditch Erosion Estimator. Final modeling will be included in the submittal package for registering the practice.

Method for quantifying credits generated: ☐ Monitoring  
☒ Modeling, Names: NRCS Erosion Tool  
☐ Other: \_\_\_\_\_

Projected date credits will be available: 01/01/2022

**The preparer certifies all of the following:**

- I am familiar with the specifications submitted for this application, and I believe all applicable items in this checklist have been addressed.
- I have completed this document to the best of my knowledge and have not excluded pertinent information.

Signature of Preparer

Date Signed

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative

Date Signed

3/17/21



# City of Monroe: Honey Creek Property Trade Agreement

## Effective Date:

### Permittee Information

|                                                |                                   |
|------------------------------------------------|-----------------------------------|
| Credit User Name (Permittee)<br>City Of Monroe | Permit Number<br>WI-0020362-09-00 |
|------------------------------------------------|-----------------------------------|

|                                                        |
|--------------------------------------------------------|
| Credit User Address<br>1110 18th Ave. Monroe, WI 53566 |
|--------------------------------------------------------|

|                                                      |                               |
|------------------------------------------------------|-------------------------------|
| Permittee/Broker/Exchange Name (if applicable)<br>NA | Trade Agreement Number<br>001 |
|------------------------------------------------------|-------------------------------|

### Permittee/Broker/Exchange Address (if applicable)

|                                  |                |             |                   |
|----------------------------------|----------------|-------------|-------------------|
| Street Address<br>1110 18th Ave. | City<br>Monroe | State<br>WI | ZIP Code<br>53566 |
|----------------------------------|----------------|-------------|-------------------|

|                                                         |
|---------------------------------------------------------|
| Project Name<br>Honey Creek Park Streambank Restoration |
|---------------------------------------------------------|

### Name of Credit Generator (Landowner/Operator) (Last, First, M.I.)

Morrison Newspaper Corp of Wisconsin

|                                        |                |             |                   |
|----------------------------------------|----------------|-------------|-------------------|
| Street Address<br>1065 4th Avenue West | City<br>Monroe | State<br>WI | ZIP Code<br>53566 |
|----------------------------------------|----------------|-------------|-------------------|

### Property Information

#### Name of Landowner(s) (if not Operator) (Last, First, M.I.)

|                |      |       |          |
|----------------|------|-------|----------|
| Street Address | City | State | ZIP Code |
|----------------|------|-------|----------|

Legal Description of Property - Contiguous sites under the same ownership: (add additional sheets if necessary)

See attached mapping for areas of stream bank improvements to be included in Trade Agreement.

23251.2354.1090

Parcel ID(s):

### Site Locator for Construction Projects

| County | Township | Range E / W | Section | Quarter/Quarter (e.g., NW ¼ of the NE ¼) |
|--------|----------|-------------|---------|------------------------------------------|
| Green  | 2 N      | 7E          | 33      |                                          |
|        | N        |             |         |                                          |
|        | N        |             |         |                                          |
|        | N        |             |         |                                          |

### Agreement

The property described above is enrolled in a Water Quality Trade Agreement. Funds are provided to the landowner/ operator in return for the installation, operation and maintenance of best management practices (BMPs) designed to enhance water quality. This agreement commits the landowner/operator, their heirs, successors and assigns to fulfill the trade agreement until a satisfaction or release is filed by the grantee.

Addenda which describe the BMPs, costs, installation schedule, and conditions are hereby incorporated into this agreement and are on file with the grantee and may be given to Wisconsin DNR upon request by the Department.



Landowner&City Agreement

Signed this 27th day of January, 2022  
Maura Hughes  
Signature of Landowner/Operator

Morrison Newspaper Corp of Wisconsin

Typed Name of Landowner/Operator

[Signature]  
Signature of Village Authorized Representative

Typed Name of Village Authorized Representative

STATE OF WISCONSIN

Green County

) Personally came before me this 27th day of January, 2022.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

Kevin M. Reil  
Signature of Notary Public

Kathleen M. Pierce  
Typed Name of Notary Public

Notary Public Green County, Wisconsin

My commission (is permanent) ( expires 2/29/24 ).

Landowners (if not operator)

If the landowner section is not completed, check (X) one or both of the following that apply

☒ Landowner is also operator

☐ Trade agreement contains only high residue management, nutrient management, pesticide management, cropland protection cover (green manure)

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

Signature of Landowner (if not operator)

Signature of Landowner (if not operator)

Typed Name of Landowner (if not operator)

Typed Name of Landowner (if not operator)

STATE OF WISCONSIN

\_\_\_\_\_ County

) Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public

Typed Name of Notary Public

Notary Public \_\_\_\_\_ County, Wisconsin

My commission (is permanent) ( expires \_\_\_\_\_ ).

Credit user/broker/exchange Not applicable

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

Signature of credit user/broker/exchange

Typed Name of credit user/broker/exchange

STATE OF WISCONSIN

\_\_\_\_\_ County

) Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public

Notary Public \_\_\_\_\_ County, Wisconsin

My commission (is permanent) ( expires \_\_\_\_\_ ).

Other Signer- Specify title or relationship: \_\_\_\_\_

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed Name

\_\_\_\_\_  
Typed Name

STATE OF WISCONSIN

\_\_\_\_\_ County

) Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

\_\_\_\_\_  
Signature of Notary Public

\_\_\_\_\_  
Typed Name of Notary Public

Notary Public \_\_\_\_\_ County, Wisconsin

My commission (is permanent) ( expires \_\_\_\_\_ ).

Other Signer- Specify title or relationship: \_\_\_\_\_

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed Name

\_\_\_\_\_  
Typed Name

STATE OF WISCONSIN

\_\_\_\_\_ County

) Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

\_\_\_\_\_  
Signature of Notary Public

\_\_\_\_\_  
Typed Name of Notary Public

Notary Public \_\_\_\_\_ County, Wisconsin

My commission (is permanent) ( expires \_\_\_\_\_ ).

Other Signer- Specify title or relationship: \_\_\_\_\_

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Typed Name

\_\_\_\_\_  
Typed Name

STATE OF WISCONSIN

\_\_\_\_\_ County

) Personally came before me this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.  
)  
) ss. The above named \_\_\_\_\_ to me known to be  
) the person(s) who executed the foregoing instrument and acknowledge the same.

\_\_\_\_\_  
Signature of Notary Public

\_\_\_\_\_  
Typed Name of Notary Public

Notary Public \_\_\_\_\_ County, Wisconsin

My commission (is permanent) ( expires \_\_\_\_\_ ).

☒ Check this box if this page is purposely left blank.

#### Section A – General Requirements

- This agreement may be amended by mutual agreement of either party as long as the agreement has not expired.
- BMP may only be removed is approved in writing by the DNR.

#### Section B – Landowner/Operator Shall:

- The landowner shall allow access by City personnel or authorized representative for inspection of the operation and maintenance of the BMPs.
- All maintenance to be completed at the City's cost.

#### Section C – Grantee Shall:

- City will inspect and maintain the BMP to be paid for by City at no cost to the landowner.

| TA Number | Typed Name of Landowner/Operator     | Initials of Landowner/Operator | Date |
|-----------|--------------------------------------|--------------------------------|------|
|           | Morrison Newspaper Corp of Wisconsin |                                |      |

|                                                                                                                                                                          |              |                                  |          |      |           |                      |                                |                                 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------------|----------|------|-----------|----------------------|--------------------------------|---------------------------------|--|
| The cost-share recipient shall implement and maintain all best management practices listed in this Addendum, unless otherwise amended in accordance with this agreement. |              |                                  |          |      |           |                      | Inst: _____                    |                                 |  |
|                                                                                                                                                                          |              |                                  |          |      |           |                      | From (MM/YY)                   |                                 |  |
| Field #                                                                                                                                                                  | DNR BMP Code | Practice Name                    | Quantity | Unit | Unit Cost | Estimated Total Cost | Reimburs-<br>ement<br>Rate (%) | Estimated<br>Cost-Share<br>Amt. |  |
|                                                                                                                                                                          |              |                                  |          |      |           |                      |                                |                                 |  |
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|                                                                                                                                                                          |              |                                  |          |      | TOTALS    |                      |                                |                                 |  |
| * Identify Program Names: _____                                                                                                                                          |              |                                  |          |      |           |                      |                                |                                 |  |
| CSA Number                                                                                                                                                               |              | Typed Name of Landowner/Operator |          |      |           |                      |                                | Initials of Landown             |  |

## **Operation & Maintenance– Honey Creek Streambank Restoration**

For the purposes of this Operation and Maintenance Plan, severe floods are defined as any hydrologic event resulting from a 24-hour cumulative precipitation in excess of 3.8 inches of rainfall (i.e., the 5-year, 24-hour precipitation event based on the annual maximum time series as defined by NOAA Atlas 14, Volume 8, Version 2).

Refer to Inspection and Reporting requirements to be followed as part of the proper operation and maintenance of the BMPs installed as part of this water quality trading plan.

### **Conditions for Boulder Toe, Bank Slope Reduction, and Tree Preservation:**

1. Check the boulder toe, plantings, and trees at least once each year and immediately after severe floods. Rock removed or displaced shall be replaced as needed. Repair or replace any damaged or missing revetments.
2. Logs, trees, driftwood, and other debris lodged in or near the boulder toe shall be removed.
3. Check for sloughing, erosion, or damage to vegetative cover. Damaged areas shall be graded, shaped, and revegetated.
4. Repair any vandalism, vehicle, or livestock damage.

### **Additional Conditions:**

1. All repairs which include the streambank or streambed should be approved by WI DNR before implementing the repair to determine if a permit is needed to complete the repair.
2. Clip and/or mechanically harvest vegetated areas, as needed, to control undesirable species and woody vegetation.
3. The BMPs will be inspected following heavy rain events at a minimum. Inspection will be used to determine appropriate actions to maintain the installed BMPs for continuous TP credit generation.

4. The BMPs will be inspected annually by a licensed Professional Engineer to ensure that the BMPs are functioning as intended in order to meet the requirements of the WQT plan. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**

### **Inspection Reporting– Honey Creek Streambank Restoration**

- a. Tracking Procedures

The City will track credits monthly and report credit usage to the DNR in the Discharge Monitoring Reports (DMRs). The annual report will summarize the 12 months of credit usage and credit generation. The City will report to DNR any concern that they have that may result in a need to modify the trade agreement and/or this trade plan. For example, a need to generate additional credits based on discharge.

- b. Inspection

Inspection of the BMPs shall occur to ensure they are installed per the design and meet all applicable codes and permits. Inspections of the established BMPs shall occur each month at a minimum or following heavy rain events. A licensed professional engineer will perform an annual certification to ensure the practice is performing as designed and the City remains in compliance.

The inspection reports will include:

- i. Name and contact information of the inspector
- ii. Inspection Date
- iii. Relevant standards set forth in the Design Plan or Operation and Maintenance Plan
- iv. Issues identified
- v. When and how any issues identified were addressed
- vi. **Photos to be taken at time of inspection and any non-compliance areas to be documented. Photos to be taken at least once per year.**
- vii. When and how any issues identified will be addressed in the future Inspection reports generated during each routine or after rain event inspection will be included with the Annual Water Quality Trading Report submitted by the City to DNR.

Annual inspections by a professional engineer will typically occur in the late spring. This time of year, is ideal for evaluating the condition of BMPs as it follows the freeze/thaw which

poses the greatest potential for changes to the BMPs. Minimal vegetation cover will allow for adequate visual inspection.

c. Annual Water Quality Trading Report Submittal

Each year the following shall be submitted to the DNR:

- i. The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance.
- ii. A summary of the annual inspection of the practice that generated any of the pollutant reduction credits used during the previous year, this inspection shall be completed by a licensed Professional Engineer.
- iii. **Report to include analysis of structural and vegetative conditions.**
- iv. Identification of noncompliance or failure to implement any terms or conditions of this permit with respect to water quality trading that have not been reported in discharge monitoring reports.
- v. **Photos documenting condition of practice to be completed annually.**
- vi. A list of all noncompliance and the correction measures and timing to address the issues throughout the year; and
- vii. An updated WQT plan if management practices have or will change.

ci. Certification of Management Practices

The city will certify that the BMPs are maintained and operating in a manner consistent with this Water Quality Trading Plan or provide a statement noting noncompliance with this Plan.

The monthly Discharge Monitoring Report (DMR) will include the following statement as a certification of compliance:

“I certify, to the best of my knowledge, the management practices identified in the approved water quality trading plan are installed, established and properly maintained.”

e. Notification of Failure to Generate Credits

The City will notify DNR by telephone call to DNR's regional wastewater compliance engineer within 24 hours or next business day of becoming aware that phosphorus credits used or intended for use by City are not being generated as outlined in this Water Quality Trading Plan.

The City will submit a written notification within five days after the City recognizes that the phosphorus credits are not being generated as outlined in the Trading Plan. The DNR may waive the requirement for submittal for a written notice within five days and instruct the City to submit the written notice with the next regularly scheduled monitoring report required by City's WPDES Permit.

The written notice will contain a description of how and why the TP credits are not being generated as outlined, the steps taken or planned to prevent reoccurrence of the identified problem, and the length of time it will take to address the issue.

f. Conditions under which Management Practices May Be Inspected

Any DNR authorized officer, employee, or representative has the right to access and inspect the credit generating practice so long as the City's trade agreement with the DNR and this Water Quality Trading Plan remain in effect.



SEGMENT 1



SEGMENT 1 – Some bare ground, some exposed roots.





SEGMENT 1 (CONT.)





SEGMENT 2



SEGMENT 2 – Vegetative overhang, bare banks, and exposed roots.





SEGMENT 2 (CONT.)



SEGMENT 2 (CONT.)





SEGMENT 3



SEGMENT 3 – Bare banks with some root exposure.





#### SEGMENT 4



SEGMENT 4- Some bare ground, exposed roots, and some trees starting to slip into the stream. Banks have slid in a couple of locations.





SEGMENT 4 (CONT.)





SEGMENT 5A



SEGMENT 5A – Bare banks, root exposure, and vegetative overhang.

SEGMENT 5B



SEGMENT 5B – Slumping soil, exposed banks, vegetative overhang.



SEGMENT 6



SEGMENT 6- Bare banks, some rills, and exposed roots.





SEGMENT 6 (CONT.)





SEGMENT 7



SEGMENT 7 – Bare banks, some exposed roots.







SEGMENT 7 – Bare banks, some exposed roots and some rills beginning to form. Some trees starting to slip into the creek.





SEGMENT 8



SEGMENT 8 – Exposed roots and bare soil.





SEGMENT 8 (CONT.)



SEGMENT 8 – Exposed Roots and bare soil. Some foliage tipping into creek.





SEGMENT 9



SEGMENT 9- Exposed roots, bare banks in some location, slumping soil in other locations.





SEGMENT 9 (CONT.)



SEGMENT 9- Exposed roots, bare banks in some location, slight vegetative overhang.





SEGMENT 10A



SEGMENT 10A- some exposed roots, vegetative overhang, and bare bank under the vegetative overhang. Some slumping of bank into the creek.



SEGMENT 10B



SEGMENT 10B- Exposed roots, vegetative overhang, and bare bank under the vegetative overhang. Some slumping of bank into the creek. Different bank height than Segment 10A.



SEGMENT 11



SEGMENT 11 – Bare banks and some vegetative overhang.







SEGMENT 12A



Segment 12A – Bare bank, visible roots, and some vegetative overhang.





SEGMENT 12B



Segment 12B – Note slumped bank and visible roots. There is some vegetative overhang.





### SEGMENT 13



Segment 13 – It is hard to see, but this growth is overhung over the bank and the bank is largely bare behind the overhang. The bank has started to drop into the stream in a couple of spots.





**Jennifer Buholzer**  
**Fehr Graham**  
**1107 16th Ave**  
**Monroe WI 53566**

**Date** 8/24/2021  
**Account #** 559071  
**Report #** 3946

## ***Soil Total Mineral Analysis***

| <b>Sample ID</b> | <b>TP<br/>%</b> |
|------------------|-----------------|
| 1                | 0.07            |
| 2                | 0.06            |
| 3                | 0.07            |
| 4                | 0.07            |
| 5                | 0.08            |
| 6                | 0.06            |
| 7                | 0.08            |
| 8                | 0.05            |
| 9                | 0.06            |
| 10               | 0.06            |
| 11               | 0.06            |
| 12               | 0.06            |
| 13               | 0.06            |

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| 58              | CROSS SECTION SHEET 21              |
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| UTILITIES     |                        |              |
|---------------|------------------------|--------------|
| UTILITY TYPE  | COMMON NAME            | CONTACT      |
| WATER & SEWER | CITY OF MONROE         | 608-329-2480 |
| ELECTRIC      | ALLIANT ENERGY         | 608-328-5339 |
| TELEPHONE     | TDS TELECOM            | 608-328-1158 |
| GAS           | WE ENERGIES            | 800-261-5325 |
| CABLE         | CHARTER COMMUNICATIONS | 608-373-7544 |
| STORM         | CITY OF MONROE         | 608-329-2535 |

(CONTRACTOR TO BE RESPONSIBLE FOR ANY ADJUSTMENTS TO BE MADE.)

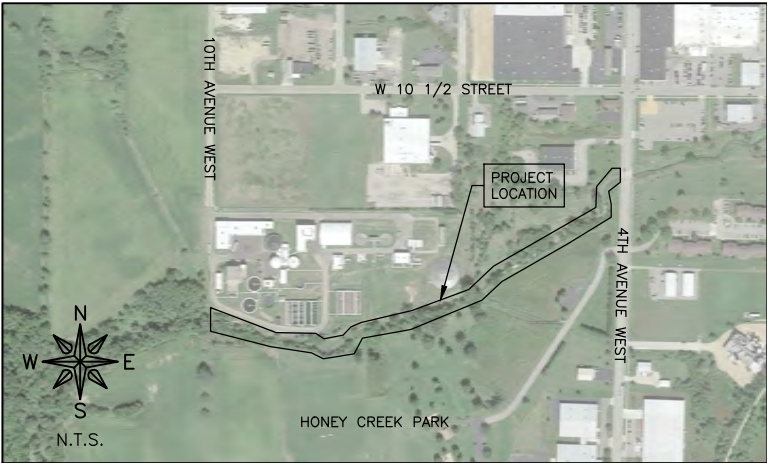
# HONEY CREEK STREAMBANK STABILIZATION IMPROVEMENTS

## FOR CITY OF MONROE MONROE, WISCONSIN

PROPOSED STREAMBANK IMPROVEMENT PLANS

GREEN COUNTY

FEBRUARY 2022



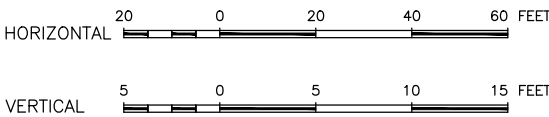
LOCATION MAP

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

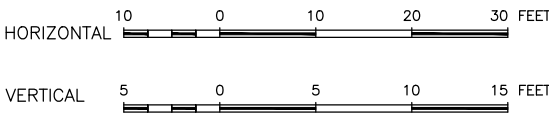
ILLINOIS

IOWA

WISCONSIN



PLAN & PROFILE



CROSS SECTIONS



SIGNATURE DATE

PERMIT SET



|                                  |             |                          |      |
|----------------------------------|-------------|--------------------------|------|
| ORIGINAL SET FOR PROJECT: 21-635 |             | DATE CREATED: 02/11/2022 |      |
| REVISIONS                        |             |                          |      |
| REV. NO.                         | DESCRIPTION |                          | DATE |
|                                  |             |                          |      |
|                                  |             |                          |      |
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|                                  |             |                          |      |



GENERAL NOTES

1.

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MUNICIPAL CODE, CITY OF MONROE, WISCONSIN, CURRENT EDITION, THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, SPECIAL PROVISIONS AND THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION. SIGN CONSTRUCTION AND PAVEMENT MARKINGS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITION.
2.

IN THESE CONTRACT DOCUMENTS MENTION IS MADE OF THE "ENGINEER", WHICH SHALL MEAN FEHR GRAHAM OR THEIR DULY AUTHORIZED AGENT. IN THESE CONTRACT DOCUMENTS MENTION IS MADE OF THE "OWNER", WHICH SHALL MEAN CITY OF MONROE, OR THEIR DULY AWARDED AGENT.
3.

AS PART OF THE BIDDING PROCEDURE, THE CONTRACTOR SHALL VERIFY THAT THE QUANTITIES FOR PAY ITEMS, AS PRESENTED IN THESE PLAN DOCUMENTS, ARE SUBSTANTIALLY CORRECT. IF DISCREPANCIES ARE DETECTED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE DISCREPANCY PRIOR TO THE BID DATE.
4.

QUANTITIES SHOWN ARE ESTIMATES FOR INFORMATION ONLY. PAYMENT WILL BE BASED ON ACTUAL QUANTITIES MEASURED IN THE FIELD OR ON PAYMENT LIMIT DETAILS.
5.

THE CONTRACTOR SHALL BE PAID FOR MATERIALS AND EQUIPMENT SUCCESSFULLY INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AS MEASURED OR VERIFIED IN PLACE BY THE ENGINEER OR HIS AGENT.
6.

IN CASE OF CONFLICT BETWEEN THE ABOVE MENTIONED SPECIFICATIONS, THE ENGINEER SHALL DETERMINE WHICH OF THE SPECIFICATIONS SHALL GOVERN. THE ENGINEER'S DECISION SHALL BE FINAL AND NO ADDITIONAL COMPENSATION SHALL BE AWARDED UNLESS APPROVED BY THE ENGINEER.
7.

THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS APPROVED BY THE OWNER. IMPROVEMENT REPRESENTATIONS AS SHOWN ON THESE PLANS ARE AS ACCURATE AS POSSIBLE FROM THE INFORMATION AVAILABLE. HOWEVER, SOME FIELD REVISIONS MAY BE REQUIRED TO ACCOMMODATE UNFORESEEN CIRCUMSTANCES – THE ENGINEER SHALL BE ADVISED OF ANY NECESSARY REVISIONS WITH SUFFICIENT LEAD TIME ALLOWED TO PROPERLY CONSIDER AND ACT UPON SAID REQUESTS. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED IN CONSTRUCTING THOSE IMPROVEMENTS AS DETAILED IN THIS ENGINEERING PLAN.
8.

THE ENGINEER SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE OR REJECT THE WORKMANSHIP AND/OR MATERIALS WHICH GO TO MAKE UP IMPROVEMENTS AS DETAILED IN THESE PLANS AND SPECIFICATIONS.
9.

GENERAL SAFETY PROVISION: TO PROVIDE DRIVERS WITH SAFE TRAVEL CONDITIONS DURING THE CONSTRUCTION PROJECT, AND TO PROVIDE SAFE WORKING CONDITIONS FOR ALL EMPLOYEES, THE RULES, REGULATIONS, AND CONDITIONS STATED BELOW WILL PREVAIL FOR THE DURATION OF THIS CONTRACT. ANY EMPLOYEE OF THE CONTRACTOR OR HIS SUBCONTRACTORS WHO REFUSES TO COMPLY WITH THESE GENERAL SAFETY PROVISIONS SHALL BE REMOVED FROM THE JOB SITE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS. THE CONTRACTOR AND ANY SUBCONTRACTORS RETAINED BY HIM SHALL COMPLY WITH THE STATE AND FEDERAL REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA), JULY 1, 1987 AS IT RELATES TO CONTRACTOR'S OPERATIONS.
10.

THE CONTRACTOR SHALL COMPLY WITH ALL STATE REGULATIONS REGARDING AIR, WATER, AND NOISE POLLUTION. THE CONTRACTOR WILL NOT BE ALLOWED TO BUILD FIRES ON THE SITE.
11.

THE SCALE SHOWN ON THE DRAWINGS APPLIES ONLY TO THE FULL SIZE PLANS NOT THE REDUCED SIZE PLANS.
12.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN DRAINAGE FLOWS AT ALL TIMES DURING THE PERFORMANCE OF THE WORK. METHODS USED BY THE CONTRACTOR SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. COST OF MAINTAINING DRAINAGE FLOWS AND ASSOCIATED PERMITTING SHALL BE INCIDENTAL TO THE CONTRACT.
13.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR DISTURBED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS, MONUMENTS AND RIGHT-OF-WAY PINS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS. REPLACEMENT OF MONUMENTS WILL BE DETERMINED BY THE ENGINEER.
14.

THE CONTRACTOR SHALL REMOVE, STORE, AND RELOCATE TO THE SATISFACTION OF THE ENGINEER ALL EXISTING SIGNAGE IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS, AND CONSIDER THIS AS INCIDENTAL TO THE CONTRACT.
15.

OUTSIDE THE EXISTING RIGHT-OF-WAY, THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATION NEAR ANY AND ALL EXISTING SIGNS OUTSIDE THE RIGHT-OF-WAY. ANY SIGNS REMOVED FOR CONSTRUCTION PURPOSES SHALL BE CAREFULLY REMOVED AND RE-ERECTED BY THE CONTRACTOR AT A LOCATION NEAREST TO THE ORIGINAL LOCATION, OR AT A LOCATION DETERMINED BY THE ENGINEER IN THE FIELD. REMOVAL AND RE-ERECTED SIGNS AND ANY DAMAGE DONE TO EXISTING SIGNS BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
16.

ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE. MATERIALS AND LABOR NOT SPECIFICALLY IDENTIFIED SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
17.

THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
18.

THE CONTRACTOR SHALL CONTACT THE ENGINEER OF ANY ERRORS OR DISCREPANCIES WHICH MAY BE SUSPECTED IN LINES AND GRADES, AND SHALL NOT PROCEED WITH THE WORK UNTIL ALL LINES AND GRADES WHICH ARE BELIEVED TO BE IN ERROR HAVE BEEN VERIFIED OR CORRECTED BY THE ENGINEER OR HIS REPRESENTATIVE.
19.

THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE OR PROCEDURES, TIME OF PERFORMANCE, PROGRAMS OR ANY SAFETY PRECAUTIONS USED BY THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXECUTION OF THEIR WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
20.

ALL ITEMS TO BE REMOVED AND NOT DEFINED AS A PAY ITEM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.
21.

ALL EXCESS EARTH EXCAVATION, EXCESS MATERIALS, OR OTHER REMOVED ITEMS SHALL BE HAULED OFF-SITE AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE APPROVED BY THE OWNER.
22.

ROADWAY AND DRAINAGE EXCAVATION WORK SHALL BE IN ACCORDANCE WITH SECTION 205 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL OBSTRUCTIONS, TREES, DEBRIS AND BRUSH AS DESIGNATED BY THE OWNER AND AS INDICATED ON THE PLANS. ALL MATERIALS SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DURING CONSTRUCTION, CARE SHALL BE TAKEN TO MINIMIZE DAMAGE TO THE EXISTING TREES AND LANDSCAPING. ONLY THOSE ITEMS DESIGNATED BY THE OWNER SHALL BE REMOVED.
23.

ALL ROADWAY REMOVAL ITEMS SHALL CONFORM TO SECTION 204 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. ALL JOINTS BETWEEN THE PORTION REMOVED AND THAT LEFT IN PLACE SHALL BE SAWED TO SUCH A DEPTH THAT A CLEAN, NEAT EDGE WILL RESULT WITH NO SPALLING TO THE REMAINING PORTION. THE COST OF SAWING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT. ADDITIONAL SAWING OR RE-SAWING MAY BE REQUIRED AS DIRECTED BY THE ENGINEER WITH NO ADDITIONAL COMPENSATION BEING ALLOWED. THE COST OF SAWCUTTING THE EXISTING PAVEMENT SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

GENERAL NOTES

25.

WHEN ARTIFICIAL LIGHTING IS UTILIZED DURING NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC, AS WELL AS ADJOINING RESIDENTIAL AREAS.
26.

THE CONTRACTOR IS REQUIRED TO STAY WITHIN THE NOTED PROPERTY BOUNDARIES RIGHT-OF-WAY AND EASEMENTS AS SHOWN IN THE PLANS. ANY ADDITIONAL EASEMENTS SHALL BE SECURED BY THE CONTRACTOR AT NO EXTRA COST.
27.

ANY AREAS DAMAGED OR DISTURBED DURING THE PROJECT AS A DIRECT OR INDIRECT RESULT OF CONTRACTOR OPERATIONS, SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION. THE COST OF SAID RESTORATION OR REPAIR SHALL BE BORNE TOTALLY BY THE CONTRACTOR, WITH NO EXTRA COMPENSATION BEING AWARDED UNDER THIS CONTRACT. THE RESPONSIBILITY FOR THE REPAIR OR REPLACEMENT OF ANY UTILITY, STRUCTURE, LANDSCAPING, ETC., DAMAGED OR DESTROYED BY THE CONTRACTOR DURING MOBILIZATION OR CONSTRUCTION SHALL BE BORNE SOLELY BY THE CONTRACTOR, WITH NO EXPENSE BEING CHARGED TO THE ENGINEER OR OWNER. PRIOR TO ACCEPTANCE OF THIS REPAIR OR REPLACEMENT, THE CONTRACTOR SHALL PRESENT THE OWNER WITH A "SIGNOFF LETTER", SIGNED BY A RESPONSIBLE OFFICIAL OF THE OWNER OF THE DAMAGED UTILITY STATING THAT THE REPAIR OR REPLACEMENT IS ACCEPTABLE.

CONSTRUCTION STAKING

1.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING THE PROPOSED IMPROVEMENTS AND SHALL INCLUDE THE COST OF STAKING IN THEIR QUOTE. CONTROL POINTS ARE INDICATED ON THE PLANS.

EROSION CONTROL NOTES

1.

UNLESS OTHERWISE SPECIFIED, ALL EROSION AND SEDIMENT CONTROL MEASURES AND THEIR MAINTENANCE, CLEARING AND REMOVAL SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION.
2.

THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES, THE WISCONSIN STORM WATER MANUAL, THE WISCONSIN DEPARTMENT TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
3.

A WATER RESOURCES APPLICATION FOR PROJECT PERMITS (WRAPP) WILL BE COMPLETED AND SUBMITTED TO THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES BY THE OWNER PRIOR TO CONSTRUCTION.
4.

THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN SHALL BE CONSIDERED PART OF THE CONTRACT DOCUMENTS AND WILL BE AVAILABLE FOR REVIEW DURING THE BIDDING PROCESS.
5.

A COPY OF THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN WILL BE PROVIDED TO THE SUCCESSFUL BIDDER. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN AT THE CONSTRUCTION SITE AT ALL TIMES DURING WORKING HOURS FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.
6.

THE CONTRACTOR SHALL LEGIBLY MARK ANY CHANGES OR REVISIONS IMPLEMENTED TO THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL DELIVER THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN (INCLUDING ALL REVISIONS, RECORDS, AND INSPECTION REPORTS) TO THE OWNER.
7.

THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL MEASURES OR CONSTRUCTION ACTIVITIES THAT DISTURB SITE SOIL WILL BE REQUIRED TO CERTIFY THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN BEFORE A NOTICE TO PROCEED IS ISSUED.
8.

A COPY OF THE CONSTRUCTION SITE STORM WATER RUNOFF GENERAL WPDES PERMIT MUST BE AVAILABLE FOR PUBLIC VIEWING AT THE CONSTRUCTION SITE BY THE GENERAL CONTRACTOR.
9.

THE CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THESE EROSION CONTROL PLANS AND IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN BEFORE CONSTRUCTION BEGINS.
10.

THE CONTROLS SHALL BE INSTALLED AS DETAILED AND WHERE INDICATED ON THE EROSION CONTROL PLAN SHEETS AND AS DIRECTED BY THE INSPECTOR.
11.

SITE ACTIVITIES SHOULD ENSURE THAT EXISTING VEGETATION IS PRESERVED WHERE PRACTICABLE.
12.

EXCEPT AS PROVIDED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN, DISTURBED PORTIONS OF THE SITE SHALL BE STABILIZED (TEMPORARILY OR PERMANENTLY SEEDED, MULCHED, SODDED OR PAVED) AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN 7 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
13.

UNTIL SUCH TIME AS THE PROJECT SITE REACHES FINAL STABILIZATION AND A NOTICE OF TERMINATION IS FILED BY THE OWNER, THE CONTRACTOR SHALL BE RESPONSIBLE TO ADJUST, REPAIR, OR REPLACE, ALL VEGETATION, EROSION CONTROLS, SEDIMENT CONTROLS, AND ANY OTHER PROTECTIVE MEASURES AS REQUIRED IN ORDER TO MAINTAIN THEIR INTENDED FUNCTION IN A GOOD AND EFFECTIVE OPERATING CONDITION.
14.

EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, SOURCES OF NON-STORM WATER EXPECTED DURING THE CONSTRUCTION PROCESS THAT MAY BE COMBINED WITH STORM WATER DISCHARGES ARE IDENTIFIED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. THESE DISCHARGES SHALL BE DIRECTED AWAY FROM UNPROTECTED, BARE, OR OTHERWISE UNSTABILIZED SOIL, AND APPROPRIATE POLLUTION PREVENTION MEASURES SHALL BE IMPLEMENTED SO THAT THESE DISCHARGES DO NOT CAUSE EROSION OR DEGRADE THE QUALITY OF RUNOFF FROM THE CONSTRUCTION SITE.
15.

REGULAR INSPECTIONS WILL BE MADE AS REQUIRED UNDER THE GENERAL WPDES PERMIT NO. WI-S067831-06 AND SPECIFIED IN THE EROSION CONTROL AND STORM WATER MANAGEMENT PLAN. BASED ON THE RESULTS OF THE INSPECTIONS, POLLUTION PREVENTION MEASURES SHALL BE REVISED AS APPROPRIATE AS SOON AS PRACTICABLE AFTER EACH INSPECTION. SUCH REVISIONS SHALL BE IMPLEMENTED WITHIN 7 CALENDAR DAYS FOLLOWING EACH INSPECTION.
16.

THE INSPECTOR SHALL HAVE AUTHORIZATION TO DETERMINE THE ADEQUACY OF THE CONTRACTOR'S EROSION CONTROL EFFORTS. THE OWNER OR THE INSPECTOR SHALL HAVE FULL AUTHORITY OVER THE GENERAL CONTRACTOR AND ANY SUBCONTRACTOR TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR WHATEVER ELSE IS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL OR TO SUSPEND OR LIMIT THE CONTRACTORS OPERATIONS PENDING ADEQUATE PERFORMANCE.
17.

PERIMETER EROSION BARRIER TO BE CONSTRUCTED OF SILT FENCE UNLESS NOTED OTHERWISE.
18.

INLET PROTECTION SHALL BE A TYPE A, B, C OR D, OR APPROVED EQUAL.
19.

EROSION CONTROL BLANKET SHALL BE OF NORTH AMERICAN GREEN DS75 OR APPROVED EQUAL.
20.

A TEMPORARY CONCRETE WASHOUT FACILITY SHALL BE CONSTRUCTED AT A LOCATION APPROVED BY THE ENGINEER. WASHOUT FACILITY SHALL BE UTILIZED FOR ALL APPLICABLE OPERATIONS.

EROSION CONTROL NOTES

21.

STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED, TO THE DIMENSIONS AS SHOWN, AT APPROVED LOCATIONS FOR THIS PROJECT. ALL CONSTRUCTION TRAFFIC MUST UTILIZE THE STABILIZED CONSTRUCTION ENTRANCES WHEN EXITING THE SITE. ALL COST FOR EROSION CONTROL AND RESTORATION WORK ASSOCIATED WITH THE APPROVED STABILIZED CONSTRUCTION ENTRANCES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
22.

TEMPORARY EROSION CONTROL MEASURES INCLUDE TEMPORARY DITCH CHECKS, PERIMETER EROSION BARRIER, INLET AND PIPE PROTECTION, TEMPORARY SEEDING, AND ANY OTHER TEMPORARY EROSION CONTROL MEASURE NEEDED TO LIMIT THE AMOUNT OF SOIL EROSION AND SEDIMENTATION DURING CONSTRUCTION.
23.

AT THE COMPLETION OF THE PROJECT, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED FROM THE SITE, AND BECOME THE PROPERTY OF THE CONTRACTOR. CONTRACTOR MUST STABILIZE ANY AREA DISTURBED BY THE REMOVAL OF EROSION CONTROL ITEMS.
24.

CONTRACTOR SHALL CLEAN ANY DEBRIS TRACKED OFFSITE DAILY.

SEEDING OF DISTURBED AREAS

1.

THE FINAL TOP 6" INCHES OF SOIL IN ANY DISTURBANCE AREA MUST BE A COHESIVE SOIL CAPABLE OF SUPPORTING VEGETATION.
2.

FERTILIZER HAVING AN ANALYSIS OF 16-6-6 SHALL BE APPLIED AT A RATE OF 7 LBS/1000 SF TO ALL DISTURBED AREAS AND INCORPORATED INTO THE SEEDBED PRIOR TO SOWING THE SEED.
3.

**GUARANTEE:** ALL SEEDED AREAS SHALL BE MAINTAINED AND MOWED FOR AT LEAST 30 DAYS AFTER GERMINATION. SCATTERED BARE SPOTS NO LARGER THAN TWO SQUARE FOOT WILL BE ALLOWED UP TO A MAXIMUM OF 5% OF ANY SEEDED AREA INCLUDING 30-DAY MAINTENANCE, MOWING AND WATERING AS NECESSARY.
4.

THIS WORK SHALL CONFORM TO THE APPLICABLE STANDARDS FROM THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES, THE WISCONSIN STORM WATER MANUAL, THE WISCONSIN DEPARTMENT TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION, THE PROJECT SPECIFICATIONS, AND THE APPROPRIATE DETAILS.
5.

RESTORATION – THE CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED DURING CONSTRUCTION OF THE IMPROVEMENTS AND RELATED APPURTENANCES OR AS PART OF ANY OF THEIR ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION.



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IOWA

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MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

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UTILITIES

- UTILITIES SHOWN ON THE PLANS ARE FOR ILLUSTRATIVE PURPOSES ONLY AND NO GUARANTEE OF THEIR ACCURACY IS MADE OR INFERRED. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THE DRAWINGS REPRESENT DATA RECEIVED FROM VARIOUS SOURCES. IT IS NOT GUARANTEED TO BE CORRECT OR ALL-INCLUSIVE. THE CONTRACTOR SHALL CONDUCT HIS OWN INVESTIGATION INTO THE LOCATION, SIZE, DEPTH AND NATURE OF ANY AND ALL EXISTING UTILITIES THAT MAY INTERFERE WITH THE WORK UNDER THIS CONTRACT. ANY EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE SHALL BE FULLY PROTECTED BY THE CONTRACTOR AND ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER OR THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ANY AND ALL UTILITY COMPANIES REGARDING ADJUSTMENTS NECESSARY. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE AND CONSIDERED INCIDENTAL TO THE PROJECT COST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND, OVERHEAD, OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR THE OWNER OR REPLACED. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR MUST VERIFY AND LOCATE ALL EXISTING UTILITIES ON OR ADJACENT TO THE SITE. PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES, CONTACT DIGGERS HOTLINE AT 1-800-242-8511 (OR 811) FOR EXACT FIELD LOCATION OF UTILITIES. DAMAGE, AND THE COST THEREOF, TO ANY AND ALL UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY AND ALL EXISTING UTILITIES SHOWN HEREON ARE APPROXIMATE. THE ENGINEER AND SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATION OF THE EXISTING UTILITIES SHOWN HEREON.
- IF THERE ARE ANY UTILITIES WHICH ARE NOT MEMBERS OF THE DIGGERS HOTLINE SYSTEM, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THIS AND REQUESTING SAID UTILITIES TO FIELD VERIFY AND MARK PERTINENT UTILITY LOCATIONS.
- THE UTILITY LOCATIONS, DEPTHS, ETC. SHOWN ON THESE PLANS ARE APPROXIMATE ONLY, AND SHALL BE VERIFIED BY THE CONTRACTOR WITH ALL AFFECTED UTILITY COMPANIES PRIOR TO INITIATING CONSTRUCTION OPERATIONS; THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY FOR THE ADEQUACY, SUFFICIENCY OR EXACTNESS OF THESE UTILITY REPRESENTATIONS.
- THE CONTRACTOR SHALL CONTACT THE NECESSARY UTILITY COMPANIES FOR ANY UTILITY RELOCATIONS. THE CONTRACTOR SHALL PAY FOR ALL COSTS ASSOCIATED WITH RELOCATION OF UTILITIES ON OR ADJACENT TO THE SUBJECT PROPERTY OR WITHIN THE ROAD RIGHT-OF-WAY.
- TRENCH BACKFILL SHALL BE FILL MATERIAL TYPE A, OR TYPE C, IN ACCORDANCE WITH AASHTO T27 GUIDELINES AND THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION. COST SHALL BE INCLUDED IN UNIT PRICE OF PIPE.
- TRENCH BACKFILL SHALL BE USED IN LOCATIONS WHERE THERE IS AN EXISTING OR PROPOSED PERMANENT SURFACE.
- ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION OR HAVE THE POTENTIAL FOR CREATING FUTURE PROBLEMS SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE PROJECT AT AN APPROVED LOCATION OBTAINED BY THE CONTRACTOR, ACCORDING TO THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN", CURRENT EDITION, AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- ANY AND ALL FIELD TILES AND OR STORM SEWERS DAMAGED OR ENCOUNTERED DURING THE CONSTRUCTION ACTIVITIES SHALL BE REPAIRED, REPLACED AND/OR CONNECTED IMMEDIATELY BY THE CONTRACTOR. COST FOR SAID REPAIRS, REPLACEMENT, AND/OR CONNECTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

EXCAVATION/EARTHWORK

- THE CONTRACTOR SHALL USE CARE IN GRADING OR EXCAVATION NEAR ANY AND ALL EXISTING ITEMS WHICH ARE NOT INDICATED TO BE REMOVED. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- PRIOR TO STARTING EARTHWORK OR UTILITY TRENCHING, THE CONTRACTOR SHALL STRIP THE SITE OF TOPSOIL TO A DEPTH OF 6" AND TO THE LIMITS APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE STOCKPILED IN A REMOTE LOCATION OF THE SITE (APPROVED BY THE ENGINEER) UNTIL THE PLAN IMPROVEMENTS ARE COMPLETED AND THE EXCESS MATERIAL SPREAD AS DIRECTED. IT SHALL THEN BE THE RESPONSIBILITY OF THE CONTRACTOR TO SPREAD THIS TOPSOIL MATERIAL IN AREAS OF THE SITE, OVER AREAS WHERE EXCESS EXCAVATED MATERIAL, SAND, GRAVEL HAS BEEN SPREAD OR IN OTHER AREAS AS DESIGNATED BY THE ENGINEER. THE MATERIAL SHALL THEN BE COMPACTED TO A MINIMAL DEPTH OF 6" AND FINE GRADED IN A MANNER ACCEPTABLE TO THE ENGINEER. THIS WORK SHALL BE IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION.
- CONSTRUCTION AND DEMOLITION (C&D) MATERIALS ARE TO BE MANAGED ACCORDINGLY PER THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MANAGE THE DIVERSION OF C&D MATERIAL AWAY FROM LANDFILLS ACCORDING TO STATE REQUIREMENTS.
- ROCK IS NOT ANTICIPATED TO BE ENCOUNTERED.
- EXCAVATION COMMON SHALL CONFORM TO SECTION 205 OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. THIS WORK SHALL INCLUDE THE EXCAVATION OF ALL MATERIALS TO DESIGN SUBGRADE ELEVATIONS INDICATED IN THE PLANS.
- SHEETING AND SHORING SHALL BE CONSIDERED INCIDENTAL TO CONTRACT IF REQUIRED.
- WHENEVER THE CONTRACTOR WORKS NEAR EXISTING FACILITIES WITHIN THE LIMITS OF THE IMPROVEMENTS DURING TRENCHING OPERATIONS, HE WILL BE REQUIRED TO HAND TRENCH IN THAT AREA IN ORDER NOT TO DAMAGE THESE FACILITIES. PUSH HOLES AND SEARCH HOLES THAT ARE DUG BY THE CONTRACTOR SHALL BE BACKFILLED BY TAMPING THE EXCAVATED MATERIAL BACK IN PLACE TO KEEP SETTLEMENT TO A MINIMUM. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- IF SUFFICIENT TOPSOIL IS NOT PRESENT, THE CONTRACTOR SHALL SPREAD FURNISHED TOPSOIL SO AS TO MEET THE REQUIREMENTS OF THE CONTRACT. FURNISHED TOPSOIL SHALL ONLY BE USED WITH APPROVAL BY THE ENGINEER. THIS FURNISHED TOPSOIL SHALL BE PAID FOR AS TOPSOIL, DEPTH SPECIFIED.



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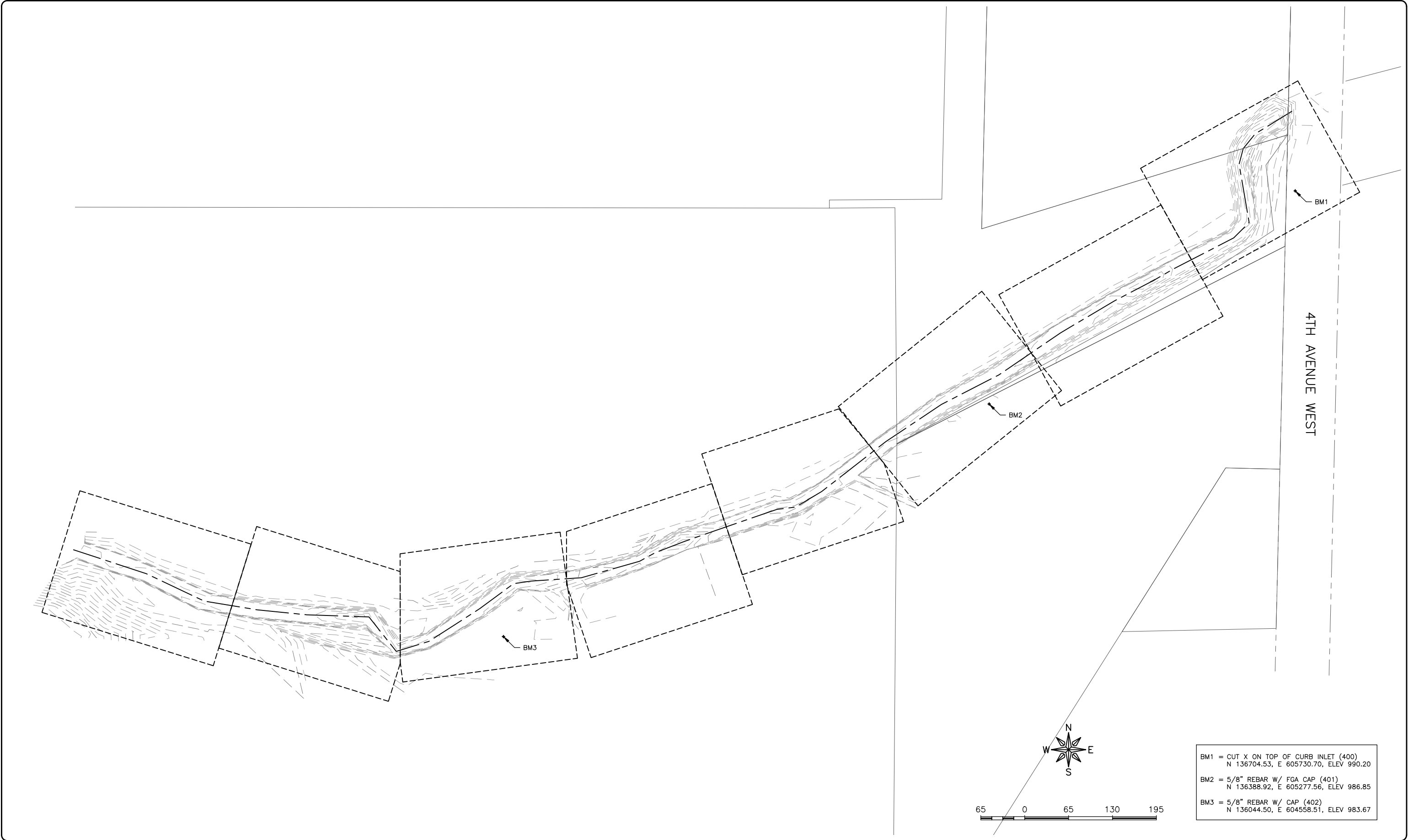
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| ABBREVIATIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| <div><div>&lt;</div><div>ABC</div><div>ACI</div><div>AGR</div><div>AISC</div><div>ALT</div><div>ARCH</div><div>ASPH</div><div>ASTM</div><div>B</div><div>BFP</div><div>BIT</div><div>BLDG</div><div>BLK</div><div>BM</div><div>BOT</div><div>BSMT</div><div>BV</div><div>B-B</div><div>CL or C</div><div>CL to C</div><div>C &amp; G</div><div>CF</div><div>CHD</div><div>CI</div><div>CHK</div><div>CLR</div><div>CMP</div><div>CMU</div><div>CTY</div><div>CONC</div><div>CONT</div><div>C-B</div><div>COORD</div><div>CU</div><div>CTRS</div><div>CS</div><div>D</div><div>DEP</div><div>DET</div><div>DIAG</div><div>DIM</div><div>DI</div><div>DN</div><div>DNSTR</div><div>DP</div><div>DWG</div><div>E</div><div>EJ</div><div>EL</div><div>EP</div><div>EQUIP</div><div>EQUIV</div><div>EW</div><div>EXP</div><div>EX, EXIST</div><div>EXT</div><div>E =</div><div>FD</div><div>FDN</div><div>FE</div><div>FF</div><div>FIL</div><div>FIN</div><div>FL</div><div>FLR</div><div>FM</div><div>FND</div><div>FRMG</div><div>FTG</div><div>F-F</div><div>GA</div><div>GI</div><div>GRD</div><div>GRS</div><div>GRT</div><div>GV</div><div>GYP</div><div>HSE</div><div>HC</div><div>HMA</div><div>HNGR</div><div>HORIZ</div><div>H.P.</div><div>HW</div><div>HWH</div><div>Δ =</div><div>I</div><div>ID</div><div>INT</div><div>INV</div><div>IP</div><div>JST</div><div>L</div><div>LAT</div><div>LAV</div><div>LF</div><div>L.P.</div><div>LT</div><div>MAX</div><div>ME</div><div>MH</div><div>MIN</div><div>MJ</div><div>MTL</div><div>N</div><div>No. or #</div><div>NOM</div><div>NTS</div><div>OC</div><div>OD</div><div>OO</div><div>OPNG</div><div>OPP</div><div>PC</div><div>PCC</div><div>PCF</div><div>PDP</div></div> | <div><div>ANGLE</div><div>AGGREGATE BASE COURSE</div><div>ACRE(S)</div><div>AMERICAN CONCRETE INSTITUTE</div><div>AGGREGATE</div><div>AMERICAN INSTITUTE OF STEEL CONSTRUCTION</div><div>ALTERNATE</div><div>ARCHITECT</div><div>ASPHALT</div><div>AMERICAN SOCIETY OF TESTING AND MATERIALS</div><div>BALL VALVE</div><div>BACKFLOW PREVENTER</div><div>BITUMINOUS</div><div>BUILDING</div><div>BLOCKING</div><div>BENCHMARK</div><div>BOTTOM</div><div>BASEMENT</div><div>BUTTERFLY VALVE</div><div>BACK-TO-BACK OF CURB DIMENSION</div><div>CENTERLINE</div><div>CENTER TO CENTER</div><div>CURB AND GUTTER</div><div>CUBIC FEET</div><div>CHORD LENGTH</div><div>CAST IRON PIPE</div><div>CHECK VALVE</div><div>CLEAR</div><div>CORRUGATED METAL PIPE</div><div>CONCRETE MASONRY UNIT</div><div>COUNTY</div><div>CONCRETE</div><div>CONTINUOUS</div><div>CENTERLINE TO BACK OF CURB DIMENSION</div><div>COORDINATE</div><div>COPPER PIPING</div><div>CENTERS</div><div>CUBIC YARDS</div><div>CORPORATION STOP</div><div>DEGREE OF CURVE</div><div>DEPRESSED</div><div>DETAIL</div><div>DIAGONAL</div><div>DIMENSION</div><div>DUCTILE IRON PIPE</div><div>DOWN</div><div>DOWNSTREAM</div><div>DRAINAGE PIPE/STORM PIPE</div><div>DRAWING</div><div>EAST</div><div>EXPANSION JOINT</div><div>ELEVATION</div><div>EDGE OF PAVEMENT</div><div>EQUIPMENT</div><div>EQUIVALENT</div><div>EACH WAY</div><div>EXPANSION</div><div>EXISTING</div><div>EXTERIOR</div><div>EXTERNAL DISTANCE</div><div>FLOOR DRAIN</div><div>FOUNDATION</div><div>FIELD ENTRANCE</div><div>FINISH FLOOR</div><div>FILLET</div><div>FINISH</div><div>FLOW LINE</div><div>FLOOR</div><div>FORCE MAIN</div><div>FOUND</div><div>FRAMING</div><div>FOOTING</div><div>FACE TO FACE</div><div>GAUGE</div><div>GALVANIZED IRON PIPE</div><div>GRADE</div><div>GRATING SUPPORT</div><div>GROUT</div><div>GAS VALVE</div><div>GYPSUM</div><div>HOUSE</div><div>HORIZONTAL CURVE</div><div>HOT MIX ASPHALT</div><div>HANGER</div><div>HORIZONTAL</div><div>HIGH POINT</div><div>HOT WATER</div><div>HOT WATER HEATER</div><div>CENTRAL ANGLE</div><div>MOMENT OF INERTIA</div><div>INSIDE DIAMETER</div><div>INTERIOR</div><div>INVERT ELEVATION; BASED ON BENCH MARK DATUM</div><div>IRON PIPE</div><div>JOIST</div><div>LENGTH OF CURVE</div><div>LATERAL</div><div>LAVATORY</div><div>LINEAL FEET</div><div>LOW POINT</div><div>LEFT OF SURVEY BASE LINE</div><div>MAXIMUM</div><div>MATCH EXISTING</div><div>MANHOLE</div><div>MINIMUM</div><div>MECHANICAL JOINT</div><div>METAL</div><div>NORTH</div><div>NUMBER</div><div>NOMINAL</div><div>NOT TO SCALE</div><div>ON CENTER</div><div>OUTSIDE DIAMETER</div><div>OUTSIDE TO OUTSIDE</div><div>OPENING</div><div>OPPOSITE</div><div>POINT OF CURVATURE</div><div>PORTLAND CEMENT CONCRETE</div><div>POUNDS PER CUBIC FOOT</div><div>PERFORATED DRAIN PIPE</div></div> | <div><div>PE</div><div>PI</div><div>PL</div><div>PLG</div><div>PLP</div><div>PLYWD</div><div>PM</div><div>PR</div><div>PRC</div><div>PRESS</div><div>PR, PROP</div><div>PRV</div><div>PSF</div><div>PSI</div><div>PSL</div><div>PT</div><div>PLG</div><div>PVC</div><div>R</div><div>RDCR</div><div>RCCP</div><div>RCP</div><div>RD</div><div>REINF</div><div>REQD</div><div>ROW</div><div>RFTR</div><div>RND</div><div>RR</div><div>RRSP</div><div>RT</div><div>R&amp;R</div><div>S</div><div>SB</div><div>SCHED</div><div>SEC</div><div>SF</div><div>SHR</div><div>SHT</div><div>SHTG</div><div>SP</div><div>SPA</div><div>SPEC</div><div>SQ</div><div>SS</div><div>STA</div><div>STD</div><div>STL</div><div>STRUCT</div><div>SW</div><div>SY</div><div>SYM</div><div>TAN</div><div>TBC</div><div>TBM</div><div>TD</div><div>THK</div><div>TR</div><div>TY</div><div>TYP</div><div>U.O.N.</div><div>UP</div><div>UPSTR</div><div>UR</div><div>USGS</div><div>VC</div><div>VCP</div><div>VERT</div><div>VOL</div><div>VPC</div><div>VPI</div><div>VERTICAL POINT OF INTERSECTION</div><div>VPRC</div><div>VERTICAL POINT OF TANGENCY</div><div>W</div><div>WC</div><div>WF</div><div>WM</div><div>WMQ</div><div>WV</div><div>WGT</div><div>WP</div><div>WS</div><div>WWF</div><div>W/O</div><div>XP</div></div> <div><div>POLYETHYLENE PIPE</div><div>POINT OF INTERSECTION</div><div>PLATE</div><div>PLUG VALVE</div><div>POLYPROPYLENE PIPE</div><div>PLYWOOD</div><div>PRINCIPAL MERIDIAN</div><div>PRESSURE REGULATORS</div><div>POINT OF REVERSE CURVATURE</div><div>PRESSURE</div><div>PROPOSED</div><div>PRESSURE REDUCING VALVE</div><div>POUNDS PER SQUARE FOOT</div><div>POUNDS PER SQUARE INCH</div><div>PIPE SLEEVE</div><div>POINT OF TANGENCY</div><div>PLUG VALVE</div><div>POLYVINYL CHLORIDE (PLASTIC) PIPE</div><div>RADIUS</div><div>REDUCER</div><div>REINFORCED CONCRETE CYLINDER PIPE</div><div>REINFORCED CONCRETE PIPE</div><div>ROOF DRAIN</div><div>REINFORCING</div><div>REQUIRED</div><div>RIGHT OF WAY</div><div>RAFTER</div><div>ROUND</div><div>RAILROAD</div><div>RAILROAD SPIKE</div><div>RIGHT</div><div>REMOVE AND REPLACE</div><div>SOUTH</div><div>STREAM BED</div><div>SCHEDULE</div><div>SECTION</div><div>SQUARE FEET</div><div>SHOWER</div><div>SHEET</div><div>SHEATHING</div><div>SANITARY PIPE</div><div>SPACING OR SPACES</div><div>SPECIFICATION</div><div>SQUARE</div><div>SANITARY SERVICE</div><div>STATION</div><div>STANDARD</div><div>STEEL</div><div>STRUCTURAL</div><div>SIDEWALK</div><div>SQUARE YARDS</div><div>SYMMETRICAL</div><div>TANGENT LENGTH</div><div>TOP BACK OF CURB</div><div>TEMPORARY BENCH MARK; BASED ON BENCHMARK DATUM</div><div>TILE DRAIN</div><div>THICK</div><div>TREAD</div><div>TYPE</div><div>TYPICAL</div><div>UNLESS OTHERWISE NOTED</div><div>UTILITY POLE</div><div>UPSTREAM</div><div>URINAL</div><div>US GEOLOGICAL SURVEY</div><div>VERTICAL CURVE</div><div>VITRIFIED CLAY PIPE</div><div>VERTICAL</div><div>VOLUME</div><div>VERTICAL POINT OF CURVATURE</div><div>VERTICAL POINT OF INTERSECTION</div><div>VERTICAL POINT OF REVERSE CURVATURE</div><div>VERTICAL POINT OF TANGENCY</div><div>WEST</div><div>WATER CLOSET</div><div>WIDE FLANGE</div><div>WATER MAIN</div><div>WATER MAIN QUALITY</div><div>WATER VALVE</div><div>WEIGHT</div><div>WEATHER PROOF</div><div>WATER SERVICE</div><div>WELDED WIRE FABRIC</div><div>WITH</div><div>WITHOUT</div><div>EXPLOSION PROOF</div></div> | <div><div>EXISTING</div><div>EXISTING R.O.W.</div><div>RIGHT-OF-WAY LINE</div><div>PROPERTY LINE</div><div>CENTERLINE</div><div>SETBACK LINE</div><div>EASEMENT LINE</div><div>SECTION LINE</div><div>SECTION CORNER</div><div>COORDINATE POINT ON GRID SYSTEM</div><div>FOUND OR SET PROPERTY PIN</div><div>RIGHT-OF-WAY MARKER</div><div>BENCHMARK</div><div>CONTOUR LINE</div><div>SPOT ELEVATION (AT ●)</div><div>FENCE LINE</div><div>SILT FENCE LINE</div><div>CURB AND GUTTER</div><div>TIP OUT CURB AND GUTTER</div><div>SAWCUT, LIMITS OF PAVEMENT REMOVAL &amp; REPLACEMENT</div><div>DECIDUOUS TREE W/ SIZE</div><div>CONIFEROUS TREE W/ SIZE</div><div>TREE STUMP</div><div>HEDGEROW</div><div>BUSH OR SHRUB</div><div>TREE LINE</div><div>CONSTRUCTION LIMIT LINE</div><div>SIGN (MULTIPLE POST, SINGLE POST, STREET SIGN)</div><div>SIGN (PYLON)</div><div>GUARD RAIL</div><div>RAILROAD TRACKS</div><div>BUILDING</div><div>MAILBOX</div><div>FLAGPOLE</div><div>BOLLARD</div><div>AIR CONDITIONER</div></div> <div><div>EXISTING</div><div>MISC</div><div>SOIL BORING LOCATION AND NUMBER</div><div>MONITORING WELL</div><div>REVISION NUMBER</div><div>OUTLINE OF DETAILED AREA</div><div>SECTION NUMBER SHEET WHERE SHOWN</div></div> <div><div>EXISTING</div><div>SANITARY SEWER</div><div>SANITARY SEWER</div><div>SANITARY SEWER SERVICE</div><div>SANITARY SEWER FORCE MAIN</div><div>SANITARY CLEANOUT</div><div>SANITARY MANHOLE</div><div>WYE FITTING</div></div> | <div><div>PROPOSED</div><div>PROPOSED R.O.W.</div><div>PROPERTY LINE</div><div>CENTERLINE</div><div>SETBACK LINE</div><div>EASEMENT LINE</div><div>SECTION LINE</div><div>SECTION CORNER</div><div>COORDINATE POINT ON GRID SYSTEM</div><div>FOUND OR SET PROPERTY PIN</div><div>RIGHT-OF-WAY MARKER</div><div>BENCHMARK</div><div>CONTOUR LINE</div><div>SPOT ELEVATION (AT ●)</div><div>FENCE LINE</div><div>SILT FENCE LINE</div><div>CURB AND GUTTER</div><div>TIP OUT CURB AND GUTTER</div><div>SAWCUT, LIMITS OF PAVEMENT REMOVAL &amp; REPLACEMENT</div><div>DECIDUOUS TREE W/ SIZE</div><div>CONIFEROUS TREE W/ SIZE</div><div>TREE STUMP</div><div>HEDGEROW</div><div>BUSH OR SHRUB</div><div>TREE LINE</div><div>CONSTRUCTION LIMIT LINE</div><div>SIGN (MULTIPLE POST, SINGLE POST, STREET SIGN)</div><div>SIGN (PYLON)</div><div>GUARD RAIL</div><div>RAILROAD TRACKS</div><div>BUILDING</div><div>MAILBOX</div><div>FLAGPOLE</div><div>BOLLARD</div><div>AIR CONDITIONER</div></div> <div><div>PROPOSED</div><div>MISC</div><div>SOIL BORING LOCATION AND NUMBER</div><div>MONITORING WELL</div><div>REVISION NUMBER</div><div>OUTLINE OF DETAILED AREA</div><div>SECTION NUMBER SHEET WHERE SHOWN</div></div> <div><div>PROPOSED</div><div>SANITARY SEWER</div><div>SANITARY SEWER</div><div>SANITARY SEWER SERVICE</div><div>SANITARY SEWER FORCE MAIN</div><div>SANITARY CLEANOUT</div><div>SANITARY MANHOLE</div><div>WYE FITTING</div></div> | <div><div>EXISTING</div><div>WATER</div><div>WATER SERVICE</div><div>WATER PIPE</div><div>FIRE HYDRANT</div><div>YARD HYDRANT</div><div>WATER VALVE WITH BOX</div><div>CURB STOP W/CURB BOX</div><div>REDUCER</div><div>WATER VALVE VAULT</div><div>11.25° BEND</div><div>22.50° BEND</div><div>45° BEND</div><div>90° BEND</div><div>TEE</div><div>CAP</div><div>WATER METER</div><div>SPRINKLER HEAD</div><div>TRACER WIRE BOX</div></div> <div><div>PROPOSED</div><div>WATER</div><div>WATER SERVICE</div><div>WATER PIPE</div><div>FIRE HYDRANT</div><div>YARD HYDRANT</div><div>WATER VALVE WITH BOX</div><div>CURB STOP W/CURB BOX</div><div>REDUCER</div><div>WATER VALVE VAULT</div><div>11.25° BEND</div><div>22.50° BEND</div><div>45° BEND</div><div>90° BEND</div><div>TEE</div><div>CAP</div><div>WATER METER</div><div>SPRINKLER HEAD</div><div>TRACER WIRE BOX</div></div> | <div><div>EXISTING</div><div>UTILITY</div><div>FIBER OPTIC LINE</div><div>UNDERGROUND TV CABLE</div><div>CABLE TV RISER PEDESTAL</div><div>OVERHEAD UTILITY</div><div>UNDERGROUND ELECTRIC</div><div>ELECTRIC RISER PEDESTAL</div><div>ELECTRIC MANHOLE</div><div>UNDERGROUND TELEPHONE</div><div>TELEPHONE RISER PEDESTAL</div><div>TELEPHONE MANHOLE</div><div>UTILITY POLE</div><div>UTILITY POLE W/ METER</div><div>UTILITY POLE W/ TRANSFORMER</div><div>UTILITY POLE W/ LIGHT</div><div>UTILITY POLE WITH GUY WIRE AND ANCHOR</div><div>LIGHT (MAST MOUNTED)</div><div>LIGHT POLE (SINGLE FIXTURE)</div><div>YARD LIGHT</div><div>GAS MAIN</div><div>GAS METER</div><div>GAS VALVE</div><div>GAS STRUCTURE</div><div>TRANSFORMER</div><div>GENERATOR</div></div> <div><div>PROPOSED</div><div>UTILITY</div><div>FIBER OPTIC LINE</div><div>UNDERGROUND TV CABLE</div><div>CABLE TV RISER PEDESTAL</div><div>OVERHEAD UTILITY</div><div>UNDERGROUND ELECTRIC</div><div>ELECTRIC RISER PEDESTAL</div><div>ELECTRIC MANHOLE</div><div>UNDERGROUND TELEPHONE</div><div>TELEPHONE RISER PEDESTAL</div><div>TELEPHONE MANHOLE</div><div>UTILITY POLE</div><div>UTILITY POLE W/ METER</div><div>UTILITY POLE W/ TRANSFORMER</div><div>UTILITY POLE W/ LIGHT</div><div>UTILITY POLE WITH GUY WIRE AND ANCHOR</div><div>LIGHT (MAST MOUNTED)</div><div>LIGHT POLE (SINGLE FIXTURE)</div><div>YARD LIGHT</div><div>GAS MAIN</div><div>GAS METER</div><div>GAS VALVE</div><div>GAS STRUCTURE</div><div>TRANSFORMER</div><div>GENERATOR</div></div> | <div><div>EXISTING</div><div>TRAFFIC RELATED</div><div>CONTROLLER</div><div>MAST ARM ASSEMBLY AND POLE</div><div>SIGNAL HEAD AND POST</div><div>SIGNAL HEAD</div><div>PEDESTRIAN HEAD</div><div>PEDESTRIAN PUSH-BUTTON</div><div>HAND HOLE</div><div>DOUBLE HAND HOLE</div><div>HAND HOLE OR JUNCTION BOX</div><div>HEAVY-DUTY HAND HOLE</div><div>EXISTING CONDUIT (LENGTH AND SIZE) PROP GALVANIZED STEEL OR PVC CONDUIT UPPER NUMERAL INDICATES LENGTH "T" INDICATES CONDUIT IN TRENCH "P" INDICATED CONDUIT PUSHED LOWER NUMERAL INDICATES SIZE AND TYPE</div><div>LUMINAIRE</div><div>ARROW - THROUGH, TURN LEFT</div><div>ARROW - THROUGH</div><div>ARROW - TURN LEFT</div><div>ARROW - TURN RIGHT</div><div>ONE DIRECTION TURN ONLY</div><div>HANDICAPPED PARKING STALL</div><div>TRAFFIC DETECTOR LOOP</div><div>TRAFFIC CONTROL BOX</div></div> <div><div>PROPOSED</div><div>TRAFFIC RELATED</div><div>CONTROLLER</div><div>MAST ARM ASSEMBLY AND POLE</div><div>SIGNAL HEAD AND POST</div><div>SIGNAL HEAD</div><div>PEDESTRIAN HEAD</div><div>PEDESTRIAN PUSH-BUTTON</div><div>HAND HOLE</div><div>DOUBLE HAND HOLE</div><div>HAND HOLE OR JUNCTION BOX</div><div>HEAVY-DUTY HAND HOLE</div><div>EXISTING CONDUIT (LENGTH AND SIZE) PROP GALVANIZED STEEL OR PVC CONDUIT UPPER NUMERAL INDICATES LENGTH "T" INDICATES CONDUIT IN TRENCH "P" INDICATED CONDUIT PUSHED LOWER NUMERAL INDICATES SIZE AND TYPE</div><div>LUMINAIRE</div><div>ARROW - THROUGH, TURN LEFT</div><div>ARROW - THROUGH</div><div>ARROW - TURN LEFT</div><div>ARROW - TURN RIGHT</div><div>ONE DIRECTION TURN ONLY</div><div>HANDICAPPED PARKING STALL</div><div>TRAFFIC DETECTOR LOOP</div><div>TRAFFIC CONTROL BOX</div></div> |



**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS

APPROVED BY: JWM

DATE: 02/11/2022

SCALE: AS NOTED

REVISIONS

| REV. NO. | DESCRIPTION | DATE |
|----------|-------------|------|
|          |             |      |
|          |             |      |
|          |             |      |
|          |             |      |

DRAWING:

OVERALL PLANVIEW LAYOUT

SET TYPE:

PERMIT SET

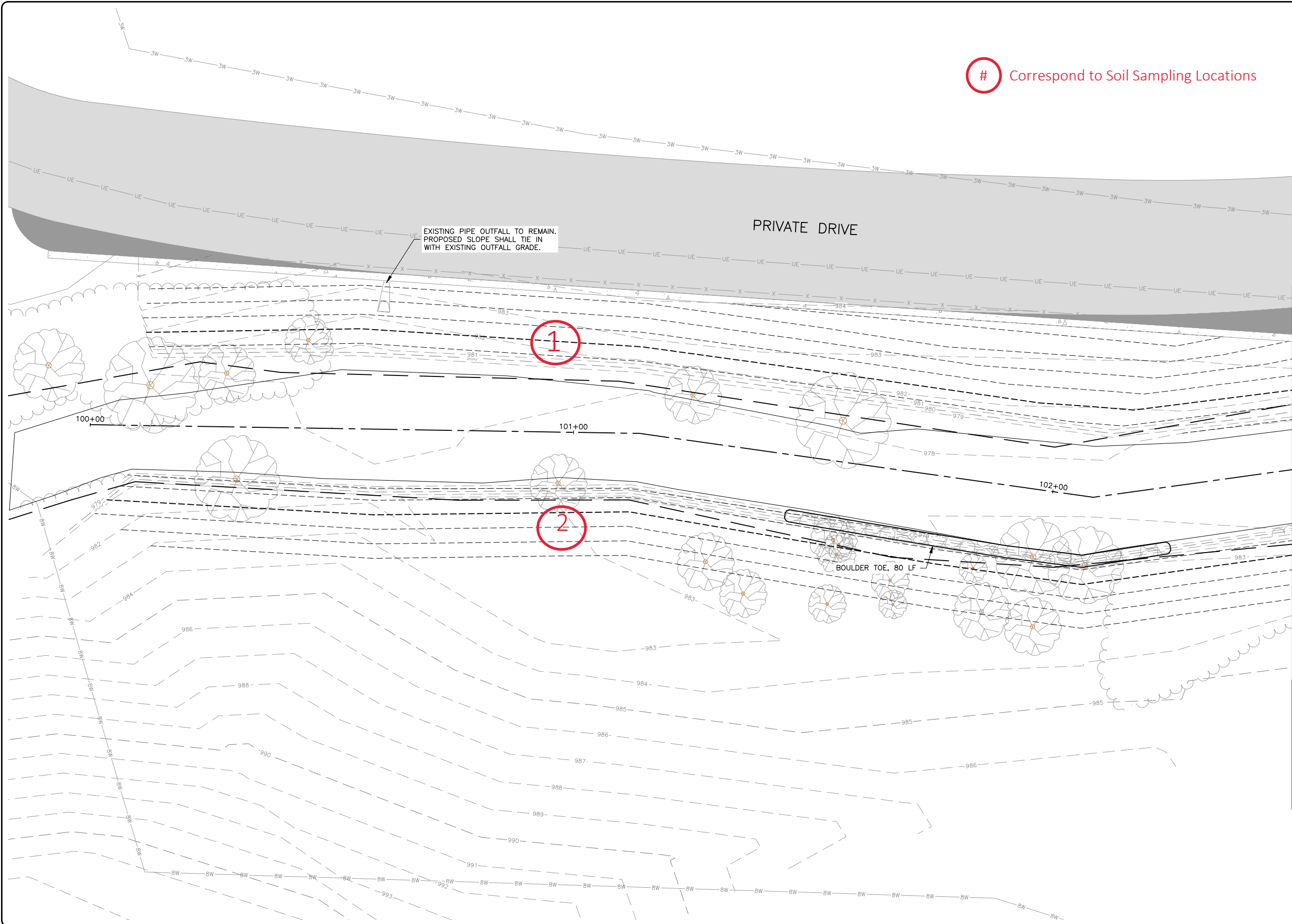
G:\C30\21\21-635\21-635 Design.dwg, OVERALL

JOB NUMBER:

21-635

SHEET NUMBER:

5 of 59



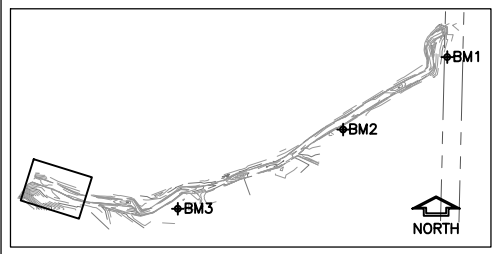
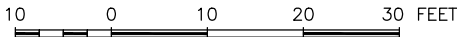
# Correspond to Soil Sampling Locations

- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.

North Bank:  
① 100+00 - 103+50  
South Bank:  
② 100+00 - 103+50

MATCH LINE STA. 102+50  
SEE SHEET 23



BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20  
BM2 = 5/8" REBAR W/ FGA CAP (401)  
N 136388.92, E 605277.56, ELEV 986.85  
BM3 = 5/8" REBAR W/ CAP (402)  
N 136044.50, E 604558.51, ELEV 983.67

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| REVISIONS |             |      |
|-----------|-------------|------|
| REV. NO.  | DESCRIPTION | DATE |
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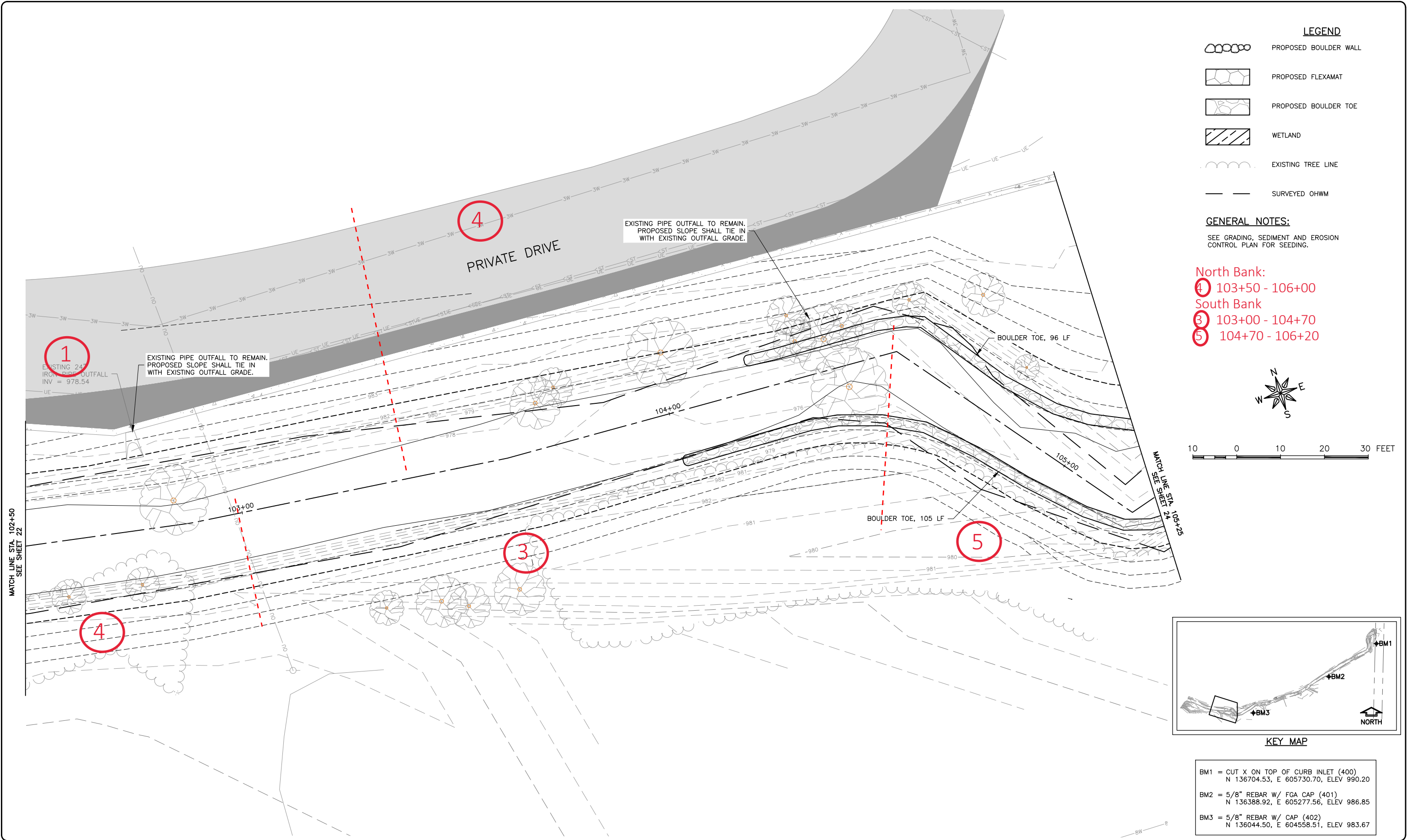
DRAWING:  
SITE PLAN 1

SET TYPE: PERMIT SET  
G:\C30\21\21-635\21-635 Design.dwg, SITE PLAN

JOB NUMBER:  
21-635

SHEET NUMBER:  
22 of 59





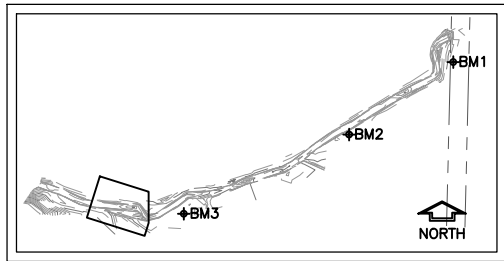
- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.

- North Bank:**  
④ 103+50 - 106+00  
**South Bank**  
③ 103+00 - 104+70  
⑤ 104+70 - 106+20



10 0 10 20 30 FEET



**KEY MAP**

- BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20
- BM2 = 5/8" REBAR W/ FGA CAP (401)  
N 136388.92, E 605277.56, ELEV 986.85
- BM3 = 5/8" REBAR W/ CAP (402)  
N 136044.50, E 604558.51, ELEV 983.67

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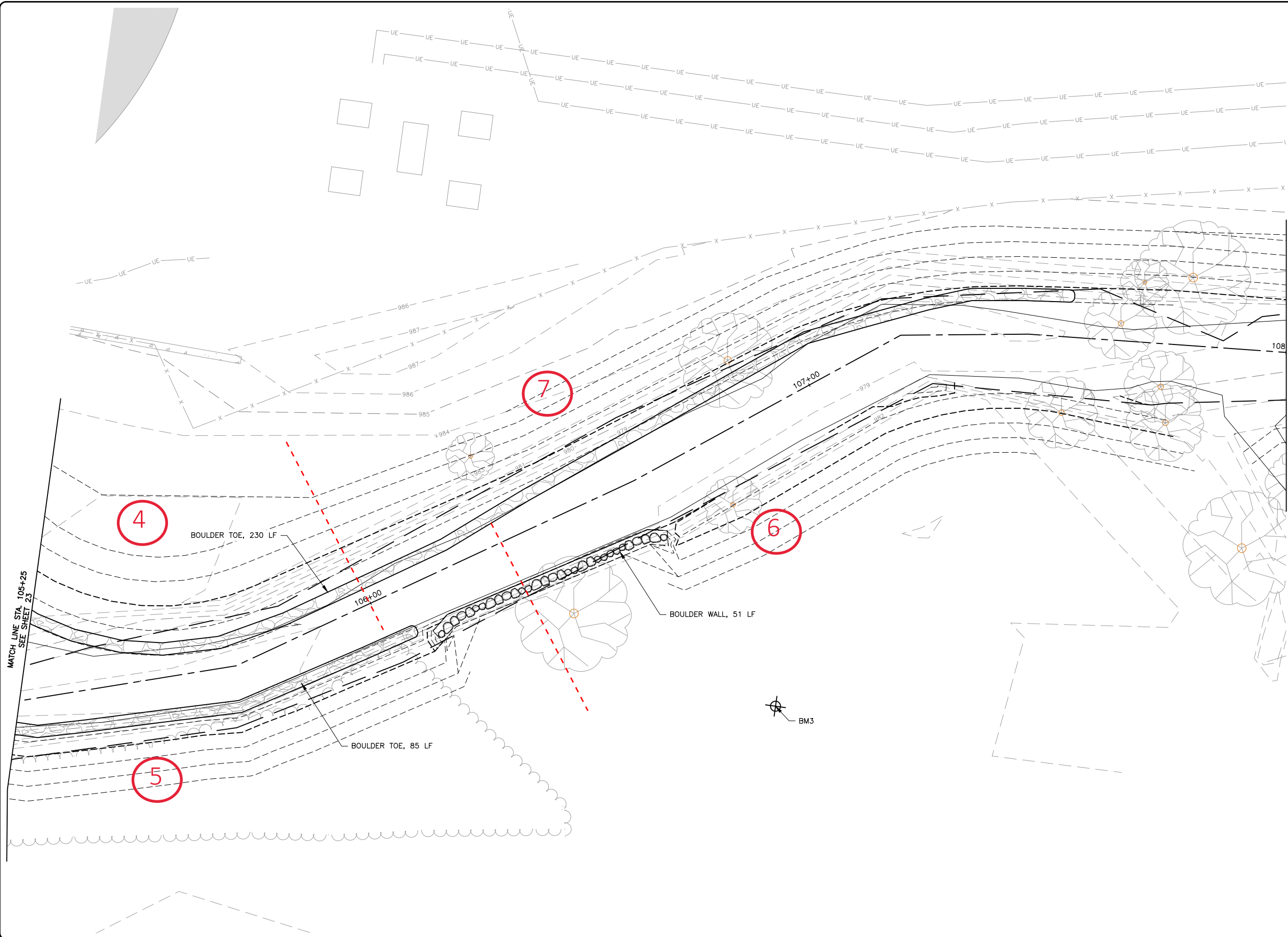
| REVISIONS |             |      |
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| REV. NO.  | DESCRIPTION | DATE |
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DRAWING:  
SITE PLAN 2

SET TYPE: PERMIT SET

JOB NUMBER:  
21-635

SHEET NUMBER:  
23 of 59



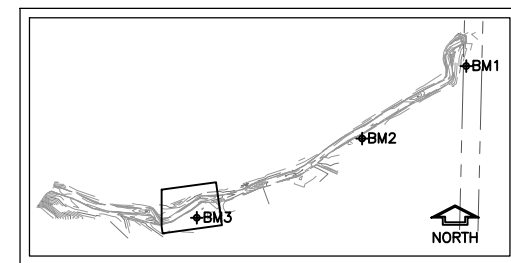
- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.

North Bank:  
⑦ 106+00 - 108+00  
South Bank:  
⑥ 106+20 - 108+00



10 0 10 20 30 FEET



**KEY MAP**

BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20  
BM2 = 5/8" REBAR W/ FGA CAP (401)  
N 136388.92, E 605277.56, ELEV 986.85  
BM3 = 5/8" REBAR W/ CAP (402)  
N 136044.50, E 604558.51, ELEV 983.67

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

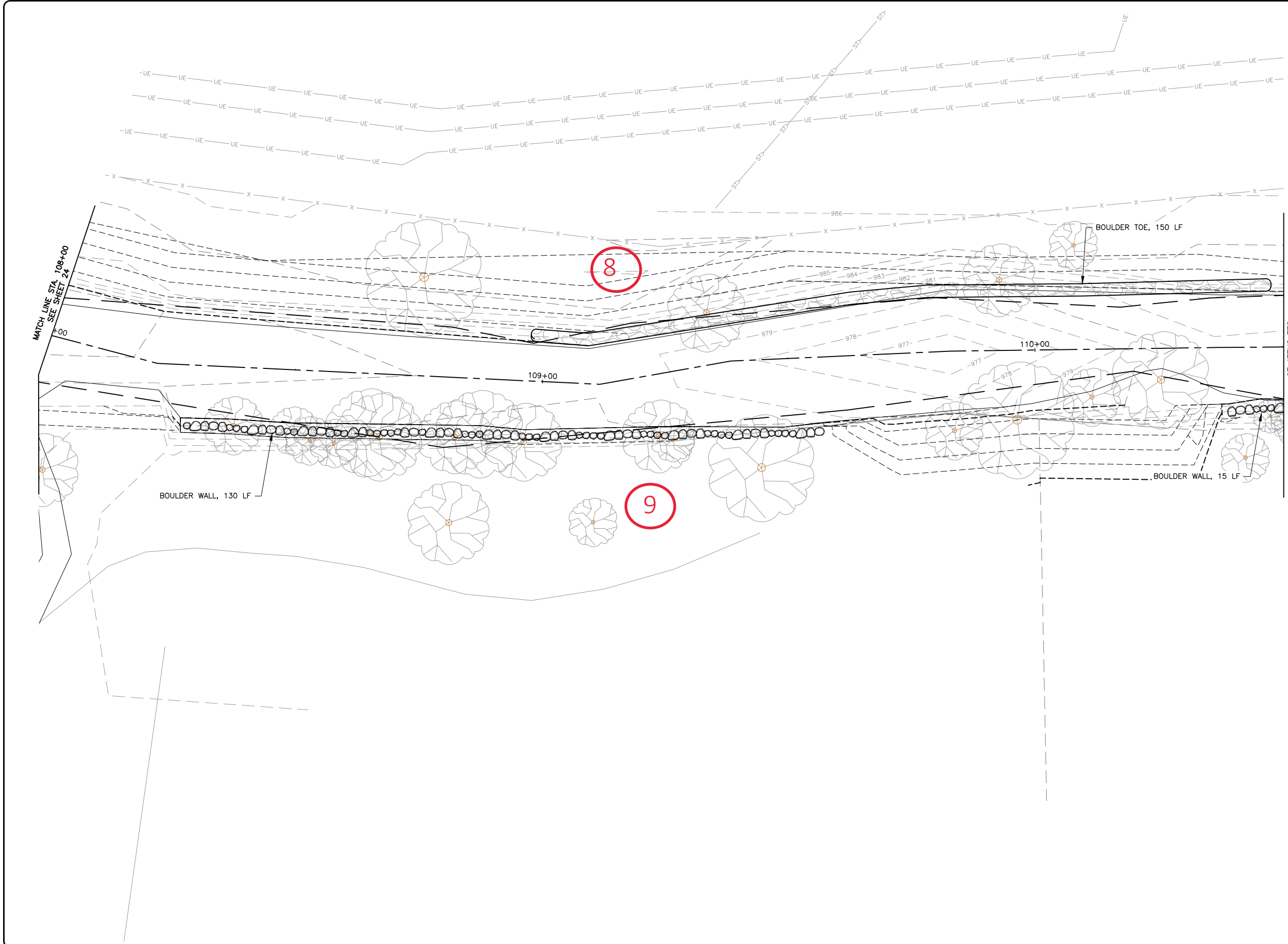
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DRAWING:  
SITE PLAN 3

SET TYPE: PERMIT SET  
G:\C30\21\21-635\21-635 Design.dwg, SITE PLAN 3

JOB NUMBER:  
21-635

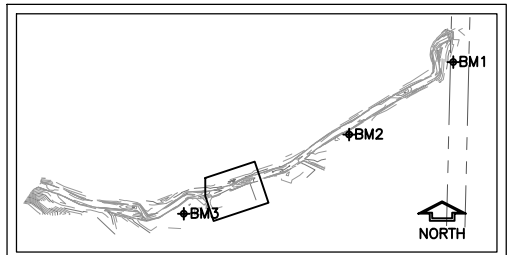
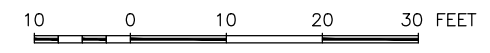
SHEET NUMBER:  
24 of 59



- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.

North Bank:  
⑧ 108+00 - 113+00  
South Bank:  
⑨ 108+00- 113+00



**KEY MAP**

- BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20
- BM2 = 5/8" REBAR W/ FGA CAP (401)  
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- BM3 = 5/8" REBAR W/ CAP (402)  
N 136044.50, E 604558.51, ELEV 983.67

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ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003525  
PLOT DATE: 2/11/22 © 2022 FEHR GRAHAM

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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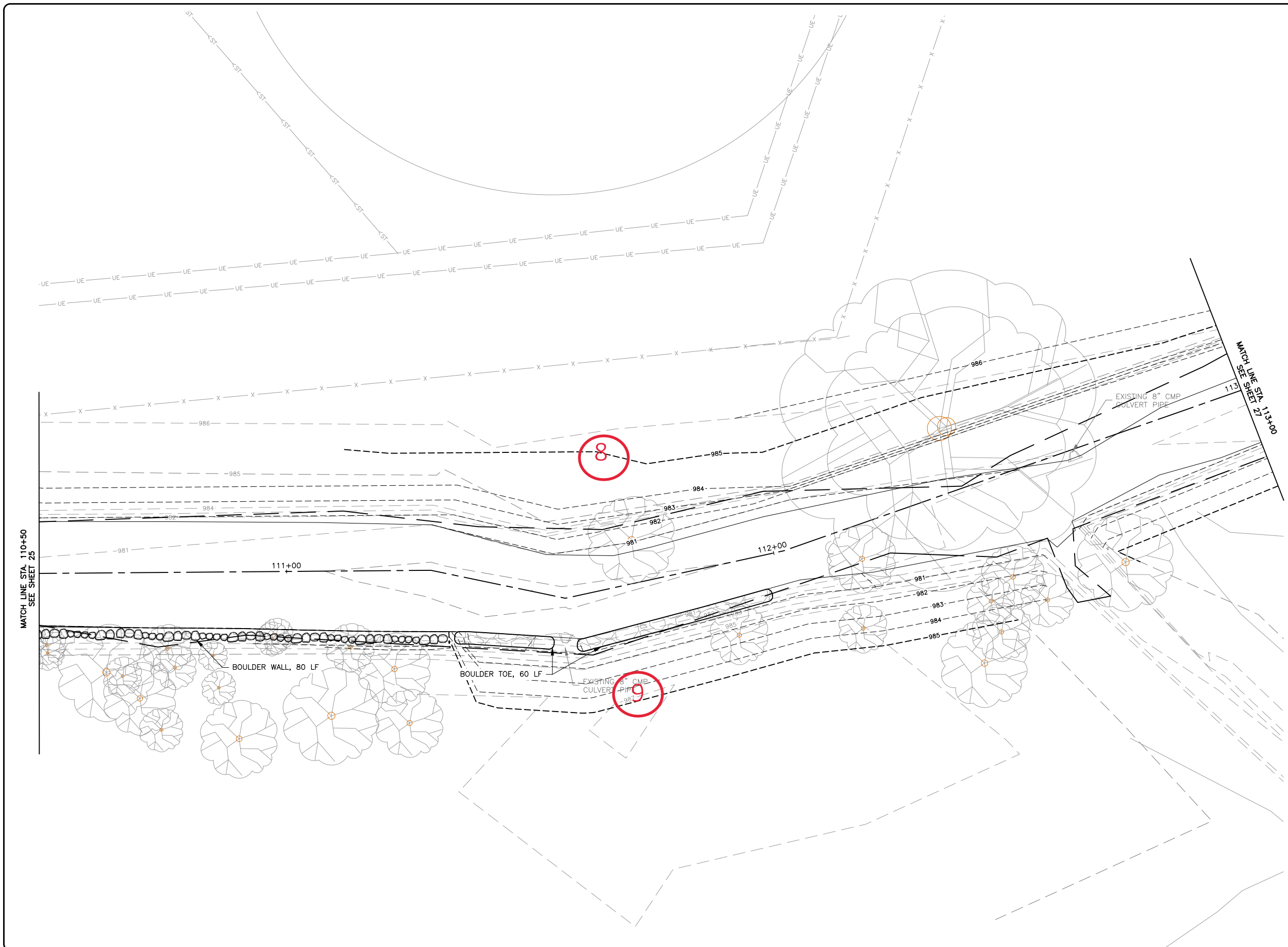
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JOB NUMBER:  
21-635

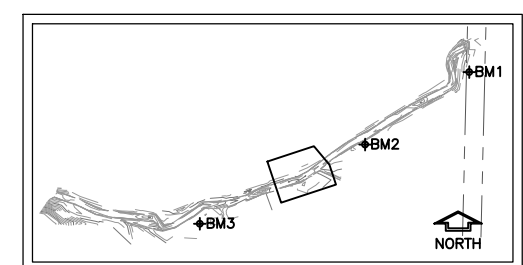
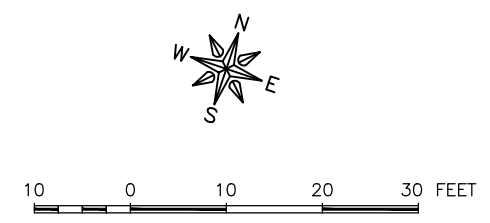
SHEET NUMBER:  
25 of 59





- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.



BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20

BM2 = 5/8" REBAR W/ FGA CAP (401)  
N 136388.92, E 605277.56, ELEV 986.85

BM3 = 5/8" REBAR W/ CAP (402)  
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ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS

IOWA

WISCONSIN

PLOT DATE: 2/11/22

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OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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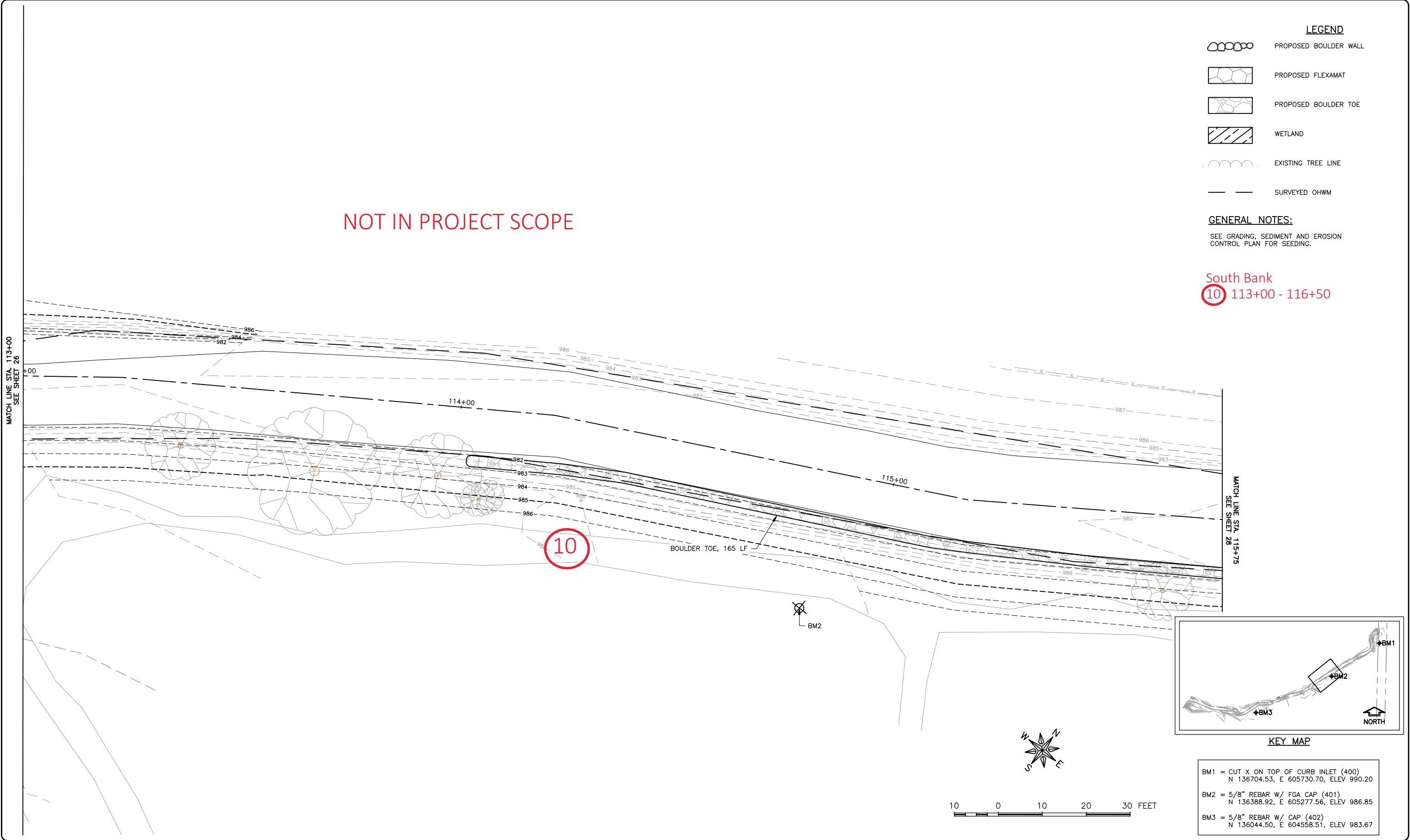
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SITE PLAN 5

SET TYPE: PERMIT SET

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JOB NUMBER:  
21-635

SHEET NUMBER:  
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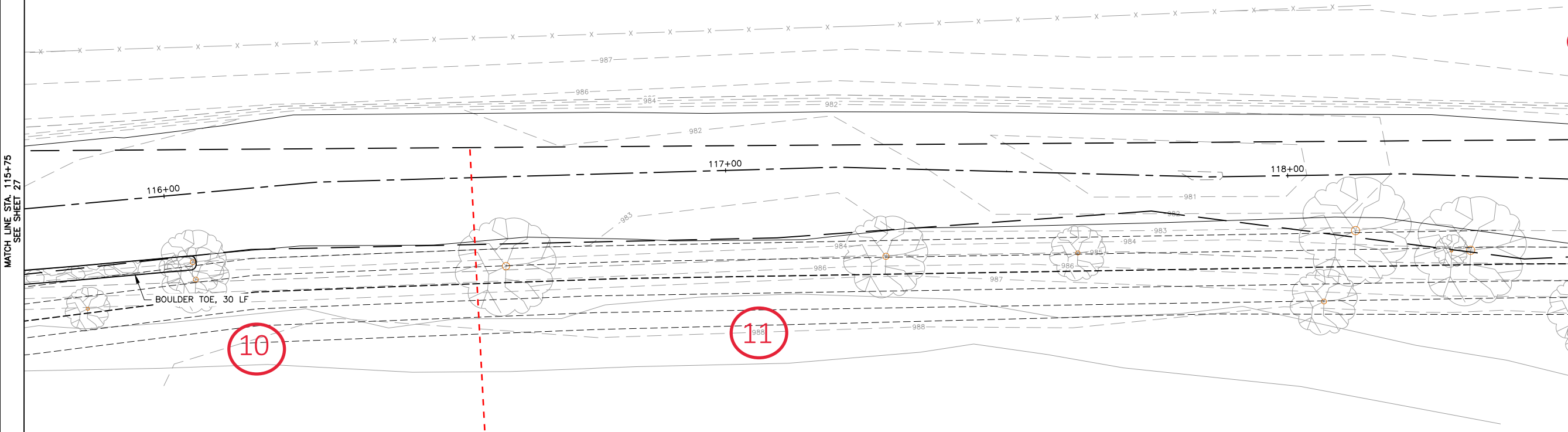
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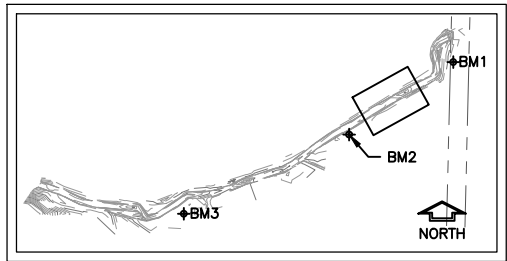
- LEGEND**
- PROPOSED BOULDER WALL
  - PROPOSED FLEXAMAT
  - PROPOSED BOULDER TOE
  - WETLAND
  - EXISTING TREE LINE
  - SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION  
CONTROL PLAN FOR SEEDING.

NOT IN PROJECT SCOPE



South Bank  
11 116+50 - 119+00



KEY MAP

BM1 = CUT X ON TOP OF CURB INLET (400)  
N 136704.53, E 605730.70, ELEV 990.20  
BM2 = 5/8" REBAR W/ FGA CAP (401)  
N 136388.92, E 605277.56, ELEV 986.85  
BM3 = 5/8" REBAR W/ CAP (402)  
N 136044.50, E 604558.51, ELEV 983.67



10 0 10 20 30 FEET

**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
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MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
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STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

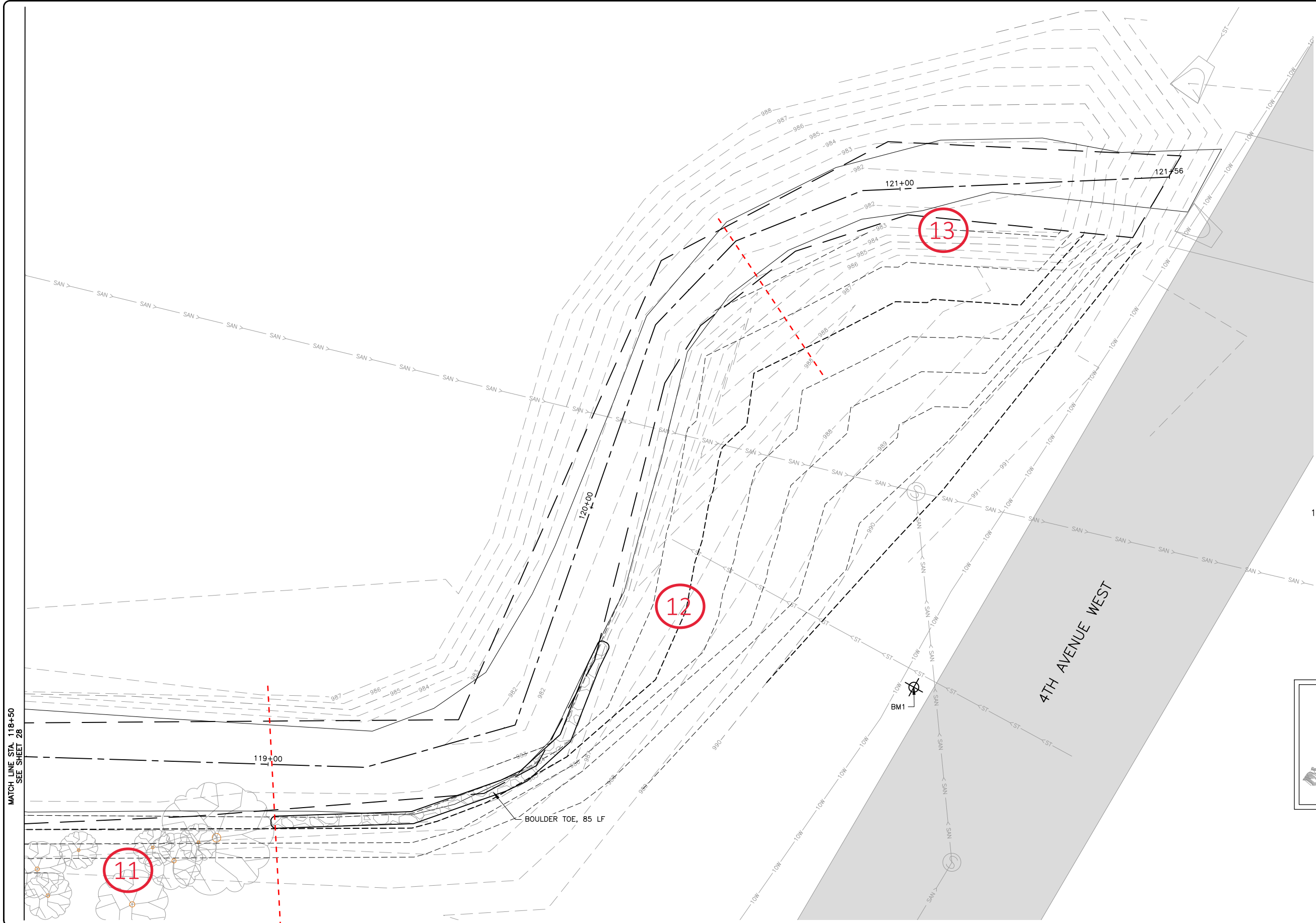
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DRAWING:  
SITE PLAN 7

SET TYPE: PERMIT SET  
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JOB NUMBER:  
21-635

SHEET NUMBER:  
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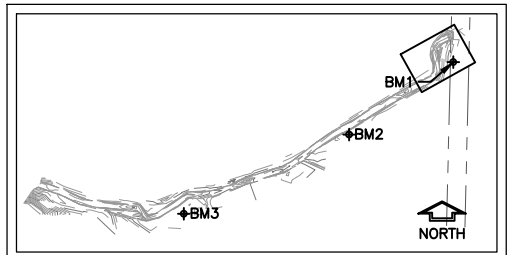
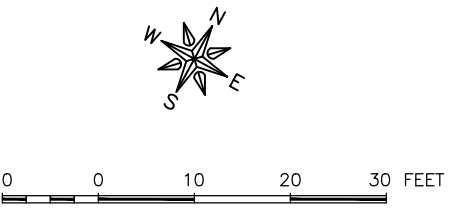


**LEGEND**

- PROPOSED BOULDER WALL
- PROPOSED FLEXAMAT
- PROPOSED BOULDER TOE
- WETLAND
- EXISTING TREE LINE
- SURVEYED OHWM

**GENERAL NOTES:**  
SEE GRADING, SEDIMENT AND EROSION CONTROL PLAN FOR SEEDING.

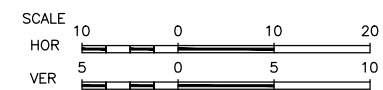
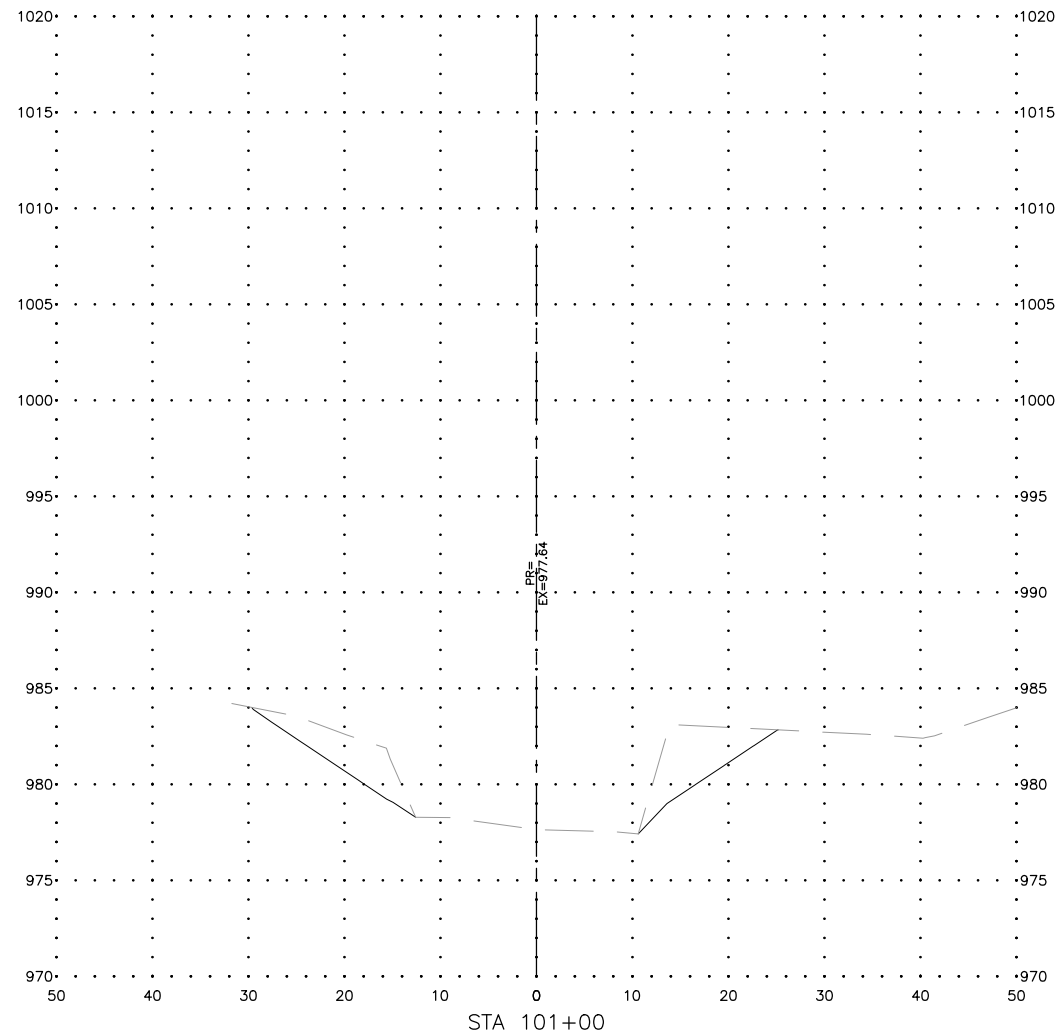
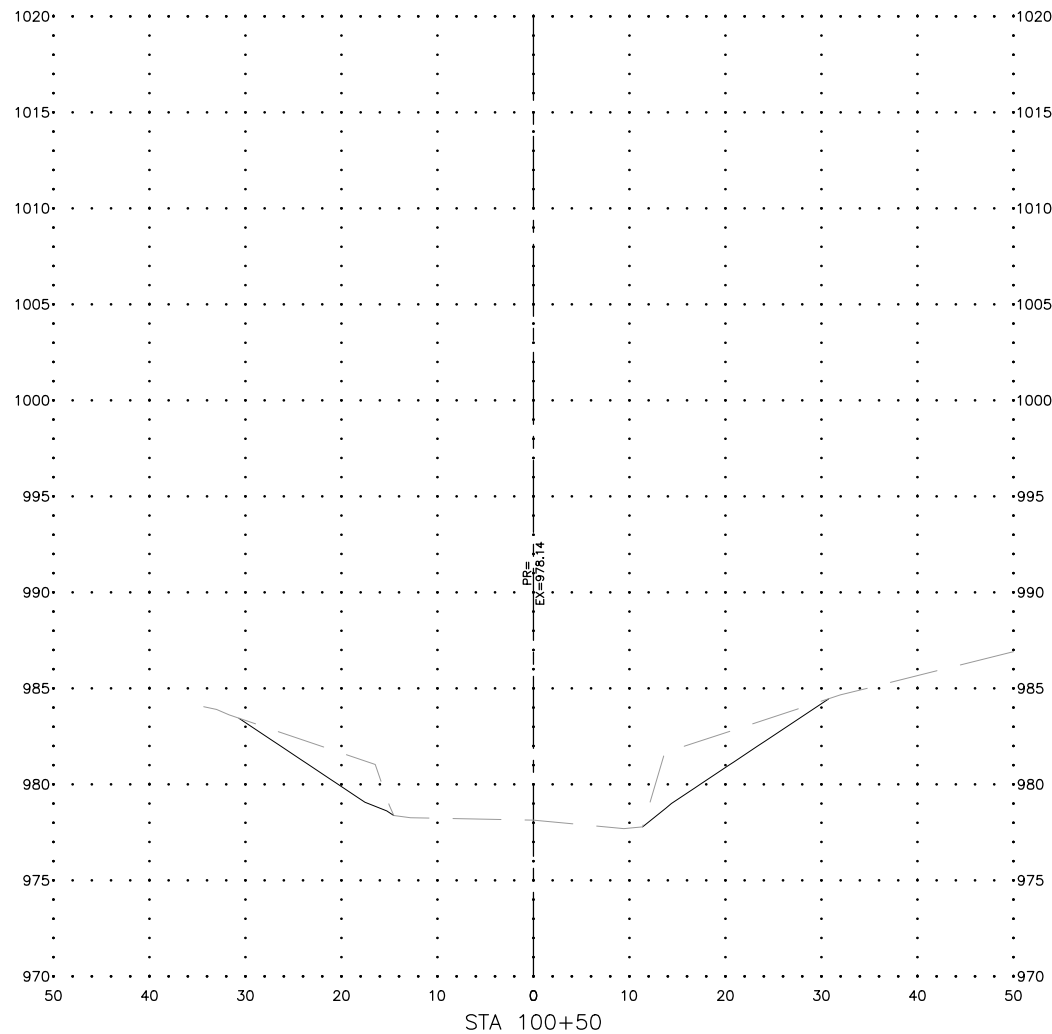
**South Bank**  
**12** 119+00 - 120+75  
**13** 120+75 - 121+36



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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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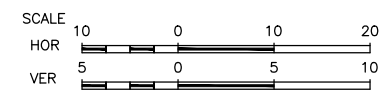
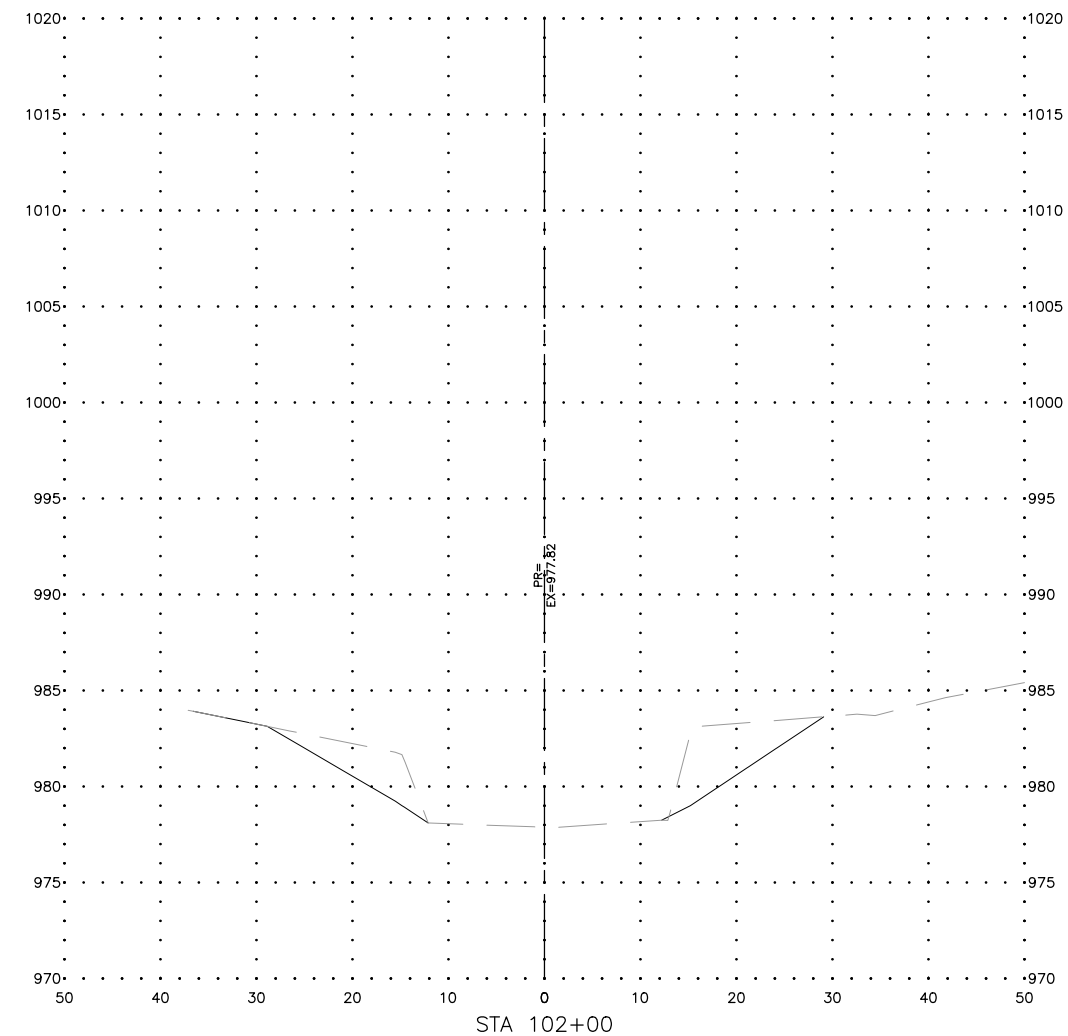
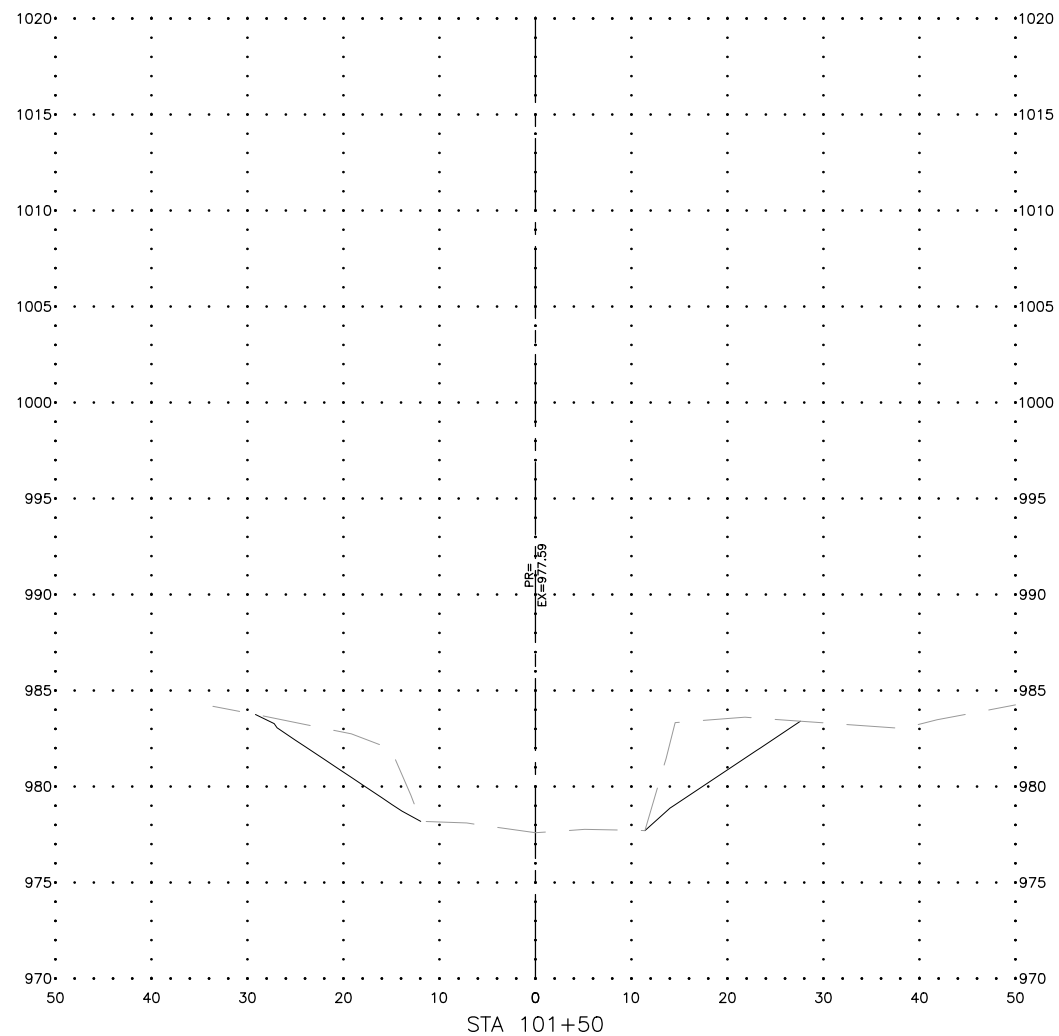
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JOB NUMBER:

21-635

SHEET NUMBER:

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
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DRAWN BY: ARS  
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| REVISIONS |             |      |
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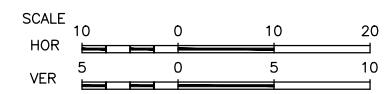
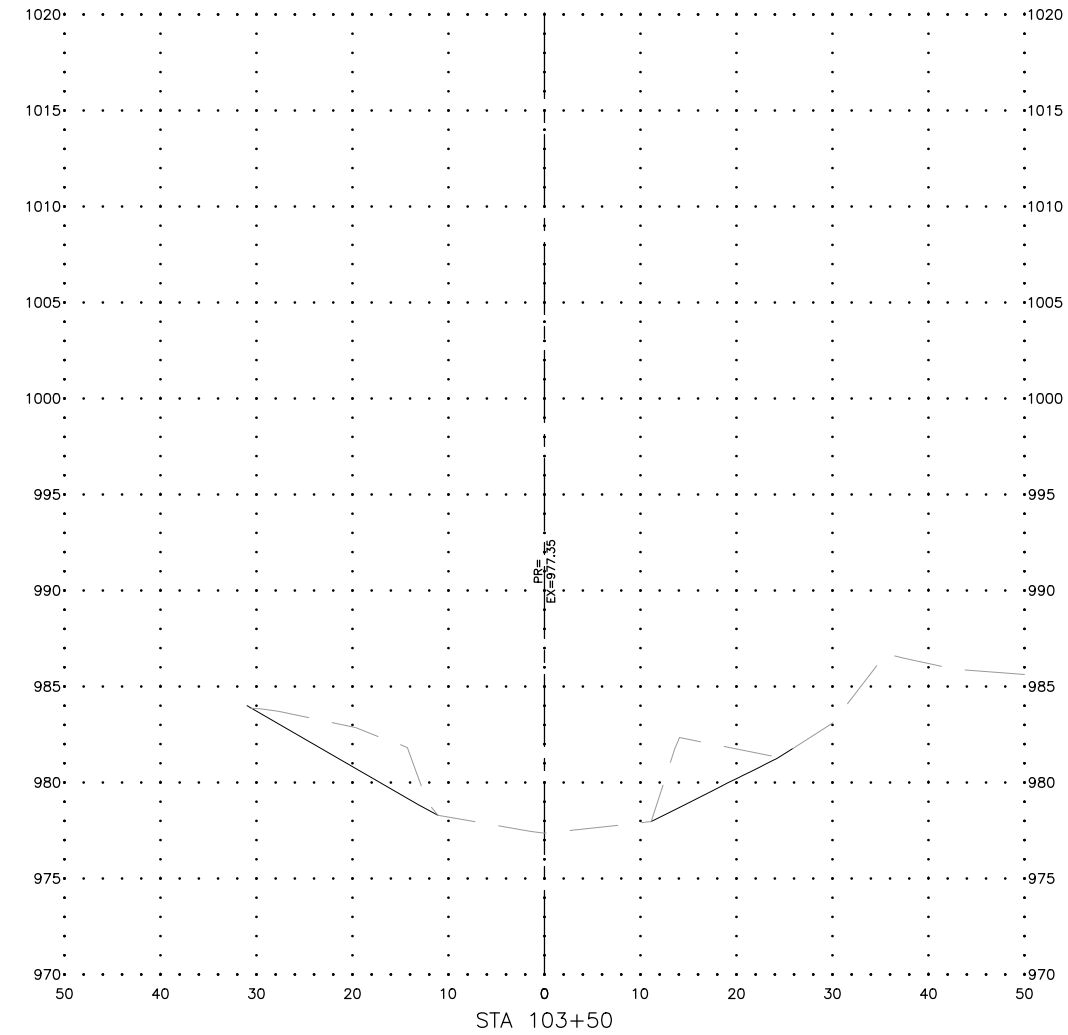
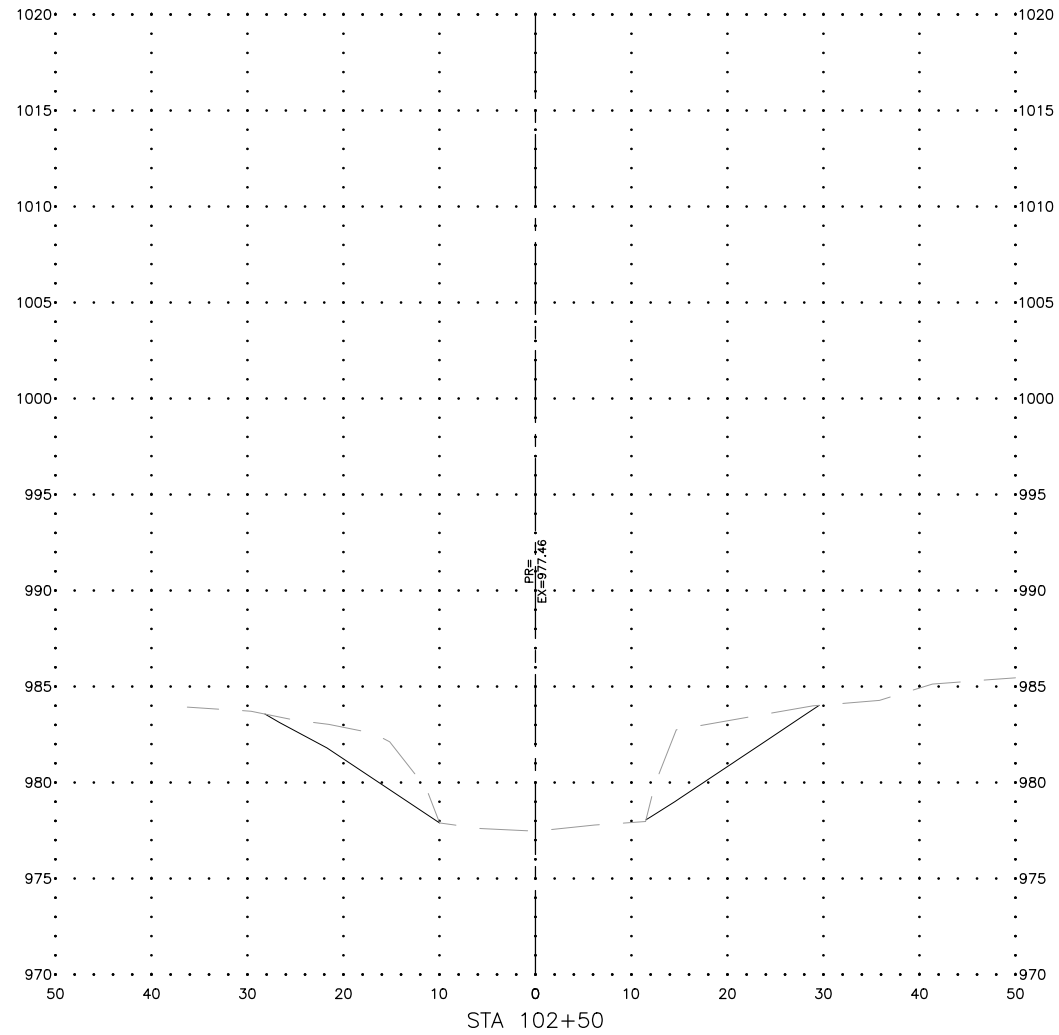
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JOB NUMBER:

21-635

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
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DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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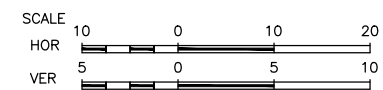
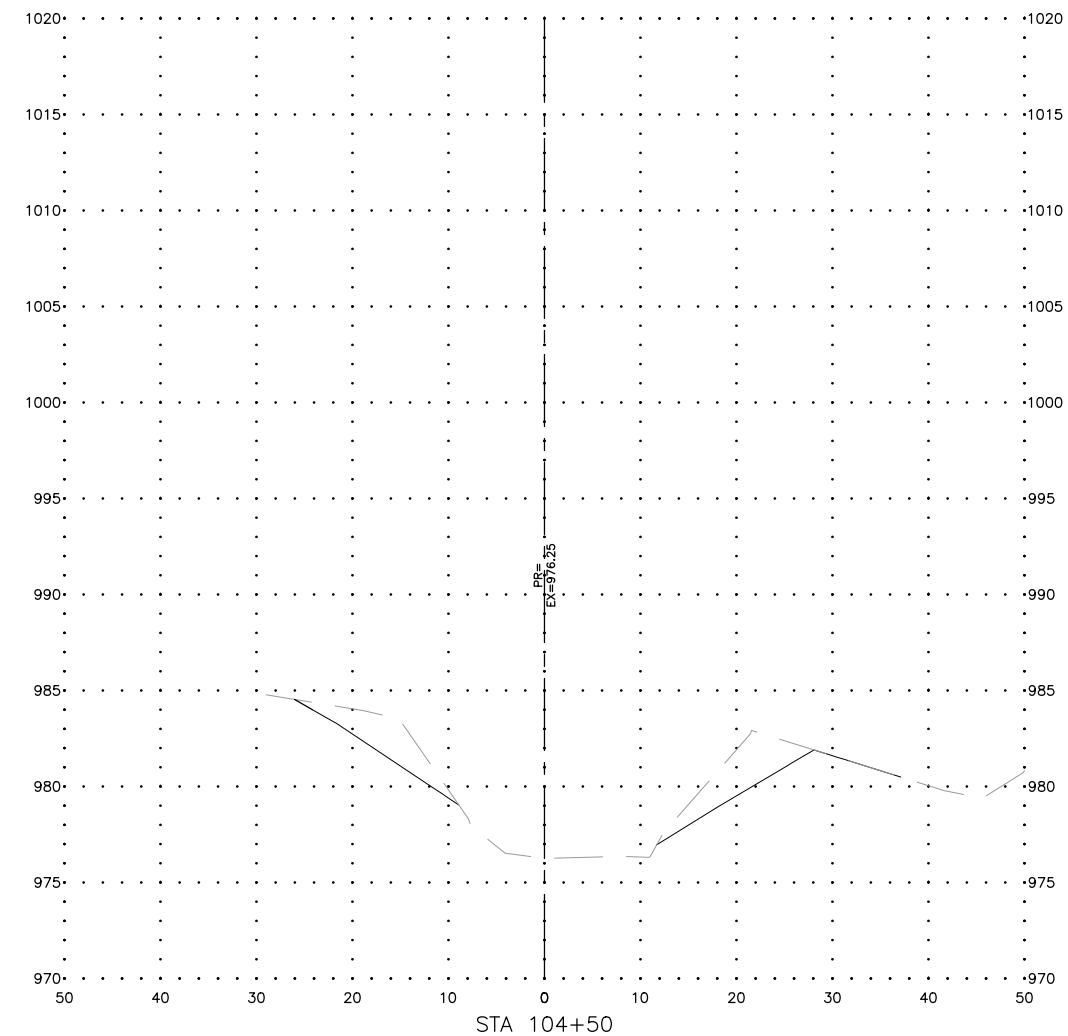
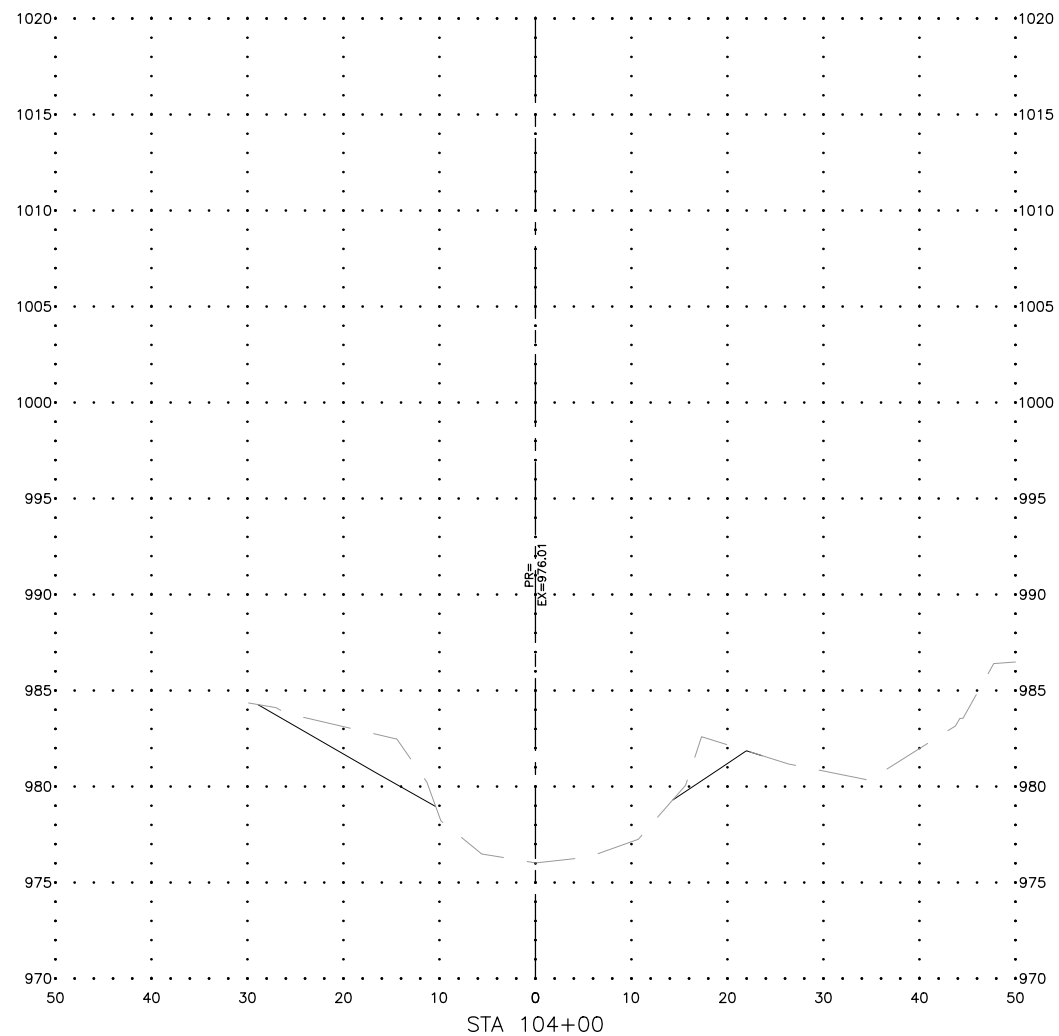
JOB NUMBER:

21-635

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
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OWNER/DEVELOPER:  
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PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

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SCALE: AS NOTED

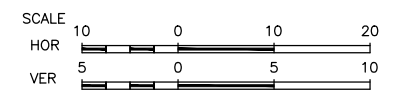
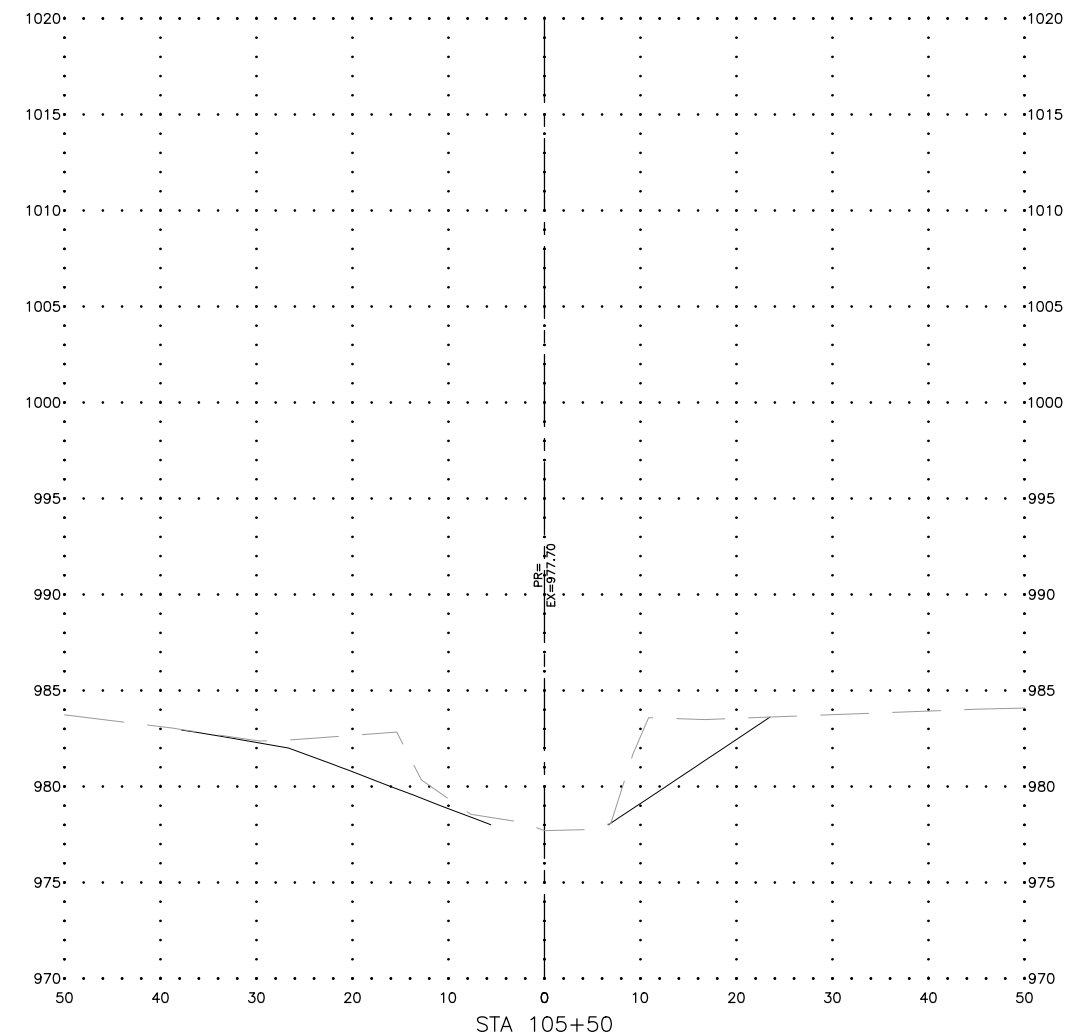
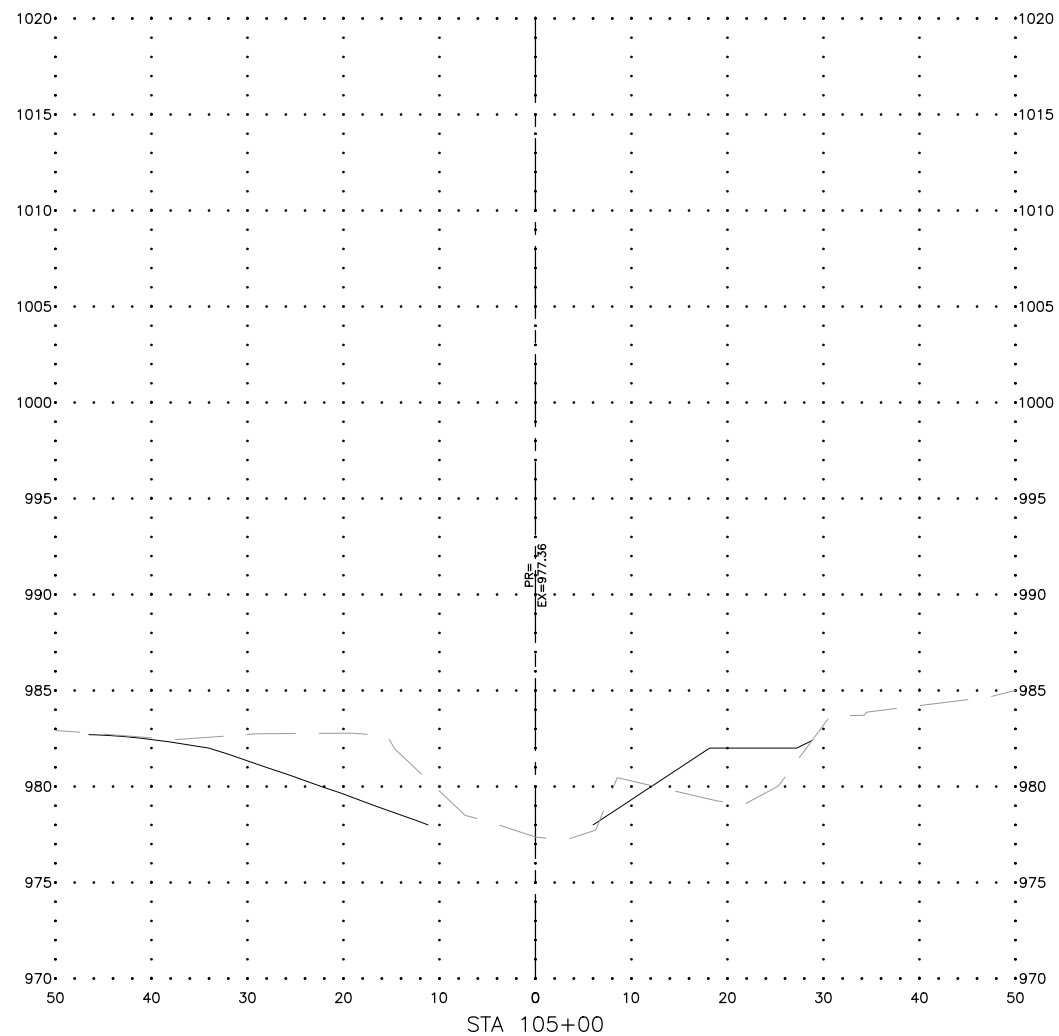
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JOB NUMBER:  
21-635

SHEET NUMBER:  
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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

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MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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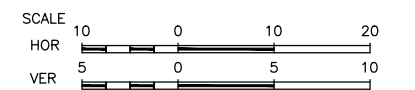
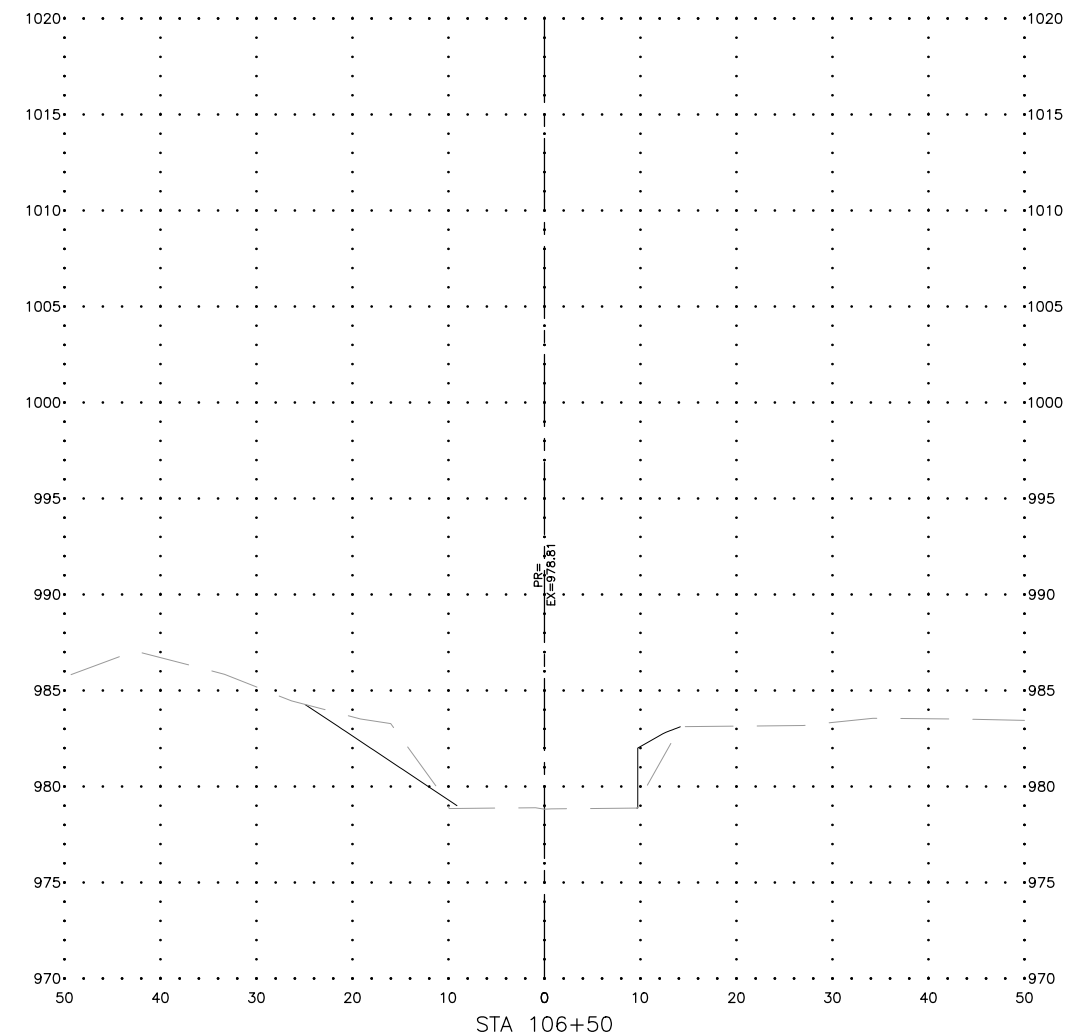
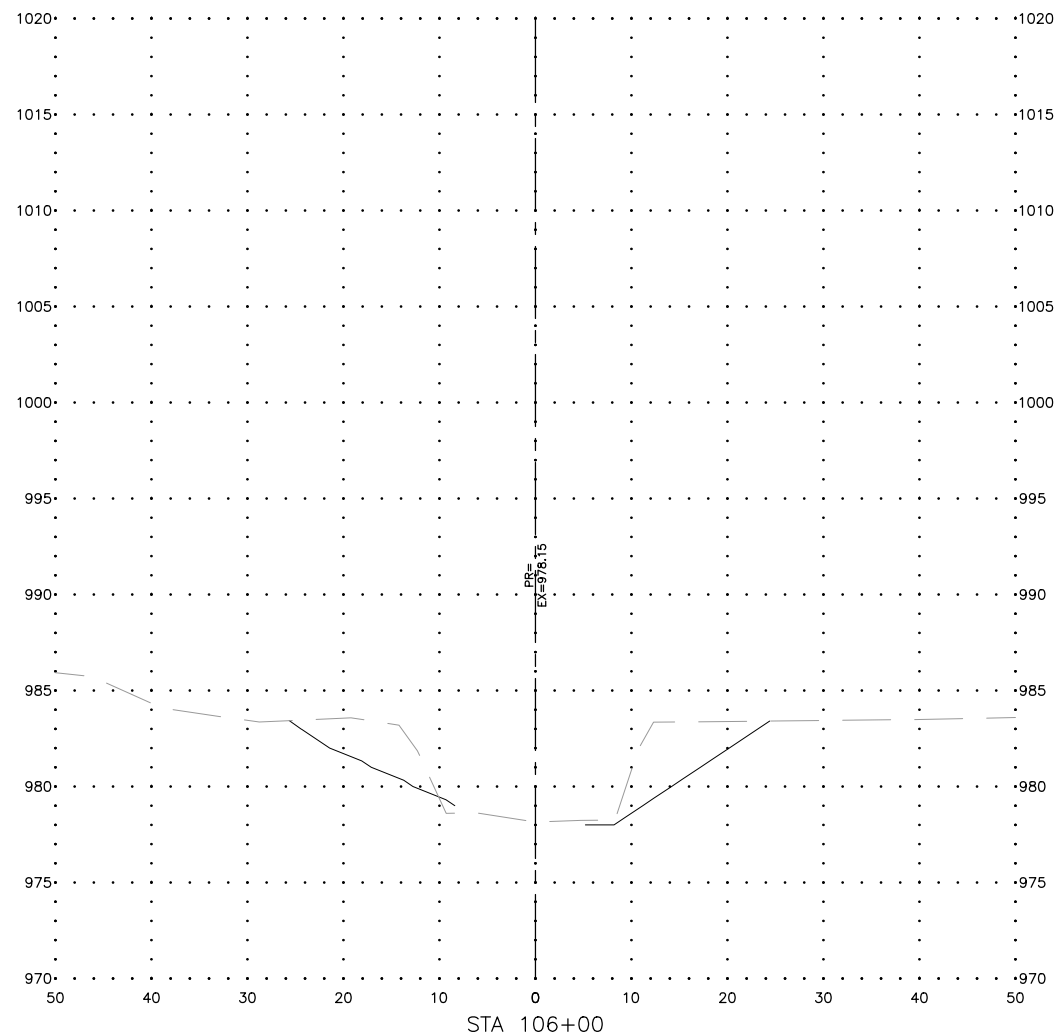
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JOB NUMBER:

21-635

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
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MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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CROSS SECTION SHEET 6

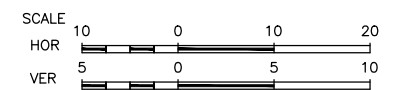
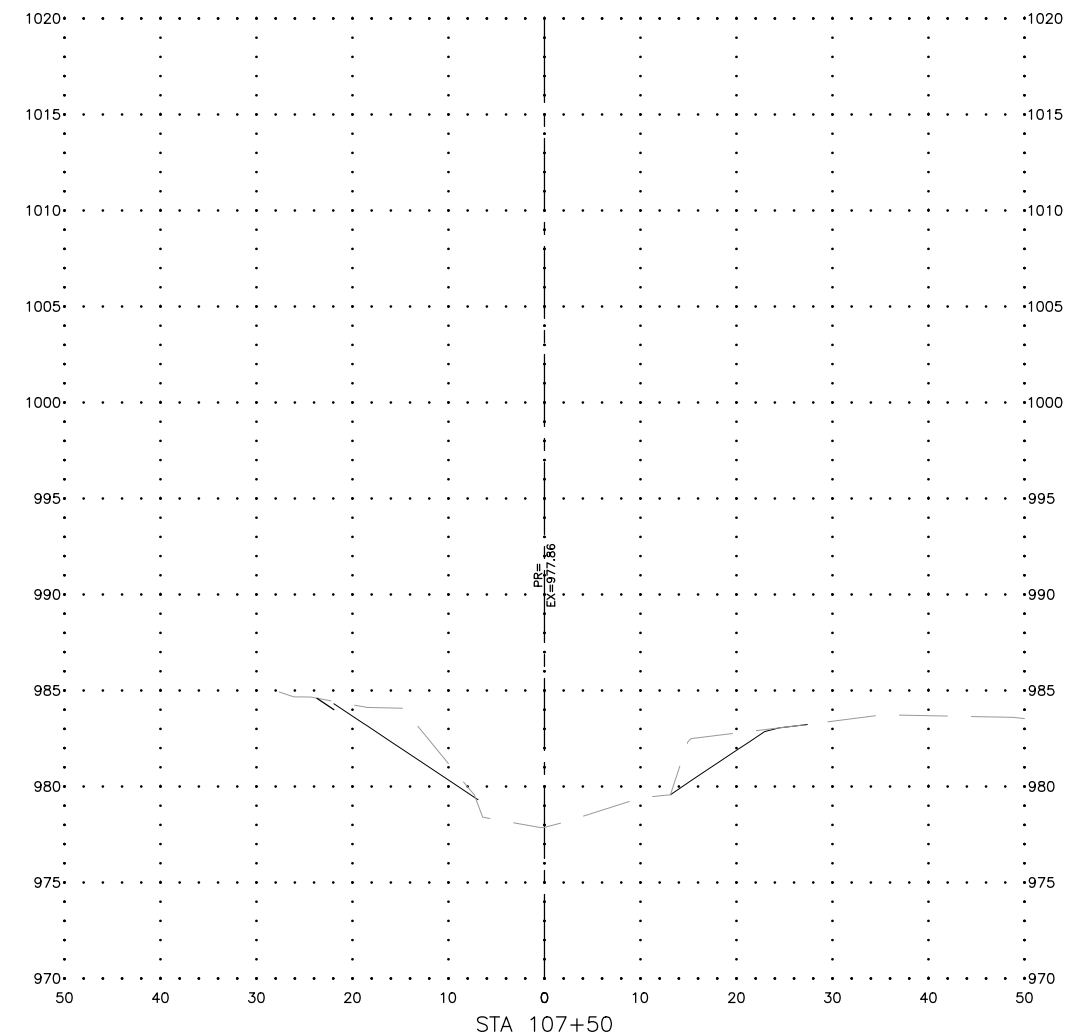
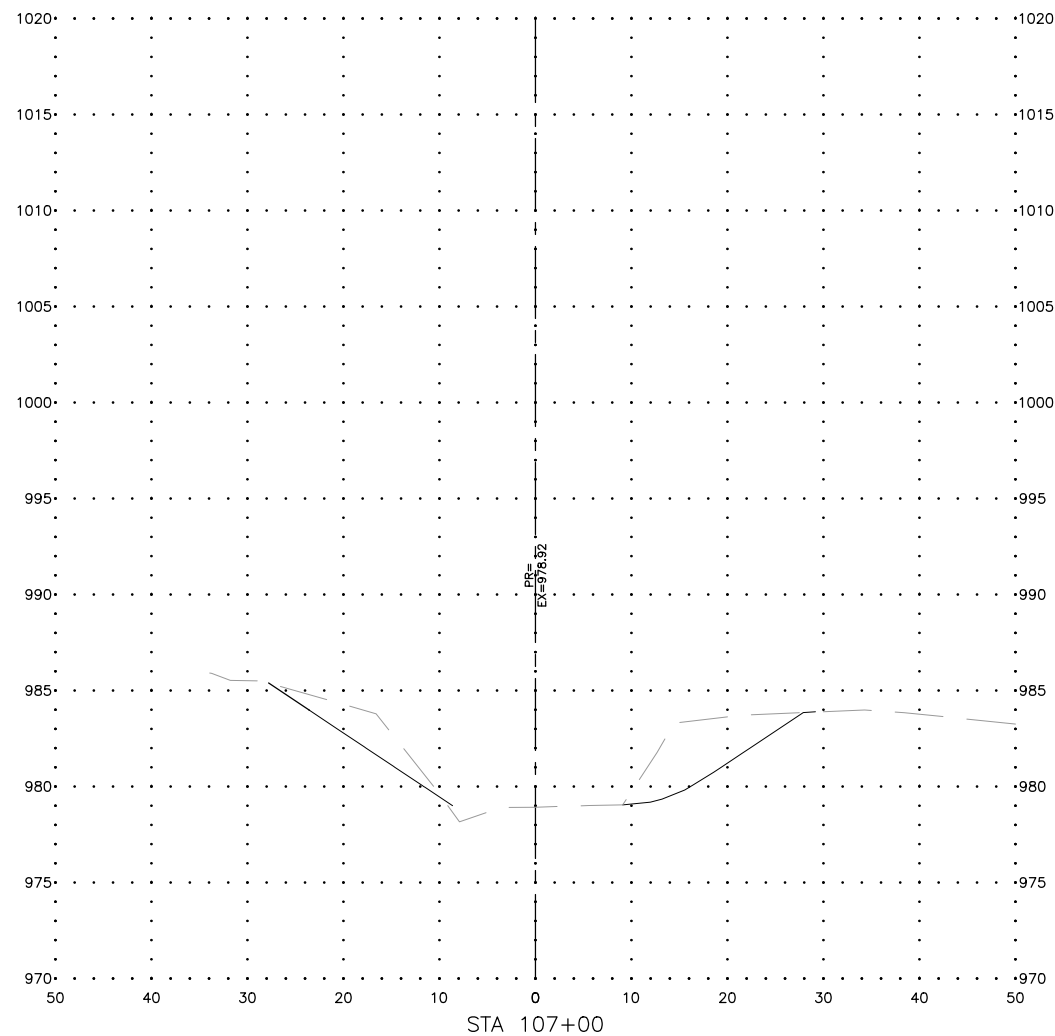
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JOB NUMBER:

21-635

SHEET NUMBER:

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

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PROJECT AND LOCATION:

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STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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DRAWING:

CROSS SECTION SHEET 7

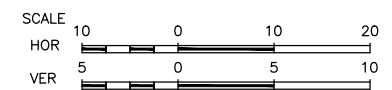
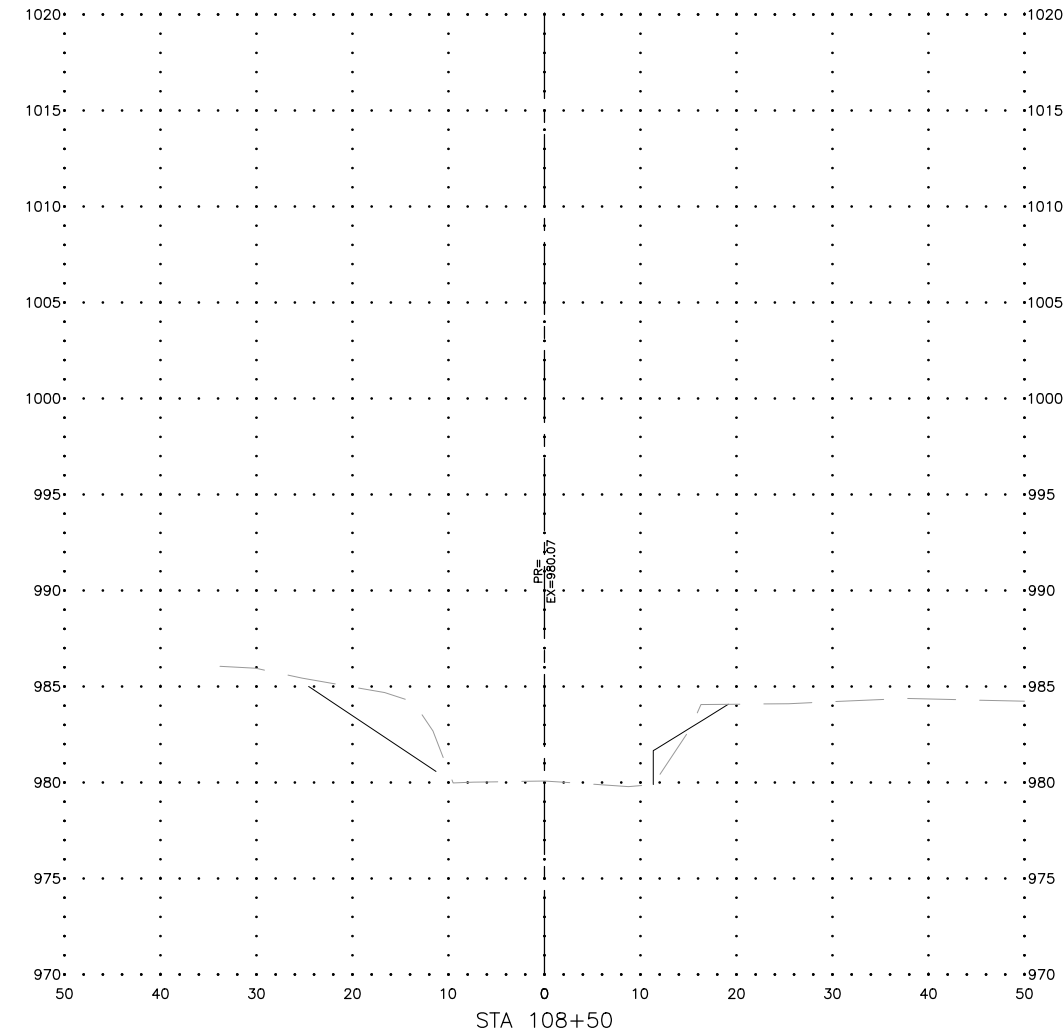
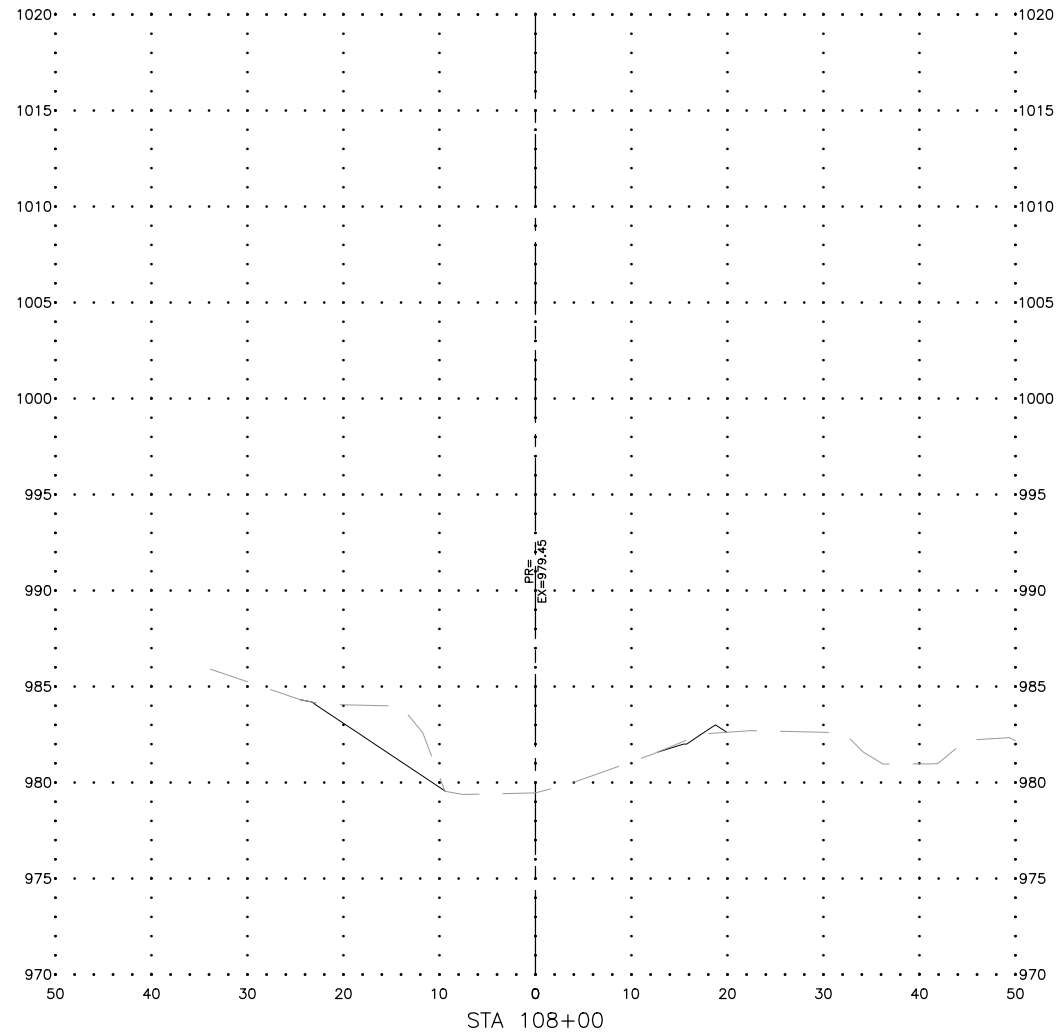
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JOB NUMBER:

21-635

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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 02/11/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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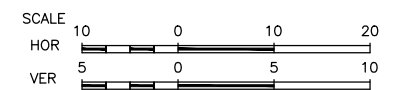
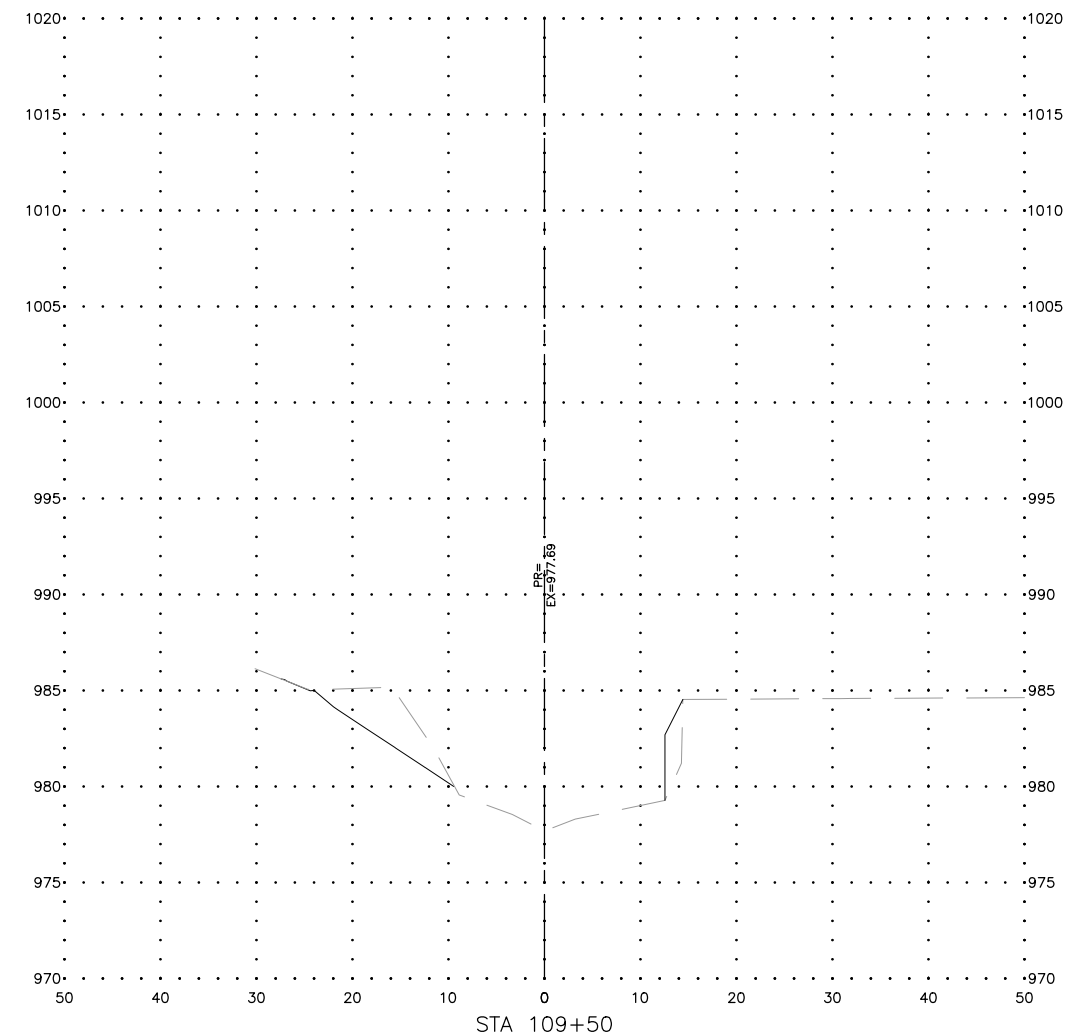
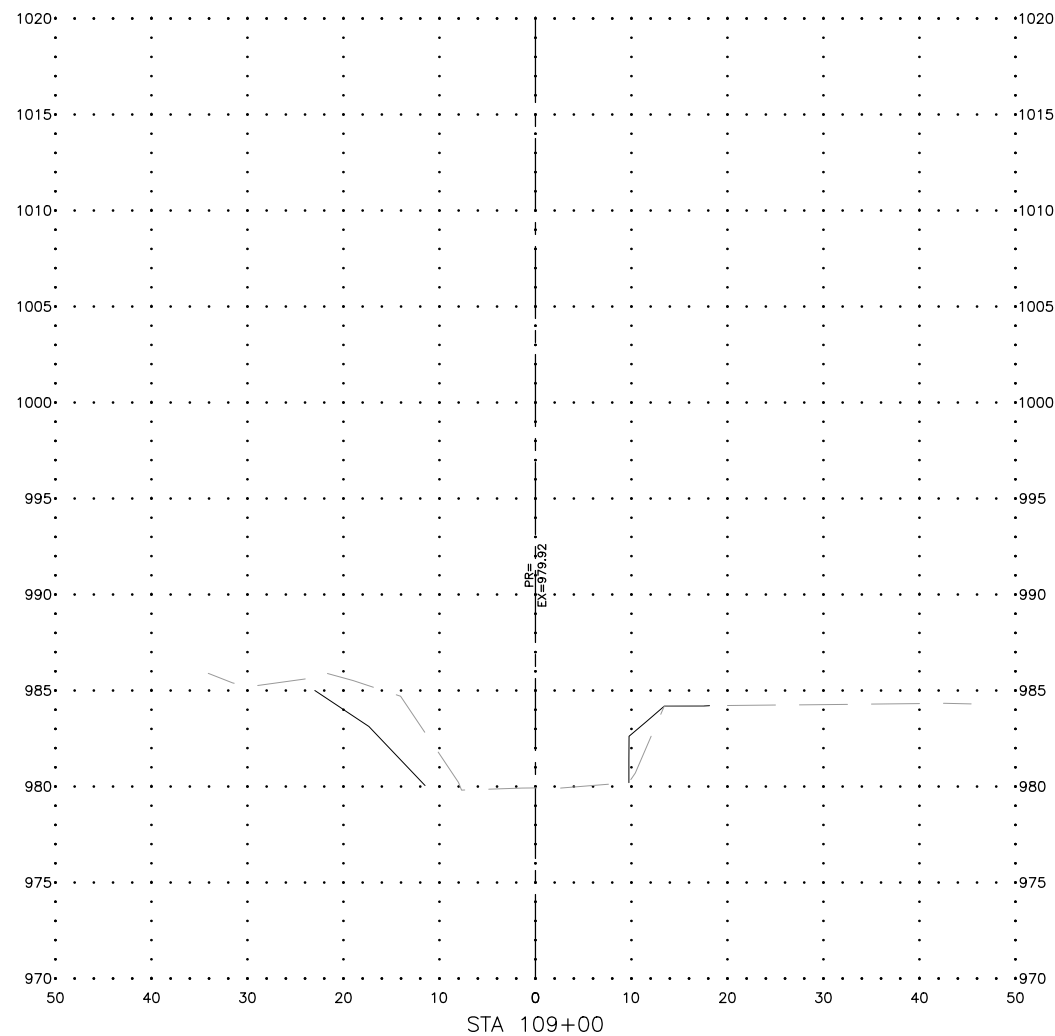
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ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
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STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
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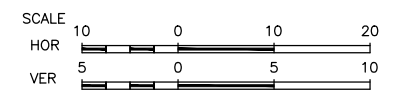
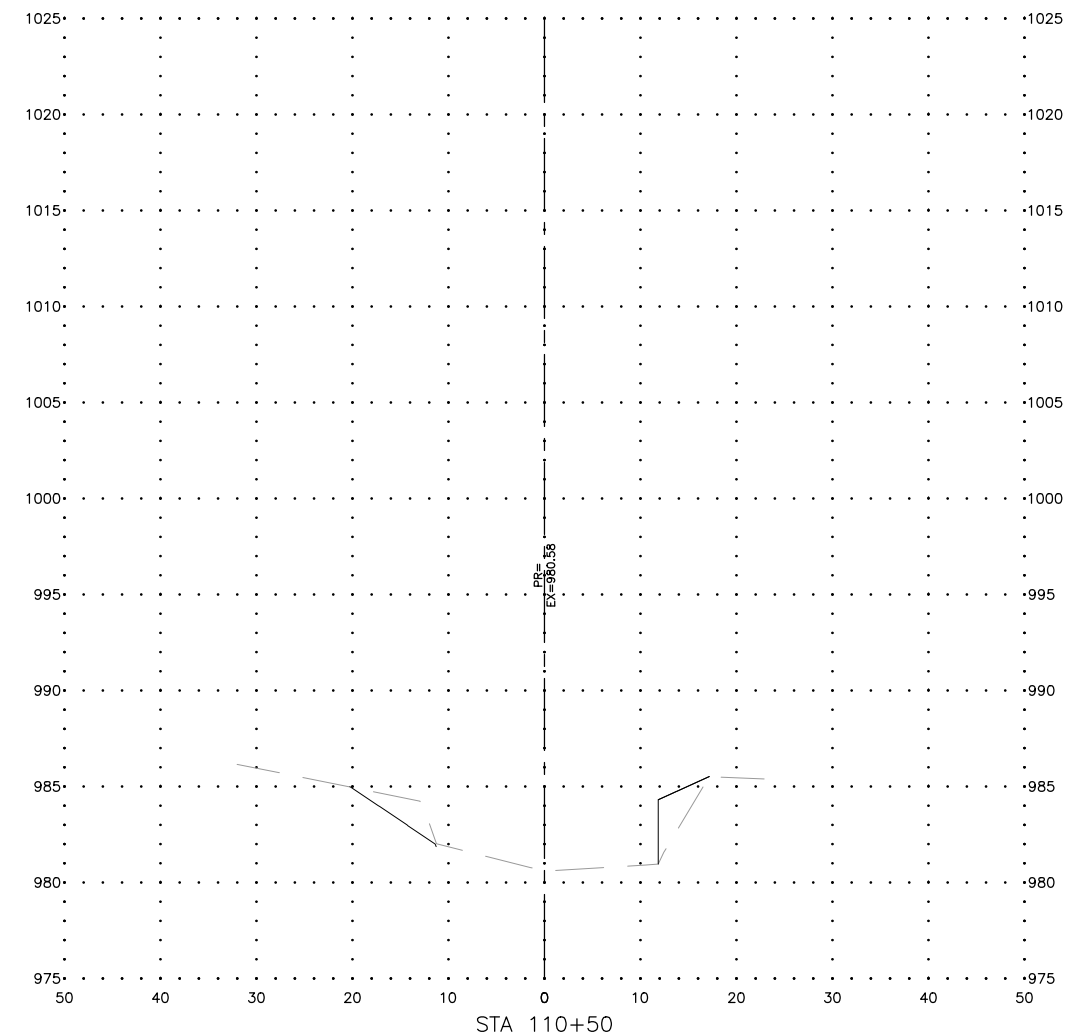
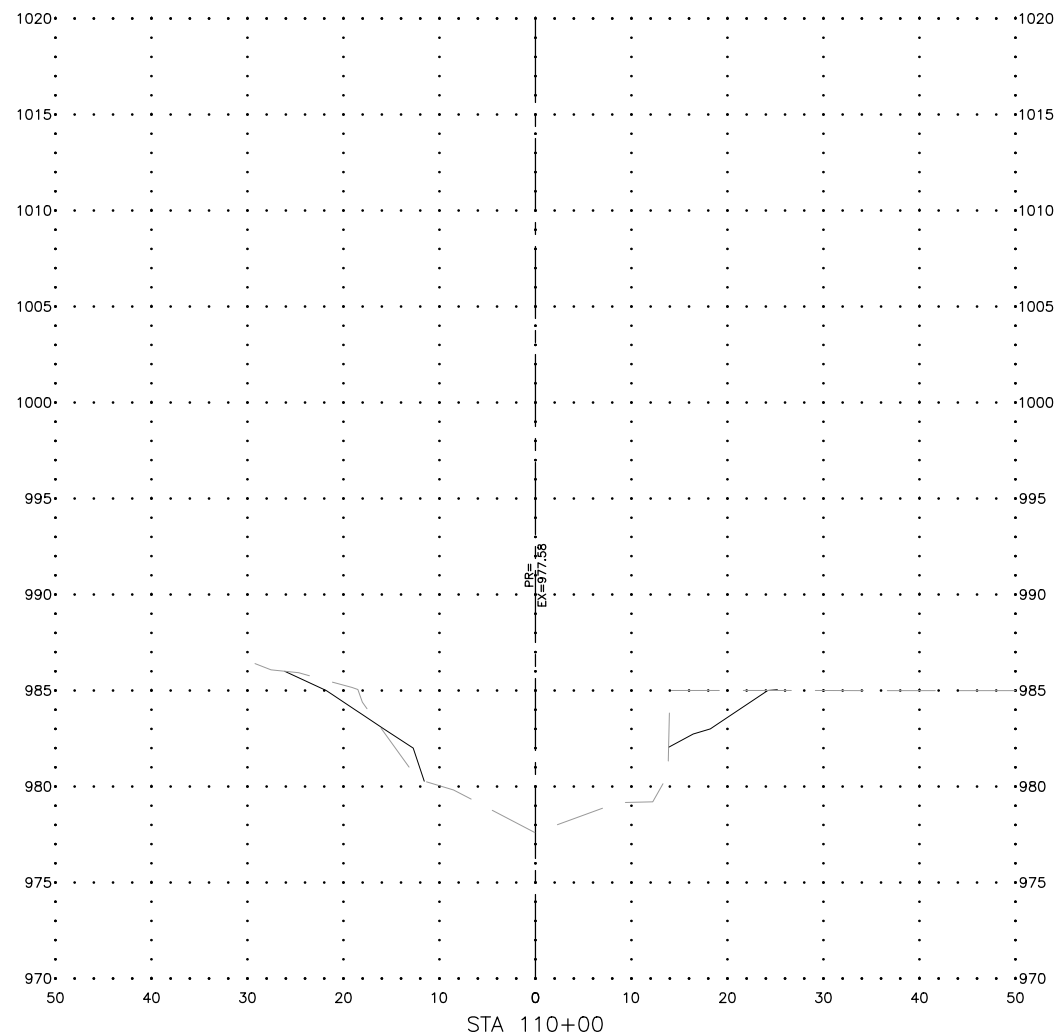
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ENGINEERING & ENVIRONMENTAL

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OWNER/DEVELOPER:

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MONROE, WISCONSIN, 53566

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MONROE, WISCONSIN

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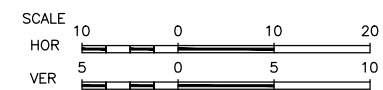
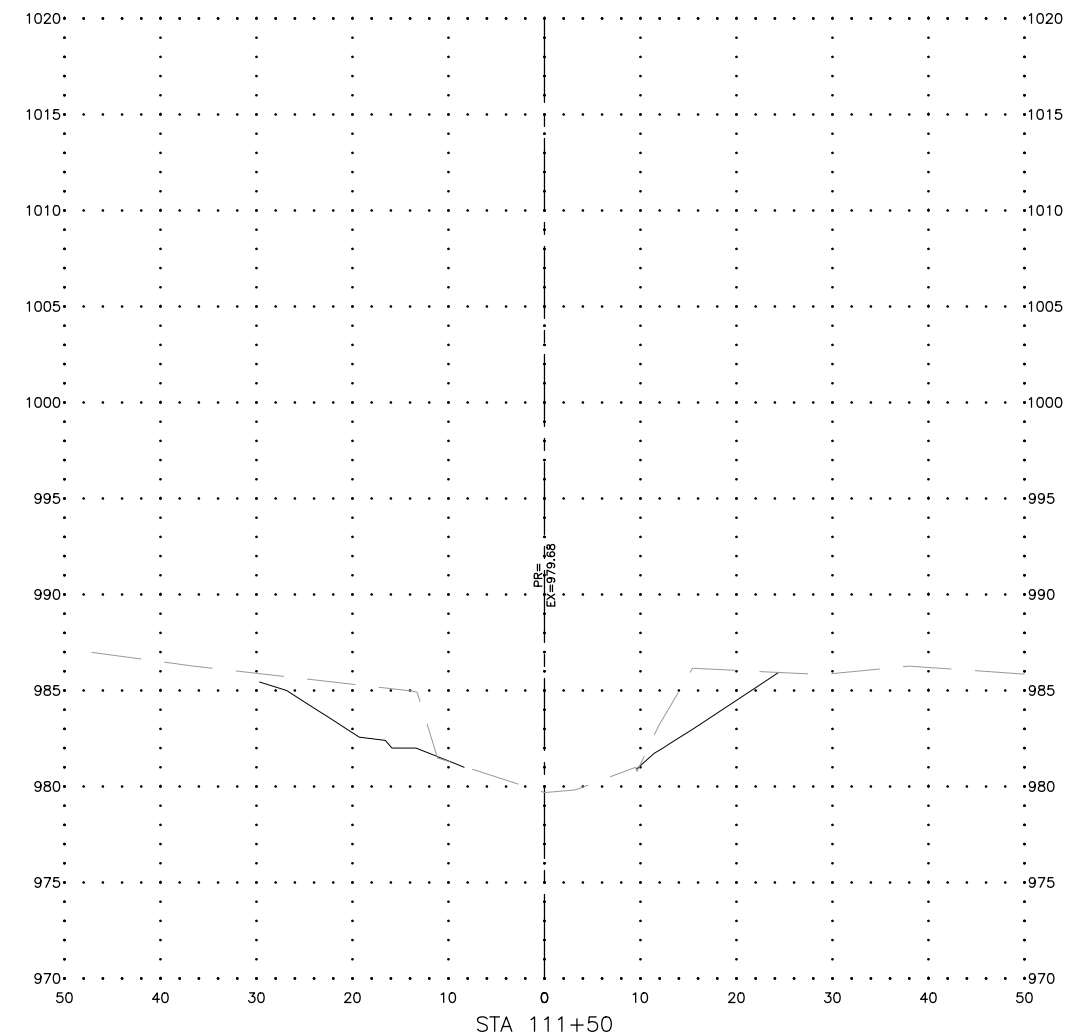
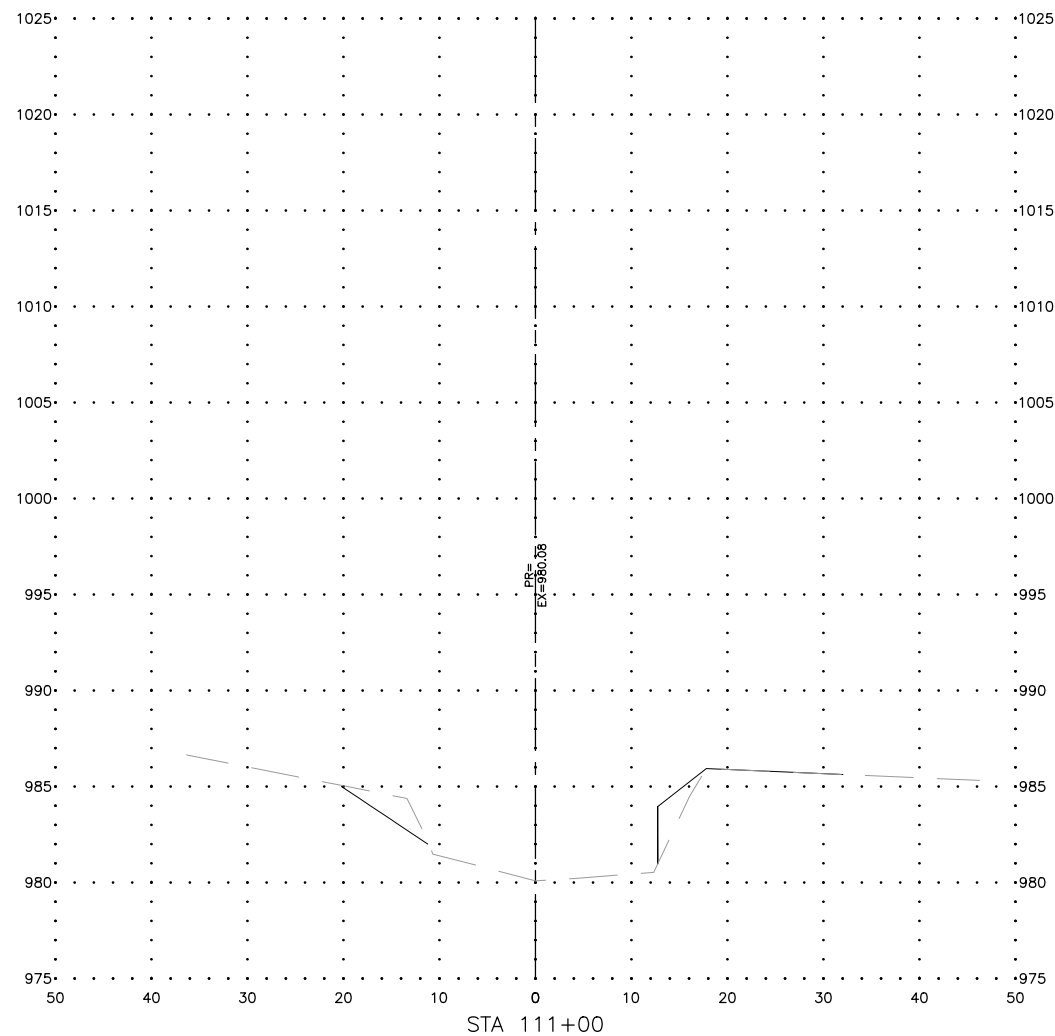
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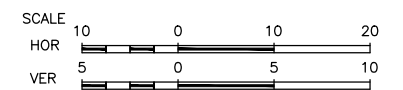
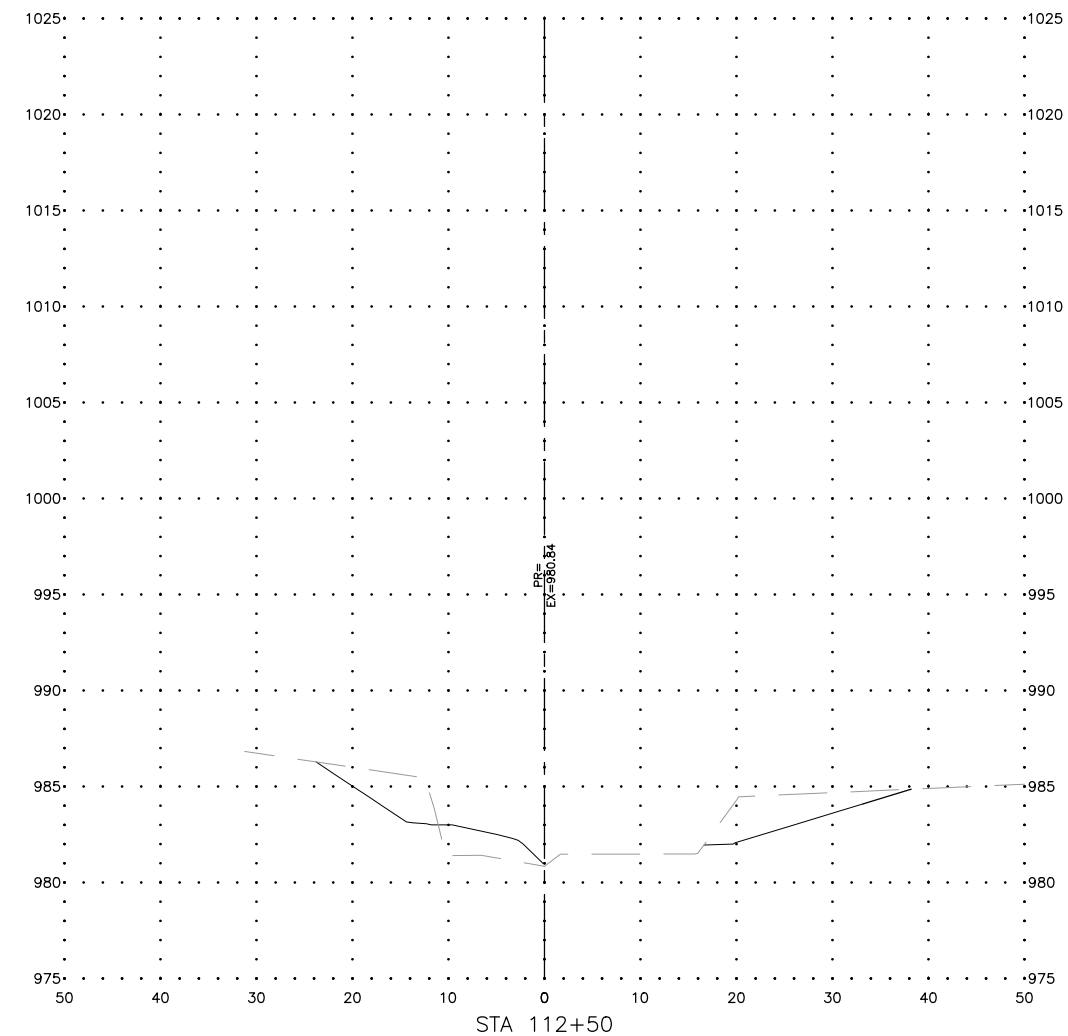
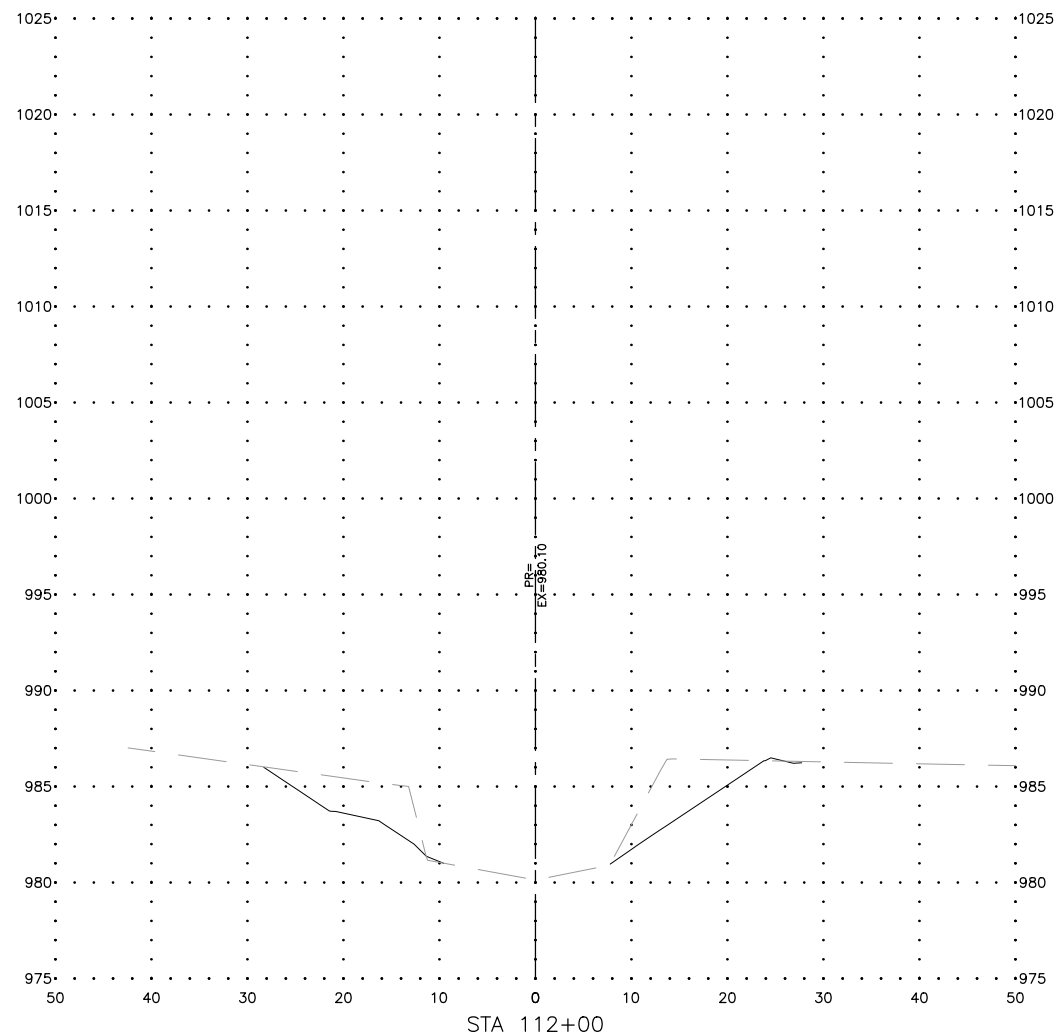
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ILLINOIS DESIGN FIRM NO. 184-003525

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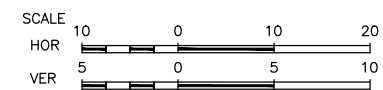
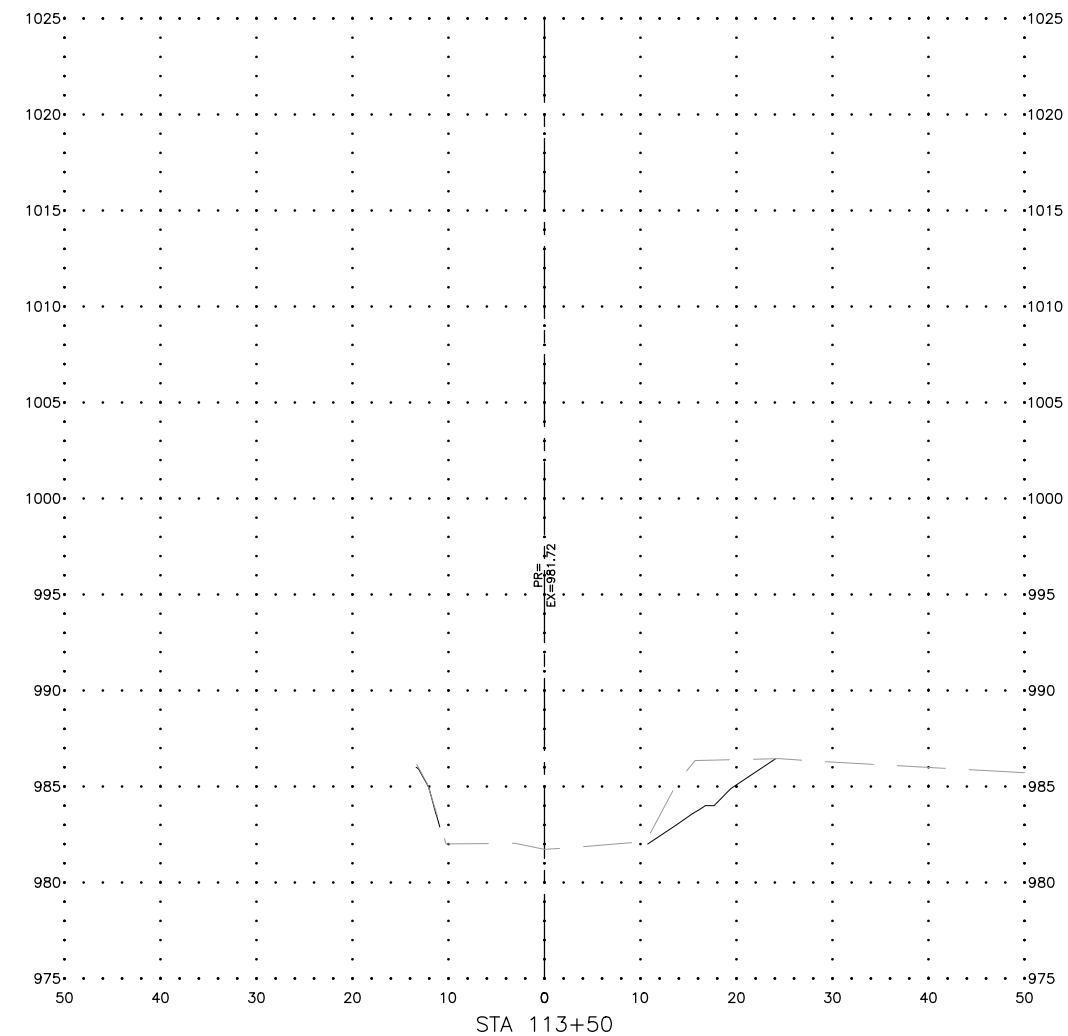
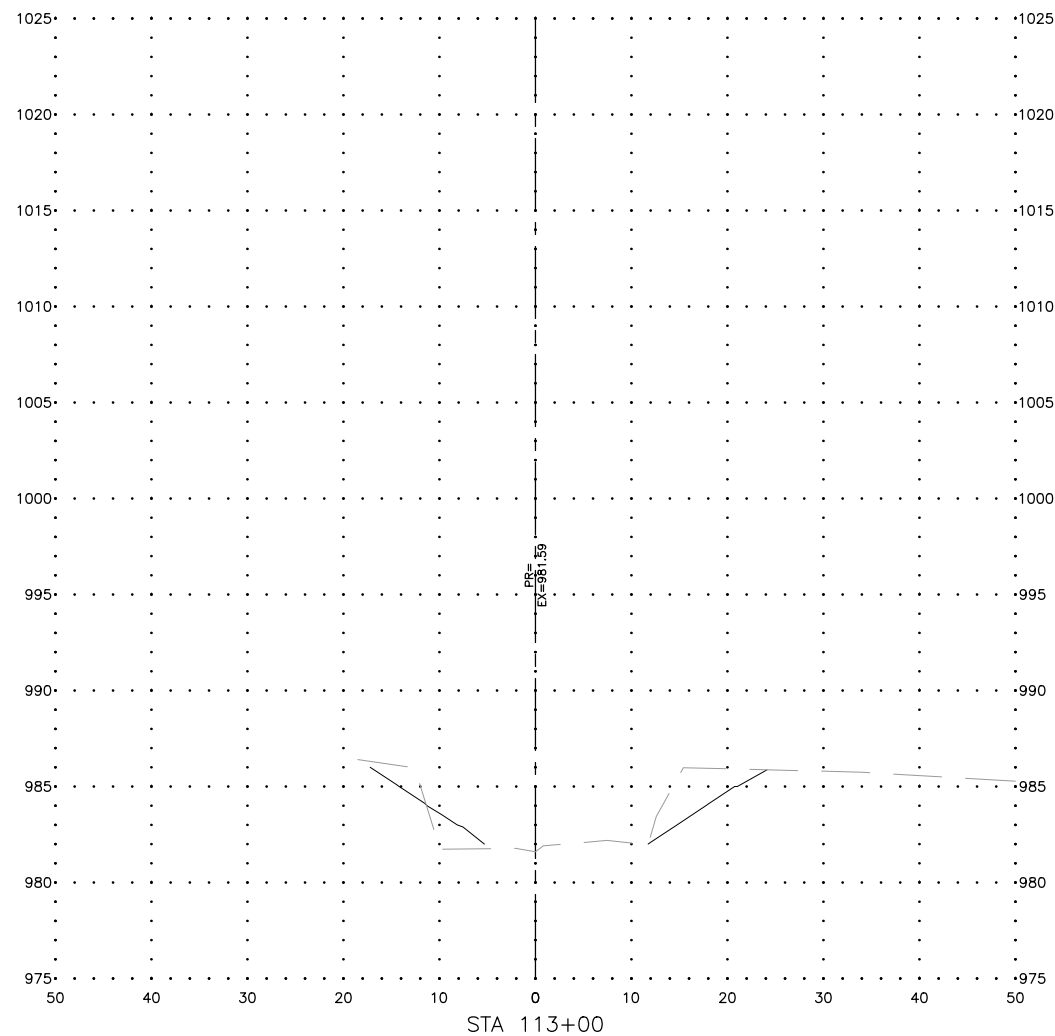
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ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
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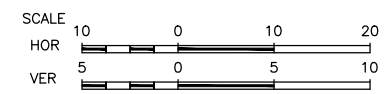
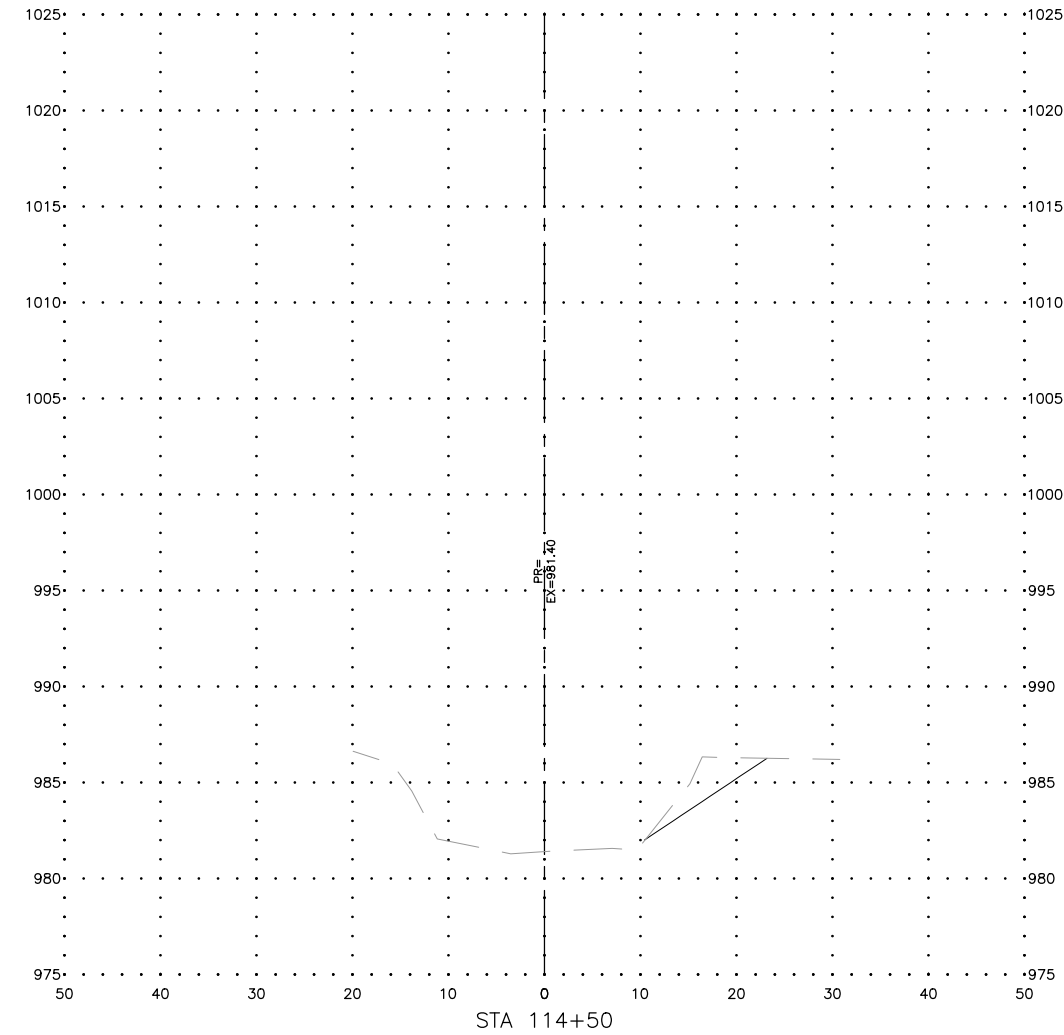
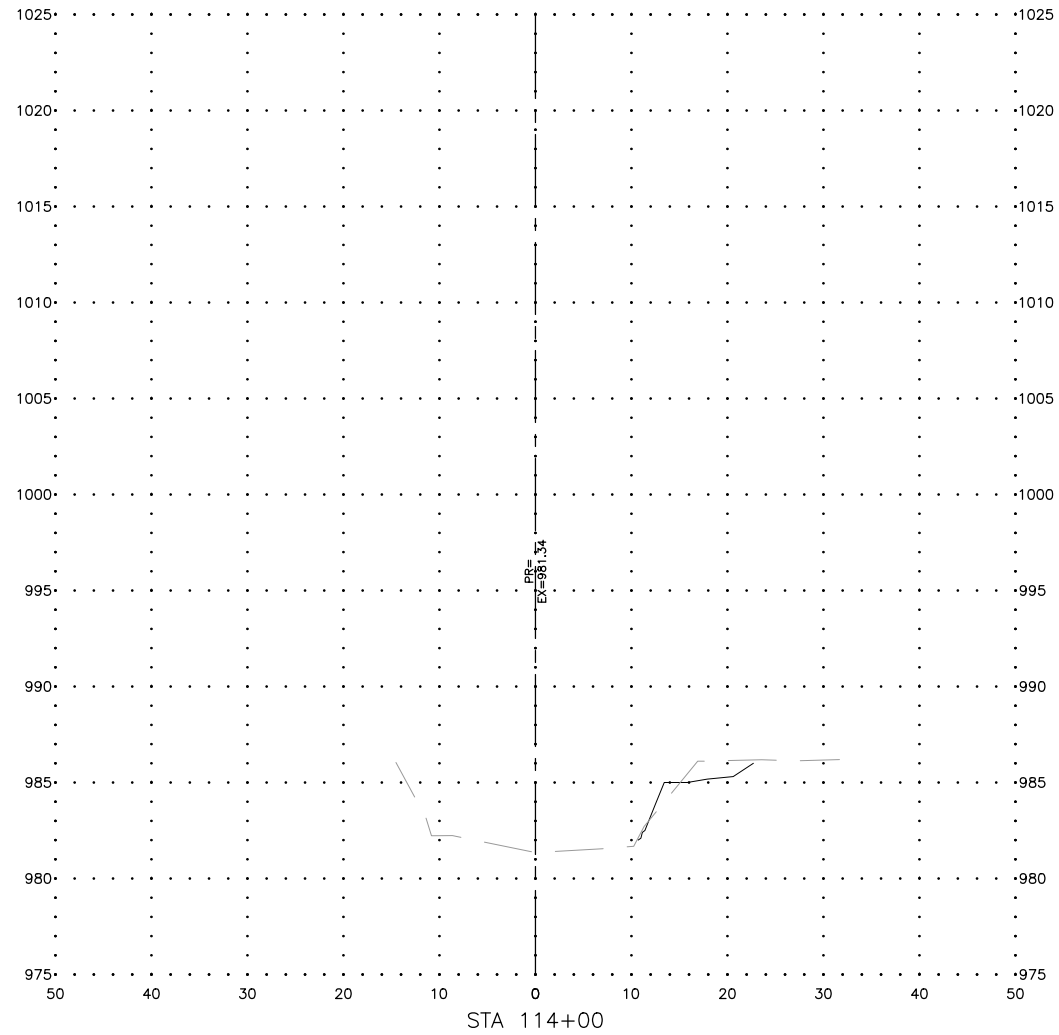
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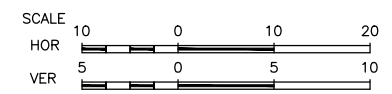
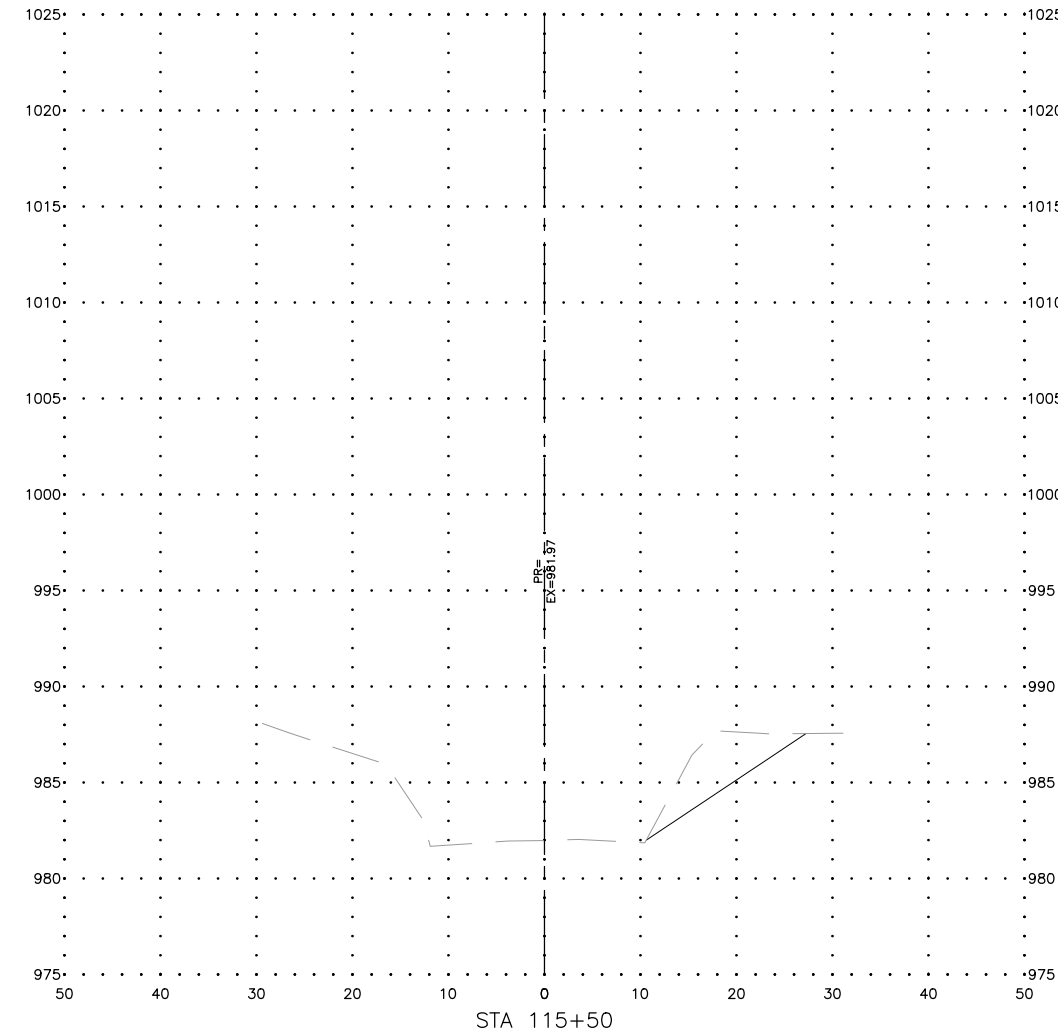
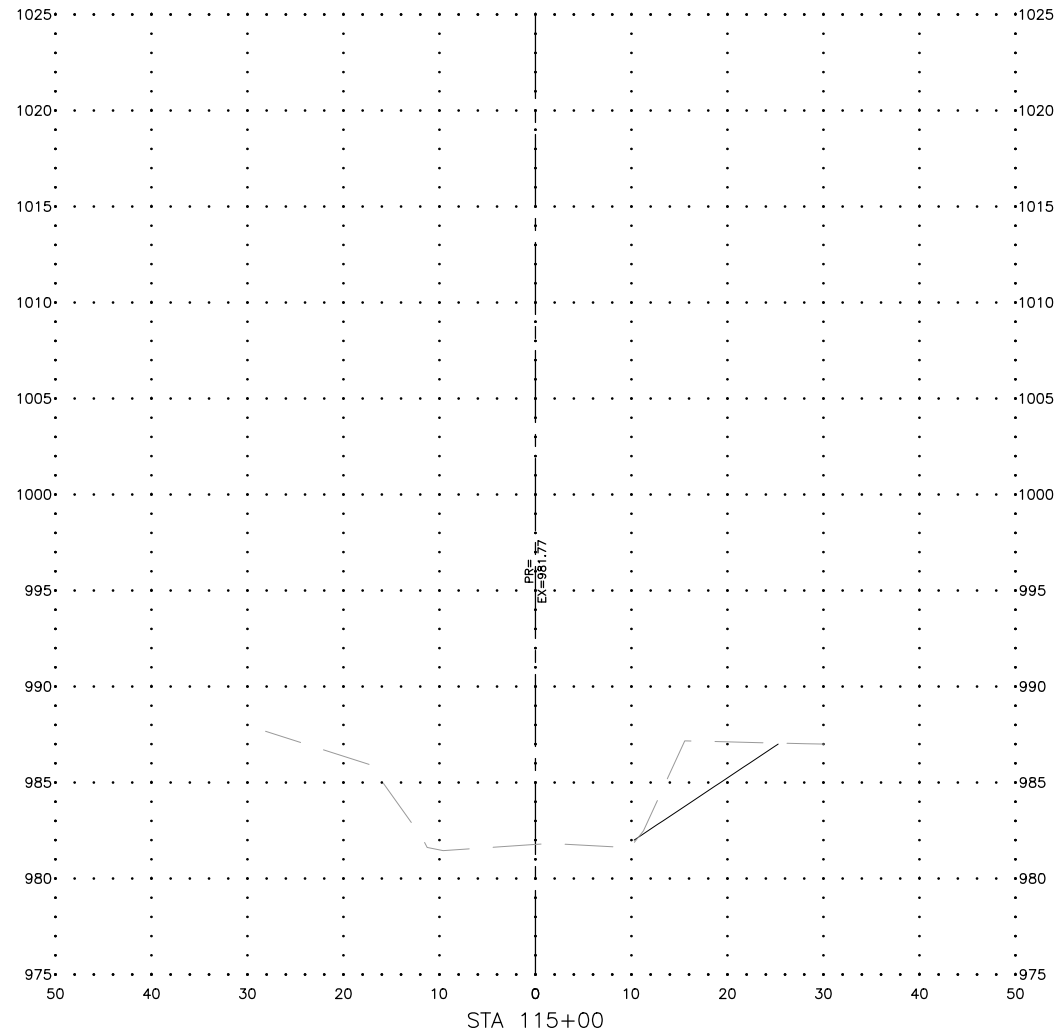
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ILLINOIS  
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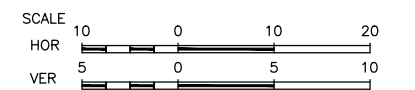
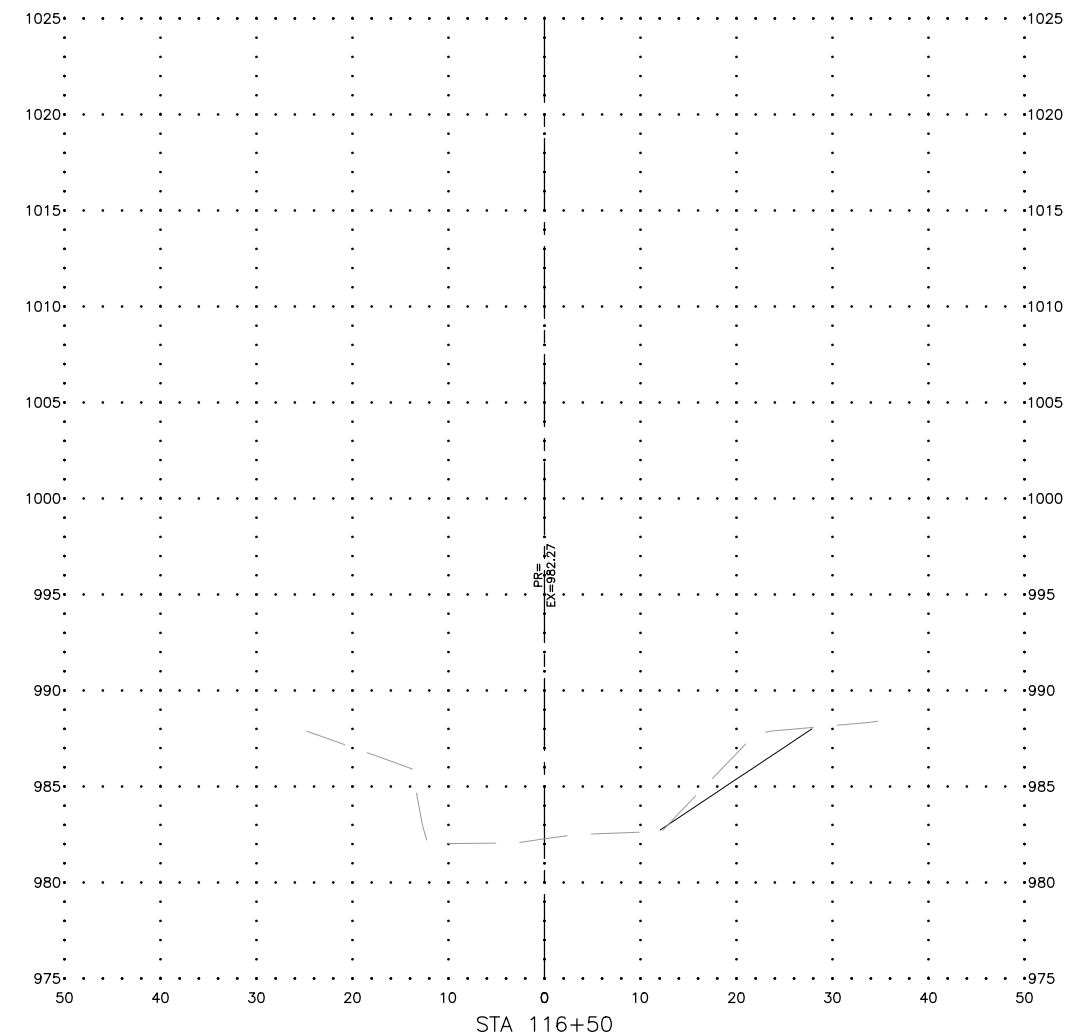
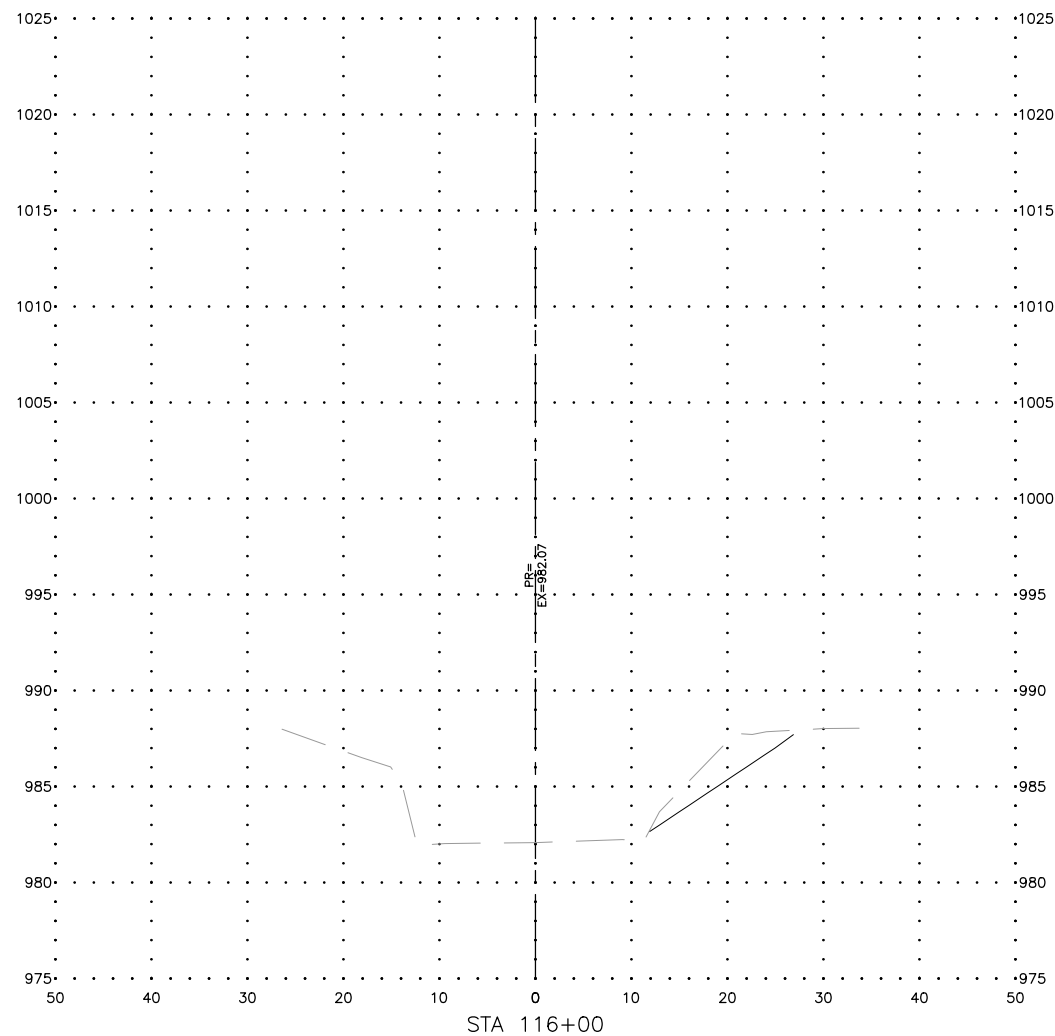
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ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
IOWA  
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OWNER/DEVELOPER:

CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

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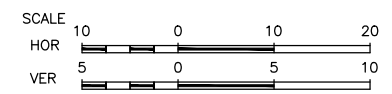
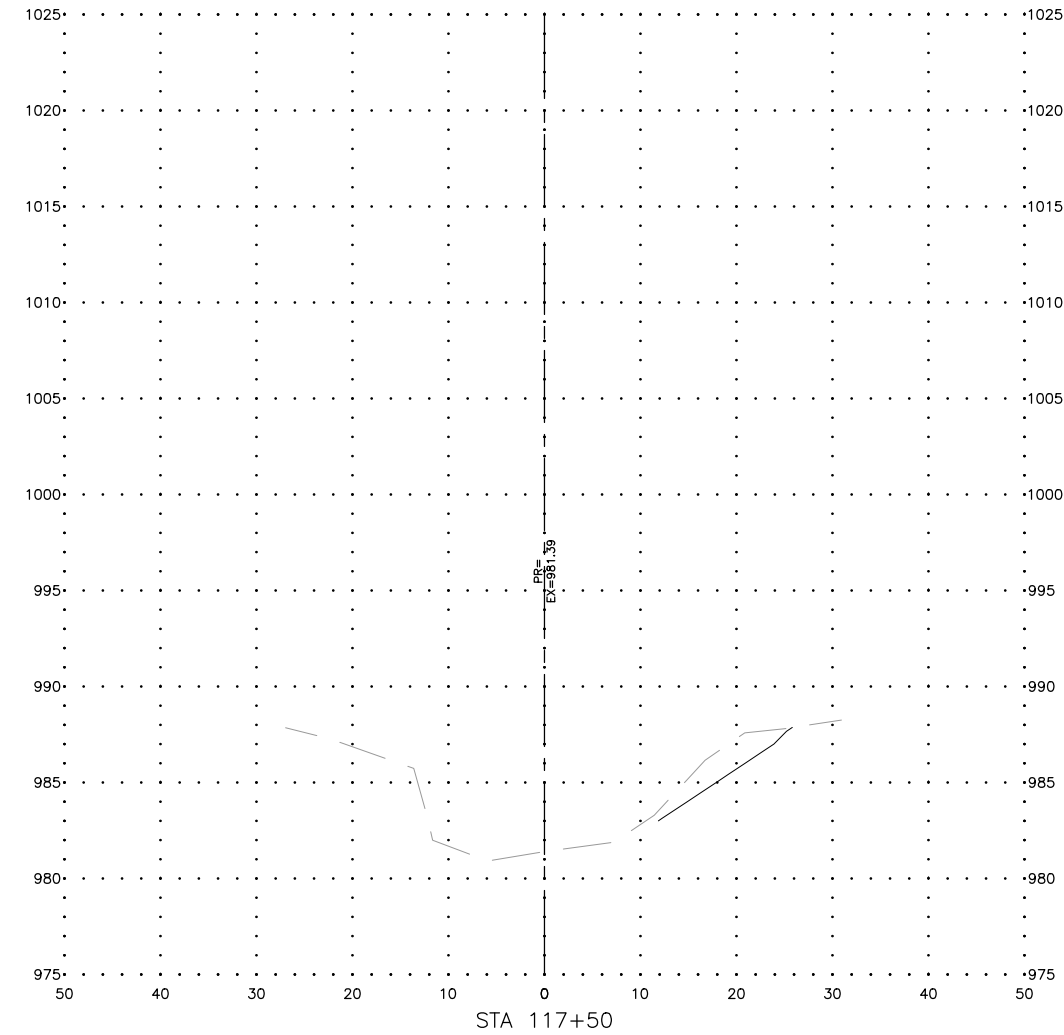
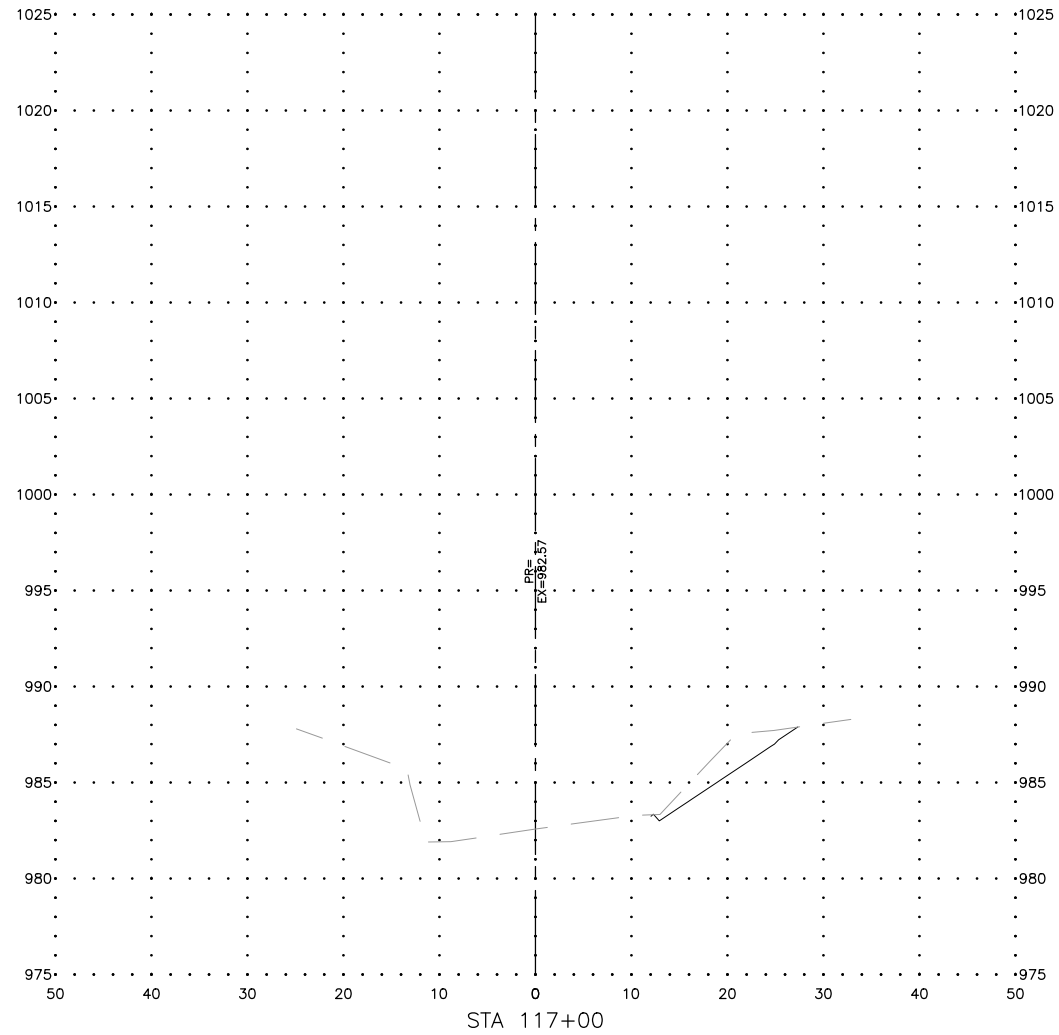
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**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

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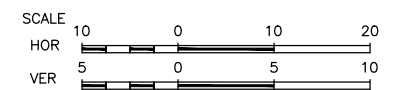
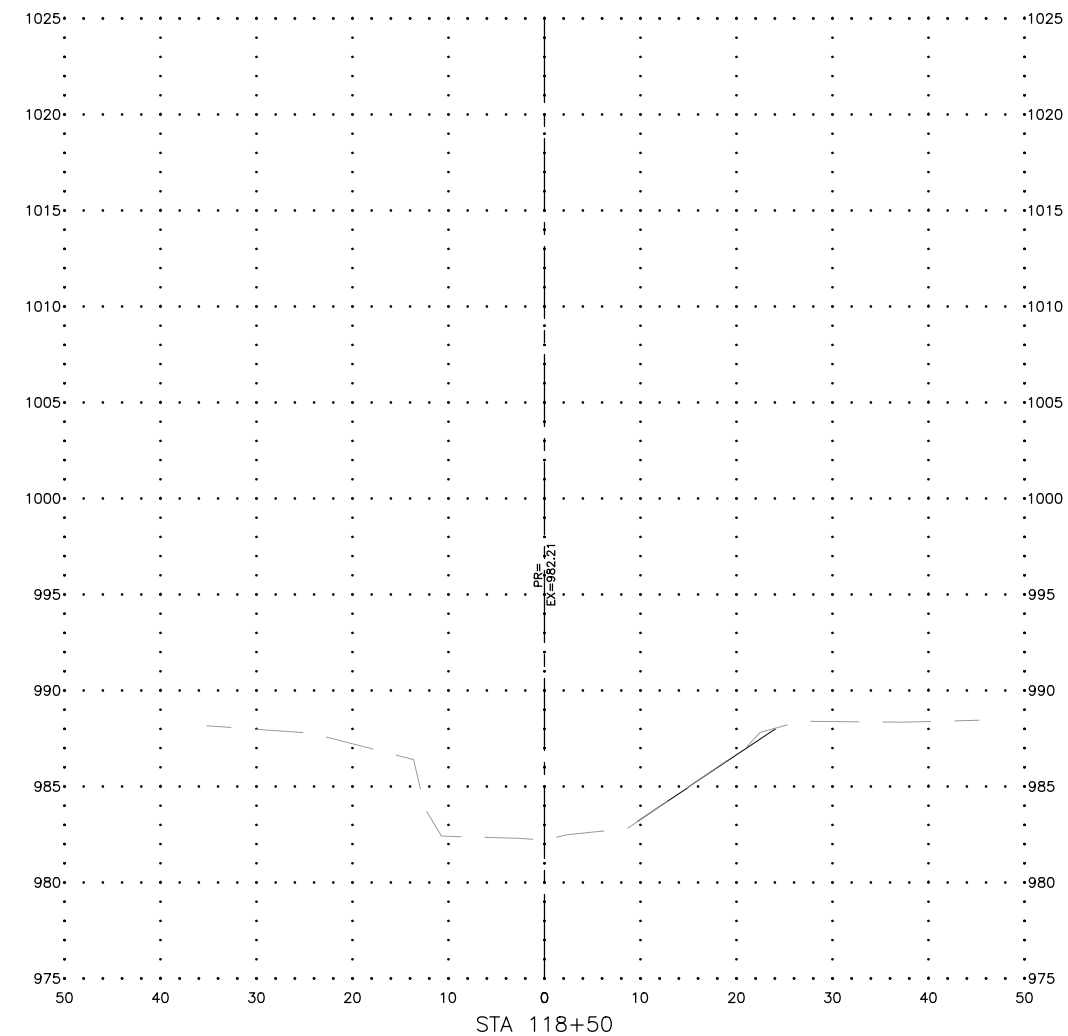
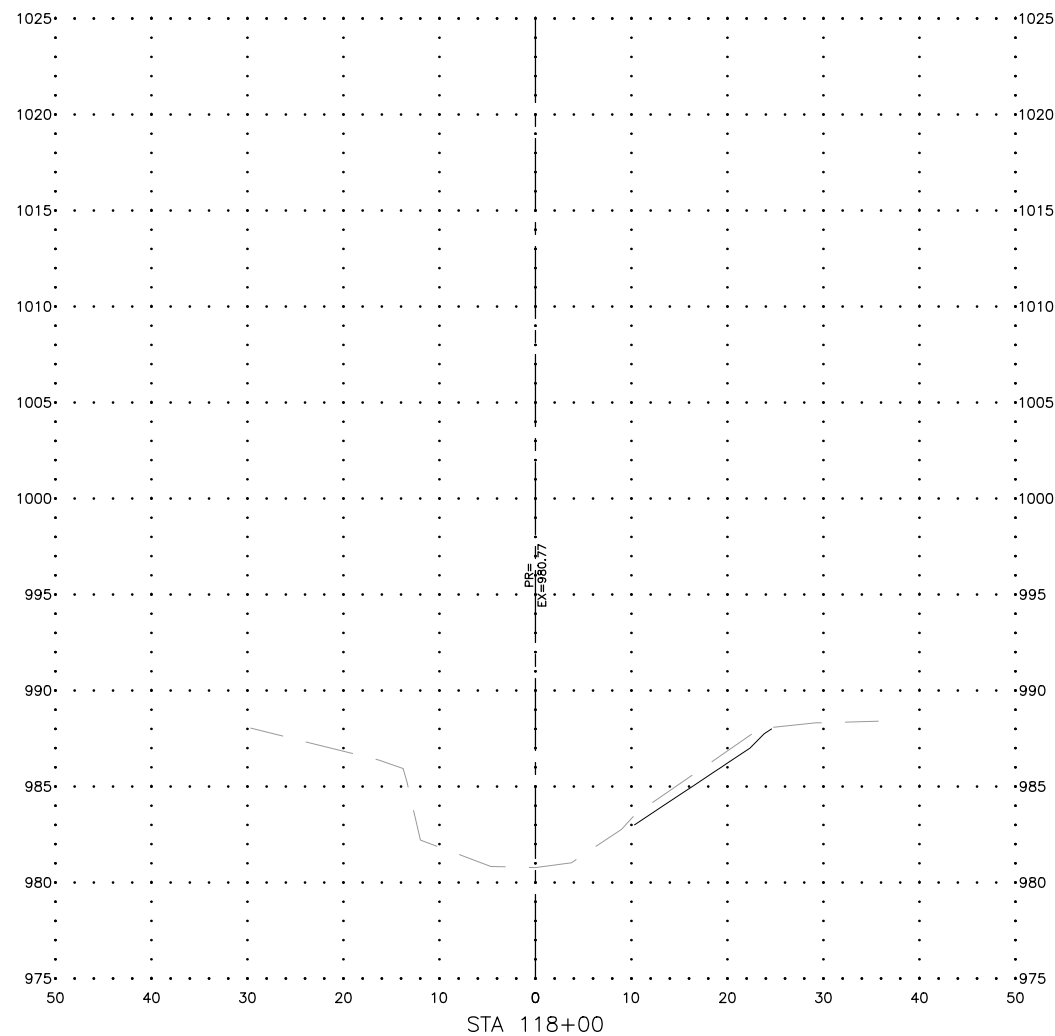
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ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS  
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OWNER/DEVELOPER:

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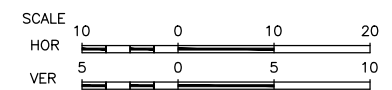
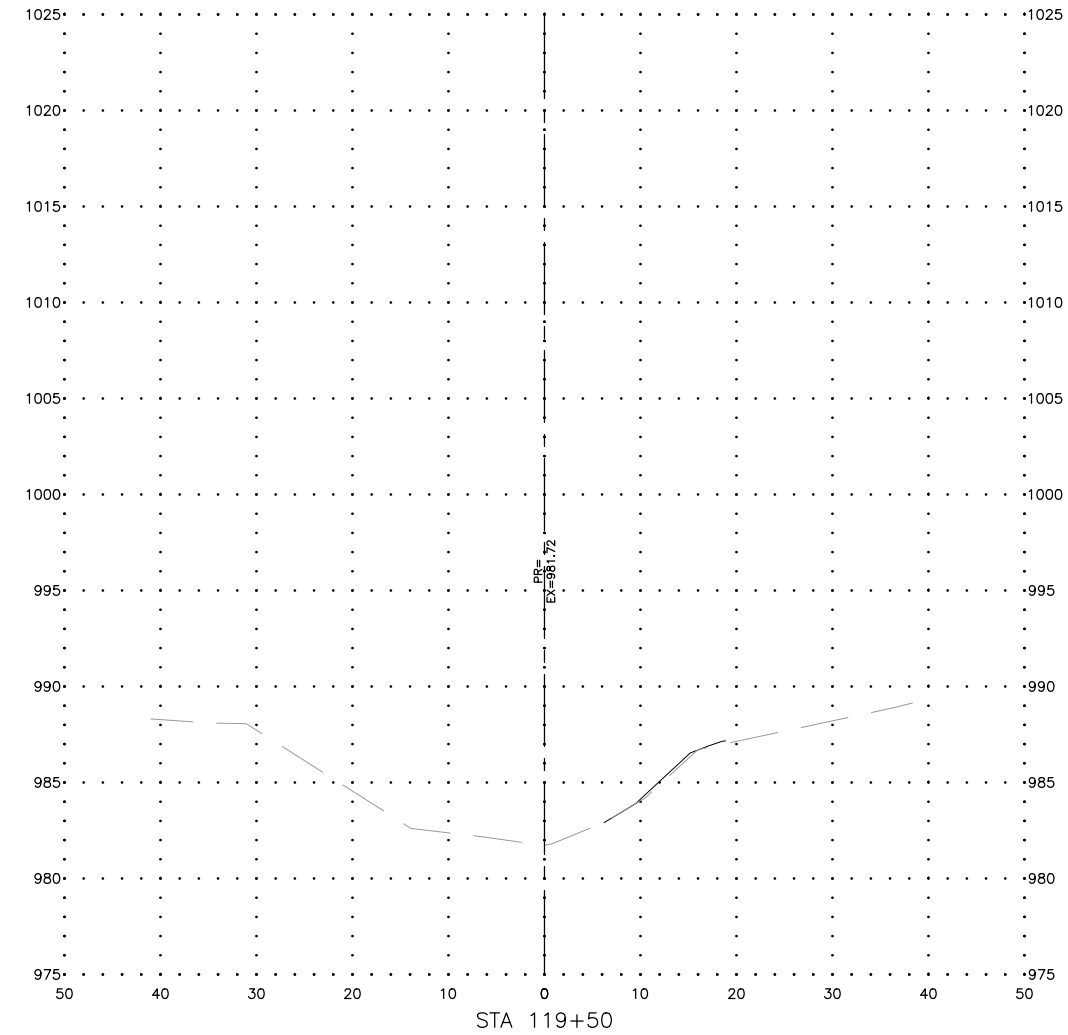
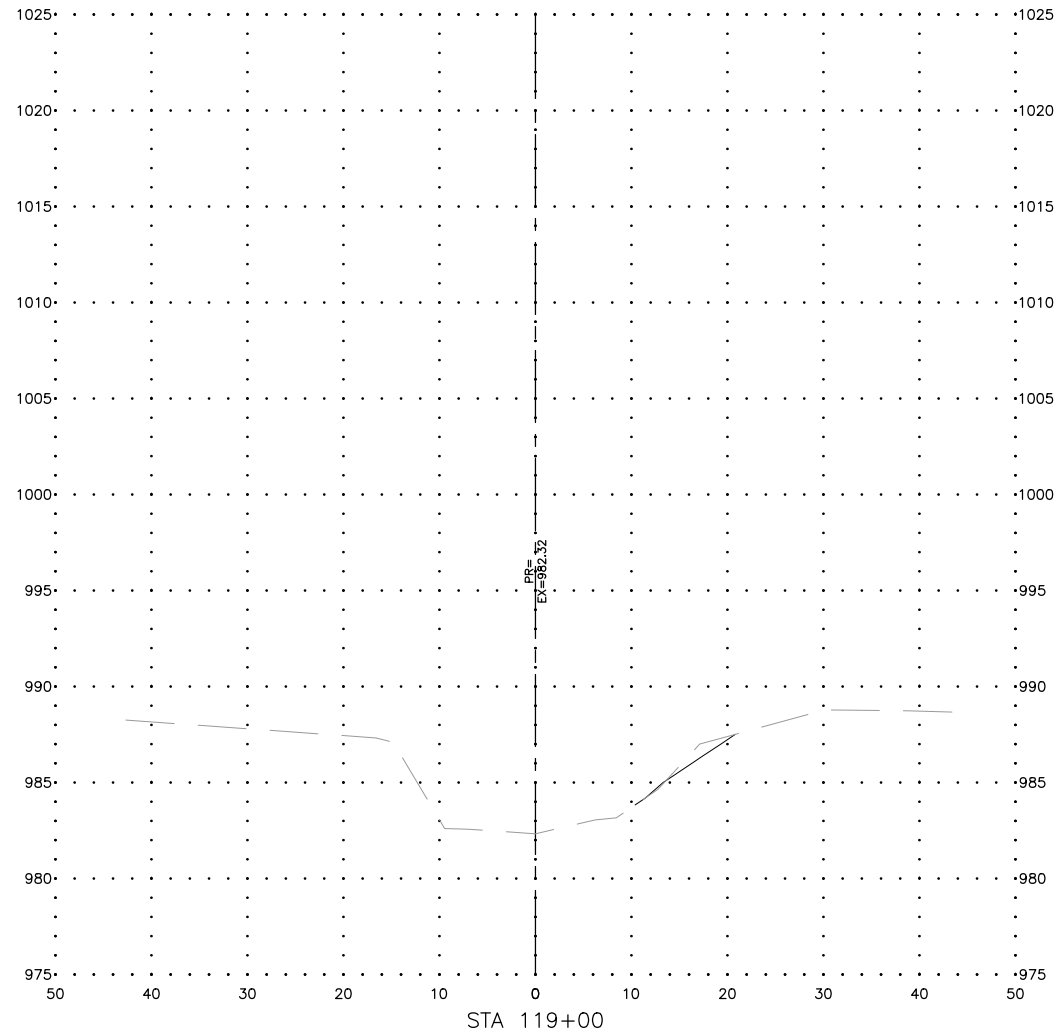
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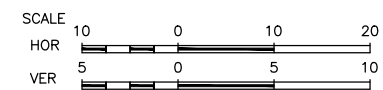
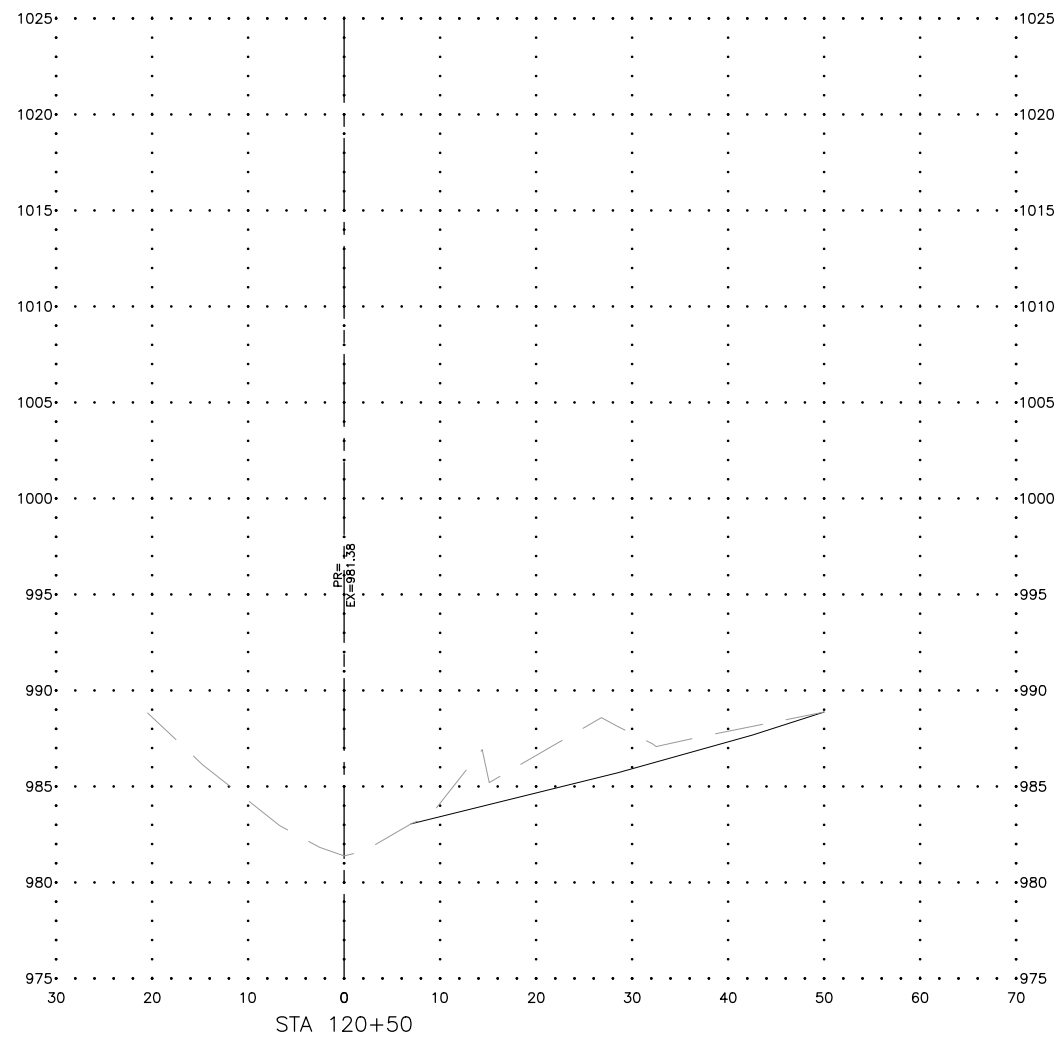
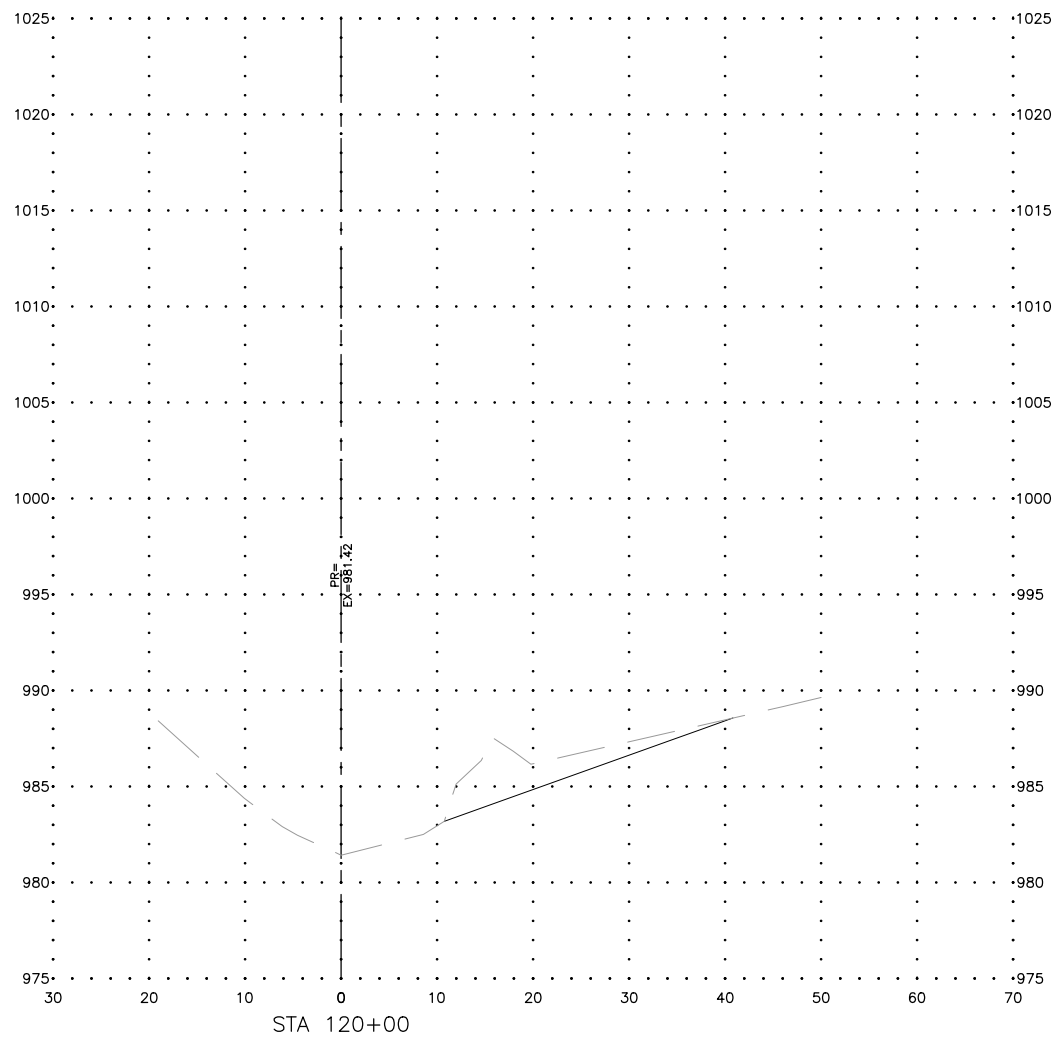
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ENGINEERING & ENVIRONMENTAL

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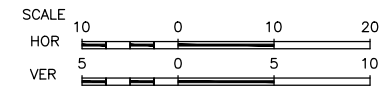
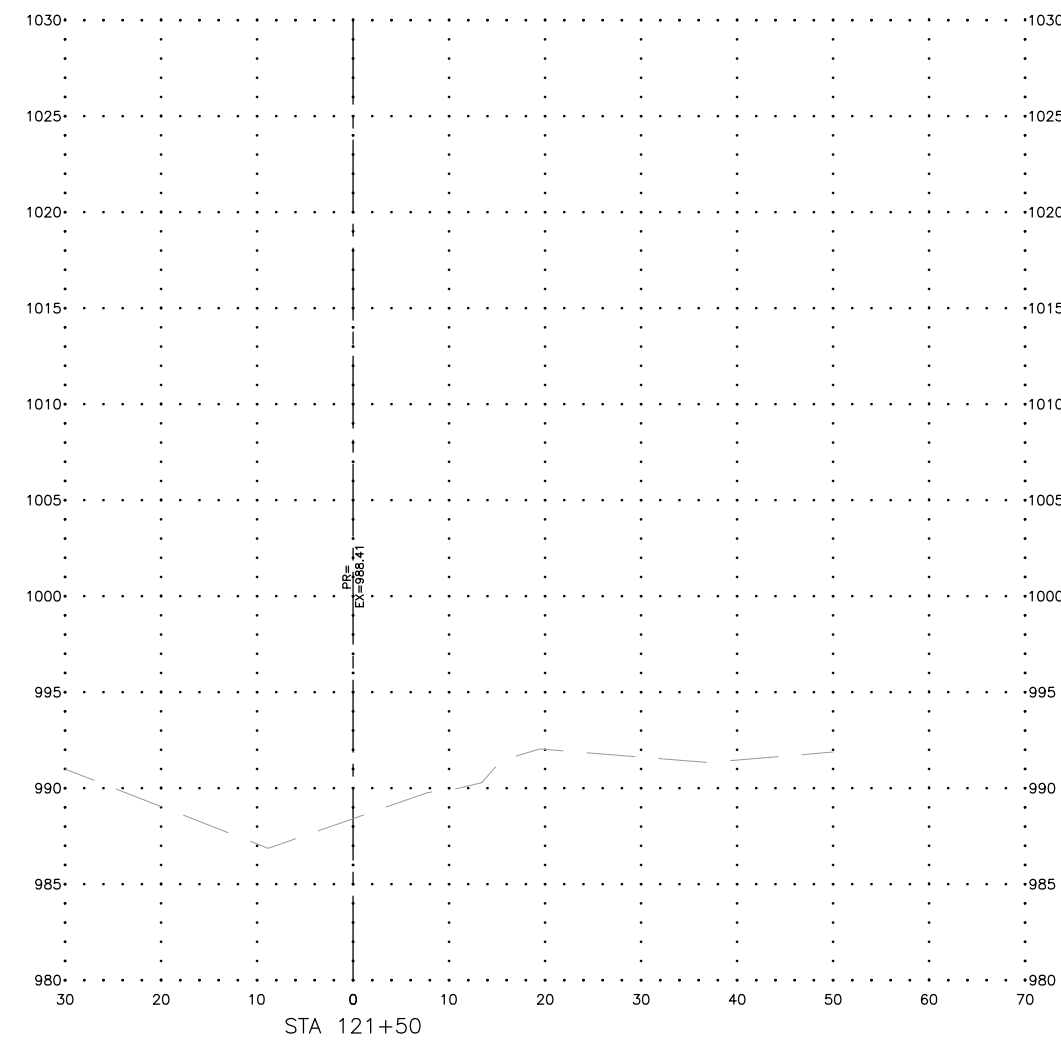
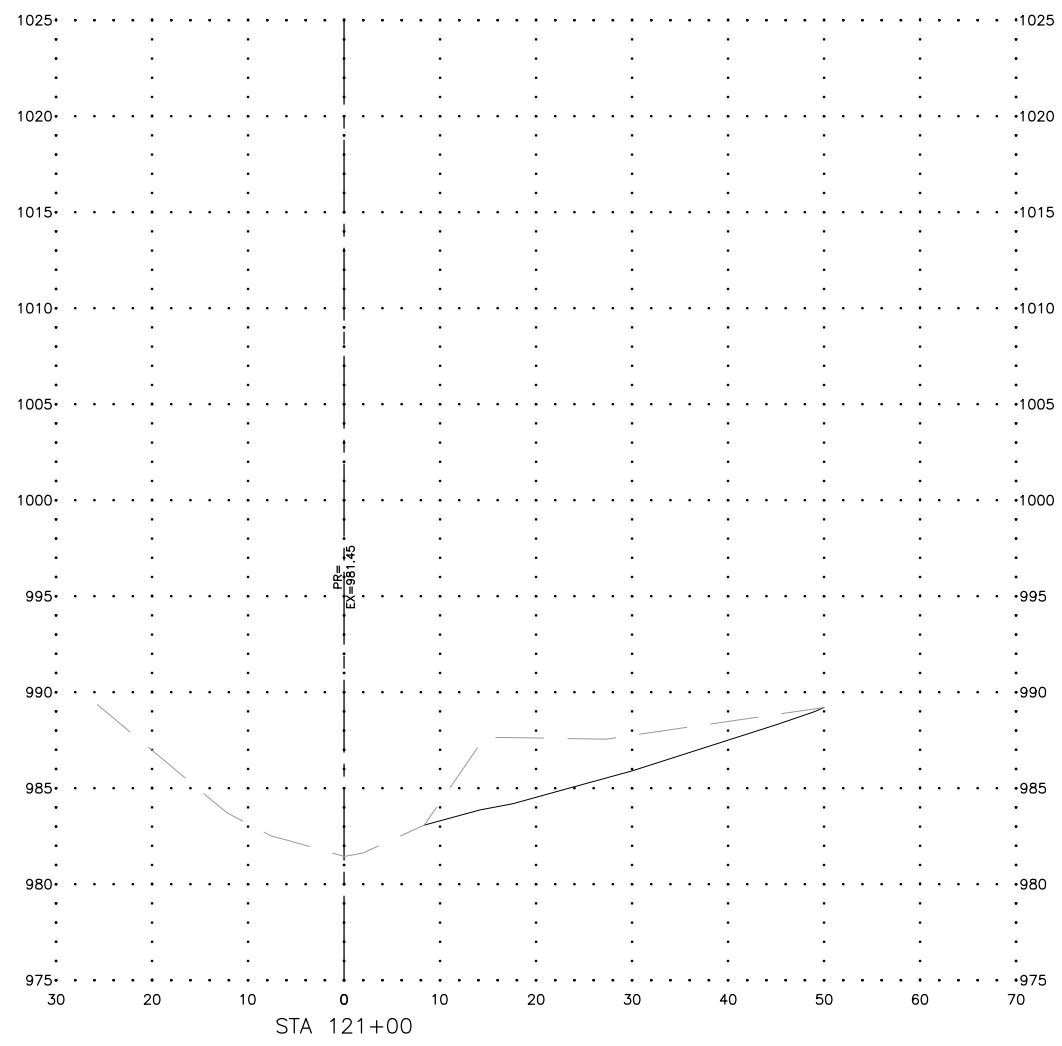
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ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS

IOWA

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OWNER/DEVELOPER:

CITY OF MONROE

1110 18TH AVENUE

MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:

HONEY CREEK STREAMBANK

STABILIZATION IMPROVEMENTS

MONROE, WISCONSIN

DRAWN BY: ARS

APPROVED BY: JWM

DATE: 02/11/2022

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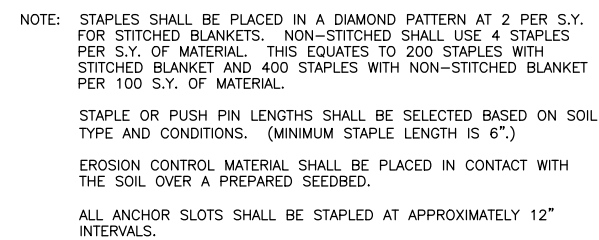
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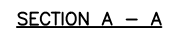
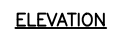
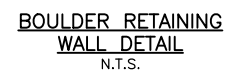
PLOT DATE: 2/11/22

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IOWA  
WISCONSIN



NOTE: INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION.  
GEOTEXTILE TO BE FASTENED SECURELY TO STAKES.

WHEN TWO SECTIONS OF GEOTEXTILE ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 18 to 60 INCHES AS SHOWN.

MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. COLLECTED MATERIAL SHALL BE REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE WITHOUT WIRE SUPPORT DETAIL  
N.T.S.

| REVISIONS |             |      |
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DRAWING:  
DETAILS 1

SET TYPE: PERMIT SET  
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DB NUMBER:

21-635

SHEET NUMBER:

9 of 59

NRCS Streambank and Irrigation Ditch Erosion Estimator (Direct Volume Method)

Farmer / Cooperator Name:

City of Monroe

Tract Number:

Evaluated By:

JBB

Evaluation Date:

March 7, 2022

| Eroding Strmbnk Reach #;<br>or Ditch Side/Bottom | Eroding Bank or Ditch Length (Feet) | Eroding Bank Height; or Ditch Bottom Width* (Feet) | Area of Eroding Strmbank or Ditch (FT <sup>2</sup> )                 | Lateral or Ditch Bottom Recession Rate (Estimated) (FT / Year) | Estimated Volume (FT <sup>3</sup> ) Eroded Annually | Soil Texture | Approximate Pounds of Soil per FT <sup>3</sup> | Estimated Soil Loss (Tons/Year) | Percentage P ( %) | Tons/Year Phosphorus |
|--------------------------------------------------|-------------------------------------|----------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------|--------------|------------------------------------------------|---------------------------------|-------------------|----------------------|
| 1                                                | 350.0                               | 5.1                                                | 1,789                                                                | 0.15                                                           | 268.3                                               | Silt Loam    | 85                                             | 11.4                            | 0.07              | 0.0079812            |
| 2                                                | 300.0                               | 5.9                                                | 1,782                                                                | 0.20                                                           | 356.4                                               | Silt Loam    | 85                                             | 15.1                            | 0.06              | 0.0090882            |
| 3                                                | 170.0                               | 8.2                                                | 1,397                                                                | 0.15                                                           | 209.6                                               | Silt Loam    | 85                                             | 8.9                             | 0.07              | 0.0062359            |
| 4                                                | 250.0                               | 6.3                                                | 1,575                                                                | 0.30                                                           | 472.5                                               | Silt Loam    | 85                                             | 20.1                            | 0.07              | 0.0140569            |
| 5A                                               | 95.0                                | 6.6                                                | 627                                                                  | 0.30                                                           | 188.1                                               | Silt Loam    | 85                                             | 8.0                             | 0.08              | 0.0063954            |
| 5B                                               | 55.0                                | 13.9                                               | 765                                                                  | 0.30                                                           | 229.4                                               | Silt Loam    | 85                                             | 9.7                             | 0.08              | 0.0077979            |
| 6                                                | 205.0                               | 7.0                                                | 1,435                                                                | 0.30                                                           | 430.5                                               | Silt Loam    | 85                                             | 18.3                            | 0.06              | 0.0109778            |
| 7                                                | 267.0                               | 7.7                                                | 2,048                                                                | 0.20                                                           | 409.6                                               | Silt Loam    | 85                                             | 17.4                            | 0.08              | 0.0139257            |
| 8                                                | 500.0                               | 5.3                                                | 2,635                                                                | 0.15                                                           | 395.3                                               | Silt Loam    | 85                                             | 16.8                            | 0.05              | 0.0083991            |
| 9                                                | 525.0                               | 6.3                                                | 3,308                                                                | 0.30                                                           | 992.3                                               | Silt Loam    | 85                                             | 42.2                            | 0.06              | 0.0253024            |
| 10A                                              | 150.0                               | 10.9                                               | 1,635                                                                | 0.30                                                           | 490.5                                               | Silt Loam    | 85                                             | 20.8                            | 0.06              | 0.0125078            |
| 10B                                              | 150.0                               | 7.7                                                | 1,151                                                                | 0.30                                                           | 345.2                                               | Silt Loam    | 85                                             | 14.7                            | 0.06              | 0.0088013            |
| 11                                               | 250.0                               | 11.6                                               | 2,905                                                                | 0.15                                                           | 435.8                                               | Silt Loam    | 85                                             | 18.5                            | 0.06              | 0.0111116            |
| 12A                                              | 150.0                               | 8.1                                                | 1,215                                                                | 0.20                                                           | 243.0                                               | Silt Loam    | 85                                             | 10.3                            | 0.06              | 0.0061965            |
| 12B                                              | 25.0                                | 19.8                                               | 494                                                                  | 0.30                                                           | 148.1                                               | Silt Loam    | 85                                             | 6.3                             | 0.06              | 0.0037772            |
| 13                                               | 61.0                                | 7.8                                                | 473                                                                  | 0.15                                                           | 70.9                                                | Silt Loam    | 85                                             | 3.0                             | 0.06              | 0.0018083            |
| 3,503.0                                          |                                     |                                                    | Total Estimated Annual Streambank or Ditch Erosion Soil Loss (Tons): |                                                                |                                                     |              |                                                | 241.6                           |                   |                      |
|                                                  |                                     |                                                    | Total Estimated Annual Streambank or Ditch Erosion Soil Loss (Tons): |                                                                |                                                     |              |                                                |                                 |                   | 0.1544               |

\* Eroding bank height is measured along the bank, not the vertical height of bank.

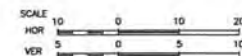
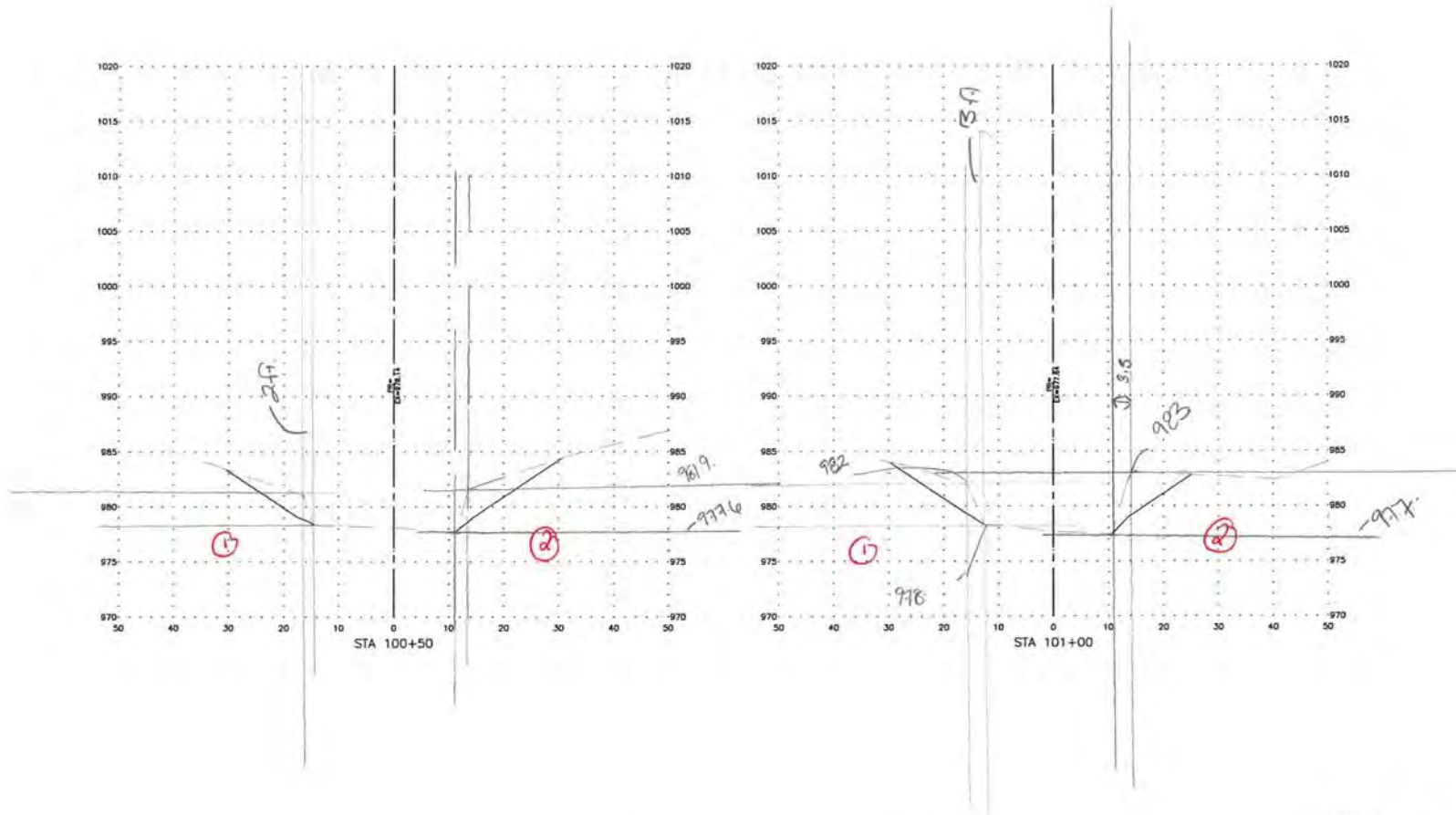
Eroding Bank/Ditch Length X Eroding Bank Ht or Ditch Bottom Width X Lateral or Ditch Bottom Recession Rate (FT/YR) X Soil Weight (lbs/ft<sup>3</sup>)

2000

Estimated Soil Loss = Per Year (Tons)

Estimated Phosphorus Loss (lbs) = 308.73

WQT (TR= 3) = 102.91



**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

DRAWN/DEVELOPED:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53556

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

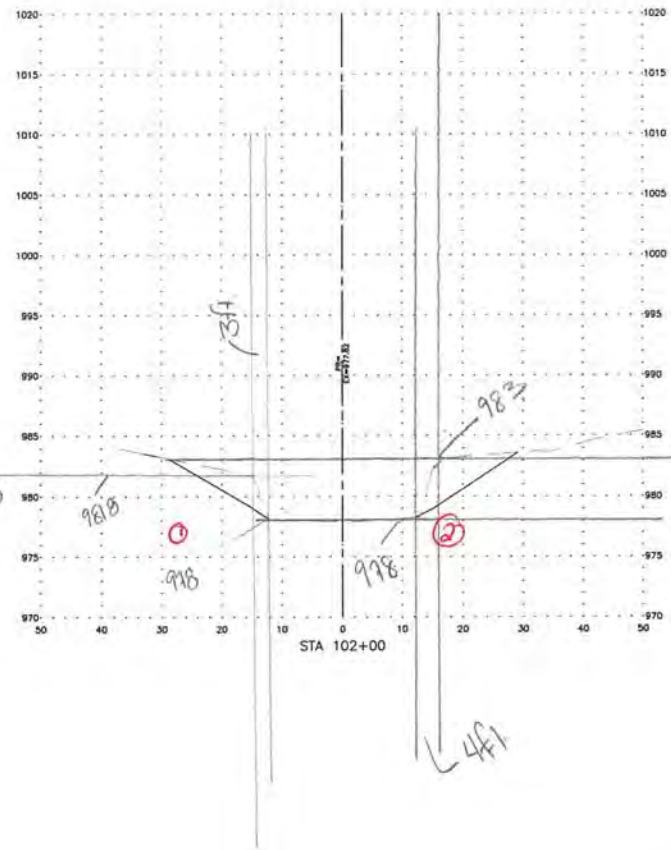
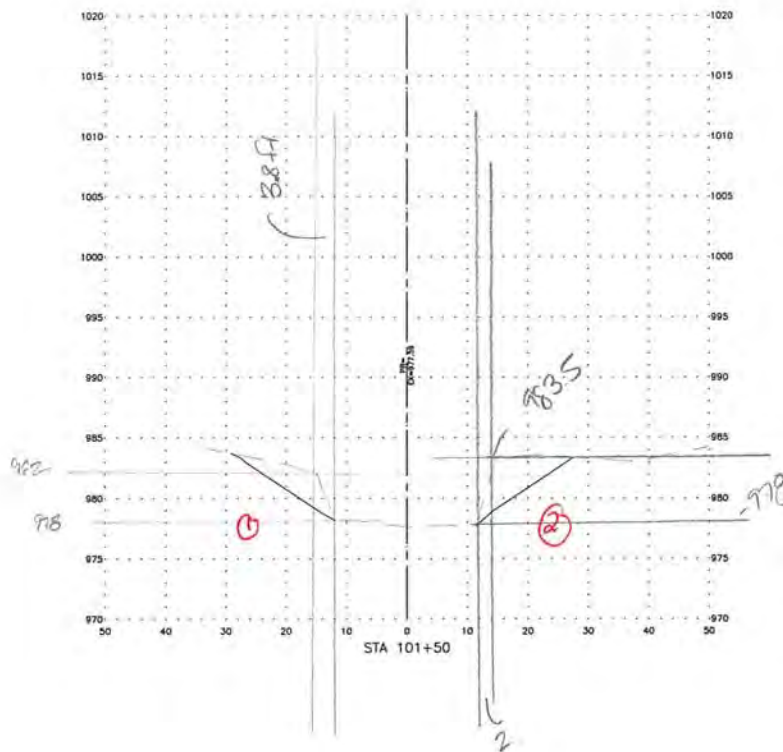
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DRAWING:  
CROSS SECTION SHEET 1

SET TYPE: PERMIT SET  
SHEET 1 OF 1

JOB NUMBER:  
21-635

SHEET NUMBER:  
38 of 59



**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003329

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

| REVISIONS |             |
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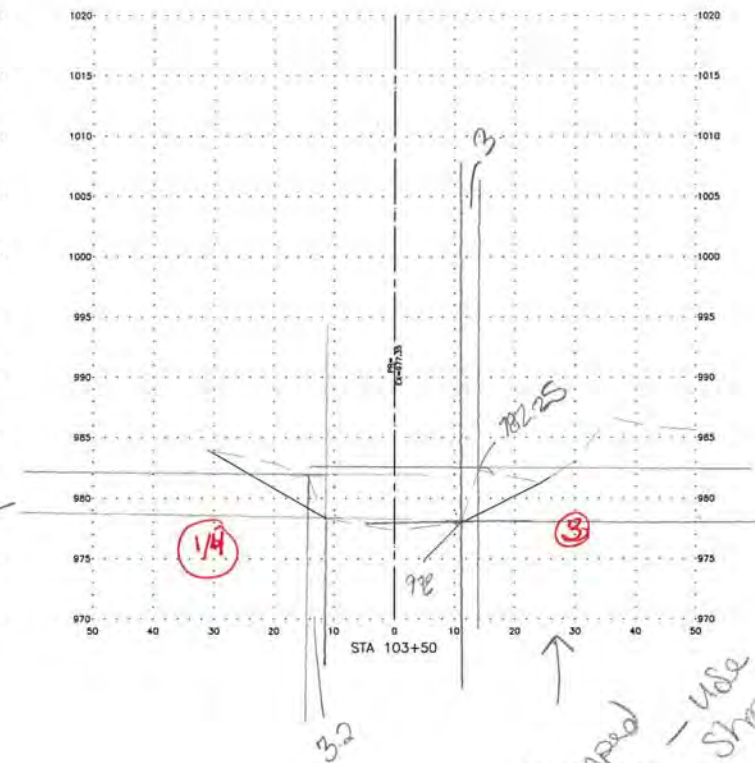
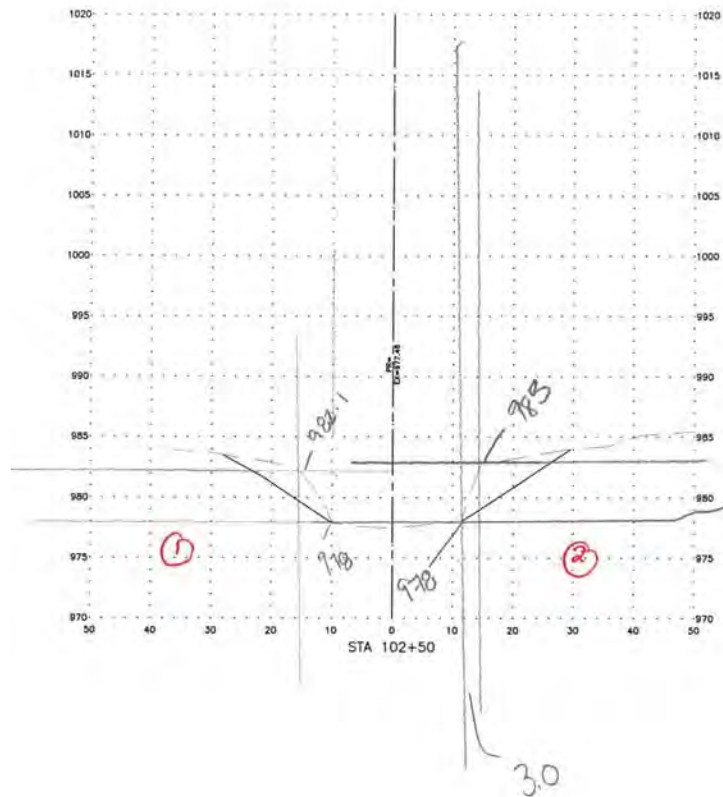
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CROSS SECTION SHEET 2

SET TYPE: PERMIT SET  
ENCLOSURE: 2022-01-18 Drawing Set 2

JOB NUMBER:  
21-635

SHEET NUMBER:  
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Slumped Area - Use Shovel to Be Conservative



**FEHR GRAHAM**

ILLINOIS  
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OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

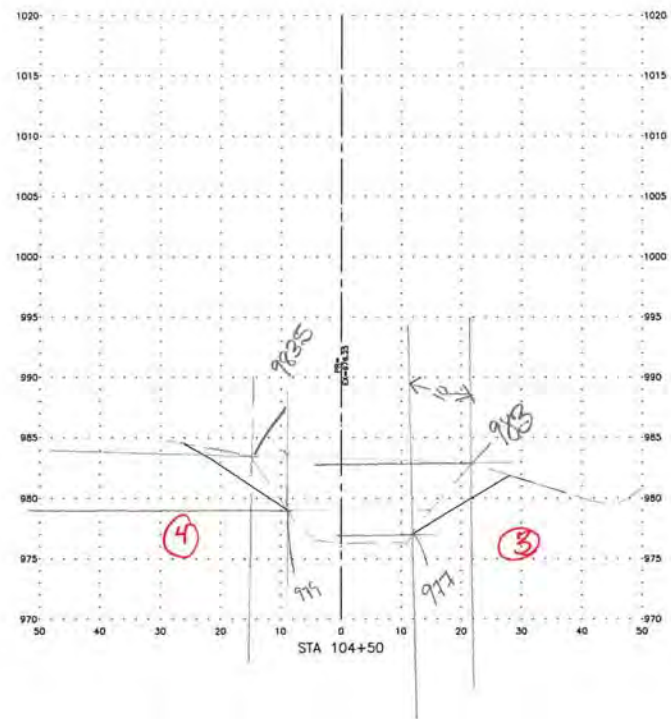
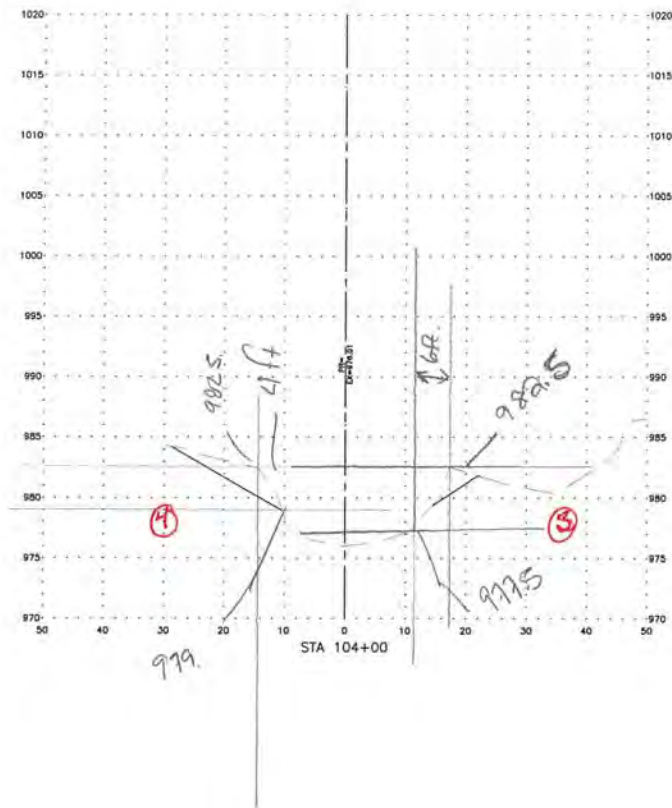
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DRAWING:  
CROSS SECTION SHEET 3

SET TYPE: PERMIT SET

JOB NUMBER:  
21-635

SHEET NUMBER:  
40 of 59



**FEHR GRAHAM**  
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ILLINOIS DESIGN FIRM NO. 184-003323

ILLINOIS  
 IOWA  
 WISCONSIN

OWNER/DEVELOPER:  
 CITY OF MONROE  
 1110 18TH AVENUE  
 MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
 HONEY CREEK STREAMBANK  
 STABILIZATION IMPROVEMENTS  
 MONROE, WISCONSIN

DRAWN BY: ARS  
 APPROVED BY: JWM  
 DATE: 01/18/2022  
 SCALE: AS NOTED

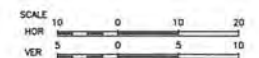
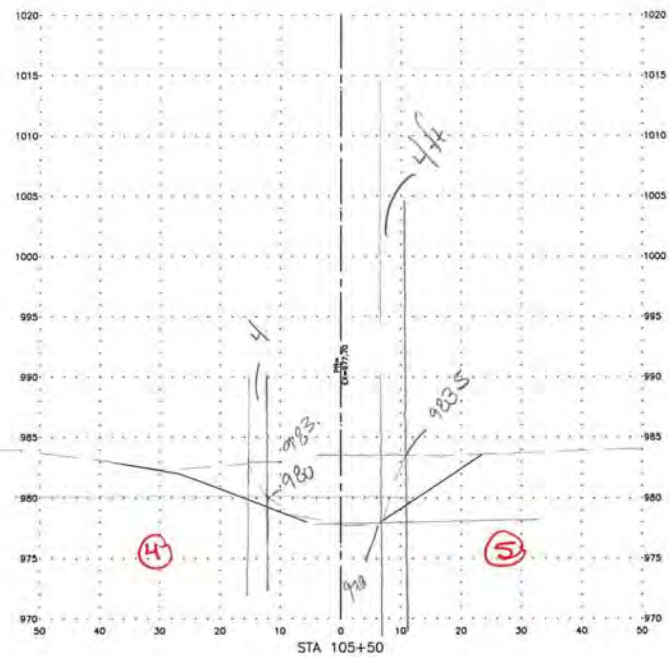
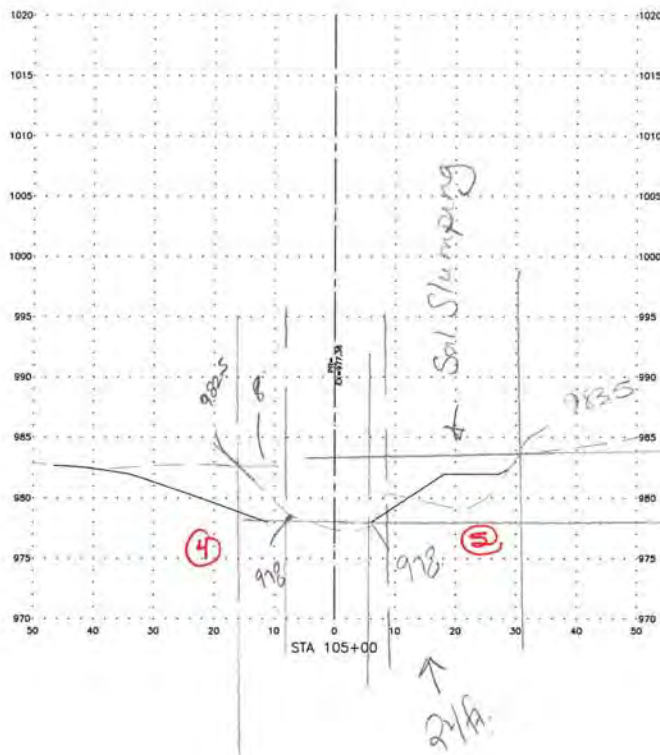
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DRAWING:  
 CROSS SECTION SHEET 4

SET TYPE: PERMIT SET  
DATE: 01/18/2022 BY: JWM

JOB NUMBER:  
 21-635

SHEET NUMBER:  
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**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
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MONROE, WISCONSIN, 53566

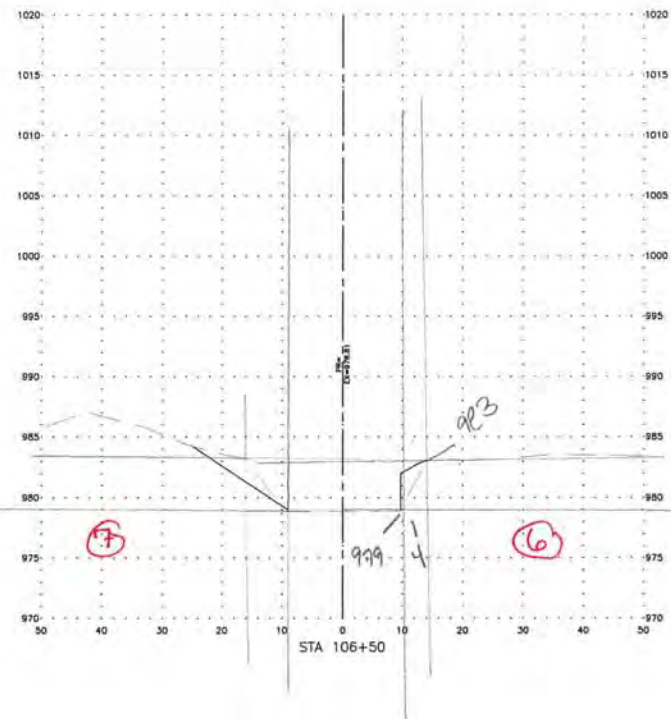
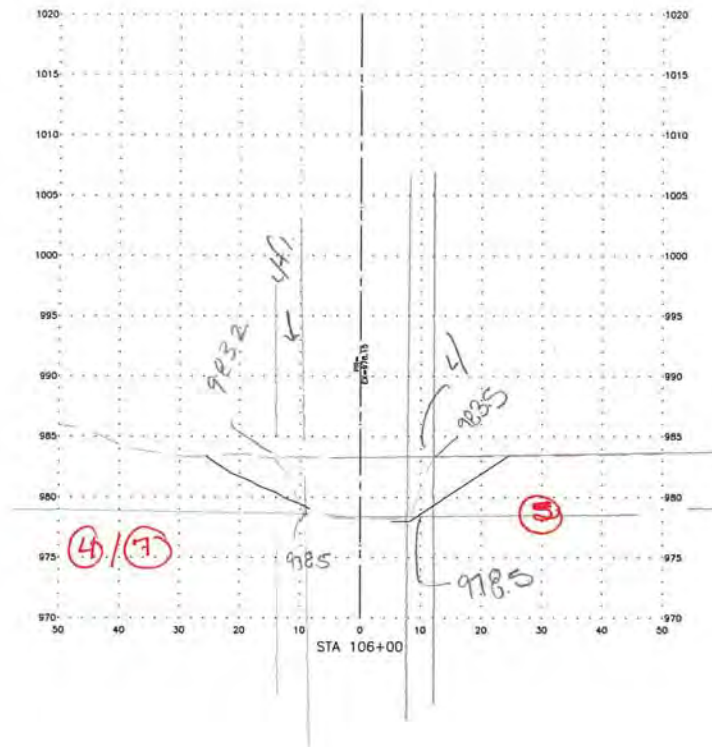
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HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

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DRAWING:  
CROSS SECTION SHEET 5  
SET TYPE: PERMIT SET  
SHEET NUMBER: 42 of 59

JOB NUMBER:  
21-635  
SHEET NUMBER:  
42 of 59



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**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

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WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

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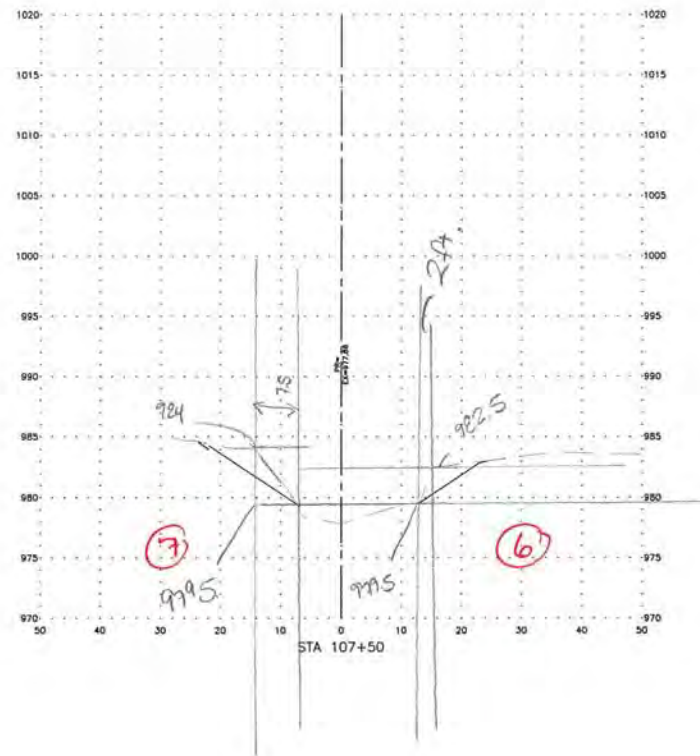
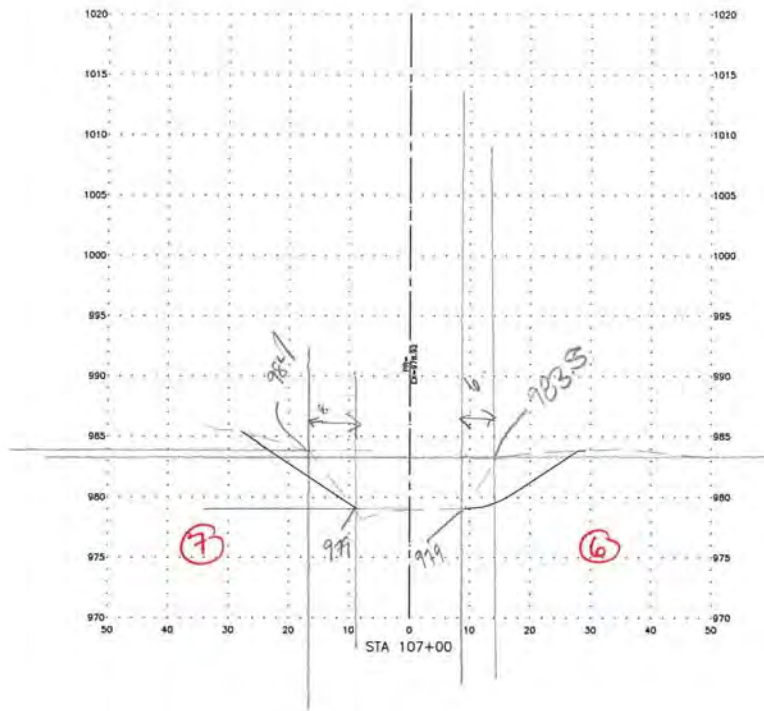
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SET TYPE: PERMIT SET  
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JOB NUMBER:  
21-635

SHEET NUMBER:  
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**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

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OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

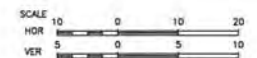
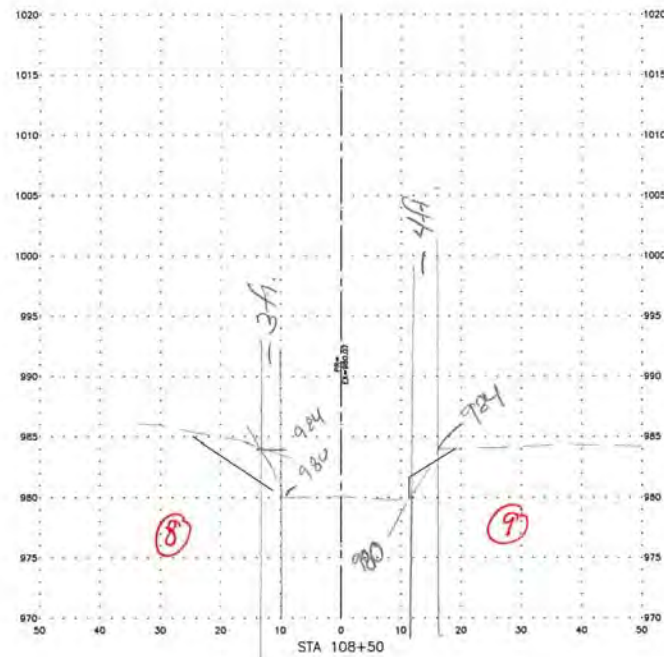
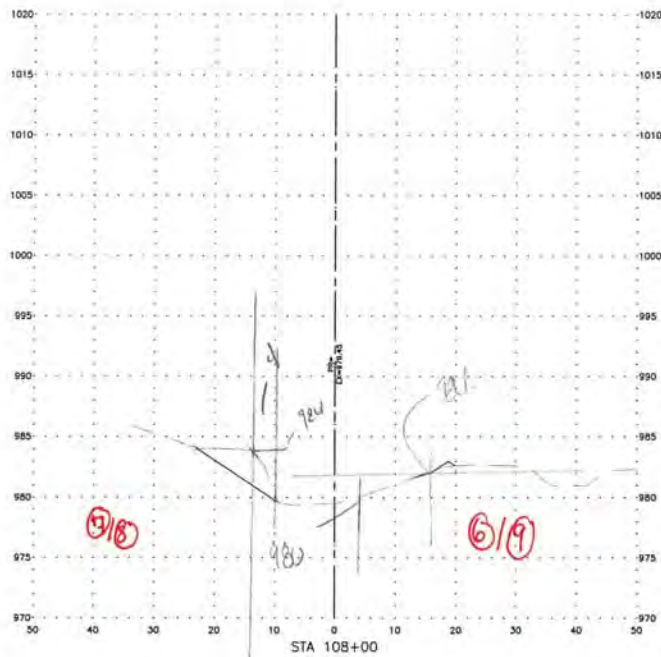
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SET TYPE: PERMIT SET  
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JOB NUMBER:  
21-635

SHEET NUMBER:  
44 of 59



**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003323

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

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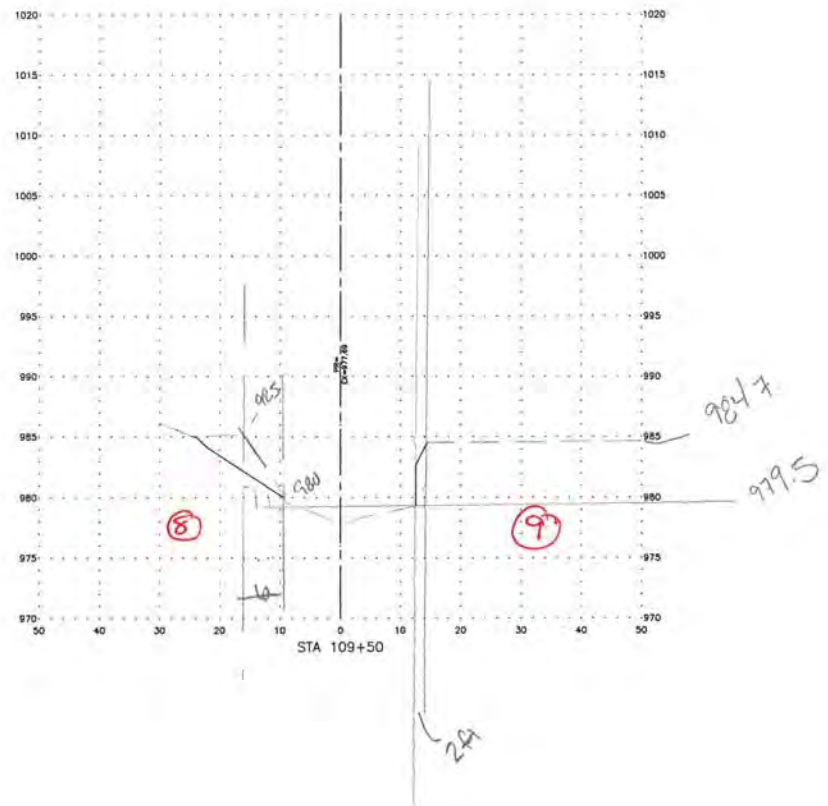
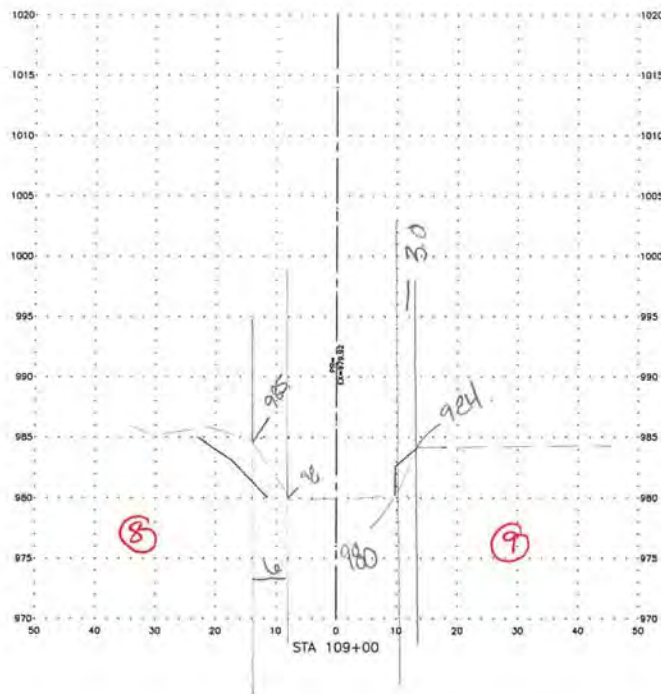
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SET TYPE: PERMIT SET  
SHEET NUMBER: 45 of 59

JOB NUMBER:  
21-635

SHEET NUMBER:  
45 of 59





**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS DESIGN FIRM NO. 184-003323

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 16TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

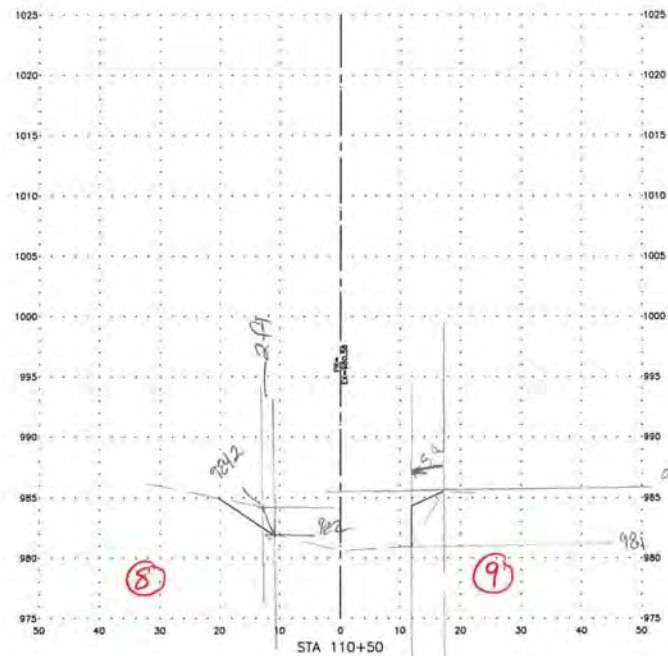
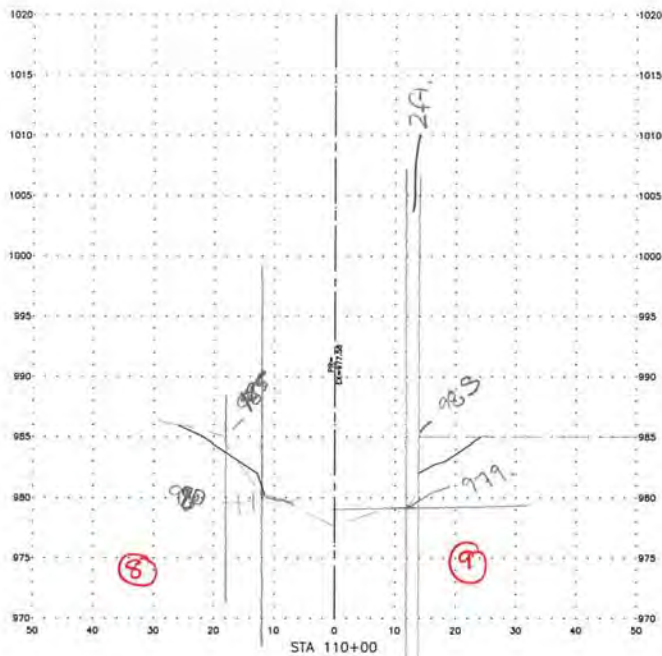
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SET TYPE: PERMIT SET  
SHEET NUMBER: 46 of 59

JOB NUMBER:  
21-635

SHEET NUMBER:  
46 of 59



SCALE  
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VER 5 0 5 10

**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL  
ILLINOIS  
IOWA  
WISCONSIN

DRAWN/DEVELOPED:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

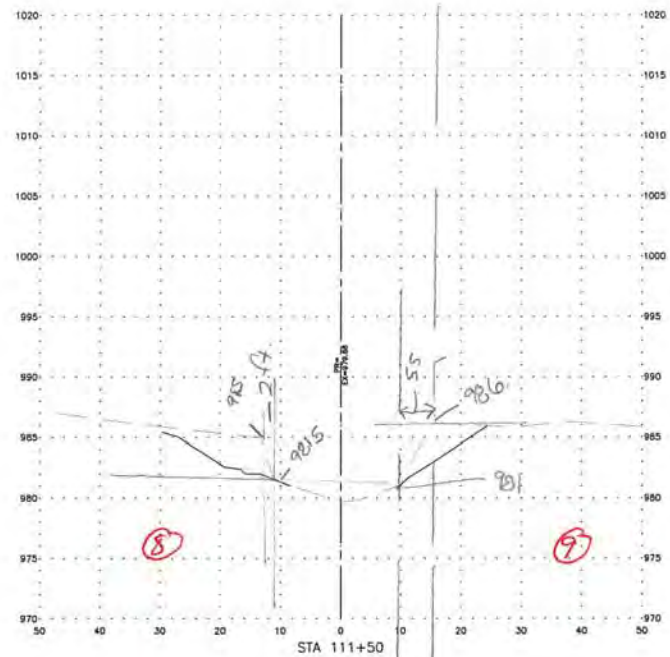
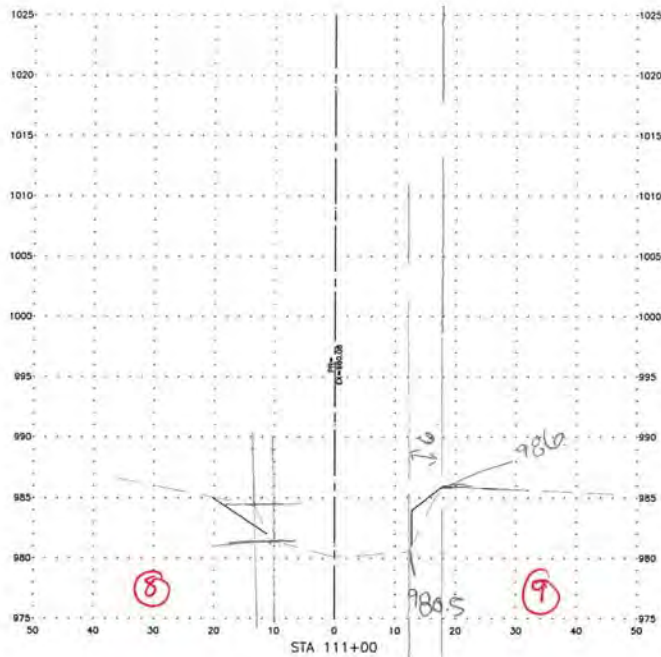
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CROSS SECTION SHEET 10

SET TYPE: PERMIT SET  
DRAWING: 21-635-10

JOB NUMBER:  
21-635

SHEET NUMBER:  
47 of 59



**FEHR GRAHAM**

ENGINEERING & ENVIRONMENTAL

ILLINOIS DESIGN FIRM NO. 184-003325

FOR DATE 1/18/22 © 2022 FEHR GRAHAM

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

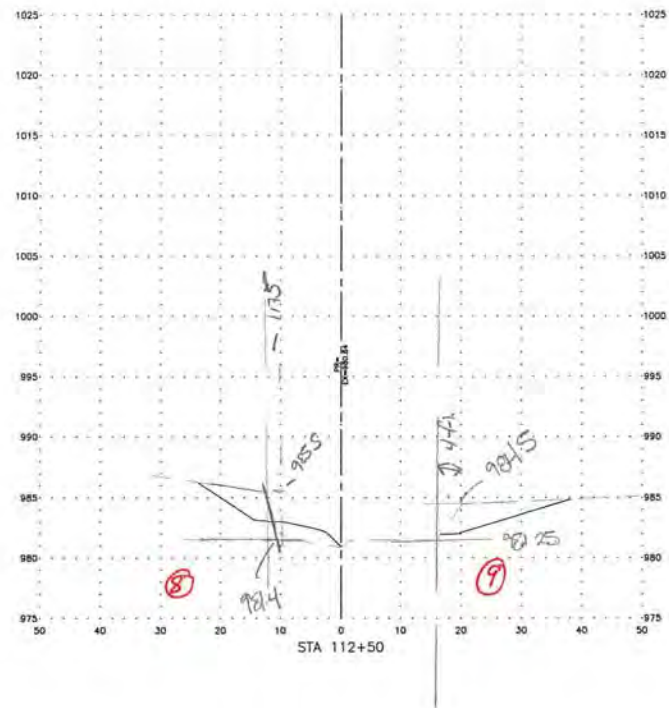
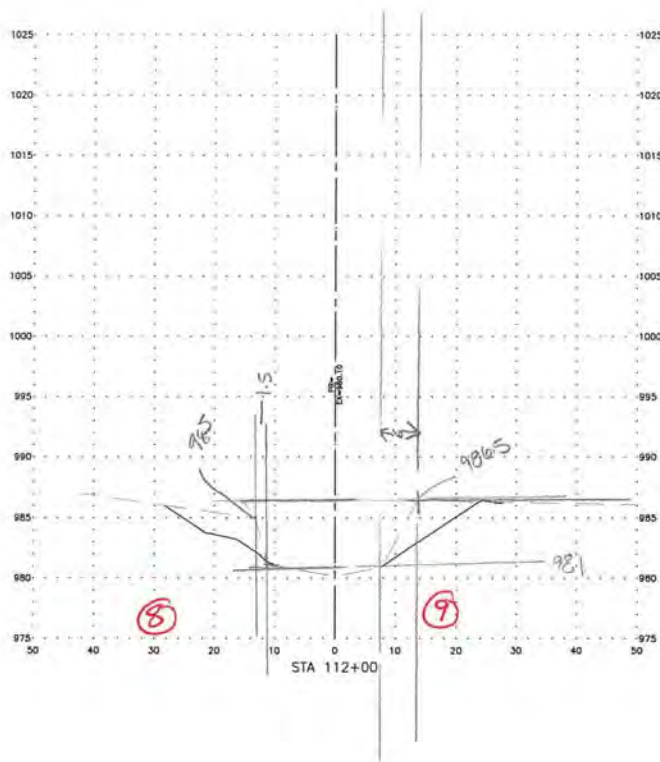
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DRAWING:  
CROSS SECTION SHEET 11

SET TYPE: PERMIT SET  
SHEET NUMBER: 48 of 59

JOB NUMBER:  
21-635

SHEET NUMBER:  
48 of 59



**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

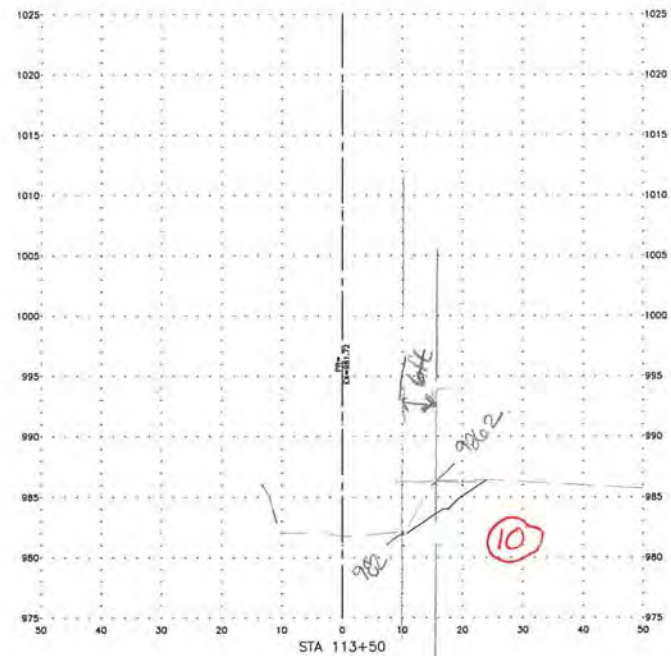
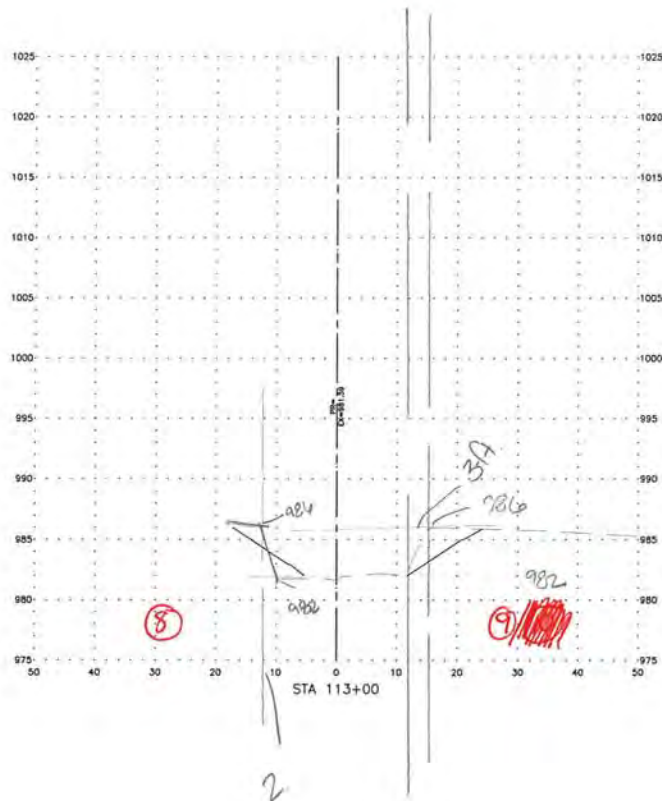
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JOB NUMBER:  
21-635

SHEET NUMBER:  
49 of 59



**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

| REVISIONS |             |      |
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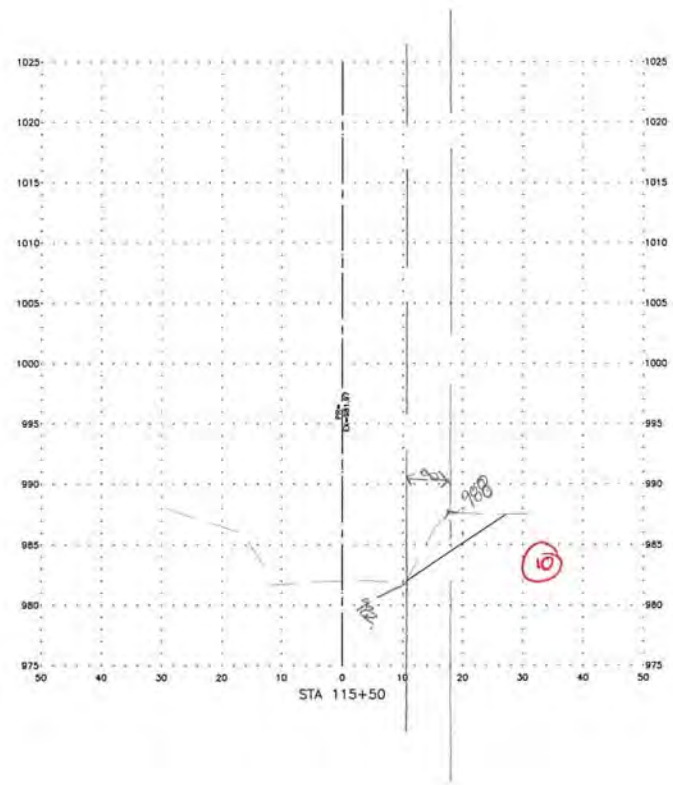
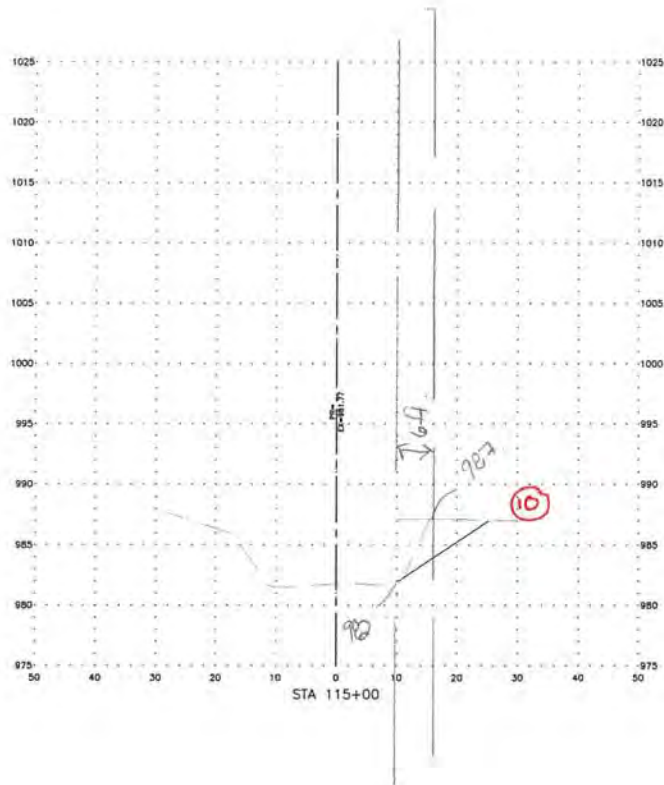
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50 of 59









**FEHR GRAHAM**  
ENGINEERING & ENVIRONMENTAL

ILLINOIS  
IOWA  
WISCONSIN

DIRECTOR/DEVELOPER  
CITY OF MONROE  
1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

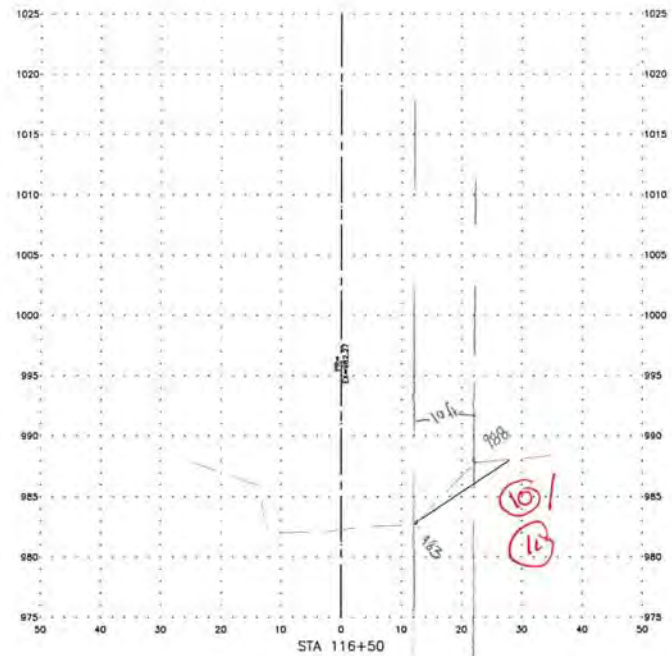
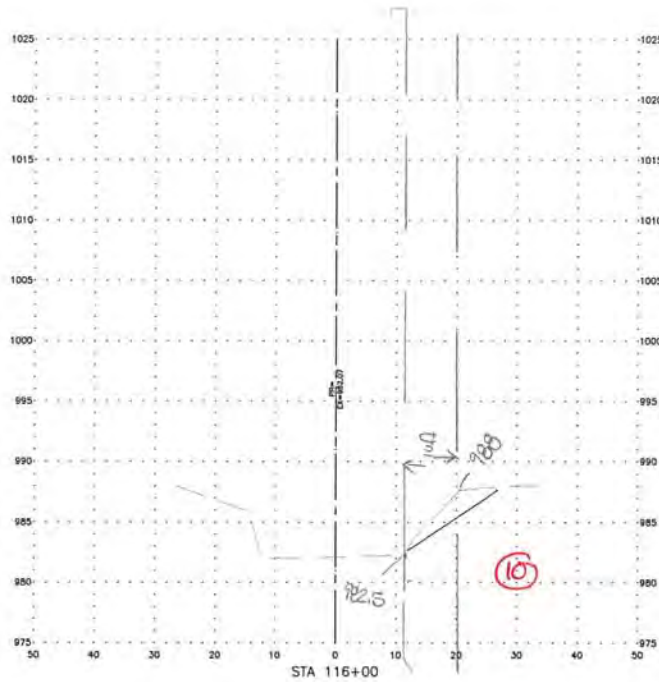
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52 of 59



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MONROE, WISCONSIN, 53566

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MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
DATE: 01/18/2022  
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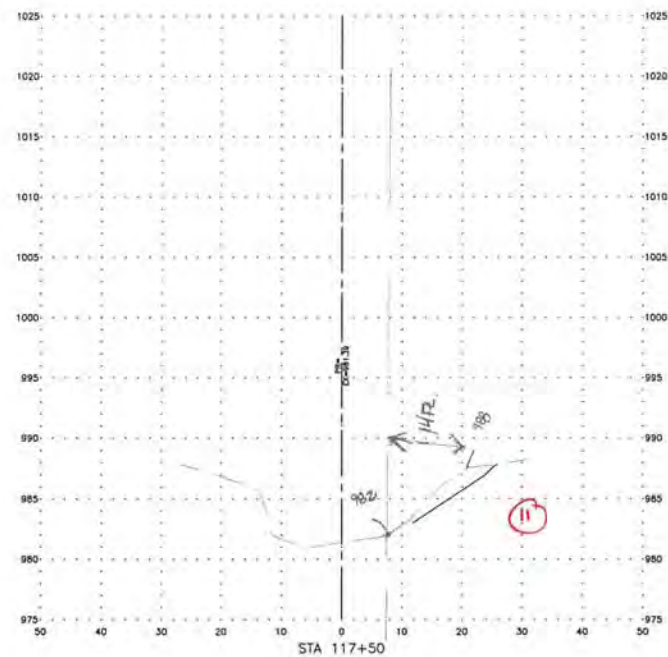
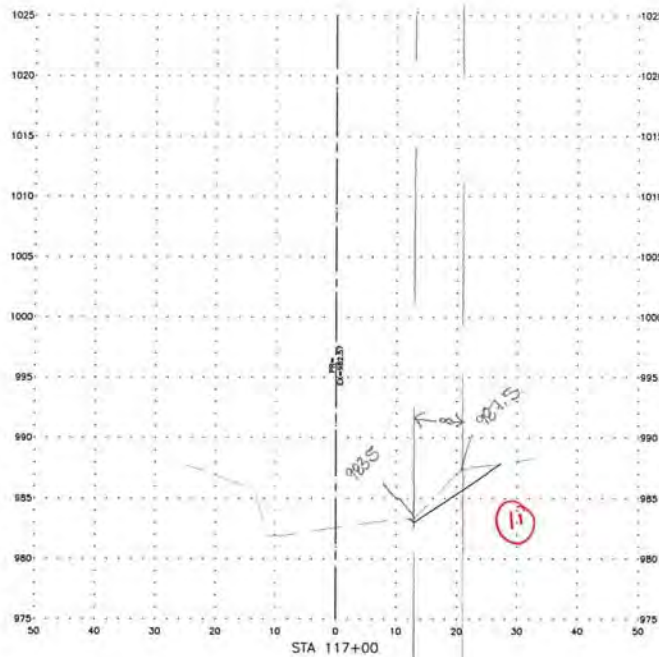
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53 of 59



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MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
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STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
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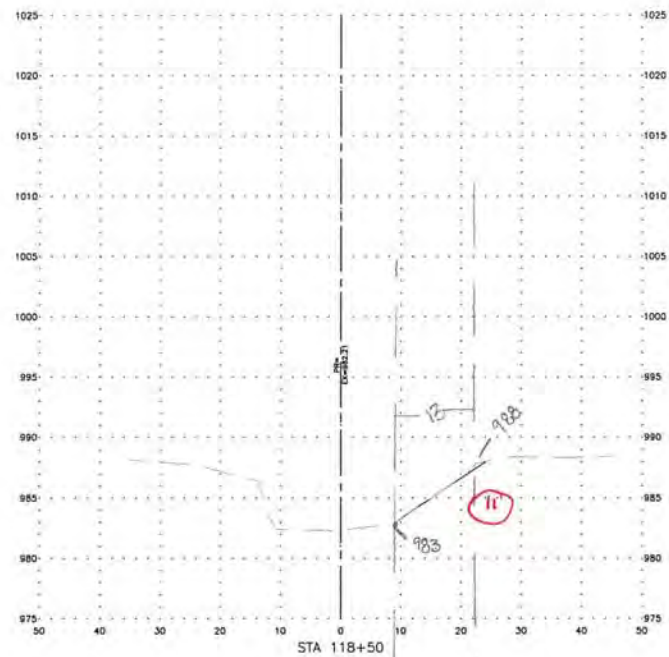
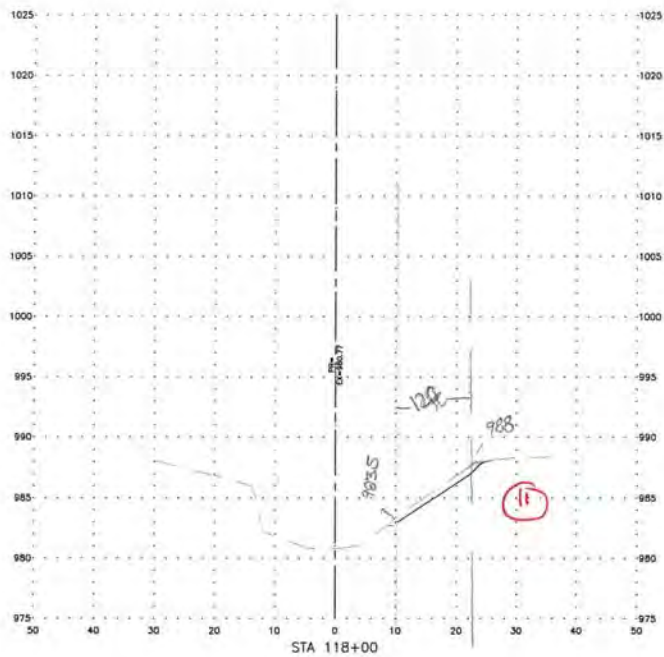
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SOURCE: 117+00-117+50 Streambank Stabilization Section Sheet 17

JOB NUMBER:  
21-635

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54 of 59



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1110 18TH AVENUE  
MONROE, WISCONSIN, 53566

PROJECT AND LOCATION:  
HONEY CREEK STREAMBANK  
STABILIZATION IMPROVEMENTS  
MONROE, WISCONSIN

DRAWN BY: ARS  
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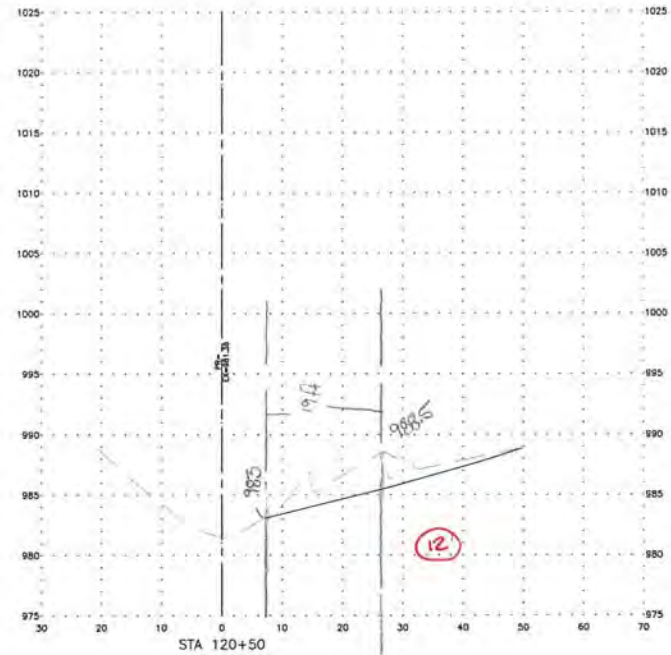
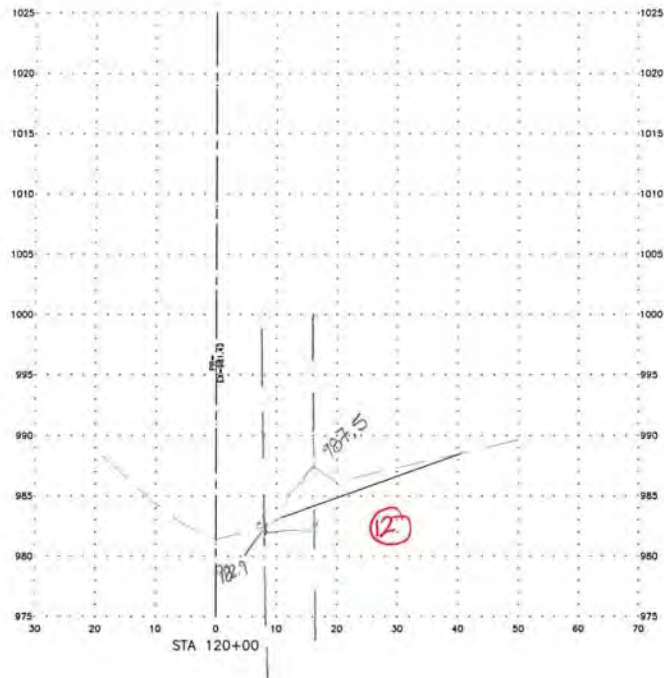
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55 of 59







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ILLINOIS  
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CITY OF MONROE  
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MONROE, WISCONSIN

DRAWN BY: ARS  
APPROVED BY: JWM  
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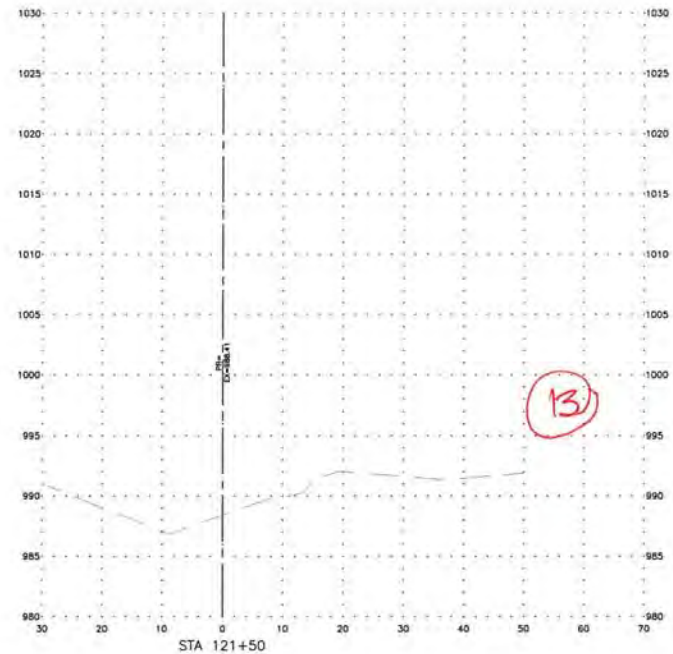
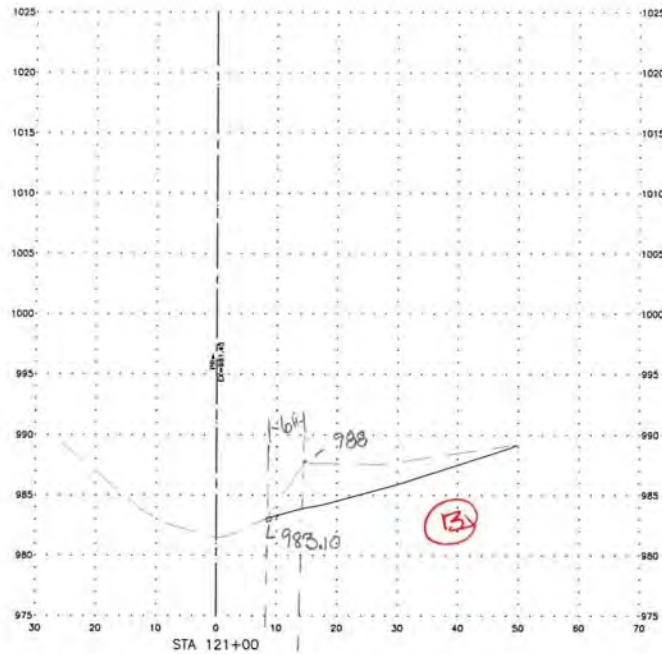
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↑ Structure No Erosion Control /  
Restoration to be completed.

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ILLINOIS  
IOWA  
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OWNER/DEVELOPER:  
CITY OF MONROE  
1110 18TH AVENUE  
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MONROE, WISCONSIN

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APPROVED BY: JWM  
DATE: 01/18/2022  
SCALE: AS NOTED

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CROSS SECTION SHEET 21

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21-635

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## **Exhibit 9**

# **Water Quality Trading Clearinghouse Trade Agreement**

## WATER QUALITY TRADING CLEARINGHOUSE AGREEMENT

THIS WATER QUALITY TRADING CLEARINGHOUSE AGREEMENT (this "Agreement") is entered as of the latest date set forth on the signature pages hereto (the "Effective Date"), by and between the City of Monroe ("Buyer"); Kenneth and Diane Clark ("Generator"); and Wisconsin Clearinghouse, LLC, a Wisconsin limited liability company (the "Clearinghouse" and together with Buyer and Generator, the "Parties" and each individually, a "Party").

### RECITALS

WHEREAS, the Wisconsin Department of Natural Resources (the "WDNR") regulates the discharge of pollutants to waters of the state and administers a program for the trading of water pollutant reduction credits in accordance with Wis. Stat. § 283.84;

WHEREAS, the State of Wisconsin, as represented by its Department of Administration, Division of Enterprise Operations ("DOA"), entered a contract with the Clearinghouse (the "Clearinghouse Contract") for the establishment and operation of a centralized clearinghouse for the buying and selling of water pollutant reduction credits ("Credits") that may be traded under Wis. Stat. § 283.84(1)(f);

WHEREAS, the Clearinghouse is authorized to facilitate water quality trades by contracting with parties for the generation of Credits through water pollutant reduction activities and the purchase of Credits generated by such activities;

WHEREAS, Buyer operates the City of Monroe Waste Water Treatment Facility (the "Facility") located at 1224 10<sup>th</sup> Ave West Monroe, WI 53566, under an existing Wisconsin Pollutant Discharge Elimination System Permit, No. WI-0020362-09-2 (the "Permit");

WHEREAS, Buyer and/or its agents have, prior to the date hereof, in good faith and using the WDNR's *Guidance for Implementing Water Quality Trading in WPDES, Edition 2, 3200-3400-3800-2020-03* dated June 1, 2020) (the "Guidance"), estimated that Buyer's Facility will discharge pollutants above its permitted limit per year (the "Excess Pollutant"), requiring a modification and/or a reissuance of Buyer's Permit ("Permit Reissuance");

WHEREAS, as a condition of Permit Reissuance, the WDNR will require Buyer to offset the Excess Pollutant with Credits in accordance with Wis. Stat. § 283.84;

WHEREAS, in order to generate Credits within the applicable hydrologic area of the Facility, as defined under Wis. Stat. § 283.84(1m)(e), Generator desires to undertake the water pollutant reduction activities ("BMP(s)") set forth in Attachment A on that certain real property (the "Property") described in Attachment B;

WHEREAS, the Clearinghouse submitted to the WDNR for review, information pertaining to the BMP(s) (the "Credit Verification Package"), as required under Wis. Stat. § 16.9685(3)(g), including the amount of Credits generated by the BMP(s) and the duration for which the Credits are valid;

WHEREAS, following the WDNR's review of the Credit Verification Package, the WDNR fully verified the number of Credits (the "Verified Credits") generated by the BMP(s) in each year of Buyer's Permit (the "Permit Term"), and such amounts are shown in Attachment A; and

WHEREAS, Buyer desires for Generator to implement and maintain the BMP(s) in order to generate the Verified Credits for the duration of the Permit Term, and Buyer and Generator desire to engage the Clearinghouse to facilitate the transaction.

NOW, THEREFORE, for and in consideration of the premises and the payments set forth herein, and subject to the terms and conditions set forth herein, the Parties agree to the following:

## AGREEMENTS

### 1. Generator Services.

(a) Generator has implemented and shall maintain the BMP(s) on the Property consistent with the plans and specifications contained in the Credit Verification Package, in order to generate the Verified Credits throughout the Permit Term described in Attachment A. The Generator will perform the requirements set forth in the Credit Verification Package, including (i) constructing the BMP(s) contemplated thereby; and (ii) maintaining the BMP(s) according to the maintenance schedule. Additionally, Generator will execute and record a deed restriction which protects the Property during the Permit Term. Generator shall timely respond to any reasonable requests from the Clearinghouse for information relating to this Agreement, the Verified Credits, the Property, or the BMP(s).

(b) To the best of Generator's knowledge, (i) the description of the Property on Attachment B is accurate in all respects; (ii) the Property does not contain any significant archaeological or historical artifacts and no party other than Generator (and the Clearinghouse with respect to inspection rights granted herein) has any material rights in all or any part of the Property. Throughout the Permit Term, Generator shall maintain all rights in the Property necessary to carry out its obligations as set forth in this Agreement. Prior to the sale, lease, or conveyance of any material rights in all or any part of the Property during the Permit Term, Generator shall notify the intended grantee, in writing, of any continuing obligations of Generator in the Property.

(c) Generator has completed the construction of the BMP.

(d) Generator shall not be required to perform any annual inspection of the BMP(s) or report the results of any such inspections to the WDNR or the WDOA.

### 2. Engagement of the Clearinghouse.

(a) *Registration.* Following the complete execution of this Agreement and payment by Generator and Buyer of the Clearinghouse Fees (defined below), the Clearinghouse will ensure that the Verified Credits are registered to support Buyer's Permit compliance.

(b) *Reporting.* The Clearinghouse will submit to the WDNR and the WDOA Contract Manager digital monthly reports, including (i) a monthly transaction report, and (ii) a monthly inspection report, as further described in the Clearinghouse Contract.

(c) *Inspections.* The Clearinghouse will perform, or cause to be performed by qualified third parties, inspections of the BMPs to confirm compliance with Permit requirements and at the frequency described in the Credit Verification Package. Generator shall permit and enable the Clearinghouse, its agents, and the WDNR to conduct such inspections and hereby authorizes the Clearinghouse, its agents, representatives, and contractors, and the WDNR to enter the Property at any reasonable time to conduct the Inspections. The Clearinghouse and WDNR will provide at least 24 hours' notice of any planned inspection to the Generator.

(d) *Enforcement.* The Clearinghouse shall be permitted to enforce the transaction contemplated by this Agreement as described herein. The Clearinghouse reserves the right to stop work or withhold payment if Generator has breached any of the terms of this Agreement. Notwithstanding anything to the contrary in this Agreement, the Clearinghouse shall not be required to provide any prior notice or cure period if the Clearinghouse determines that immediate intervention is necessary to prevent or mitigate imminent harm to the waters of the state.

### 3. Required Payments.

(a) *Clearinghouse Fees.* As consideration for the Clearinghouse facilitating the trade of Verified Credits and other services described in this Agreement, Generator agrees to pay to the Clearinghouse the sum of \$3,000.00, and Buyer agrees to pay to the Clearinghouse the sum of \$5,000.00 (together, the "Clearinghouse Fees"). The Clearinghouse Fees were determined using the Fee Structure set out in Attachment C, which is based on the total number of Verified Credits. The Clearinghouse Fees shall be due and payable on the Effective Date and shall be nonrefundable.

(b) *Default.* If Generator or Buyer fails to pay their respective portion of the Clearinghouse Fees when due, then after a ten (10) day cure period beginning upon the Clearinghouse's notification of non-payment to the defaulting Party, the Clearinghouse may terminate this Agreement upon written notice to both Generator and Buyer.

(c) *Purchase Price.* The total purchase price for 192 annual Verified Credits is \$66,240.00 (the "Purchase Price"), which reflects a per Credit price of \$69.00 for a term of five years. The Purchase Price shall be paid to the Clearinghouse in annual installments for five years as shown in Attachment A.

(d) Any amount due and payable hereunder shall be paid within thirty (30) days of such amount becoming due and payable and shall be paid by wire transfer or by other method as directed by the Clearinghouse. If Buyer fails to pay any of the Purchase Price when due, (i) Generator shall not be required to perform hereunder unless and until such default is cured and shall not be responsible for any breach, liability, or damage resulting from such non-performance; and (ii) after a 30-day cure period beginning upon the Clearinghouse's notification to Buyer of such non-payment, Generator shall be entitled to terminate this Agreement upon written notice to Buyer.

(e) *Payments to Generator.* All payments from the Clearinghouse to Generator are expressly and unequivocally contingent upon and subject to the Clearinghouse's receipt of payment from Buyer. Within thirty (30) days of the Clearinghouse's receipt of any installment payment from Buyer, the Clearinghouse shall pay to Generator all amounts paid by Buyer.

4. Credit Certification by WDNR. The Verified Credits have been fully certified for trade by the WDNR pursuant to Wis. Stat. § 16.9685(4) and following the WDNR's review of the Credit Verification Package. The Credit Verification Package contained pertinent information about the proposed pollution reducing activities, including (i) the location of the activities; (ii) the type of practice or technology used; (iii) any maintenance schedule; (iv) the frequency of inspections; (v) the duration for which the Credits are valid; and (vi) the number of Credits generated by the proposed pollution reducing activities. The Verified Credits are located within the applicable hydrologic area of Buyer's Facility, as defined in Wis. Stat. § 283.84(1m)(e), and were calculated using a final trade ratio based on the location of Buyer relative to Generator and which is consistent with the Guidance. Generator shall fully comply with the requirements for performance set forth in the Credit Verification Package during the term of the Permit and shall not deviate therefrom without the prior written approval of the WDNR.

5. Noncompliance. If Generator fails to (i) implement any BMP in a timely manner; (ii) implement any BMP pursuant to the plans and specifications contained in the Credit Verification Package; or (iii) maintain any BMP after implementation, such failure may constitute noncompliance. Generator shall immediately report any noncompliance to the Clearinghouse. Following the Clearinghouse's discovery or notification by Generator of any potential noncompliance, the Clearinghouse shall notify (i) the WDNR's designated compliance engineer of such discovery by electronic mail within twenty-four (24) hours (or the next business day), and (ii) Buyer of such discovery, promptly following notification to the WDNR. The foregoing reporting requirement does not increase the frequency of inspections performed by the Clearinghouse as described in Section 2(c) of this Agreement. Neither the WDNR nor the WDOA shall have any right of enforcement against the Clearinghouse for BMP noncompliance or for any failure by Buyer to comply with its Permit obligations.

6. Default Security. Intentionally Deleted.

7. Buyer's Default Remedies. If Generator fails to perform any of its obligations under this Agreement and such failure remains uncured for a period of thirty (30) days after receipt of written notice from Buyer, then without limiting any of Buyer's other rights or remedies, Buyer shall be entitled to terminate this Agreement upon written notice to Generator. Buyer shall simultaneously deliver to the Clearinghouse copies of any written notices sent to Generator pursuant to this Section 7.

8. Term. This Agreement shall remain in force for a period of five (5) years beginning August 1, 2025.

9. Termination.

(a) If the Clearinghouse terminates this Agreement as permitted by Section 3(b), then neither Party will have any remaining obligations or responsibilities to the other hereunder, except that the Clearinghouse will return any Clearinghouse Fees that have been paid by the non-defaulting party.

(b) If Generator terminates this Agreement as permitted by Section 3(d), then:

- i. any Milestone Payment that has been paid, or is at the time of termination due and payable to Generator, shall be retained by and/or paid to Generator as compensation for services performed;
- ii. Buyer shall not owe any additional amounts to Generator;
- iii. Generator shall not have any additional obligations to Buyer;
- iv. the Clearinghouse shall be entitled to retain the Clearinghouse Fees; and
- v. the Parties shall execute and deliver such additional documents, instruments, conveyances, and assurances, and take such further actions as may be reasonably required to carry out the intent of this Section 9(b), including as required by the WDNR and/or WDOA.

(c) If Buyer terminates this Agreement as permitted by Section 7, then:

- i. Within thirty (30) days of receiving Buyer's termination notice, Generator will repay all payments paid to Generator during the term of the Buyer's existing permit. The Generator shall not be required to repay any payments for credits used during the previous permit;
- ii. the Clearinghouse shall be entitled to retain the Clearinghouse Fees;
- iii. Buyer shall be entitled to all amounts retained by the Clearinghouse pursuant to Section 3(d); and
- iv. Buyer may enforce its rights under any Default Security obtained by Buyer in accordance with Section 6.

(d) Termination under this Agreement shall not be deemed to relieve any Party of any obligations that expressly survive termination of this Agreement (e.g., confidentiality obligations under Section 14(a)).

10. Indemnification.

(a) Buyer and Generator each (as "Indemnifying Party") shall indemnify, hold harmless, and defend the other Party and the Clearinghouse and their respective managers, officers, directors, employees, consultants, agents, affiliates, successors, and permitted assigns (the "Indemnified Parties") against any and all losses, damages, liabilities, claims, penalties, fines, costs, or expenses of whatever kind arising out of any third-party claim alleging (i) a material breach of any representations, warranties, covenants, or agreements contained herein by Indemnifying Party; (ii) any negligent or more culpable act or omission of Indemnifying Party (including reckless or willful misconduct) in connection with the performance of its obligations under this Agreement; or (iii) any failure by Indemnifying Party to materially comply with any applicable federal, state, or local laws, regulations, or codes in the performance of its obligations under this Agreement. Notwithstanding the foregoing, Indemnifying Party is not obligated to indemnify, hold harmless, or defend Indemnified Party against any claim if such claim or corresponding losses arise out of or result from Indemnified Party's negligence or more culpable act or omission (including reckless or willful misconduct) or bad faith failure to materially comply with any of its obligations set forth in this Agreement. The terms and conditions of this Section 10 shall survive any termination of this Agreement.

(b) Buyer and Generator hereby further release the Clearinghouse from any and all claims of damage of any kind which may arise as a result of constructing, installing, maintaining, and operating the BMP(s) in accordance with this Agreement.

11. Insurance. Subject to and without limiting the defense and indemnity obligations here, Generator or Buyer, at its expense, may maintain insurance coverage and shall provide the Clearinghouse with a certificate of insurance evidencing the coverage within thirty (30) days of the Effective Date:

12. Responsibilities, Representations and Covenants. The Parties each, as applicable, expressly acknowledge, represent, covenant, and agree that:



- (a) the number of Credits ultimately required by the WDNR and WDOA as a condition to Permit Reissuance may be greater than the number of Verified Credits, and Generator is not responsible for providing any additional Credits unless otherwise agreed to in a written amendment signed by all Parties.
- (b) Buyer is responsible for providing the Clearinghouse with the amount of Excess Pollutant required by the WDNR as a condition to Permit Reissuance.
- (c) the Clearinghouse shall not be responsible for the actions or omissions of Generator.
- (d) the Clearinghouse shall not be responsible for any failure by Buyer to meet its respective obligations, such as under a WPDES permit.
- (e) the WDNR and WDOA shall in no way be responsible for making any payments that may become due and owing under this Agreement.
- (f) Generator shall at all times comply with and observe all federal, state, and local laws, ordinances, and regulations that are in effect during the term of this Agreement and that are applicable to Generator's work or obligations hereunder.
- (g) Buyer (i) has provided the Clearinghouse with true, correct, and complete copies and/or summaries of any correspondence with the WDNR or WDOA related to the compliance requirements associated with the Facility or the Permit, and (ii) shall promptly provide to the Clearinghouse true, correct, and complete copies or summaries of any such correspondence or requirements received or occurring after Effective Date.
- (h) the Parties shall execute and deliver such additional documents, instruments, conveyances, and assurances and take such further actions as may be reasonably required to carry out the intent of the provisions hereof.

13. Miscellaneous.

- (a) *Confidentiality.* Neither this Agreement nor the terms hereof may be furnished to any third party, without the written consent of all Parties, except as may otherwise be required by law (including, without limitation, Wisconsin's Open Records Law, Wis. Stat. §19.31 et seq.), an administrative tribunal, the Clearinghouse-WDOA contract established under s. 16.9685(2), Wis. Stats., or a court of competent jurisdiction; provided, that the foregoing shall not prohibit the Parties from providing this Agreement or the terms hereof to their attorneys, consultants, professional advisors, and current and prospective investors and primary lenders. Buyer agrees that it shall not, without the prior written consent of Generator, which consent may be withheld by Generator in its sole discretion, contact or communicate directly or indirectly (including through its advisors) with any landowners, third party easement holders, or other parties having a right in the Property. The terms and conditions of this paragraph shall survive any termination of this Agreement.
- (b) *Clearinghouse's Records.* This Agreement may be subject to public disclosure under Wis. Stat. §19.36(3), unless otherwise exempted by applicable law. The Clearinghouse shall retain all records produced or collected under this Agreement for no less than three (3) years following the expiration or earlier termination of the Clearinghouse Contract. The Clearinghouse has established an internet-based platform which will serve as a centralized registry and contain information related to Credit transactions. Generator and Buyer hereby permit the Clearinghouse to store in its internet-based registry any information pertaining to the transaction contemplated by this Agreement.
- (c) *Governing Law and WAIVER OF JURY TRIAL.* This Agreement and all matters arising out of or relating to this Agreement are governed by the laws of Wisconsin, including its statutes of limitations, without giving effect to any conflict of laws provisions thereof. Any Party may institute any legal suit, action, or proceeding arising out of or relating to this Agreement in the federal or state courts in each case located in Madison, Wisconsin. EACH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY: (A) CONSENTS AND SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE AFOREMENTIONED COURTS; (B) WAIVES ANY OBJECTION TO THAT CHOICE OF FORUM BASED ON VENUE OR TO THE EFFECT THAT THE FORUM IS NOT CONVENIENT; AND (C) WAIVES ANY RIGHT TO TRIAL BY JURY. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(d) *Counterparts and Authorization.* This Agreement may be signed by electronic signature, which signature shall be deemed to constitute an original signature and be binding as such. This Agreement may be executed in identical counterparts, each of which when so executed and delivered will constitute an original, but all of which taken together will constitute one and the same instrument. The Parties each represent that the person signing this Agreement on their behalf is duly authorized to sign this Agreement.

(e) *Notices.* All notices, requests, consents, claims, demands, waivers, approvals, and other communications hereunder (each, a "Notice") shall be in writing and addressed to the Parties at the addresses set forth on its signature page (or to such other address that may be designated by the receiving Party from time to time in accordance with this Section 14(e)). All Notices shall be delivered by personal delivery, nationally recognized overnight courier, email (with confirmation of transmission), certified or registered mail, or electronic mail. A Notice is effective only if the Party giving the Notice has complied with the requirements of this Section 14(e). Copies of all written notices issued between Buyer and Generator pursuant to this Agreement shall be provided to the Clearinghouse. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(f) *Entire Agreement, Severability and Waiver.* This Agreement embodies the entire agreement between the Parties and supersedes all prior agreements and understandings relating to the subject matter of this Agreement. If any portion of this Agreement is held invalid or inoperative, then so far as is reasonable and possible the remainder of this Agreement shall be deemed valid and operative, and, to the greatest extent legally possible, effect shall be given to the intent manifested by the portion held invalid or inoperative. The failure by any Party to enforce against the other any term or provision of this Agreement shall not be deemed to be a waiver of such Party's right to enforce against the other Party the same or any other such term or provision in the future. In the event of a conflict or inconsistency between the terms of the body of this Agreement and those of any exhibit attached hereto, the terms of the body of this Agreement shall control. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(g) *Survivability.* The Clearinghouse Contract, dated effective March 20, 2023, contains an initial term of five (5) years, which may be extended for an additional one (1) year by mutual agreement, or at the WDOA's request, on a month-to-month basis for a period not to exceed six (6) months. Upon expiration of the term or earlier cancellation or termination of the Clearinghouse Contract by the WDOA, this Agreement shall continue in force and effect (unless otherwise terminated as permitted herein) and shall remain subject to the terms of the Clearinghouse Contract. If the Clearinghouse Contract is terminated or the Clearinghouse ceases to function, the WDNR shall continue to administer all Credit transactions then in effect until a new entity is appointed as Clearinghouse.

(h) *Force Majeure.* No Party shall be liable or responsible to the other Party, or deemed to have breached this Agreement, for any failure or delay in satisfying its obligations hereunder if such failure is attributable to any of the following: strikes, riots, acts of God, war, terrorist acts or activities, orders, or any other causes which are beyond the reasonable control of the responsible Party. Following any such failure or delay, Generator shall cooperate with Buyer and the Clearinghouse to reasonably respond to any requests from the WDOA or WDNR for information about any such failure or delay and shall provide all relevant information in connection therewith upon request.

(i) *No Interest.* No provision of this Agreement shall be deemed to grant to Buyer or the Clearinghouse any interest in any property of Generator or any of its affiliates.

(j) *Amendment and Assignment.* This Agreement may not be changed, amended, or modified except by an instrument in writing signed by all Parties. This Agreement shall be binding upon the Parties and their respective successors and assigns; however, this Agreement may not be assigned by any Party without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed. The foregoing restriction shall not be deemed to prohibit the assignment or transfer of this Agreement by any Party to (i) any third party that controls, is controlled by, or is under common control with, the assigning Party, or (ii) any purchaser of all, or substantially all, of the assets of the assigning Party, as long as, in each case, the assignee agrees to assume all obligations of the assigning Party hereunder. The Clearinghouse shall notify the WDNR within seven (7) days of any amendment or termination of this Agreement, including the details of any amendment and justification for such change(s).

(k) *Interpretation.* Section headings are included for convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement and should not be used to construe or interpret this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words "include", "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation", whether or not they are in fact followed by those words or words of like import. "Writing", "written" and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. The schedules and exhibits referred to herein shall be construed with, and as an integral part of, this Agreement to the same extent as if they were set forth verbatim herein; provided that in the event of any conflict between the body of this Agreement and an Exhibit, the terms of the body of the Agreement shall control.

(l) *Independence of Parties.* Nothing herein shall be construed to create a joint venture or partnership between the Parties hereto or an employer/employee or agency relationship.

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

**CREDIT GENERATOR:** Kenneth and Diana Clark

By: \_\_\_\_\_

Name: Kenneth Clark

Title: Owner

Date: \_\_\_\_\_

Address:

W6710 Melvin Road  
Monroe, WI 53566

Email: kclark3773@gmail.com

By: \_\_\_\_\_

Name: Diana Clark

Title: Owner

Date: \_\_\_\_\_

Address:

W6710 Melvin Road  
Monroe, WI 53566

Email:

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

**CREDIT BUYER:** City of Monroe

By: Donna Douglas

Name: Donna Douglas

Title: Mayor

Date: June 17, 2025

Address:  
1110 18<sup>th</sup> Ave  
Monroe, WI 53566  
Attn:

Email:

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

**CLEARINGHOUSE:** Wisconsin Clearinghouse, LLC, a Wisconsin limited liability company

By: Chris Murphy

Name: Chris Murphy

Title: Nutrient Trading Manager

Date: 6/18/25

Address:  
17921 W Smith Road  
Brodhead, WI 53520  
Attn: Chris Murphy, Clearinghouse Manager

Email: cmurphy@res.us



ATTACHMENT A

|                                  |            |          |                                   |                   |          |      |      |                         |       |  |
|----------------------------------|------------|----------|-----------------------------------|-------------------|----------|------|------|-------------------------|-------|--|
|                                  |            |          | UNIQUE TRACKING CODE NO. 44422498 |                   |          |      |      |                         |       |  |
| BMP No. 1                        |            |          |                                   | Filter Strips     |          |      |      |                         |       |  |
|                                  | TOTAL COST |          | \$66,240.00                       |                   |          |      |      | FINAL<br>TRADE<br>RATIO | 2.1:1 |  |
|                                  |            |          |                                   | WPDES PERMIT TERM |          |      |      |                         |       |  |
| VERIFIED<br>CREDITS <sup>1</sup> | 2025       | 2026     | 2027                              | 2028              | 2029     | 2030 | 2031 | 2032                    | 2033  |  |
|                                  | 192        | 192      | 192                               | 192               | 192      |      |      |                         |       |  |
| INCENTIVE<br>PAYMENT             | \$13,248   | \$13,248 | \$13,248                          | \$13,248          | \$13,248 |      |      |                         |       |  |
|                                  |            |          |                                   |                   |          |      |      |                         |       |  |

ATTACHMENT B

Description of the Property

Parcel ID: 0169.1000

Section-Township-Range: 17, T1N, R7E

Legal Description: E1/2 SE4, EXC CSM 1431 LOT 1

Parcel ID: 0164.0100

Section-Township-Range: 16, T1N, R7E

Legal Description: CSM 4690 (V20-P149) LOT 1 BNG PRT SE4 NE4 SEC 17 & PRT SW4 NW4 & NW4 SW4 SEC 16

Parcel ID: 0162.0000

Section-Township-Range: 17, T1N, R7E

Legal Description: N1/2 NE4

# ATTACHMENT C

## FEE STRUCTURE

| Fee Paid By | Size of Credit Transaction | Fee Paid to the Clearinghouse |
|-------------|----------------------------|-------------------------------|
| Generator   | 0-100                      | \$ 1,400.00                   |
|             | 101-200                    | \$ 3,000.00                   |
|             | 201-450                    | \$ 6,000.00                   |
|             | 451-700                    | \$ 10,000.00                  |
|             | 701-1000                   | \$ 16,500.00                  |
|             | 1001-1500                  | \$ 20,000.00                  |
|             | 1501-2000                  | \$ 28,000.00                  |
|             | 2001-2700                  | \$ 36,000.00                  |
|             | 2701-3400                  | \$ 49,000.00                  |
|             | 3401-4100                  | \$ 63,000.00                  |
|             | 4101-4600*                 | \$ 75,000.00                  |
| Buyer       | 0-100                      | \$ 3,200.00                   |
|             | 101-200                    | \$ 5,000.00                   |
|             | 201-450                    | \$ 10,500.00                  |
|             | 451-700                    | \$ 20,000.00                  |
|             | 701-1000                   | \$ 32,000.00                  |
|             | 1001-1500                  | \$ 42,000.00                  |
|             | 1501-2000                  | \$ 64,000.00                  |
|             | 2001-2700                  | \$ 84,000.00                  |
|             | 2701-3400                  | \$ 114,000.00                 |
|             | 3401-4100                  | \$ 150,000.00                 |
|             | 4101-4600*                 | \$ 180,000.00                 |

\*Generations or purchases exceeding these thresholds will pay by the tier over 1000 (e.g., 5000 credits will incur a fee from the 4101-4600 tier plus the fee from the 201-450 tier).



## **Exhibit 10**

### **WQT Annual Reports (2022, 2023, 2024)**

# 2022 Water Quality Trading Annual Report



April 2023

1107 16<sup>th</sup> Ave  
Monroe, WI 53566

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City of Monroe  
1224 10<sup>th</sup> Ave  
Monroe, WI 53566



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## PART 1: INTRODUCTION

### 1.1 Study Purpose and Scope

This report has been prepared at the direction of City of Monroe and it to serve as the Water Quality Trading (WQT) Annual Report summarizing the WQT credits used by the City for the reduction of phosphorus.

This report will cover the following:

- » Summary of Credits used per month and source of credits.
- » Annual Inspection Summary
- » Areas of Non - Compliance

## PART 2: PERMIT TERM

This WQT Annual .Report covers from August 1, 2022 - December 31, 2022

## PART 3: SUMMARY OF CREDITS USED

### 3.1 Credits Available

Table 3.1.1 summarizes the available credits for the permit term.

Table 3.1.1 – 2022 Available Credits

| Trade                                      | Trade Ratio (TR) | 2022 Available Credits | Credits with TR |
|--------------------------------------------|------------------|------------------------|-----------------|
| Industrial Park Pond (W)                   | 2:1              | 9.25                   | 4.63            |
| Dolan Property                             | 1.2              | 26.5                   | 22.1            |
| WWTP Expansion Site                        | 1.2              | 7.5                    | 5.85            |
| Honey Creek Park Streambank Restoration ** | -                | -                      | -               |
| Total                                      | -                | -                      | 32.58           |

\*\*Streambank Restoration Project still under construction – no credits available in 2022.

### 3.2 Credits Used

Table 3.2.1 summarizes the credits used each month and the source of the credits. Table 3.2.2 Summarizes the total credits used for the year from each source.

Table 3.2.1 – Credits Used

| Month     | Needed Credits | Source Credits      |
|-----------|----------------|---------------------|
| August    | 15.04          | From Dolan Property |
| September | 4.77           | From Dolan Property |
| October   | 0              | NA                  |
| November  | 0              | NA                  |
| December  | 0              | NA                  |

Table 3.2.2 – WQT Source Summary

| WQT Location        | Used  | Remaining |
|---------------------|-------|-----------|
| Industrial Park (W) | 0     | 4.63      |
| Dolan Property      | 19.81 | 2.29      |
| WWTP Expansion Site | 0     | 5.85      |
| Honey Creek Park    | 0     | 0         |

## **PART 4: ANNUAL INSPECTION**

### **4.1 Annual Inspection – Dolan Property, WWTP Expansion, Industrial Park**

The Industrial Park, Dolan Property and WWTP Expansion properties were inspected for compliance May 31, 2022.

For the Dolan property and the WWTP expansion property, the inspection checked the method of planting and included a call with the farmers to verify crop and fertilizer application. The property was reviewed to verify no washouts occurred during the spring rains. Both properties met all requirements and were approved for WQT compliance.

The inspection at the industrial park involved walking the perimeter of the pond to inspect the outfall, the condition of the slopes, the vegetation growth and if there was any vehicle damage that needed fixed. The pond met all requirements and was approved for WQT compliance.

### **4.2 Annual Inspection Honey Creek**

A permit was not issued by the DNR for the Honey Creek Streambank Restoration project until late October 2022. Therefore, the Honey Creek Streambank project has not been completed. There is a construction moratorium on the Creek until June 15<sup>th</sup> to protect the habitat. The project will begin after June 15<sup>th</sup>. The delay in construction was discussed with the DNR and all parties will be contacted at the time construction begins.

## **PART 5: NON-COMPLIANCE**

As detailed in section 4.2, the honey creek project is still under construction and has not yet been completed. The city contacted the DNR about the timing of the permit issuance and the timing of the construction limitations in 2022. The city understands it is in non-compliance with the streambank portion of the WQT plan until such time as construction on the project is complete. The project is set to be constructed after June 15, 2023. The city will be in touch with the DNR when the project begins.

## Exhibits



**Exhibit A**

**INSPECTION REPORTS**

## Dolan - Inspection/ Communication

[illegible]

## WWTP Expansion Site - Inspection/ Communication

[illegible]

## Industrial Park Pond - Inspection

[illegible]

# 2023 Water Quality Trading Annual Report WQT – 2022 – 005



January 2024

1107 16<sup>th</sup> Ave  
Monroe, WI 53566

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City of Monroe  
1224 10<sup>th</sup> Ave  
Monroe, WI 53566

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## PART 1: INTRODUCTION

### 1.1 Study Purpose and Scope

This report has been prepared at the direction of City of Monroe and it to serve as the Water Quality Trading (WQT) Annual Report summarizing the WQT credits used by the City for the reduction of phosphorus.

This report will cover the following:

- » Summary of Credits used per month and source of credits.
- » Annual Inspection Summary
- » Areas of Non - Compliance

## PART 2: PERMIT TERM

This WQT Annual .Report covers from January 1, 2023- December 31, 2023

## PART 3: SUMMARY OF CREDITS USED

### 3.1 Credits Available

Table 3.1.1 summarizes the available credits for the permit term.

Table 3.1.1 – 2023 Available Credits

| Trade                                      | Trade Ratio (TR) | 2022 Available Credits | Credits with TR |
|--------------------------------------------|------------------|------------------------|-----------------|
| Industrial Park Pond (W)                   | 2:1              | 18.49                  | 9.25            |
| Dolan Property                             | 1.2              | 53                     | 44.2            |
| WWTP Expansion Site                        | 1.2              | 14                     | 11.7            |
| Honey Creek Park Streambank Restoration ** | NA               | NA                     | NA              |
| Total                                      | -                | -                      | 65.15           |

\*\*Streambank Restoration Project still under construction – no credits available in 2023.

### 3.2 Credits Needed

Table 3.2.1 summarizes the credits used each month and the source of the credits. Table 3.2.2 Summarizes the total credits used for the year from each source.

Table 3.2.1 – Credits Needed

| Month     | Needed Credits | Source Credits                                          |
|-----------|----------------|---------------------------------------------------------|
| January   | 9.22           | From Industrial Park                                    |
| February  | 5.36           | From Dolan Property                                     |
| March     | 0              | NA                                                      |
| April     | 0              | NA                                                      |
| May       | 0.6            | From Industrial Park/ Dolan Property                    |
| June      | 61.87          | Dolan Property/ WWTP Expansion Property Non- Compliance |
| July      | 199.74         | Non-Compliance                                          |
| August    | 68.95          | Non-Compliance                                          |
| September | 46.28          | Non-Compliance                                          |
| October   | 40.32          | Non-Compliance                                          |
| November  | 5.55           | Non-Compliance                                          |
| December  | 10.04          | Non-Compliance                                          |

Table 3.2.2 – WQT Source Summary

| WQT Location        | Used | Remaining |
|---------------------|------|-----------|
| Industrial Park (W) | 9.25 | 0         |
| Dolan Property      | 44.2 | 0         |
| WWTP Expansion Site | 11.7 | 0         |
| Honey Creek Park    | 0    | 0         |

## **PART 4: ANNUAL INSPECTION**

### **4.1 Annual Inspection – Dolan Property, WWTP Expansion, Industrial Park**

The Industrial Park, Dolan Property and WWTP Expansion properties were inspected for compliance June 1, 2023.

For the Dolan property and the WWTP expansion property, the inspection checked the method of planting and included a call with the farmers to verify crop and fertilizer application. The property was reviewed to verify no washouts occurred during the spring rains. Both properties met all requirements and were approved for WQT compliance.

The inspection at the industrial park involved walking the perimeter of the pond to inspect the outfall, the condition of the slopes, the vegetation growth and if there was any vehicle damage that needed fixed. The pond met all requirements and was approved for WQT compliance.

Photos will be provided starting in 2025 of the annual inspection of the WQT practices.

### **4.2 Annual Inspection Honey Creek**

Therefore, the Honey Creek Streambank project has not been completed. This project is out to bid and construction will begin in the spring of 2024.

## **PART 5: NON-COMPLIANCE**

As detailed in section 4.2, the honey creek project is still under construction and has not yet been completed. The city understands it is in non-compliance with the streambank portion of the WQT plan until such time as construction on the project is complete. The project is out to bid and will begin in the spring of 2024. The city will be in touch with the DNR when the project begins.

The City has started the process of coordinating with the Water Quality Trading Clearinghouse if credits are needed in 2024.

## **PART 6: FUTURE COMPLIANCE**

### **6.1 Future Compliance**

Due to increased flows and loading at the WWTP, the City of Monroe will unlikely be able to meet the necessary effluent value of approximately 0.112 mg/l for phosphorus. The City is in the process of completing the facilities planning process to expand the WWTP to adequately treat the increased flows and loading. The City will also be looking for additional projects for WQT trading to create the necessary credits to meet the WQBEL.

## Exhibits

**Exhibit A**

**INSPECTION REPORTS**





## WWTP Expansion Site - Inspection/ Communication

[illegible]



## Industrial Park Pond - Inspection

[illegible]



# 2024 Water Quality Trading Annual Report WQT – 2022 – 005



January 2025

**REVISED June 2025**

1107 16<sup>th</sup> Ave  
Monroe, WI 53566

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City of Monroe  
1224 10<sup>th</sup> Ave  
Monroe, WI 53566

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| Part 6: Future Compliance .....                                               | 4    |
| 6.1 Future Compliance .....                                                   | 4    |



## PART 1: INTRODUCTION

### 1.1 Study Purpose and Scope

This report has been prepared at the direction of City of Monroe and it to serve as the Water Quality Trading (WQT) Annual Report summarizing the WQT credits used by the City for the reduction of phosphorus.

This report will cover the following:

- » Summary of Credits used per month and source of credits.
- » Annual Inspection Summary
- » Areas of Non - Compliance

## PART 2: PERMIT TERM

This WQT Annual Report covers from January 1, 2024 - December 31, 2024

## PART 3: SUMMARY OF CREDITS USED

### 3.1 Credits Available

Table 3.1.1 summarizes the available credits for the permit term.

Table 3.1.1 – 2024 Available Credits

| Trade                                      | Trade Ratio (TR) | 2024 Available Credits | Credits with TR |
|--------------------------------------------|------------------|------------------------|-----------------|
| Industrial Park Pond (W)                   | 2:1              | 18.49                  | 9.25            |
| Dolan Property                             | 1.2              | 53                     | 44.2            |
| WWTP Expansion Site                        | 1.2              | 14                     | 11.7            |
| Honey Creek Park Streambank Restoration ** | 3:1              | 308.73                 | 102.91**        |
| Total                                      | -                | -                      | 77.92           |

\*\*Streambank Restoration Project Completed Beginning of November 2024 – credits applied to December.

### 3.2 Credits Needed

Table 3.2.1 summarizes the credits used each month and the source of the credits. Table 3.2.2 Summarizes the total credits used for the year from each source.

Table 3.2.1 – Credits Needed

| Month     | Needed Credits | Source Credits                                      |
|-----------|----------------|-----------------------------------------------------|
| January   | 35.029         | Dolan Property                                      |
| February  | 25.951         | From Industrial Park/ Dolan Property/WWTP Expansion |
| March     | 12.265         | Industrial Park/ Non- Compliance                    |
| April     | 9.9123         | Non- Compliance                                     |
| May       | 3.9094         | Non- Compliance                                     |
| June      | 0              |                                                     |
| July      | 27.785         | Non-Compliance                                      |
| August    | 26.02          | Non-Compliance                                      |
| September | 14.39          | Non-Compliance                                      |
| October   | 9.4706         | Non-Compliance                                      |
| November  | 0              |                                                     |
| December  | 17.029         | Streambank Restoration                              |

Total Credits Needed: 181.76

Table 3.2.2 – WQT Source Summary

| WQT Location                | Used   | Remaining |
|-----------------------------|--------|-----------|
| Industrial Park (W)         | 9.25   | 0         |
| Dolan Property              | 44.2   | 0         |
| WWTP Expansion Site         | 11.7   | 0         |
| Honey Creek Park Streambank | 17.029 | 0***      |

\*\*\* project only applied to December Credits – not available Remainder of year.

## **PART 4: ANNUAL INSPECTION**

### **4.1 Annual Inspection – Dolan Property, WWTP Expansion, Industrial Park**

The Industrial Park, Dolan Property and WWTP Expansion properties were inspected for compliance a couple of times during the year.

For the Dolan property and the WWTP expansion property, the inspection checked the method of planting and included a call with the farmers to verify crop and fertilizer application. The property was reviewed to verify no washouts occurred during the spring rains. Both properties met all requirements and were approved for WQT compliance.

The inspection at the industrial park involved walking the edge of the pond to inspect the condition of the slopes, the vegetation growth and if there was any vehicle damage that needed fixed. The pond met all requirements and was approved for WQT compliance.

### **4.2 Annual Inspection Honey Creek**

This project was completed at the beginning of November 2024. The practice registration is in Exhibit B of this report. This WQT practice will be inspected annually beginning in 2025.

## **PART 5: NON-COMPLIANCE**

As detailed in section 4.2, the honey creek project was under construction until November 2024. Therefore, the credits were not available until the end of the year. This project will not be part of the WQT inspection and included in the available credits in 2025.

The city has been in contact with the Water Quality Trading Clearinghouse. To date no credits are available. Regular contact has been made with the clearinghouse throughout the year with the most recent conversation taking place November 5, 2024. The city will maintain open communication with the Clearinghouse in 2025.

## **PART 6: FUTURE COMPLIANCE**

### **6.1 Future Compliance**

Due to increased flows and loading at the WWTP, the City of Monroe will unlikely be able to meet the necessary effluent value of approximately 0.112 mg/l for phosphorus. The city is in the process of completing the facilities planning process to expand the WWTP to adequately treat the increased flows and loading. The City will also be looking for additional projects for WQT trading to create the necessary credits to meet the WQBEL.

## Exhibits

**Exhibit A**

**INSPECTION REPORTS/PHOTOS**



## Dolan - Inspection/ Communication

[illegible]

## WWTP Expansion Site - Inspection/ Communication

[illegible]

## Industrial Park Pond - Inspection

[illegible]

## Streambank Restoration - Inspection/ Communication

[illegible]



1. Dolan Property



2. Dolan Property

3. Industrial Park Pond



4. Industrial Park Ponds





5. WWTP Expansion Site



6. WWTP Expansion Site





7. Streambank Restoration



8. Streambank Restoration



9. Streambank Restoration



10. Streambank Restoration



11. Streambank Restoration



## **Exhibit B**

### **STREAMBANK RESTORATION PRACTICE REGISTRATION**

**Water Quality Trading Management  
Practice Registration**  
Form 3400-207 (R 1/14)

Notice: Pursuant to s. 283.84, Wis. Stats., this form must be completed by any WPDES permittee that is using water quality trading as a method of complying with a permit limitation. Failure to complete this form would not result in penalties. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.).

**Applicant Information**

|                                                            |                                   |                               |
|------------------------------------------------------------|-----------------------------------|-------------------------------|
| Permittee Name<br>City of Monroe                           | Permit Number<br>WI- 0020362-08-0 | Facility Site Number<br>31428 |
| Facility Address<br>1110 18th Ave                          | City<br>Monroe                    | State<br>WI                   |
| Project Contact Name (if applicable)<br>Jennifer Buholzer  | Address<br>1107 16th Ave          | City<br>Monroe                |
|                                                            |                                   | State<br>WI                   |
|                                                            |                                   | ZIP Code<br>53566             |
| Project Name<br>Honey Creek Streambank Restoration Project |                                   |                               |

**Broker/Exchange Information (if applicable)**

Was a broker/exchange be used to facilitate trade? ☐ Yes  
☒ No

|                                   |              |
|-----------------------------------|--------------|
| Broker/Exchange Organization Name | Contact Name |
| Address                           | Phone Number |
|                                   | Email        |

**Trade Registration Information (Use a separate form for each trade agreement)**

| Type                                                                                                                | Trade Agreement Number                      | Practices Used to Generate Credits | Anticipated Load Reduction              | Trade Ratio | Method of Quantification            |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------|-----------------------------------------|-------------|-------------------------------------|
| <input checked="" type="radio"/> Urban NPS<br><input type="radio"/> Agricultural NPS<br><input type="radio"/> Other | WQT-2022-0005                               | Streambank Restoration             | 308.73                                  | 3:1         | NRCS Stream bank Erosion Calculator |
| County                                                                                                              | Closest Receiving Water Name<br>Honey Creek | Land Parcel ID(s)<br>2354.11       | Parameter(s) being traded<br>Phosphorus |             |                                     |

**The preparer certifies all of the following:**

- I have completed this document to the best of my knowledge and have not excluded pertinent information.
- I certify that the information in this document is true to the best of my knowledge.

|                                                   |                         |
|---------------------------------------------------|-------------------------|
| Signature of Preparer<br><i>Jennifer Buholzer</i> | Date Signed<br>1/1/2025 |
|---------------------------------------------------|-------------------------|

**Authorized Representative Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision. Based on my inquiry of those persons directly responsible for gathering and entering the information, the information is, to the best of my knowledge and belief, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

|                                                                            |                          |
|----------------------------------------------------------------------------|--------------------------|
| Signature of Authorized Representative<br><i>Alan E. Deiber</i> <i>OPN</i> | Date Signed<br>1-20-2025 |
|----------------------------------------------------------------------------|--------------------------|

**Leave Blank - For Department Use Only**

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| Date Received                                           | Trade Docket Number         |
| Entered in Tracking System <input type="checkbox"/> Yes | Date Entered                |
|                                                         | Name of Department Reviewer |





## **Exhibit 11**

### **Water Quality Trading Agreement**

**Water Quality Trade Agreement between  
City of Monroe and Wisconsin Department of Natural Resources**

This Water Quality Trade Agreement (this "Agreement") is made by and between City of Monroe ("Monroe") and the Wisconsin Department of Natural Resources ("the Department") and together "the Parties".

**1. Recitals**

- a. Water quality trading is an alternative compliance option for Wisconsin Permit Discharge Elimination System ("WPDES") Permit holders and is authorized by Wis. Stat. § 283.84.
- b. Wis. Stat. § 283.84(1)(e) provides that, "the [the Department] may authorize a person required to obtain a permit to increase the discharge of pollutants above levels that would otherwise be authorized in the permit if the person . . . reaches a binding, written agreement with [the Department] under which the person constructs a project or implements a plan that results in reducing the amount of water pollution from sources other than the source covered by the permit."
- c. The Department has issued guidance regarding water quality trading, including:
  - 1) Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Discharges, No. 3400-2020-12, (Edition 3, June 1, 2020);
  - 2) Guidance for Implementing Water Quality Trading in WPDES Permits, No. 3200-3400-3800-2020-03 (June 1, 2020).
- d. Monroe submitted a Permit application for issuance of a WPDES Permit on February 20, 2020. The Permit is for a wastewater discharge from its treatment facility located in Monroe, Wisconsin.
- e. The WPDES Permit will contain phosphorus water quality based effluent limits ("WQBELs") for Outfall 001, which is located in HUC-12 subwatershed 070900031004.
- f. Monroe owns and will implement a wet detention pond, removal of cropland from production, and streambank stabilization within the same hydrologic region as Outfall 001.
- g. The descriptions of the lands that include the wet detention pond, cropland conversion, and streambank stabilization are:

**Detention Pond:** Industrial park owned by Monroe for future expansion of the municipality. Parcel #: 2325150011525

**Cropland:** One field was recently acquired by the city for use as a second industrial park that is currently farmed in a corn/soy rotation. Parcel #s: 2325150270000 & 2325150282000. The second field is property acquired by the facility to allow for expansion of the treatment facility that is currently farmed in corn. Parcel #: 2302005311000

**Streambanks:** A portion of the bank along Honey Creek is owned by the City. Parcel #: 2325123541100

Monroe submitted to the Department a Water Quality Trading Plan (WQT Plan) under which Monroe will install a wet detention, remove cropland from production, and implement streambank stabilization to reduce pollution to surface waters of the State.

- h. The management practices will be installed and maintained relative to the NRCS Conservation Practice Standard listed below in Table One:

**Table One – Conservation Practice Standards**

| <b>NRCS Conservation Practice Standard</b> | <b>Number</b> |
|--------------------------------------------|---------------|
| NRCS Standard – Streambank Stabilization   | 580           |
| NRCS Standard – Crop Conversion            | 590           |
| DNR Standard – Wet Detention Pond          | 1001          |

- i. The WQT Plan includes an Establishment Plan and an Operation and Maintenance Plan for the wet detention pond, crop fields, and streambanks.

2. Agreement Terms

- a. Monroe shall establish practice consistent with the requirements in the approved WQT Plan (including the Establishment Plan, and the Operation and Maintenance Plan).
- b. The Department will propose to reissue the WPDES Permit to allow Monroe to use water quality trading as a compliance option, in accordance with the WQT Plan as approved by the Department.
- c. Subject to the terms of this Agreement and the terms of the WPDES Permit issued to Monroe, the Department shall allow Monroe to utilize phosphorus credits in the amount set forth in the approved WQT Plan to demonstrate compliance with phosphorus WQBELs in the WPDES Permit, provided Monroe implements the approved WQT Plan and complies with the related trading terms of the Permit.
- d. Any duly authorized officer, employee or representative of the Department

shall have the right to access and inspect practice location pursuant to Wis. Stat. § 283.55(2) so long as this Agreement remains in effect.

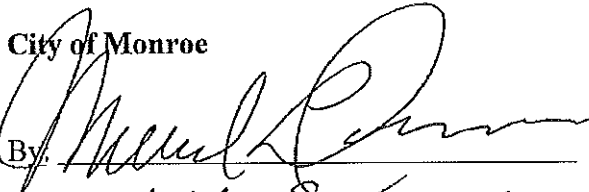
- e. The Agreement shall become effective on the later date of the completion of the following conditions: i.) the Department approves a WQT plan that is consistent with this Agreement; and ii.) The WPDES Permit includes trading terms that are consistent with both the approved WQT Plan and the terms of this Agreement.
- f. The Agreement applies and is effective for the term of the issued Permit unless, subject to this section the Permit is modified, terminated or revoked and reissued by the Department to eliminate the trade or to revise the trading terms in a manner that is inconsistent with this Agreement. If the trade is removed or revised through a Permit action, this Agreement is terminated. In accordance with Wis. Stat. § 227.51(2), if the trade has not been eliminated or modified through a Permit action, and if Monroe files a timely application for the reissuance of the Permit, the terms of the Agreement will continue until the later of the following: 1.) the application has been finally acted upon by the Department, 2.) the last day for seeking review of the agency's decision or 3.) a later date fixed by a reviewing court. The Agreement may extend into a subsequent reissued Permit upon approval of the Department.
- g. The Parties may terminate this Agreement by written mutual agreement at any time.
- h. Monroe may terminate this Agreement by providing at least sixty (60) days written notice to the Department of Monroe's intent to terminate the Agreement.
- i. In accordance with paragraph (h) and the procedures and requirements of Wis. Stat. § 283.53(2) and Wis. Admin. Code §§ NR 203.135 and 203.136, the Department may terminate this Agreement and modify or remove the terms of the Permit related to the trade if any one of the following occur:
  - 1) Monroe fails to implement the WQT Plan as approved by the Department;
  - 2) Monroe fails to comply with WPDES Permit terms and conditions related to water quality trading;
  - 3) New information becomes available that causes the Department to determine that water quality trading is no longer an acceptable option, including an objection or disapproval of the trade by USEPA.
- j. Any action by the Department to terminate this Agreement or otherwise to reduce or eliminate the number of phosphorus credits in the reissued WPDES Permit and approved WQT Plan shall be implemented through a modification, revocation and reissuance or reissuance of the WPDES Permit. Prior to

termination of this agreement, the Department shall notify Monroe of its intent to terminate the trading agreement and shall provide an opportunity for Monroe to discuss the proposed termination with the Department. If appropriate and feasible, the Department shall provide Monroe with a reasonable time period to correct the grounds for the proposed termination.

- k. This Agreement may be amended only by a further written document signed by each of the Parties. The WQT Plan, Agreement and Permit terms may be revised as part of a future Permit reissuance or modification.
- l. This Agreement shall be interpreted pursuant to the laws of the State of Wisconsin.
- m. This Agreement may be executed in one or more counterparts, and all such executed counterparts shall constitute the same agreement. A signed copy of this Agreement transmitted by facsimile or email shall be treated as an original and shall be binding against the party whose signature appears on such copy.
- n. If any provision of this Agreement is held invalid or unenforceable, the invalidity or unenforceability shall be limited to the particular provision involved and shall not affect the validity or enforceability of the remaining provisions. The Parties shall work together in good faith to modify this Agreement if necessary to preserve its original intent.
- o. In no event shall the Department be liable to any party under this Agreement or to any third party in contract, tort or otherwise for incidental or consequential damages of any kind, including, without limitation, punitive or economic damages or lost profits, except as provided under federal or state laws.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year entered below.

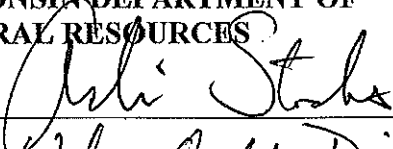
City of Monroe

By: 

Title: Utility Supervisor

Date: 5/13/22

WISCONSIN DEPARTMENT OF  
NATURAL RESOURCES

By: 

Title: Water Quality Director

Date: 5/16/2022





5/16/2025

Wisconsin Clearinghouse  
c/o: Chris Murphy, Nutrient Trading Manager  
17921 Smith Road  
Brodhead, WI 53520

Subject: Verification of Pollutant Reduction Credits  
Project#00105 Credit Verification Package: CVP-2025-02

Dear Mr. Murphy:

The Department of Natural Resources (department) recently received a credit verification package (CVP) for proposed generation of phosphorus credits via the State's water quality trading clearinghouse. Initial information was received in April of 2025 and a final CVP was received on 5/14/2025. The CVP proposes establishment of edge-of-field filter strips and maintenance of supporting upland practices on four agricultural fields in Green County. The timeline for filter strip installation, as set forth in the CVP, indicates filter strip practices will be established by June 30, 2025.

Credits generated from approved practices result in available credit quantities shown in Table 1. These credits may be incorporated into WPDES permits, subject to the department's public notice and permit modification/reissuance procedures. An agreement must be established with a credit buyer pursuant to s. 283.84(1)(f), Wis Stats., and buyers must be located in the applicable hydrologic area, as defined at s. 283.84(1m)(e)2., Wis. Stats. Credit sales must observe any applicable downstream or delivery factors, as defined in guidance. Pollutant credits may be used to demonstrate compliance with phosphorus water quality-based effluent limits.

Table 1: Total Phosphorus Credits Available per CVP-2025-02

| Year | Available Credits<br>(lbs/yr) – Total |
|------|---------------------------------------|
| 2025 | 96                                    |
| 2026 | 192                                   |
| 2027 | 192                                   |
| 2028 | 192                                   |
| 2029 | 192                                   |
| 2030 | 192                                   |
| 2031 | 192                                   |
| 2032 | 192                                   |
| 2033 | 192                                   |
| 2034 | 192                                   |
| 2035 | 192                                   |

The department conditionally verifies pollutant credits for a duration of ten years, provided operation & maintenance, inspection reporting, and NRCS technical standard protocols related to the filter strip and supporting upland practices are adhered to. This verification is based, in part, on how the upland practices in the CVP were demonstrated as equivalent to Wisconsin's NRCS 590 nutrient management plan requirements (2015). This verification also presumes: the entire length of each filter strip will be inspected, inspections of filter strip and supporting upland practices will occur during the spring before planting and repair of any gully erosion areas will be completed as soon as possible via seeding and stabilization with perennial vegetation. The verification also recognizes four site visits of the CVP fields were completed, two in spring 2024 and two in spring 2025 and found no evidence of gully erosion and both residue management and grassed waterways were implemented on the fields.

This verification is not to be construed as an approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. or other permits/approvals required at the county or municipal level. The department has assigned the CVP a tracking number of CVP-2025-02 and it will be referenced as such in the WPDES permits of credit users. The CVP will be included as part of the public notice package when a credit buyer's permit is reissued to incorporate credits. The WPDES permit will include a requirement for an annual trading inspection report, requirements to implement the CVP as approved, and effluent monitoring for total phosphorus to demonstrate credit use and computed compliance.

If you have any questions or comments, please contact me at (608) 400 - 5596 or by email at [matthew.claucherty@wisconsin.gov](mailto:matthew.claucherty@wisconsin.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Claucherty", with a stylized flourish at the end.

Matt Claucherty  
Phosphorus Implementation Coordinator  
Wisconsin Department of Natural Resources

e-CC:

Erin Delawalla, RES  
Andrew Craig, DNR  
Kevin Kirsch, DNR

Project Name: Monroe WQT-Ken Clark: Riparian Filter Strip

May 14, 2025

Landowner Information: Ken Clark

Mailing Address: W6710 Melvin Rd  
Monroe, WI 53566

Physical Address of Project: W6710 Melvin Rd  
Monroe, WI 53566  
Parcel ID: 2301001620000, 2301001640100, and  
230100169100

CVP Prepared by: Resource Environment Solutions:  
17921 W Smith Rd  
Brodhead, WI 53520  
Contact Person: Isaac Welsh, (608)-314-4126

### Introduction:

The Clark family have been operating a dairy farm in the Monroe area for the past several decades. In the fall of 2024, they decided to discontinue the dairy operation, but they are planning to continue crop farming. Historically the farm grew corn for silage and grain, soybeans, and alfalfa. With the dissolution of the dairy operation a corn grain and soybean cropping system is planned. Ken applies fertilizer in the amount to meet expected crop yields.

**Location of Activities:** The project is located in the Hawthorn Creek- Honey Creek HUC 12 Watershed (070900031004). The riparian filter strips are being place along both the Honey Creek and Hawthorn Creek south of Melvin Road on Ken Clark's property. Honey Creek flows southwest and joins the Pecatonica River east of Winslow, IL. Please refer to Appendix I for a Map.

The WI DNR has Honey Creek on the 303d list for total phosphorus and total suspended solids in the creek. [Impaired Waters Detail - Honey Creek](#)

**Practice Being Installed:** In 2025 Ken Clark will establish a 30 to 60 feet wide riparian filter strip with the intent of certifying the practice so credits can be available in 2025. There will be four different sections of filter strips being installed. The w filter, ne filter, se filter, and s filter. See Appendix III and Appendix IV for the planned location of the buffers and their associated watersheds.

## Filter Strips:

The filter strip will be designed to have a 10-year life span with a minimum of 30 feet wide and a maximum of 60 feet width from the edge of the stream. The USDA-NRCS Conservation Practice Standard 393-Filter Strip will be used as guidance for planning and installation.

The filter strip will be established with a permanent grass hay mix. A perennial vegetation seed mix of %15 annual ryegrass, 25% Fescue, 20% perennial rye, 15% festulolium, 15% brome, 8% Timothy, and 2% bluegrass will be have a planting rate of 21.25 # of pure live seed. The filter strips will be mowed and baled at least once a year to encourage dense growth, maintain an upright growth habit and remove nutrients and other contaminants that are contained in the plant tissue. A diverse plant population of the species planted is desired, but there are no guarantees the plant population will represent the percentage of species planted.

The seeding will be drilled in using a Brillion seeder. The field will be prepared like the cropland field before planting to prepare the seed bed. Resource Environmental Solutions will be responsible for certifying that the practice has been installed according to the standard of 80% ground cover of the species planted along with the width of the filter strips being in the range of a minimum of 30 feet and a maximum of 60 feet.

**Frequency of Inspections:** The landowner will inspect the site after every rain event greater than one inch as well as during snow melt. Annual inspections will be conducted by the Wisconsin Water Quality Trading Clearinghouse, and the results of the inspection will be documented by the Wisconsin Water Quality Trading Clearinghouse. Items to be inspected and documented are those listed below in the Monitoring and Maintenance section. Documentation will include written descriptions and photographs to provide evidence that the best management practices are in good condition and function properly.

## Monitoring and Maintenance:

The following are a list of things that will be monitored and maintained as part of the long-term site protection work:

Standards:

- Inspect the filter strip after storm events great than an inch and repair any gullies that have formed, remove unevenly deposited sediment accumulation that will disrupt sheet flow, reseed disturbed areas, and take other measures to prevent concentrated flow through the filter strip.
- Periodically regrade and reestablish the filter strip area when sediment deposition at the filter strip-field interface jeopardizes its function. Reestablish the filter strip vegetation in these regraded areas, if needed.

- An adequate stand shall be maintained and consist of a minimum of 80% ground cover of the planted species.
- The strip will be mowed and the biomass removed once per year. If possible, this will occur outside of May or June to avoid the primary fawning and nesting season. Multiple harvests may occur within the growing season.
- If prescribed burning is used to manage and maintain the filter strip, a burn plan must be developed by a qualified person.
- Control and try to eradicate undesired weed species, especially State-listed noxious weeds. Mowing and herbicides are likely methods.
- No livestock grazing shall occur to harvest vegetation from the filter strip.
- Fertilizers may be applied to the filter strip if applied per University of Wisconsin publication A2809 or a nutrient management plan approved by a Certified Crop Advisor. No manure, municipal sludge or phosphorus fertilizers shall be applied to the filter strip.
- The watershed fields plan to have a rotation of one year soybean and two years corn grain over the course of the project. Nutrients will be applied at a variable rate at a level that will meet the needs of expected crop yield. The tillage practices will be no till to prepare seedbed for corn grain following soybeans, seedbed preparation for corn grain following corn grain is fall vertical tillage and soybean seedbed will be prepared using fall vertical tillage. No livestock manure will be applied. Repair any gullies as soon as possible
- Landowner may apply pesticides and fungicides according to federal and state approved label directions on the filter strip.
- Landowner may remove forage by mowing. If wildlife production is desired, consider delaying mowing until after August 1.

### Amount of Credit Generated:

The existing and planned conditions are modeled using Snap Plus V2. The cropping systems for all four buffers and associated watersheds is a Soybean- Corn Grain - Corn Grain rotation. The 2025 crop is soybeans. Fertilizers are applied using variable rate technology based on soils test data and expected crop yields. The tillage practices are as follows: corn following soybeans is no-tilled, corn following corn is fall vertical tillage occur, and soybean is fall vertical tillage. The planned rotation has the installation of a filter strip. The crop rotation, tillage operations, and fertilizer application are identical for planned and baseline conditions. See Appendix III to see the Snap Plus Map of the area. Soils test data is from 2022. See Appendix V: Soil Test Data for details. The SNAPPlus Files are placed in the Clearinghouse under Ken Clark's account.

The practice uncertainty factor of 2 is used to convert the pounds of phosphorus reduced at field's edge to credits available for water quality trading because of the application of upland management practices such as grass waterways, reduced tillage and variable rate fertilizer application which demonstrates nutrient management. Site visits confirmed these practices are currently being applied.

The City of Monroe will be the trading partner so a downstream factor of .1 is used. See downstream calculation for details. The trade ratio will be 2.1:1.

An estimated 403 pounds of phosphorus will be reduced annually through the implication of the planned project. With a 2.1:1 ratio 192 credits will be generated and maintained for the duration of the practice. The credits will be available for use in 2025. The credits will be generated for 10 years. The table below shows the three-year rotation. Snap Plus Spreadsheets are in Appendix VI.

| <b>PRACTICE NAME:</b> | Riparian filter |             |             |         |
|-----------------------|-----------------|-------------|-------------|---------|
|                       |                 |             |             |         |
|                       | <b>2026</b>     | <b>2027</b> | <b>2028</b> |         |
|                       |                 |             |             |         |
| EXISTING              | 833             | 427         | 438         |         |
|                       |                 |             |             |         |
| PLANNED               | 232             | 123         | 133         |         |
|                       |                 |             |             |         |
| REDUCTION             | 60122           | 304         | 3052        | 403     |
|                       |                 |             |             |         |
|                       |                 |             |             | Average |
|                       |                 |             |             |         |



## Downstream Factor Calculations for Ken Clark – Monroe WWTF Trade

### Presto Phosphorus Load Estimates

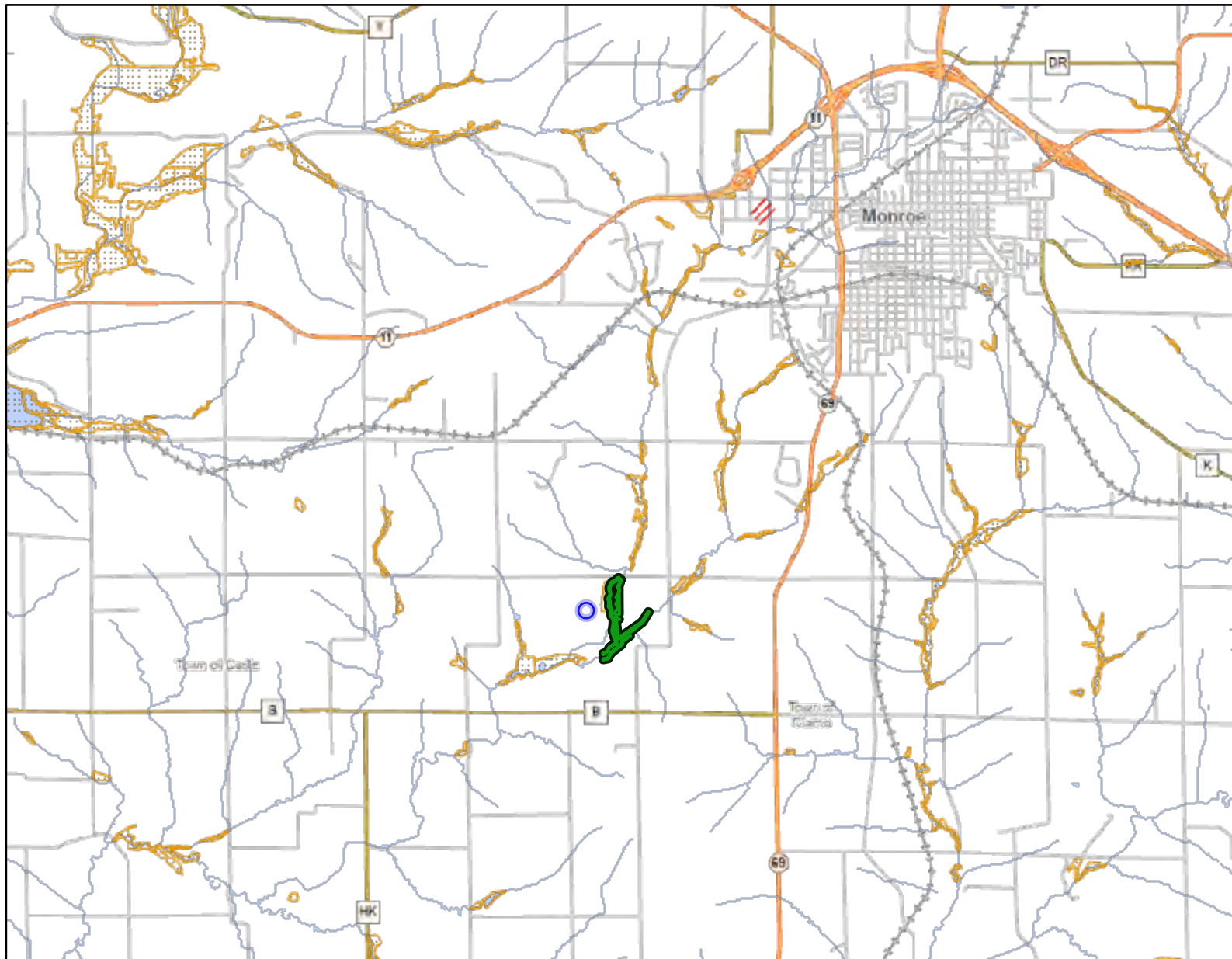
|                                                                                 |                              |
|---------------------------------------------------------------------------------|------------------------------|
| Avg. Annual Nonpoint Phosphorous Load (80% Confidence Interval)                 | 20,562 (10,196 - 41,469) lbs |
| Number of Facilities (Individual Facility Information below)                    | 1                            |
| Avg. Annual Point-source Phosphorous Load (2010 - 2012 total of all facilities) | 3,997 lbs                    |
| Most Likely Point : Nonpoint Phosphorous Ratio                                  | 16% : 84%                    |
| Low Estimate Point : Nonpoint Phosphorous Ratio (Adaptive Management)           | 9% : 91%                     |

$$\begin{aligned}\text{Credit User's Load as a Percentage of Total In-Stream Load} &= \text{Avg Annual Point Source Load} / \text{Total Load} \times 100 \\ &= (3997 / 24,559) \times 100 \\ &= 16 \%\end{aligned}$$

Table 2. WDNR Water Quality Trading Guidance Manual

| Credit User's Load as a Percentage of Total In-Stream Load | Downstream Trading Factor |
|------------------------------------------------------------|---------------------------|
| <25%                                                       | 0.1                       |
| <50%                                                       | 0.2                       |
| <75%                                                       | 0.4                       |
| ≥75%                                                       | 0.8                       |

Downstream Trading Factor = .1



**Legend:** (some map layers may not be displayed)

**Wetland Class Points**

- Dammed pond
- Excavated pond
- Wetland too small to delineate

**Filled Points**

- Yes

**Wetland Class Areas**

**Filled Areas**

- Y
- Rivers and Streams
- Intermittent Streams
- Open Water

**City or Village**

**County Boundaries**

**Major Roads**

- State Highway

**County and Local Roads**

- County HWY
- Local Road

**Notes:**



Map: 0 5,000 10,000 Feet  
0 1,000 2,000 Meters

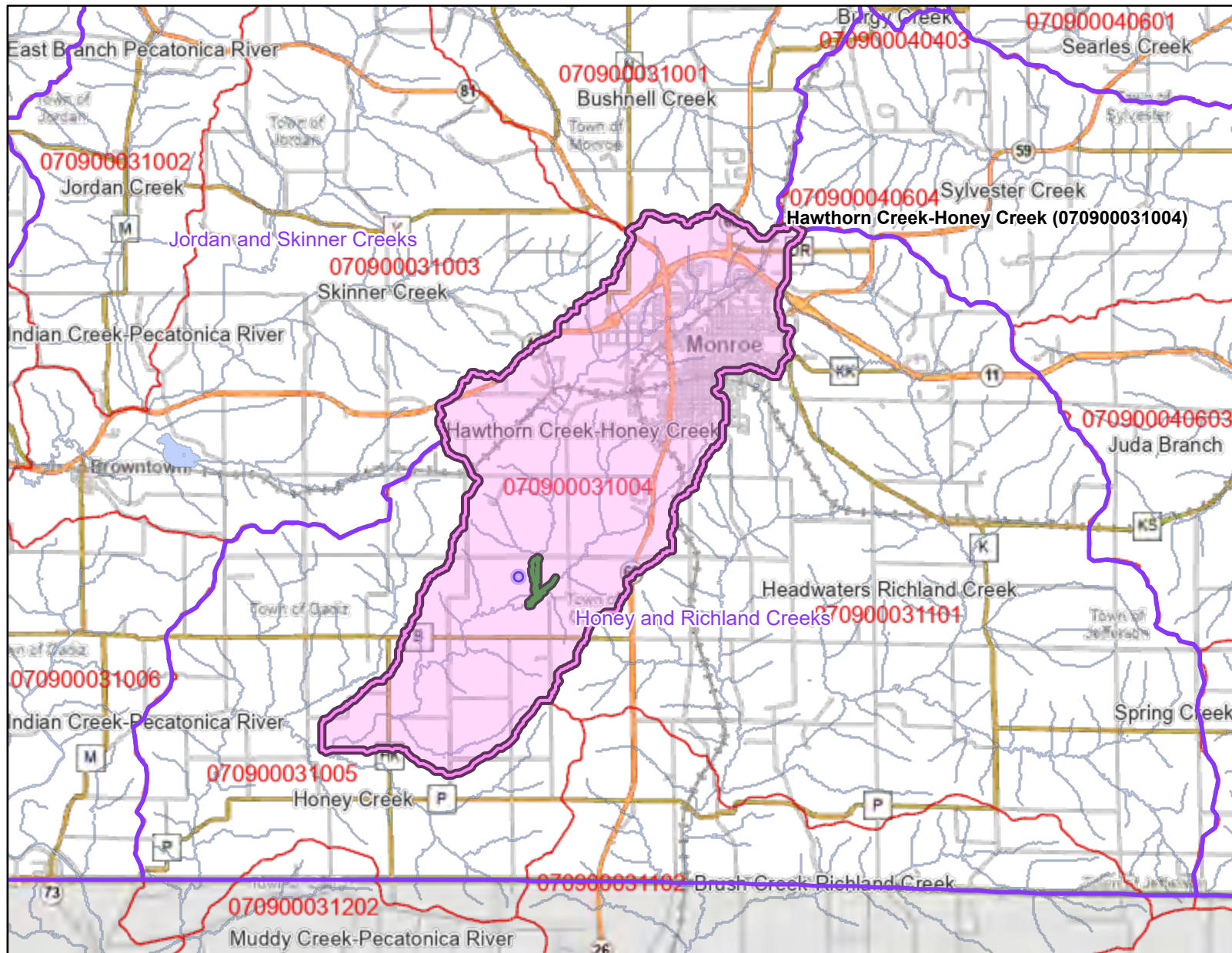
Service Layer Credits:  
Wisconsin Wetland Inventory NWI (cached); , Cities, Roads & Boundaries; , Surface Water (Cached): WiDNR,  
USGS, and other data

Map projection: NAD 1983 HARN Wisconsin TM

This map is a product generated by a DNR web mapping application.

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: <https://dnr.wisconsin.gov/legal>

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**Legend:** (some map layers may not be displayed)

- Watersheds
- 12-digit HUCs (Subwatersheds)
- Rivers and Streams
- Intermittent Streams
- Open Water
- City or Village
- State Boundaries
- County Boundaries
- Major Roads
  - State Highway
  - County and Local Roads
    - County HWY
    - Local Road
    - Railroads

**Notes:**



Map: 0 8,000 16,000 Feet  
0 2,500 5,000 Meters

Service Layer Credits:  
Wisconsin Wetland Inventory NWI (cached); Hydrologic Units (HUCs): U. S. Department of Agriculture, Natural Resources Conservation Service, Cities, Roads & Boundaries; Surface Water (Cached): WIDNR, USGS, and other data

Map projection: NAD 1983 HARN Wisconsin TM

This map is a product generated by a DNR web mapping application.

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## Appendix II Topophy



APPENDIX III continued.





**Legend:** (some map layers may not be displayed)

- Wetland Class Points
  - Wetland too small to delineate
- Wetland Class Areas
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- County Boundaries
- County and Local Roads
  - Local Road
- Latest Leaf Off Imagery

**Notes:**



Map: 0 690 1,380 Feet  
0 200 400 Meters

Service Layer Credits:  
Latest Leaf Off: , Wisconsin Wetland Inventory NWI (Dynamic): Calvin Lawrence, Dennis Weise, Nina Rihn,  
Cities, Roads & Boundaries: , Surface Water (Cached): WiDNR, USGS, and other data

Map projection: NAD 1983 HARN Wisconsin TM

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# Appendix V: Soils Test Data

o

Ken Clark (WF)  
Home  
East of Old Barn  
21.32 ac

P - Soil Test - 2022



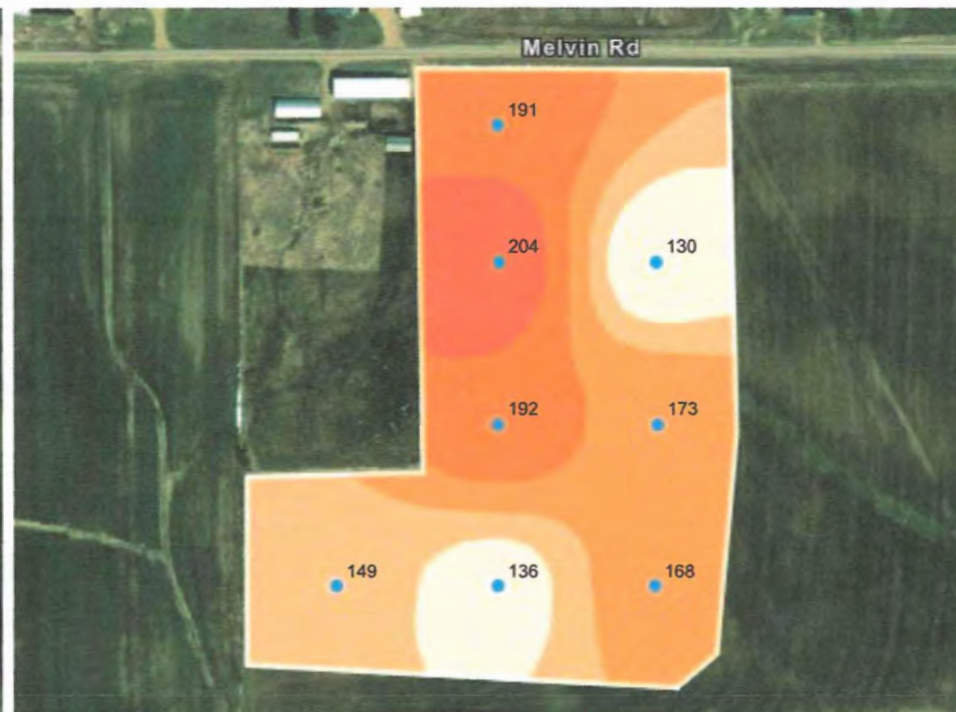
Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 48 ppm  
Avg: 59.1 ppm  
Max: 73 ppm

**P-Bray 1 (ppm)**

|                       |
|-----------------------|
| 48 - 53.3 (4.29 ac)   |
| 53.3 - 58.5 (8.02 ac) |
| 58.5 - 64.1 (4.83 ac) |
| 64.1 - 69.6 (2.30 ac) |
| 69.6 - 73 (1.88 ac)   |

K - Soil Test - 2022



Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 130 ppm  
Avg: 168 ppm  
Max: 204 ppm

**K (ppm)**

|                     |
|---------------------|
| 130 - 145 (3.32 ac) |
| 145 - 160 (5.45 ac) |
| 160 - 178 (6.37 ac) |
| 178 - 193 (4.27 ac) |
| 193 - 204 (1.92 ac) |



Grower: Ken Clark (WF)  
Farm: Home  
Field: East of Old Barn

Sample Date: 10/17/22  
Sample Depth: 6 in  
Field Area: 21.32 ac

Season: 2022

|                | Field Summary |       |       | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |       |
| pH             | 6.70          | 7.10  | 7.30  | 7.10  | 7.20  | 7.30  | 7.10  | 6.70  | 7.00  | 7.10  | 7.30  |
| P-Bray 1 (ppm) | 48.0          | 59.1  | 73.0  | 48.0  | 55.0  | 62.0  | 48.0  | 57.0  | 61.0  | 69.0  | 73.0  |
| K (ppm)        | 130           | 168   | 204   | 130   | 173   | 168   | 136   | 149   | 192   | 204   | 191   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 9.90          | 10.9  | 11.9  | 10.3  | 10.6  | 9.9   | 10.0  | 11.8  | 11.9  | 11.0  | 11.3  |
| OM (%)         | 3.00          | 3.26  | 3.60  | 3.20  | 3.60  | 3.20  | 3.00  | 3.20  | 3.30  | 3.30  | 3.30  |
| Ca (ppm)       | 1,300         | 1,456 | 1,600 | 1,400 | 1,450 | 1,300 | 1,350 | 1,500 | 1,600 | 1,500 | 1,550 |
| Mg (ppm)       | 345           | 375   | 465   | 355   | 350   | 355   | 345   | 465   | 410   | 355   | 365   |
| S (ppm)        | 5.00          | 7.50  | 9.00  | 7.00  | 8.00  | 5.00  | 8.00  | 7.00  | 8.00  | 8.00  | 9.00  |
| Zn (ppm)       | 6.00          | 7.70  | 9.60  | 6.70  | 7.80  | 6.40  | 6.00  | 7.00  | 8.50  | 9.60  | 9.60  |
| Mn (ppm)       | 49.0          | 53.3  | 58.0  | 54.0  | 58.0  | 51.0  | 49.0  | 51.0  | 52.0  | 55.0  | 56.0  |
| B (ppm)        | 0.50          | 0.71  | 0.90  | 0.60  | 0.70  | 0.70  | 0.50  | 0.70  | 0.90  | 0.80  | 0.80  |
| Cu (ppm)       | 1.70          | 1.99  | 2.30  | 1.70  | 1.90  | 1.70  | 1.80  | 2.10  | 2.20  | 2.20  | 2.30  |
| Fe (ppm)       | 22.0          | 25.1  | 30.0  | 23.0  | 25.0  | 26.0  | 26.0  | 30.0  | 22.0  | 23.0  | 26.0  |
| K %            | 3.20          | 3.96  | 4.80  | 3.20  | 4.20  | 4.40  | 3.50  | 3.20  | 4.10  | 4.80  | 4.30  |
| Ca %           | 63.8          | 67.2  | 68.7  | 68.0  | 68.3  | 65.7  | 67.7  | 63.8  | 67.2  | 68.3  | 68.7  |
| Mg %           | 26.9          | 28.8  | 33.0  | 28.7  | 27.5  | 29.9  | 28.8  | 33.0  | 28.7  | 26.9  | 27.0  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 7.05          | 7.75  | 9.69  | 7.16  | 7.05  | 9.69  | 8.00  | 8.14  | 7.18  | 7.19  | 7.60  |
| Ca %/K %       | 14.2          | 17.3  | 21.3  | 21.3  | 16.3  | 14.9  | 19.3  | 19.9  | 16.4  | 14.2  | 16.0  |
| Ca %/Mg %      | 1.93          | 2.34  | 2.54  | 2.37  | 2.48  | 2.20  | 2.35  | 1.93  | 2.34  | 2.54  | 2.54  |



P - Soil Test - 2022



Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 24 ppm  
Avg: 40.2 ppm  
Max: 55 ppm

**P-Bray 1 (ppm)**

|                       |
|-----------------------|
| 24 - 31.8 (4.99 ac)   |
| 31.8 - 37.3 (9.44 ac) |
| 37.3 - 42.6 (9.71 ac) |
| 42.6 - 48.6 (9.04 ac) |
| 48.6 - 55 (5.56 ac)   |

K - Soil Test - 2022



Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 94 ppm  
Avg: 138 ppm  
Max: 172 ppm

**K (ppm)**

|                     |
|---------------------|
| 94 - 112 (4.64 ac)  |
| 112 - 127 (6.51 ac) |
| 127 - 140 (7.77 ac) |
| 140 - 154 (9.91 ac) |
| 154 - 172 (9.92 ac) |





Grower: Ken Clark (WF)  
Farm: Home  
Field: Middle Strip

Sample Date: 10/17/22  
Sample Depth: 6 in  
Field Area: 38.74 ac

Season: 2022

|                | Field Summary |       |       | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| pH             | 7.10          | 7.31  | 7.50  | 7.20  | 7.40  | 7.40  | 7.10  | 7.40  | 7.30  | 7.40  | 7.30  | 7.20  | 7.40  | 7.20  | 7.30  | 7.50  |
| P-Bray 1 (ppm) | 24.0          | 40.2  | 55.0  | 33.0  | 38.0  | 46.0  | 24.0  | 27.0  | 54.0  | 30.0  | 37.0  | 49.0  | 40.0  | 35.0  | 38.0  | 52.0  |
| K (ppm)        | 94.0          | 138   | 172   | 113   | 125   | 151   | 108   | 96    | 146   | 94    | 137   | 163   | 143   | 172   | 131   | 157   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 8.70          | 10.5  | 11.7  | 9.4   | 9.5   | 8.9   | 8.7   | 10.0  | 10.7  | 10.9  | 11.5  | 11.7  | 11.2  | 11.7  | 10.0  | 10.4  |
| OM (%)         | 2.70          | 3.28  | 3.90  | 2.90  | 2.90  | 3.40  | 3.60  | 3.00  | 3.20  | 2.70  | 2.80  | 3.30  | 3.70  | 3.90  | 3.30  | 3.90  |
| Ca (ppm)       | 1,150         | 1,357 | 1,500 | 1,250 | 1,250 | 1,200 | 1,150 | 1,300 | 1,350 | 1,400 | 1,450 | 1,500 | 1,450 | 1,500 | 1,300 | 1,350 |
| Mg (ppm)       | 300           | 400   | 465   | 345   | 350   | 300   | 325   | 385   | 430   | 435   | 465   | 450   | 425   | 450   | 380   | 390   |
| S (ppm)        | 5.00          | 6.20  | 8.00  | 5.00  | 6.00  | 5.00  | 6.00  | 5.00  | 7.00  | 6.00  | 8.00  | 6.00  | 7.00  | 7.00  | 6.00  | 6.00  |
| Zn (ppm)       | 5.70          | 7.57  | 8.90  | 7.60  | 7.80  | 7.50  | 6.20  | 5.70  | 7.90  | 6.40  | 7.40  | 8.10  | 8.60  | 7.80  | 7.30  | 8.10  |
| Mn (ppm)       | 47.0          | 53.1  | 60.0  | 57.0  | 55.0  | 59.0  | 51.0  | 53.0  | 52.0  | 50.0  | 60.0  | 54.0  | 52.0  | 47.0  | 54.0  | 53.0  |
| B (ppm)        | 0.40          | 0.50  | 0.60  | 0.50  | 0.40  | 0.40  | 0.50  | 0.40  | 0.50  | 0.50  | 0.50  | 0.60  | 0.60  | 0.60  | 0.40  | 0.60  |
| Cu (ppm)       | 1.40          | 1.99  | 2.30  | 2.20  | 2.20  | 1.90  | 1.40  | 1.80  | 2.10  | 1.90  | 2.30  | 2.20  | 1.90  | 2.00  | 1.60  | 2.00  |
| Fe (ppm)       | 9.00          | 21.0  | 38.0  | 21.0  | 19.0  | 23.0  | 9.0   | 15.0  | 21.0  | 15.0  | 38.0  | 28.0  | 18.0  | 19.0  | 16.0  | 25.0  |
| K %            | 2.20          | 3.40  | 4.40  | 3.10  | 3.40  | 4.40  | 3.20  | 2.50  | 3.50  | 2.20  | 3.10  | 3.60  | 3.30  | 3.80  | 3.40  | 3.90  |
| Ca %           | 63.0          | 64.9  | 67.5  | 66.4  | 65.9  | 67.5  | 65.8  | 65.3  | 63.0  | 64.4  | 63.2  | 64.3  | 65.0  | 64.2  | 65.0  | 64.9  |
| Mg %           | 28.1          | 31.7  | 33.8  | 30.5  | 30.7  | 28.1  | 31.0  | 32.2  | 33.5  | 33.4  | 33.8  | 32.1  | 31.7  | 32.1  | 31.7  | 31.2  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 3.87          | 5.26  | 6.84  | 4.34  | 4.87  | 6.13  | 3.87  | 4.74  | 6.84  | 4.69  | 5.00  | 6.05  | 4.65  | 4.49  | 5.21  | 6.42  |
| Ca %/K %       | 15.3          | 19.6  | 29.3  | 21.4  | 19.4  | 15.3  | 20.6  | 26.1  | 18.0  | 29.3  | 20.4  | 17.9  | 19.7  | 16.9  | 19.1  | 16.6  |
| Ca %/Mg %      | 1.87          | 2.05  | 2.40  | 2.18  | 2.15  | 2.40  | 2.12  | 2.03  | 1.88  | 1.93  | 1.87  | 2.00  | 2.05  | 2.00  | 2.05  | 2.08  |



Grower: Ken Clark (WF)  
Farm: Home  
Field: Middle Strip

Sample Date: 10/17/22  
Sample Depth: 6 in  
Field Area: 38.74 ac

Season: 2022

|                | Field Summary |       |       | 14    | 15    |
|----------------|---------------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |
| pH             | 7.10          | 7.31  | 7.50  | 7.30  | 7.30  |
| P-Bray 1 (ppm) | 24.0          | 40.2  | 55.0  | 45.0  | 55.0  |
| K (ppm)        | 94.0          | 138   | 172   | 163   | 169   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 8.70          | 10.5  | 11.7  | 11.1  | 11.5  |
| OM (%)         | 2.70          | 3.28  | 3.90  | 3.50  | 3.10  |
| Ca (ppm)       | 1,150         | 1,357 | 1,500 | 1,450 | 1,450 |
| Mg (ppm)       | 300           | 400   | 465   | 410   | 460   |
| S (ppm)        | 5.00          | 6.20  | 8.00  | 7.00  | 6.00  |
| Zn (ppm)       | 5.70          | 7.57  | 8.90  | 8.20  | 8.90  |
| Mn (ppm)       | 47.0          | 53.1  | 60.0  | 50.0  | 49.0  |
| B (ppm)        | 0.40          | 0.50  | 0.60  | 0.50  | 0.50  |
| Cu (ppm)       | 1.40          | 1.99  | 2.30  | 2.00  | 2.30  |
| Fe (ppm)       | 9.00          | 21.0  | 38.0  | 22.0  | 26.0  |
| K %            | 2.20          | 3.40  | 4.40  | 3.80  | 3.80  |
| Ca %           | 63.0          | 64.9  | 67.5  | 65.4  | 63.0  |
| Mg %           | 28.1          | 31.7  | 33.8  | 30.8  | 33.3  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 3.87          | 5.26  | 6.84  | 5.49  | 6.18  |
| Ca %/K %       | 15.3          | 19.6  | 29.3  | 17.2  | 16.6  |
| Ca %/Mg %      | 1.87          | 2.05  | 2.40  | 2.12  | 1.89  |



## P - Soil Test - 2022



Maxar | Esri Community Maps Contributors, Esri, HERE, Garmin, S... Powered by Esri

Min: 13 ppm  
Avg: 49.8 ppm  
Max: 95 ppm

### P-Bray 1 (ppm)

|                        |
|------------------------|
| 13 - 36.8 (17.30 ac)   |
| 36.8 - 48.5 (11.86 ac) |
| 48.5 - 60.5 (14.24 ac) |
| 60.5 - 74.8 (9.60 ac)  |
| 74.8 - 95 (6.16 ac)    |

## K - Soil Test - 2022



Maxar | Esri Community Maps Contributors, Esri, HERE, Garmin, S... Powered by Esri

Min: 56 ppm  
Avg: 139 ppm  
Max: 224 ppm

### K (ppm)

|                      |
|----------------------|
| 56 - 91 (7.54 ac)    |
| 91 - 125 (13.86 ac)  |
| 125 - 156 (16.01 ac) |
| 156 - 188 (12.47 ac) |
| 188 - 224 (9.27 ac)  |





Grower: Ken Clark (WF)  
Farm: Home  
Field: South Side

Sample Date: 10/17/22  
Sample Depth: 6 in  
Field Area: 59.17 ac

Season: 2022

|                | Field Summary |       |       | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| pH             | 6.90          | 7.42  | 7.70  | 7.60  | 7.70  | 7.80  | 7.40  | 7.40  | 7.30  | 7.50  | 7.00  | 7.50  | 7.40  | 7.70  | 7.60  | 7.60  |
| P-Bray 1 (ppm) | 13.0          | 49.8  | 95.0  | 33.0  | 30.0  | 33.0  | 58.0  | 51.0  | 41.0  | 95.0  | 67.0  | 54.0  | 65.0  | 57.0  | 81.0  | 91.0  |
| K (ppm)        | 56.0          | 139   | 224   | 56    | 106   | 108   | 133   | 147   | 131   | 224   | 219   | 190   | 182   | 161   | 186   | 152   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 10.3          | 15.1  | 20.0  | 15.1  | 14.4  | 14.8  | 20.0  | 16.4  | 19.0  | 13.2  | 12.7  | 11.9  | 13.2  | 13.7  | 17.8  | 17.1  |
| OM (%)         | 2.90          | 5.19  | 7.20  | 5.90  | 4.20  | 4.60  | 6.30  | 4.80  | 6.50  | 3.80  | 4.60  | 3.60  | 4.20  | 4.00  | 5.50  | 5.40  |
| Ca (ppm)       | 1,350         | 2,035 | 2,650 | 2,050 | 1,950 | 2,000 | 2,600 | 2,200 | 2,650 | 1,850 | 1,750 | 1,600 | 1,750 | 1,850 | 2,300 | 2,300 |
| Mg (ppm)       | 380           | 545   | 800   | 565   | 525   | 545   | 800   | 605   | 655   | 410   | 410   | 405   | 480   | 485   | 695   | 620   |
| S (ppm)        | 5.00          | 9.09  | 15.0  | 8.00  | 7.00  | 8.00  | 6.00  | 6.00  | 9.00  | 9.00  | 7.00  | 10.00 | 10.00 | 14.00 | 12.00 | 8.00  |
| Zn (ppm)       | 6.70          | 9.07  | 12.2  | 8.80  | 8.50  | 11.40 | 12.20 | 7.80  | 11.80 | 10.60 | 12.20 | 8.20  | 9.30  | 10.00 | 9.90  | 9.80  |
| Mn (ppm)       | 33.0          | 56.3  | 87.0  | 47.0  | 63.0  | 60.0  | 44.0  | 33.0  | 41.0  | 60.0  | 56.0  | 70.0  | 68.0  | 87.0  | 57.0  | 52.0  |
| B (ppm)        | 0.60          | 0.95  | 1.60  | 1.10  | 1.00  | 1.20  | 0.90  | 0.80  | 1.60  | 1.00  | 0.60  | 0.80  | 0.70  | 0.90  | 0.90  | 0.90  |
| Cu (ppm)       | 1.60          | 2.14  | 2.70  | 2.20  | 2.00  | 2.60  | 2.70  | 2.00  | 2.50  | 2.10  | 2.00  | 1.80  | 1.90  | 1.90  | 2.50  | 2.50  |
| Fe (ppm)       | 23.0          | 60.5  | 149   | 61.0  | 41.0  | 37.0  | 29.0  | 23.0  | 23.0  | 80.0  | 40.0  | 52.0  | 43.0  | 71.0  | 91.0  | 83.0  |
| K %            | 0.90          | 2.46  | 4.40  | 1.00  | 1.90  | 1.90  | 1.70  | 2.30  | 1.80  | 4.30  | 4.40  | 4.10  | 3.50  | 3.00  | 2.70  | 2.30  |
| Ca %           | 64.5          | 67.5  | 70.1  | 67.9  | 67.7  | 67.5  | 65.0  | 67.0  | 69.6  | 69.9  | 68.7  | 67.4  | 66.2  | 67.5  | 64.7  | 67.4  |
| Mg %           | 25.8          | 30.0  | 33.3  | 31.2  | 30.4  | 30.6  | 33.3  | 30.7  | 28.7  | 25.8  | 26.8  | 28.5  | 30.3  | 29.5  | 32.6  | 30.3  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 1.73          | 5.49  | 9.29  | 3.75  | 3.53  | 2.89  | 4.75  | 6.54  | 3.47  | 8.96  | 5.49  | 6.59  | 6.99  | 5.70  | 8.18  | 9.29  |
| Ca %/K %       | 15.6          | 33.4  | 76.9  | 67.9  | 35.6  | 35.5  | 38.2  | 29.1  | 38.7  | 16.3  | 15.6  | 16.4  | 18.9  | 22.5  | 24.0  | 29.3  |
| Ca %/Mg %      | 1.95          | 2.26  | 2.71  | 2.18  | 2.23  | 2.21  | 1.95  | 2.18  | 2.43  | 2.71  | 2.56  | 2.36  | 2.18  | 2.29  | 1.98  | 2.22  |





Grower: Ken Clark (WF)  
Farm: Home  
Field: South Side

Sample Date: 10/17/22  
Sample Depth: 6 in  
Field Area: 59.17 ac

Season: 2022

|                | Field Summary |       |       | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |       |       |       |
| pH             | 6.90          | 7.42  | 7.70  | 7.10  | 7.30  | 7.40  | 7.40  | 7.10  | 7.50  | 7.60  | 7.60  | 6.90  | 7.50  |
| P-Bray 1 (ppm) | 13.0          | 49.8  | 95.0  | 34.0  | 34.0  | 50.0  | 41.0  | 25.0  | 56.0  | 39.0  | 13.0  | 46.0  | 52.0  |
| K (ppm)        | 56.0          | 139   | 224   | 140   | 80    | 163   | 153   | 113   | 209   | 56    | 78    | 108   | 113   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 10.3          | 15.1  | 20.0  | 15.5  | 17.2  | 12.9  | 10.3  | 17.0  | 16.7  | 15.9  | 13.9  | 13.7  | 14.3  |
| OM (%)         | 2.90          | 5.19  | 7.20  | 5.50  | 5.60  | 3.60  | 2.90  | 6.40  | 7.00  | 7.20  | 6.10  | 6.00  | 5.60  |
| Ca (ppm)       | 1,350         | 2,035 | 2,650 | 2,050 | 2,350 | 1,750 | 1,350 | 2,300 | 2,150 | 2,200 | 1,950 | 1,900 | 1,950 |
| Mg (ppm)       | 380           | 545   | 800   | 590   | 635   | 445   | 380   | 625   | 645   | 570   | 475   | 470   | 510   |
| S (ppm)        | 5.00          | 9.09  | 15.0  | 6.00  | 5.00  | 7.00  | 7.00  | 7.00  | 11.00 | 15.00 | 15.00 | 14.00 | 8.00  |
| Zn (ppm)       | 6.70          | 9.07  | 12.2  | 7.20  | 7.70  | 9.70  | 8.70  | 7.70  | 9.10  | 6.90  | 7.50  | 6.70  | 7.00  |
| Mn (ppm)       | 33.0          | 56.3  | 87.0  | 43.0  | 50.0  | 71.0  | 85.0  | 51.0  | 47.0  | 52.0  | 56.0  | 48.0  | 53.0  |
| B (ppm)        | 0.60          | 0.95  | 1.60  | 0.70  | 0.90  | 0.80  | 0.60  | 0.90  | 1.20  | 1.00  | 1.20  | 0.80  | 1.40  |
| Cu (ppm)       | 1.60          | 2.14  | 2.70  | 2.00  | 2.10  | 2.20  | 2.20  | 2.10  | 2.20  | 2.00  | 1.90  | 2.20  | 1.60  |
| Fe (ppm)       | 23.0          | 60.5  | 149   | 29.0  | 36.0  | 49.0  | 41.0  | 36.0  | 80.0  | 149.0 | 105.0 | 135.0 | 57.0  |
| K %            | 0.90          | 2.46  | 4.40  | 2.30  | 1.20  | 3.20  | 3.80  | 1.70  | 3.20  | 0.90  | 1.40  | 2.00  | 2.00  |
| Ca %           | 64.5          | 67.5  | 70.1  | 66.0  | 68.1  | 68.0  | 65.5  | 67.7  | 64.5  | 69.2  | 70.1  | 69.4  | 68.2  |
| Mg %           | 25.8          | 30.0  | 33.3  | 31.7  | 30.7  | 28.8  | 30.7  | 30.6  | 32.3  | 29.9  | 28.5  | 28.6  | 29.7  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 1.73          | 5.49  | 9.29  | 4.72  | 4.42  | 5.15  | 4.71  | 3.25  | 6.15  | 5.65  | 1.73  | 6.87  | 7.43  |
| Ca %/K %       | 15.6          | 33.4  | 76.9  | 28.7  | 56.8  | 21.3  | 17.2  | 39.8  | 20.2  | 76.9  | 50.1  | 34.7  | 34.1  |
| Ca %/Mg %      | 1.95          | 2.26  | 2.71  | 2.08  | 2.22  | 2.36  | 2.13  | 2.21  | 2.00  | 2.31  | 2.46  | 2.43  | 2.30  |

Ken Clark (WF)  
Huffman  
SE Bridge  
39.32 ac

P - Soil Test - 2022



Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 14 ppm  
Avg: 47.3 ppm  
Max: 83 ppm

**P-Bray 1 (ppm)**

|                       |
|-----------------------|
| 14 - 25.4 (6.39 ac)   |
| 25.4 - 38.8 (9.48 ac) |
| 38.8 - 54.4 (7.19 ac) |
| 54.4 - 67.9 (5.39 ac) |
| 67.9 - 83 (10.87 ac)  |

K - Soil Test - 2022



Maxar | Esri Community Maps Contributors, © OpenStreetMap, ... Powered by Esri

Min: 115 ppm  
Avg: 170 ppm  
Max: 260 ppm

**K (ppm)**

|                      |
|----------------------|
| 115 - 146 (7.31 ac)  |
| 146 - 168 (16.70 ac) |
| 168 - 196 (9.59 ac)  |
| 196 - 229 (4.12 ac)  |
| 229 - 260 (1.60 ac)  |





Grower: Ken Clark (WF)  
Farm: Huffman  
Field: SE Bridge

Sample Date: 11/15/22  
Sample Depth: 6 in  
Field Area: 39.32 ac

Season: 2022

|                | Field Summary |       |       | 1     | 2     | 3     | 4     | 5    | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |      |       |       |       |       |       |       |       |       |
| pH             | 6.70          | 7.11  | 7.50  | 7.10  | 7.10  | 7.20  | 7.30  | 7.00 | 6.80  | 7.00  | 6.70  | 7.00  | 7.00  | 7.40  | 7.30  | 7.50  |
| P-Bray 1 (ppm) | 14.0          | 47.3  | 83.0  | 83.0  | 43.0  | 64.0  | 45.0  | 27.0 | 26.0  | 35.0  | 18.0  | 14.0  | 56.0  | 21.0  | 27.0  | 77.0  |
| K (ppm)        | 115           | 170   | 260   | 212   | 167   | 115   | 166   | 135  | 157   | 153   | 156   | 135   | 191   | 137   | 222   | 141   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20 | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 6.80          | 11.3  | 15.3  | 10.7  | 8.5   | 8.5   | 9.6   | 6.8  | 15.1  | 14.3  | 9.4   | 15.2  | 15.3  | 14.5  | 10.5  | 12.2  |
| OM (%)         | 1.50          | 2.96  | 4.90  | 2.50  | 1.90  | 2.50  | 2.10  | 1.50 | 4.60  | 4.90  | 2.50  | 4.60  | 4.30  | 3.10  | 2.30  | 2.90  |
| Ca (ppm)       | 900           | 1,531 | 2,050 | 1,450 | 1,150 | 1,200 | 1,300 | 900  | 2,000 | 1,900 | 1,200 | 2,050 | 2,050 | 2,050 | 1,350 | 1,700 |
| Mg (ppm)       | 215           | 387   | 565   | 345   | 275   | 270   | 325   | 235  | 565   | 530   | 355   | 555   | 545   | 465   | 380   | 405   |
| S (ppm)        | 5.00          | 8.44  | 13.0  | 7.00  | 7.00  | 7.00  | 10.00 | 9.00 | 8.00  | 5.00  | 8.00  | 8.00  | 9.00  | 13.00 | 9.00  | 12.00 |
| Zn (ppm)       | 3.50          | 6.91  | 9.20  | 8.60  | 6.20  | 9.10  | 7.00  | 4.80 | 6.10  | 6.90  | 3.50  | 6.70  | 8.70  | 9.20  | 6.00  | 7.50  |
| Mn (ppm)       | 37.0          | 51.8  | 67.0  | 56.0  | 57.0  | 63.0  | 65.0  | 46.0 | 42.0  | 39.0  | 37.0  | 47.0  | 46.0  | 67.0  | 64.0  | 55.0  |
| B (ppm)        | 0.40          | 0.85  | 1.30  | 1.00  | 0.70  | 0.60  | 0.70  | 0.40 | 1.00  | 1.00  | 0.40  | 1.10  | 1.20  | 1.30  | 0.80  | 1.30  |
| Cu (ppm)       | 0.90          | 1.68  | 2.30  | 2.30  | 1.50  | 1.90  | 1.70  | 0.90 | 1.50  | 1.70  | 1.10  | 1.60  | 2.00  | 2.30  | 1.50  | 2.10  |
| Fe (ppm)       | 22.0          | 42.2  | 124   | 52.0  | 31.0  | 32.0  | 29.0  | 22.0 | 50.0  | 48.0  | 32.0  | 30.0  | 46.0  | 35.0  | 44.0  | 124.0 |
| K %            | 2.30          | 4.09  | 6.90  | 5.10  | 5.10  | 3.50  | 4.40  | 5.10 | 2.70  | 2.70  | 4.30  | 2.30  | 3.20  | 2.40  | 5.40  | 3.00  |
| Ca %           | 64.1          | 67.6  | 70.8  | 68.0  | 67.9  | 70.2  | 67.5  | 66.1 | 66.2  | 66.4  | 64.1  | 67.3  | 67.1  | 70.8  | 64.4  | 69.5  |
| Mg %           | 24.6          | 28.3  | 31.6  | 26.9  | 27.1  | 26.3  | 28.1  | 28.8 | 31.2  | 30.9  | 31.6  | 30.4  | 29.7  | 26.8  | 30.2  | 27.6  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 2.09          | 6.78  | 12.3  | 9.65  | 6.94  | 7.03  | 6.43  | 5.63 | 4.26  | 5.07  | 5.14  | 2.09  | 6.44  | 2.28  | 4.50  | 10.27 |
| Ca %/K %       | 9.93          | 18.4  | 29.5  | 13.3  | 13.3  | 20.1  | 15.3  | 13.0 | 24.5  | 24.6  | 14.9  | 29.3  | 21.0  | 29.5  | 11.9  | 23.2  |
| Ca %/Mg %      | 2.03          | 2.41  | 2.78  | 2.53  | 2.51  | 2.67  | 2.40  | 2.30 | 2.12  | 2.15  | 2.03  | 2.21  | 2.26  | 2.64  | 2.13  | 2.52  |



Grower: Ken Clark (WF)  
Farm: Huffman  
Field: SE Bridge

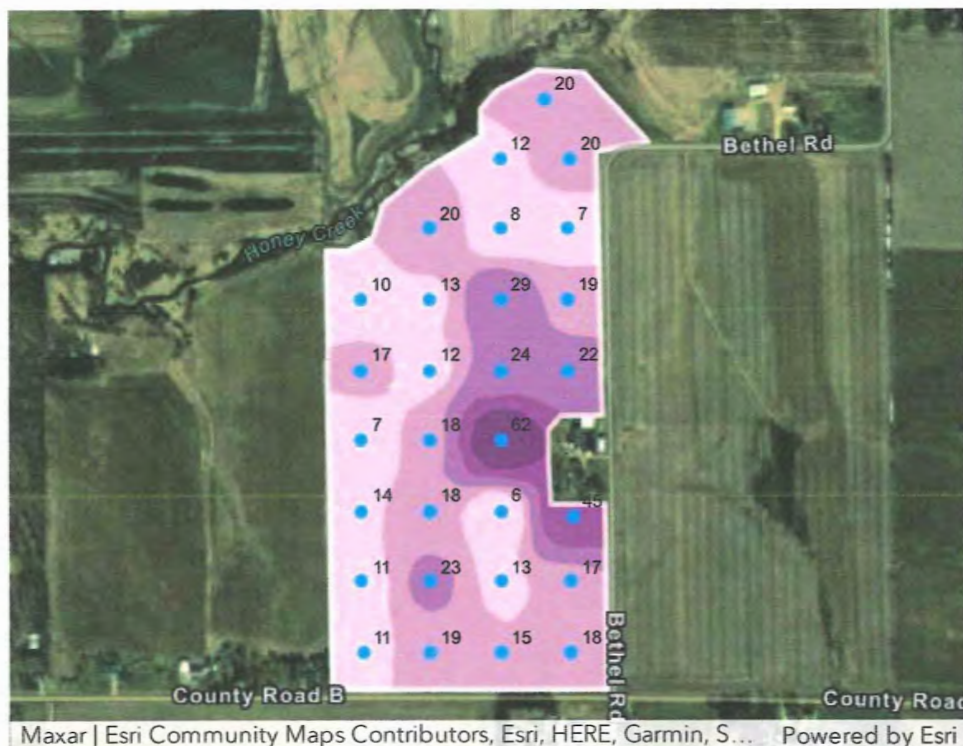
Sample Date: 11/15/22  
Sample Depth: 6 in  
Field Area: 39.32 ac

Season: 2022

|                | Field Summary |       |       | 14    | 15    | 16    |
|----------------|---------------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |
| pH             | 6.70          | 7.11  | 7.50  | 7.20  | 7.10  | 7.10  |
| P-Bray 1 (ppm) | 14.0          | 47.3  | 83.0  | 79.0  | 71.0  | 70.0  |
| K (ppm)        | 115           | 170   | 260   | 196   | 170   | 260   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 6.80          | 11.3  | 15.3  | 7.3   | 10.8  | 12.4  |
| OM (%)         | 1.50          | 2.96  | 4.90  | 1.80  | 2.50  | 3.30  |
| Ca (ppm)       | 900           | 1,531 | 2,050 | 1,000 | 1,500 | 1,700 |
| Mg (ppm)       | 215           | 387   | 565   | 215   | 340   | 385   |
| S (ppm)        | 5.00          | 8.44  | 13.0  | 8.00  | 7.00  | 8.00  |
| Zn (ppm)       | 3.50          | 6.91  | 9.20  | 6.40  | 7.30  | 6.60  |
| Mn (ppm)       | 37.0          | 51.8  | 67.0  | 50.0  | 52.0  | 43.0  |
| B (ppm)        | 0.40          | 0.85  | 1.30  | 0.50  | 0.80  | 0.80  |
| Cu (ppm)       | 0.90          | 1.68  | 2.30  | 1.40  | 1.70  | 1.70  |
| Fe (ppm)       | 22.0          | 42.2  | 124   | 32.0  | 39.0  | 29.0  |
| K %            | 2.30          | 4.09  | 6.90  | 6.90  | 4.00  | 5.40  |
| Ca %           | 64.1          | 67.6  | 70.8  | 68.5  | 69.6  | 68.7  |
| Mg %           | 24.6          | 28.3  | 31.6  | 24.6  | 26.3  | 25.9  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 2.09          | 6.78  | 12.3  | 12.34 | 9.73  | 10.61 |
| Ca %/K %       | 9.93          | 18.4  | 29.5  | 9.9   | 17.4  | 12.7  |
| Ca %/Mg %      | 2.03          | 2.41  | 2.78  | 2.78  | 2.65  | 2.65  |



P - Soil Test - 2022

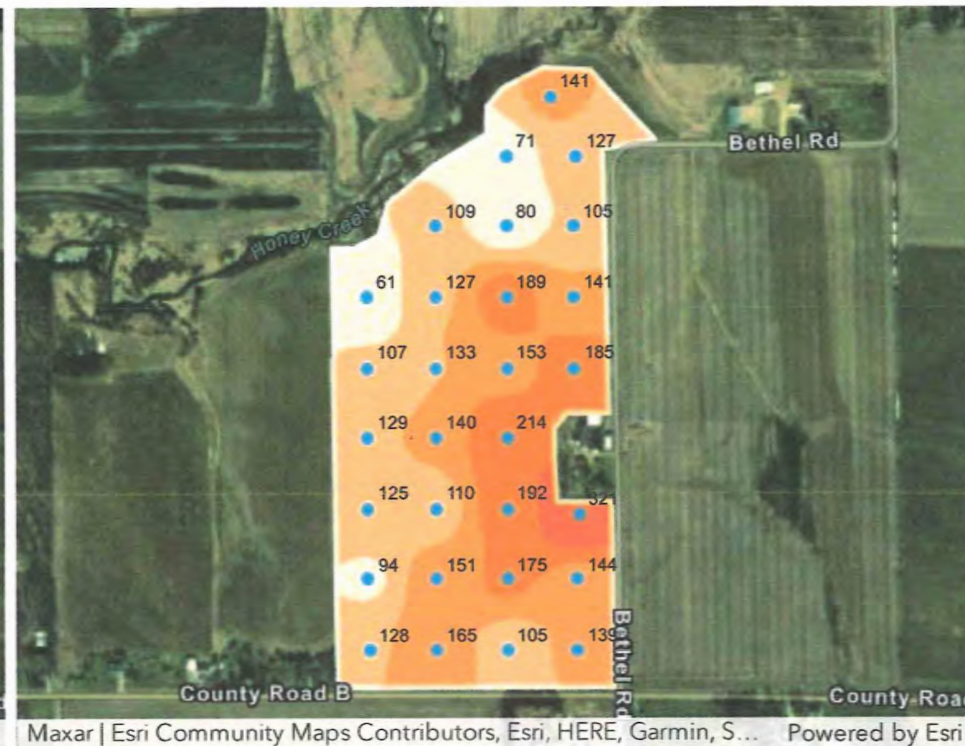


Min: 6 ppm  
Avg: 18.3 ppm  
Max: 62 ppm

**P-Bray 1 (ppm)**

|                        |
|------------------------|
| 6 - 14.7 (27.09 ac)    |
| 14.7 - 21.1 (31.85 ac) |
| 21.1 - 32 (9.86 ac)    |
| 32 - 46.7 (3.08 ac)    |
| 46.7 - 62 (1.69 ac)    |

K - Soil Test - 2022



Min: 61 ppm  
Avg: 140 ppm  
Max: 321 ppm

**K (ppm)**

|                      |
|----------------------|
| 61 - 102 (10.61 ac)  |
| 102 - 134 (28.31 ac) |
| 134 - 169 (21.66 ac) |
| 169 - 235 (11.22 ac) |
| 235 - 321 (1.78 ac)  |





Grower: Ken Clark (WF)  
Farm: Kolb  
Field: Kolb

Sample Date: 10/19/22  
Sample Depth: 6 in  
Field Area: 73.57 ac

Season: 2022

|                | Field Summary |       |       | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| pH             | 6.40          | 7.02  | 7.40  | 7.30  | 6.60  | 6.90  | 7.40  | 7.20  | 7.10  | 7.10  | 7.00  | 6.90  | 6.40  | 6.60  | 7.00  | 7.20  |
| P-Bray 1 (ppm) | 6.00          | 18.3  | 62.0  | 11.0  | 11.0  | 14.0  | 7.0   | 17.0  | 10.0  | 20.0  | 13.0  | 12.0  | 18.0  | 18.0  | 23.0  | 19.0  |
| K (ppm)        | 61.0          | 140   | 321   | 128   | 94    | 125   | 129   | 107   | 61    | 109   | 127   | 133   | 140   | 110   | 151   | 165   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 6.90          | 11.9  | 15.7  | 15.1  | 11.8  | 11.6  | 13.8  | 14.4  | 9.8   | 8.4   | 9.8   | 9.5   | 9.8   | 12.7  | 11.8  | 14.5  |
| OM (%)         | 1.90          | 3.26  | 4.40  | 3.40  | 3.40  | 3.30  | 3.40  | 3.80  | 2.60  | 2.50  | 2.90  | 2.80  | 3.40  | 3.80  | 3.60  | 3.50  |
| Ca (ppm)       | 950           | 1,500 | 1,950 | 1,850 | 1,500 | 1,450 | 1,700 | 1,750 | 1,250 | 1,150 | 1,300 | 1,250 | 1,300 | 1,650 | 1,500 | 1,700 |
| Mg (ppm)       | 240           | 482   | 670   | 660   | 485   | 485   | 600   | 640   | 410   | 280   | 360   | 350   | 355   | 500   | 475   | 670   |
| S (ppm)        | 6.00          | 7.28  | 9.00  | 7.00  | 6.00  | 6.00  | 7.00  | 6.00  | 6.00  | 7.00  | 8.00  | 8.00  | 8.00  | 9.00  | 9.00  | 8.00  |
| Zn (ppm)       | 2.60          | 5.03  | 7.50  | 4.00  | 3.60  | 2.90  | 2.90  | 3.40  | 2.60  | 6.70  | 6.40  | 4.70  | 4.70  | 4.60  | 4.20  | 3.30  |
| Mn (ppm)       | 45.0          | 58.2  | 81.0  | 57.0  | 54.0  | 56.0  | 65.0  | 67.0  | 62.0  | 81.0  | 62.0  | 59.0  | 45.0  | 55.0  | 48.0  | 52.0  |
| B (ppm)        | 0.50          | 0.79  | 1.10  | 1.00  | 0.60  | 0.70  | 0.80  | 0.90  | 0.60  | 0.60  | 0.70  | 0.60  | 0.50  | 0.70  | 0.70  | 0.90  |
| Cu (ppm)       | 0.90          | 1.32  | 1.70  | 1.50  | 1.10  | 1.10  | 1.70  | 1.40  | 1.20  | 1.20  | 1.40  | 1.20  | 1.00  | 1.30  | 1.40  | 1.50  |
| Fe (ppm)       | 8.00          | 17.1  | 33.0  | 18.0  | 12.0  | 13.0  | 16.0  | 9.0   | 20.0  | 20.0  | 16.0  | 15.0  | 30.0  | 21.0  | 16.0  | 17.0  |
| K %            | 1.60          | 3.04  | 6.80  | 2.20  | 2.00  | 2.80  | 2.40  | 1.90  | 1.60  | 3.30  | 3.30  | 3.60  | 3.70  | 2.20  | 3.30  | 2.90  |
| Ca %           | 58.6          | 63.6  | 68.8  | 61.3  | 63.7  | 62.4  | 61.5  | 60.9  | 63.6  | 68.8  | 66.2  | 65.7  | 66.2  | 65.0  | 63.3  | 58.6  |
| Mg %           | 27.9          | 33.4  | 38.5  | 36.5  | 34.3  | 34.8  | 36.2  | 37.1  | 34.8  | 27.9  | 30.5  | 30.7  | 30.1  | 32.8  | 33.4  | 38.5  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 1.32          | 3.61  | 8.99  | 2.75  | 3.06  | 4.83  | 2.41  | 5.00  | 3.85  | 2.99  | 2.03  | 2.55  | 3.83  | 3.91  | 5.48  | 5.76  |
| Ca %/K %       | 9.38          | 22.7  | 39.8  | 27.9  | 31.9  | 22.3  | 25.6  | 32.1  | 39.8  | 20.8  | 20.1  | 18.3  | 17.9  | 29.5  | 19.2  | 20.2  |
| Ca %/Mg %      | 1.52          | 1.92  | 2.47  | 1.68  | 1.86  | 1.79  | 1.70  | 1.64  | 1.83  | 2.47  | 2.17  | 2.14  | 2.20  | 1.98  | 1.90  | 1.52  |





Grower: Ken Clark (WF)  
Farm: Kolb  
Field: Kolb

Sample Date: 10/19/22  
Sample Depth: 6 in  
Field Area: 73.57 ac

Season: 2022

|                | Field Summary |       |       | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21   | 22    | 23    | 24    | 25    | 26    |
|----------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
|                | Min           | Avg   | Max   |       |       |       |       |       |       |       |      |       |       |       |       |       |
| pH             | 6.40          | 7.02  | 7.40  | 6.90  | 7.20  | 7.20  | 7.30  | 7.10  | 7.20  | 6.70  | 6.80 | 6.80  | 7.00  | 7.00  | 7.20  | 7.20  |
| P-Bray 1 (ppm) | 6.00          | 18.3  | 62.0  | 15.0  | 13.0  | 6.0   | 62.0  | 24.0  | 29.0  | 8.0   | 12.0 | 20.0  | 20.0  | 7.0   | 19.0  | 22.0  |
| K (ppm)        | 61.0          | 140   | 321   | 105   | 175   | 192   | 214   | 153   | 189   | 80    | 71   | 141   | 127   | 105   | 141   | 185   |
| pH Buffer      | 7.20          | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  | 7.20 | 7.20  | 7.20  | 7.20  | 7.20  | 7.20  |
| CEC (meq/100g) | 6.90          | 11.9  | 15.7  | 11.9  | 15.7  | 14.8  | 14.5  | 12.7  | 12.9  | 10.6  | 6.9  | 8.2   | 9.5   | 10.3  | 11.7  | 13.3  |
| OM (%)         | 1.90          | 3.26  | 4.40  | 3.60  | 4.40  | 4.00  | 3.90  | 3.50  | 3.50  | 2.40  | 1.90 | 2.50  | 2.50  | 2.60  | 3.20  | 3.60  |
| Ca (ppm)       | 950           | 1,500 | 1,950 | 1,500 | 1,950 | 1,800 | 1,800 | 1,600 | 1,600 | 1,350 | 950  | 1,100 | 1,250 | 1,350 | 1,450 | 1,650 |
| Mg (ppm)       | 240           | 482   | 670   | 500   | 655   | 635   | 600   | 515   | 535   | 440   | 240  | 280   | 355   | 395   | 495   | 550   |
| S (ppm)        | 6.00          | 7.28  | 9.00  | 6.00  | 8.00  | 8.00  | 8.00  | 7.00  | 8.00  | 7.00  | 6.00 | 8.00  | 8.00  | 8.00  | 7.00  | 7.00  |
| Zn (ppm)       | 2.60          | 5.03  | 7.50  | 3.90  | 5.40  | 4.40  | 6.90  | 6.40  | 7.50  | 4.40  | 5.60 | 6.10  | 7.00  | 5.30  | 5.60  | 6.60  |
| Mn (ppm)       | 45.0          | 58.2  | 81.0  | 52.0  | 53.0  | 56.0  | 47.0  | 52.0  | 53.0  | 67.0  | 66.0 | 70.0  | 62.0  | 65.0  | 53.0  | 54.0  |
| B (ppm)        | 0.50          | 0.79  | 1.10  | 0.70  | 1.10  | 1.10  | 1.10  | 0.80  | 1.10  | 0.70  | 0.60 | 0.60  | 0.80  | 0.60  | 0.80  | 1.00  |
| Cu (ppm)       | 0.90          | 1.32  | 1.70  | 1.10  | 1.50  | 1.40  | 1.50  | 1.60  | 1.70  | 1.00  | 0.90 | 1.30  | 1.40  | 1.10  | 1.40  | 1.40  |
| Fe (ppm)       | 8.00          | 17.1  | 33.0  | 14.0  | 9.0   | 8.0   | 33.0  | 15.0  | 15.0  | 15.0  | 14.0 | 21.0  | 18.0  | 13.0  | 17.0  | 12.0  |
| K %            | 1.60          | 3.04  | 6.80  | 2.30  | 2.90  | 3.30  | 3.80  | 3.10  | 3.70  | 1.90  | 2.60 | 4.40  | 3.40  | 2.60  | 3.10  | 3.60  |
| Ca %           | 58.6          | 63.6  | 68.8  | 62.8  | 62.3  | 60.9  | 61.9  | 63.1  | 61.8  | 63.5  | 68.5 | 67.1  | 65.6  | 65.5  | 61.8  | 62.0  |
| Mg %           | 27.9          | 33.4  | 38.5  | 34.9  | 34.9  | 35.8  | 34.4  | 33.8  | 34.4  | 34.5  | 28.9 | 28.5  | 31.0  | 31.9  | 35.1  | 34.4  |
| H %            | 0.00          | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| P/Zn           | 1.32          | 3.61  | 8.99  | 3.85  | 2.41  | 1.36  | 8.99  | 3.75  | 3.87  | 1.82  | 2.14 | 3.28  | 2.86  | 1.32  | 3.39  | 3.33  |
| Ca %/K %       | 9.38          | 22.7  | 39.8  | 27.3  | 21.5  | 18.5  | 16.3  | 20.4  | 16.7  | 33.4  | 26.3 | 15.2  | 19.3  | 25.2  | 19.9  | 17.2  |
| Ca %/Mg %      | 1.52          | 1.92  | 2.47  | 1.80  | 1.79  | 1.70  | 1.80  | 1.87  | 1.80  | 1.84  | 2.37 | 2.35  | 2.12  | 2.05  | 1.76  | 1.80  |

## Appendix VI: Snap Plus Spreadsheets

### WQ1: P Trade Report

|                                                                                    |                          |
|------------------------------------------------------------------------------------|--------------------------|
| Reported For                                                                       | Ken Clark - baseline     |
| Printed                                                                            | 2025-05-07               |
| Plan Completion/Update Date                                                        | 2025-01-10               |
| SnapPlus Version                                                                   | 20.4 built on 2021-06-03 |
| C:\SnapPlus2\MySnapPlusData\Ken Clark - SNAPPlus files\Ken Clark - baseline.snapDb |                          |

Prepared for:  
Ken Clark - baseline  
attn:Ken Clark - baseline

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

| P Trade Report      |             |             |            | PTP        |            |            |
|---------------------|-------------|-------------|------------|------------|------------|------------|
| Field Name          | Soil Series | Soil Symbol | Acres      | 2026       | 2027       | 2028       |
| ne filter           | ARENZVILLE  | An          | 2          | 7          | 4          | 4          |
| s filter            | NEWGLARUS   | NgD2        | 2          | 20         | 10         | 10         |
| se filter           | ARENZVILLE  | An          | 4          | 10         | 5          | 5          |
| w filter            | ARENZVILLE  | An          | 5          | 20         | 11         | 11         |
| watershed ne filter | OGLE        | OIB2        | 14         | 51         | 27         | 27         |
| watershed s filter  | EDMUND      | EdC2        | 60         | 363        | 183        | 187        |
| watershed se filter | WALLKILL    | Wa          | 16         | 33         | 18         | 18         |
| watershed w filter  | FAYETTE     | FcB2        | 58         | 329        | 169        | 175        |
| <b>Total</b>        |             |             | <b>161</b> | <b>833</b> | <b>427</b> | <b>438</b> |

### WQ1: P Trade Report

|                                                                                   |                          |
|-----------------------------------------------------------------------------------|--------------------------|
| Reported For                                                                      | Ken Clark - planned      |
| Printed                                                                           | 2025-05-07               |
| Plan Completion/Update Date                                                       | 2025-01-10               |
| SnapPlus Version                                                                  | 20.4 built on 2021-06-03 |
| C:\SnapPlus2\MySnapPlusData\Ken Clark - SNAPPlus files\Ken Clark - planned.snapDb |                          |

Prepared for:  
Ken Clark - planned  
attn:Ken Clark -

The P Trade Report estimates the annual pounds of phosphorus (P) in surface runoff from cropland entering surface waters. These P loss calculations are based on a field's soil test P concentration, crops, tillage, nutrient management practices and estimates of average runoff and sheet and rill erosion for the predominant soil type. Losses from concentrated flow channel or gully erosion with a field are not included in these calculations. Field runoff losses are calculated for each year as **PTP** (lb P/field/yr). Fields are only included if there are at least 2 years of crops before the selected start year. Before using this report as part of a Water Quality Trade activity, phosphorus losses (PTP) must be converted into 'P credits' according to DNR guidance.

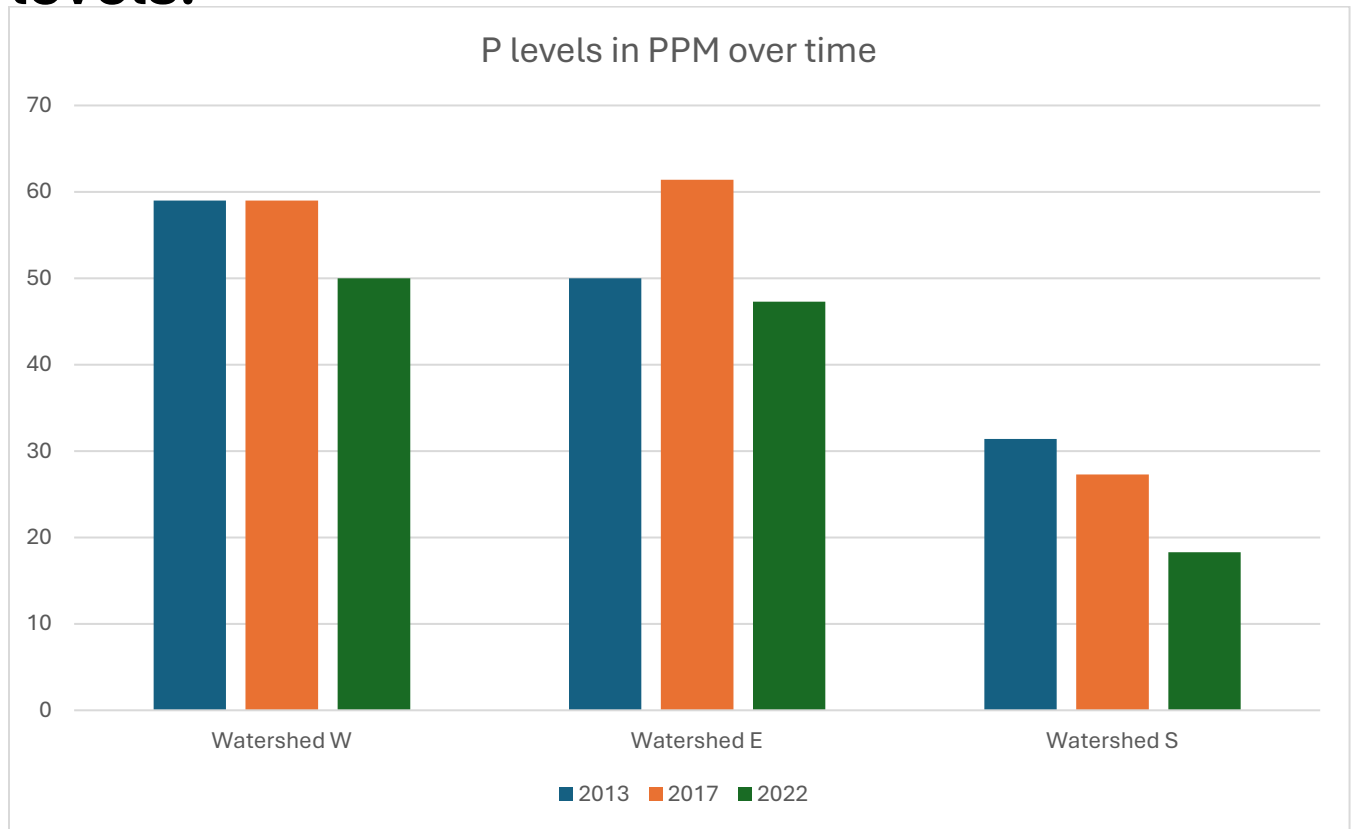
For more information go to <http://dnr.wi.gov/> and type keyword: **Water Quality Trading**

*This report was developed for Wisconsin DNR Water Quality Trading and Adaptive Management purposes and cannot be used to demonstrate compliance with NR 151 or NRCS 590 NM plan requirements.*

**Questions?** Please contact  
DNRphosphorus@wisconsin.gov

| P Trade Report      |             |             |            | PTP        |            |            |
|---------------------|-------------|-------------|------------|------------|------------|------------|
| Field Name          | Soil Series | Soil Symbol | Acres      | 2026       | 2027       | 2028       |
| ne filter           | ARENZVILLE  | An          | 2          | 1          | 1          | 1          |
| s filter            | NEWGLARUS   | NgD2        | 2          | 1          | 0          | 0          |
| se filter           | ARENZVILLE  | An          | 4          | 1          | 1          | 1          |
| w filter            | ARENZVILLE  | An          | 5          | 2          | 1          | 1          |
| watershed ne filter | OGLE        | OIB2        | 14         | 26         | 14         | 15         |
| watershed s filter  | EDMUND      | EdC2        | 60         | 94         | 50         | 52         |
| watershed se filter | WALLKILL    | Wa          | 16         | 16         | 9          | 9          |
| watershed w filter  | FAYETTE     | FcB2        | 58         | 90         | 47         | 54         |
| <b>Total</b>        |             |             | <b>161</b> | <b>232</b> | <b>123</b> | <b>133</b> |

## Appendix VII: Stable or dropping P levels.



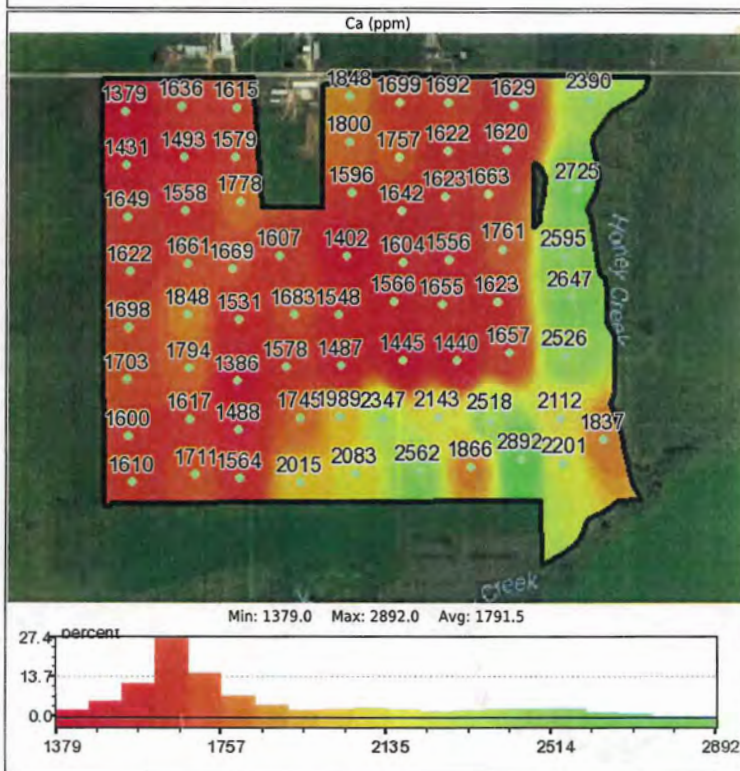
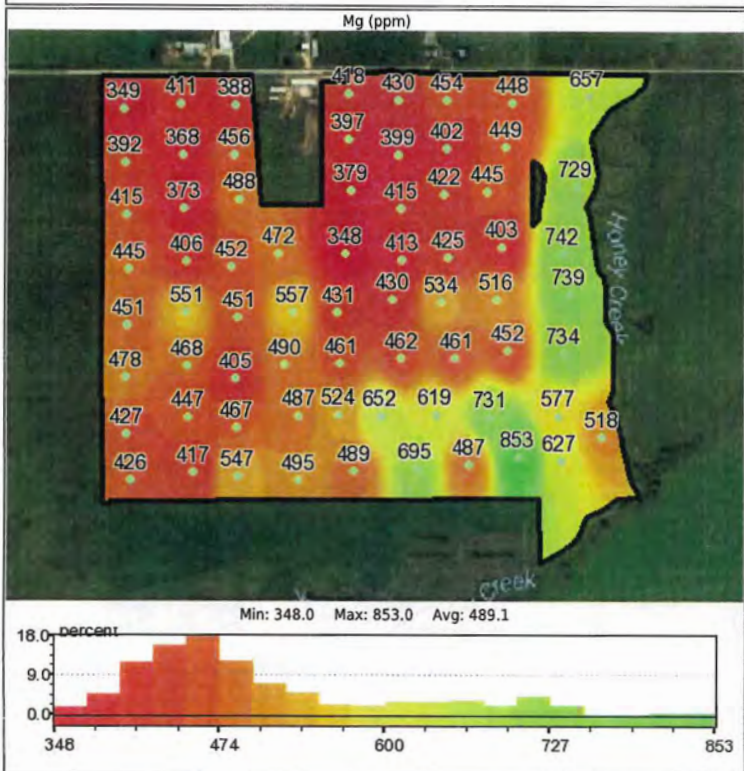
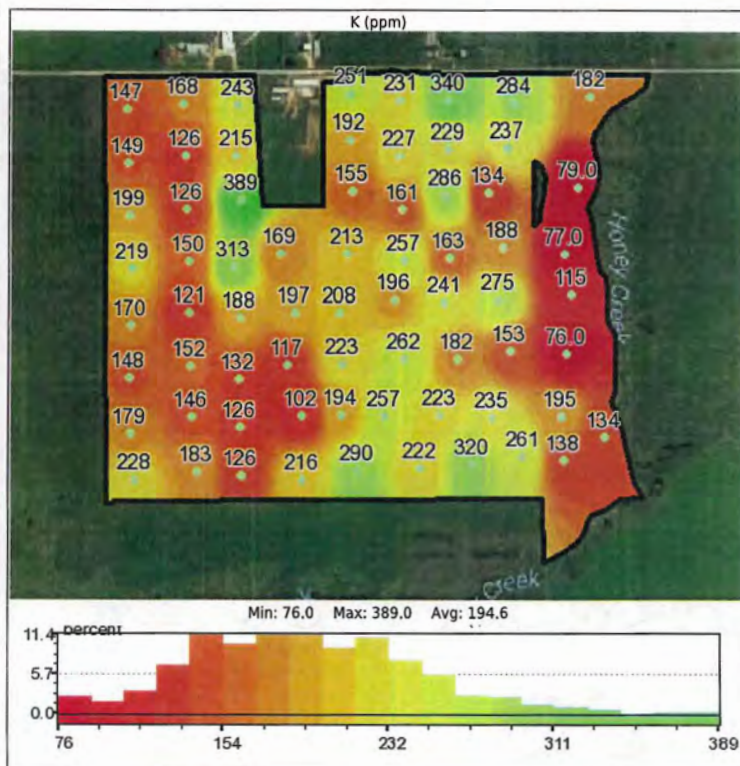
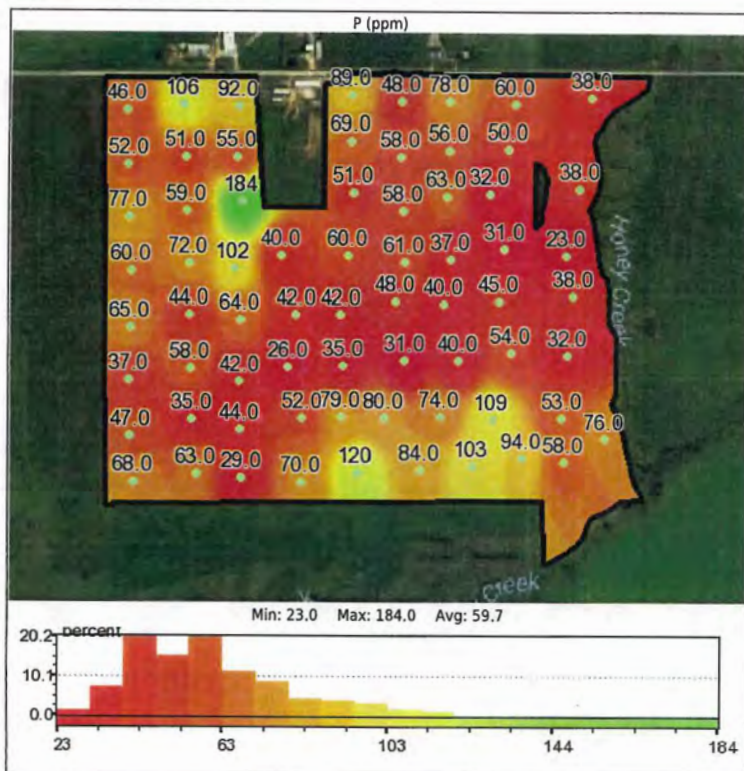
- West Watershed- Watershed-W (Home S)
  - o East of Old Barn
  - o Middle Strip
  - o South Side-Home Farm
- East Watershed-NE-watershed and SE-watershed
  - o SE Bridge
  - o Huffman S Bridge
- South Watershed- S-watershed
  - o Kolb





Grower: CLARK, KEN  
Farm: FARM  
Field: HOME S  
Area: 181.13 acres

Lab: AgSource Labs  
Date: 2017-11-10  
Layer ID: 1491382





| Location            | Grower     | Farm              | Field  | Area         | Centroid             |
|---------------------|------------|-------------------|--------|--------------|----------------------|
| Pearl City Elevator | CLARK, KEN | AG SOURCE TESTING | HOME S | 171.54 acres | 42.559328,-89.690309 |



Sample Date: 2013-10-30      Soil Lab: None

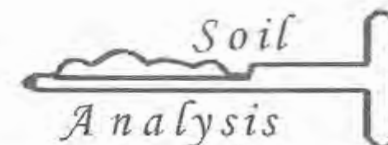


# AgSource Laboratories

A Subsidiary of Cooperative Resources International

P.O. Box 7  
Bonduel, WI 54107

Tel: (715) 758-2178  
Fax: (715) 758-2620



Submitted By: PEARL CITY ELEVATOR INC

PO BOX 248 119 S MAIN ST  
PEARL CITY, IL 61062 -0248

Submitted For: Ken Clark

Date Processed:

31-Oct-2013

Lab #:

738821

| Sample<br>Id         | Soil<br>pH | Buffer<br>pH | OM<br>% | Bray 1 |     |     |      | B   | Mn<br>PPM | Zn | S | Cu | Fe | 60 - 69       |       | Est<br>CEC | Total<br>CEC | % Base Saturation |         |         |          |        |
|----------------------|------------|--------------|---------|--------|-----|-----|------|-----|-----------|----|---|----|----|---------------|-------|------------|--------------|-------------------|---------|---------|----------|--------|
|                      |            |              |         | P      | K   | Ca  | Mg   |     |           |    |   |    |    | Tons<br>pH6.6 | pH6.8 |            |              | K<br>%            | Ca<br>% | Mg<br>% | Tot<br>% | H<br>% |
| Field Id: Home South |            |              |         |        |     |     |      |     |           |    |   |    |    |               |       |            |              |                   |         |         |          |        |
|                      | Min:       | 6.8          |         | 2.0    | 21  | 61  | 1340 | 280 |           |    |   |    |    |               |       | 9.8        | 9.8          | 0.9               | 60.7    | 21.1    | 95.9     |        |
|                      | Max:       | 7.5          |         | 7.1    | 179 | 440 | 2990 | 920 |           |    |   |    |    |               |       | 23.3       | 23.3         | 7.4               | 73.5    | 34.6    | 4.1      |        |
|                      | Avg:       | 7.2          |         | 3.3    | 59  | 196 | 1854 | 502 |           |    |   |    |    |               |       | 13.9       | 13.9         | 3.7               | 66.7    | 29.4    | 0.3      |        |
| 10                   |            | 7.2          |         | 2.8    | 69  | 214 | 1730 | 450 |           |    |   |    |    |               |       | 12.9       | 12.9         | 4.2               | 67.1    | 28.6    | 0.0      |        |
| 11                   |            | 7.0          |         | 3.0    | 84  | 268 | 1840 | 460 |           |    |   |    |    |               |       | 13.7       | 13.7         | 5.0               | 67.3    | 27.6    | 0.0      |        |
| 12                   |            | 6.9          |         | 2.6    | 61  | 147 | 1590 | 390 |           |    |   |    |    |               |       | 11.5       | 11.7         | 3.2               | 68.1    | 27.4    | 1.3      |        |
| 13                   |            | 7.3          |         | 2.5    | 44  | 162 | 1720 | 520 |           |    |   |    |    |               |       | 13.3       | 13.3         | 3.1               | 64.8    | 32.1    | 0.0      |        |
| 14                   |            | 7.1          |         | 3.2    | 68  | 202 | 1930 | 440 |           |    |   |    |    |               |       | 13.8       | 13.8         | 3.8               | 70.1    | 26.2    |          |        |
| 15                   |            | 7.3          |         | 2.7    | 85  | 234 | 2110 | 580 |           |    |   |    |    |               |       | 15.9       | 15.9         | 3.8               | 66.4    | 29.9    |          |        |
| 16                   |            | 7.2          |         | 2.8    | 61  | 226 | 1880 | 550 |           |    |   |    |    |               |       | 14.5       | 14.5         | 4.0               | 64.9    | 31.1    | 0.0      |        |
| 17                   |            | 7.1          |         | 2.8    | 44  | 191 | 1900 | 580 |           |    |   |    |    |               |       | 14.7       | 14.7         | 3.3               | 64.5    | 32.3    |          |        |
| 18                   |            | 7.2          |         | 2.8    | 57  | 204 | 1830 | 530 |           |    |   |    |    |               |       | 14.0       | 14.0         | 3.7               | 65.3    | 31.0    | 0.0      |        |
| 19                   |            | 7.1          |         | 3.1    | 74  | 210 | 1770 | 430 |           |    |   |    |    |               |       | 12.9       | 12.9         | 4.2               | 68.6    | 27.3    |          |        |
| 20                   |            | 7.1          |         | 2.8    | 61  | 156 | 1710 | 440 |           |    |   |    |    |               |       | 12.6       | 12.6         | 3.2               | 68.1    | 28.7    | 0.0      |        |
| 21                   |            | 7.2          |         | 2.6    | 60  | 167 | 1900 | 510 |           |    |   |    |    |               |       | 14.1       | 14.1         | 3.0               | 67.3    | 29.6    | 0.0      |        |
| 22                   |            | 7.1          |         | 3.0    | 103 | 273 | 1790 | 450 |           |    |   |    |    |               |       | 13.3       | 13.3         | 5.2               | 67.1    | 27.6    | 0.0      |        |
| 23                   |            | 7.2          |         | 2.8    | 68  | 209 | 1660 | 450 |           |    |   |    |    |               |       | 12.5       | 12.5         | 4.3               | 66.3    | 29.5    |          |        |
| 24                   |            | 7.1          |         | 3.6    | 179 | 440 | 1960 | 520 |           |    |   |    |    |               |       | 15.2       | 15.2         | 7.4               | 64.5    | 28.1    | 0.0      |        |
| 25                   |            | 7.2          |         | 2.9    | 94  | 356 | 1800 | 540 |           |    |   |    |    |               |       | 14.3       | 14.3         | 6.3               | 62.8    | 30.9    | 0.0      |        |
| 26                   |            | 7.2          |         | 3.0    | 80  | 301 | 1660 | 490 |           |    |   |    |    |               |       | 13.1       | 13.1         | 5.9               | 63.4    | 30.7    | 0.0      |        |
| 27                   |            | 7.2          |         | 2.9    | 74  | 262 | 1670 | 490 |           |    |   |    |    |               |       | 13.0       | 13.0         | 5.1               | 64.0    | 30.8    | 0.0      |        |
| 28                   |            | 7.1          |         | 2.9    | 69  | 223 | 1720 | 550 |           |    |   |    |    |               |       | 13.7       | 13.7         | 4.2               | 62.9    | 33.0    | 0.0      |        |
| 29                   |            | 7.3          |         | 2.5    | 49  | 202 | 1780 | 570 |           |    |   |    |    |               |       | 14.1       | 14.1         | 3.7               | 63.2    | 33.2    | 0.0      |        |
| 30                   |            | 7.1          |         | 4.4    | 84  | 216 | 2280 | 590 |           |    |   |    |    |               |       | 16.8       | 16.8         | 3.3               | 67.9    | 28.8    | 0.0      |        |
| 31                   |            | 7.2          |         | 4.4    | 113 | 337 | 2510 | 550 |           |    |   |    |    |               |       | 17.9       | 17.9         | 4.8               | 70.0    | 25.2    | 0.0      |        |
| 32                   |            | 7.1          |         | 5.8    | 95  | 207 | 2740 | 760 |           |    |   |    |    |               |       | 20.5       | 20.5         | 2.6               | 67.0    | 30.4    | 0.0      |        |
| 33                   |            | 7.0          |         | 4.0    | 95  | 347 | 1820 | 510 |           |    |   |    |    |               |       | 14.2       | 14.2         | 6.3               | 64.2    | 29.5    | 0.0      |        |
| 34                   |            | 7.0          |         | 6.0    | 92  | 319 | 2990 | 920 |           |    |   |    |    |               |       | 23.3       | 23.3         | 3.5               | 64.1    | 32.4    | 0.0      |        |
| 35                   |            | 7.3          |         | 3.8    | 44  | 109 | 2320 | 660 |           |    |   |    |    |               |       | 17.3       | 17.3         | 1.6               | 67.1    | 31.3    | 0.0      |        |
| 36                   |            | 7.4          |         | 3.0    | 82  | 203 | 1940 | 550 |           |    |   |    |    |               |       | 14.7       | 14.7         | 3.5               | 65.9    | 30.6    | 0.0      |        |
| 37                   |            | 6.9          |         | 4.8    | 47  | 172 | 2230 | 610 |           |    |   |    |    |               |       | 16.6       | 16.9         | 2.6               | 66.1    | 29.6    | 1.7      |        |
| 38                   |            | 7.2          |         | 5.2    | 73  | 191 | 2660 | 780 |           |    |   |    |    |               |       | 20.2       | 20.2         | 2.4               | 65.9    | 31.7    |          |        |
| 39                   |            | 7.4          |         | 4.0    | 76  | 205 | 2270 | 660 |           |    |   |    |    |               |       | 17.3       | 17.3         | 3.0               | 65.7    | 31.3    |          |        |
| 40                   |            | 7.4          |         | 3.7    | 62  | 183 | 1970 | 540 |           |    |   |    |    |               |       | 14.7       | 14.7         | 3.2               | 66.8    | 30.0    |          |        |





PEARL CITY  
ELEVATOR INC.

IF PAYMENT VOIDED

VOID DATE

Grower: CLARK, KEN

Farm: FARM

UNAPPLIED AMOUNT

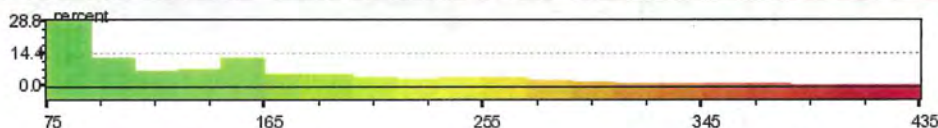
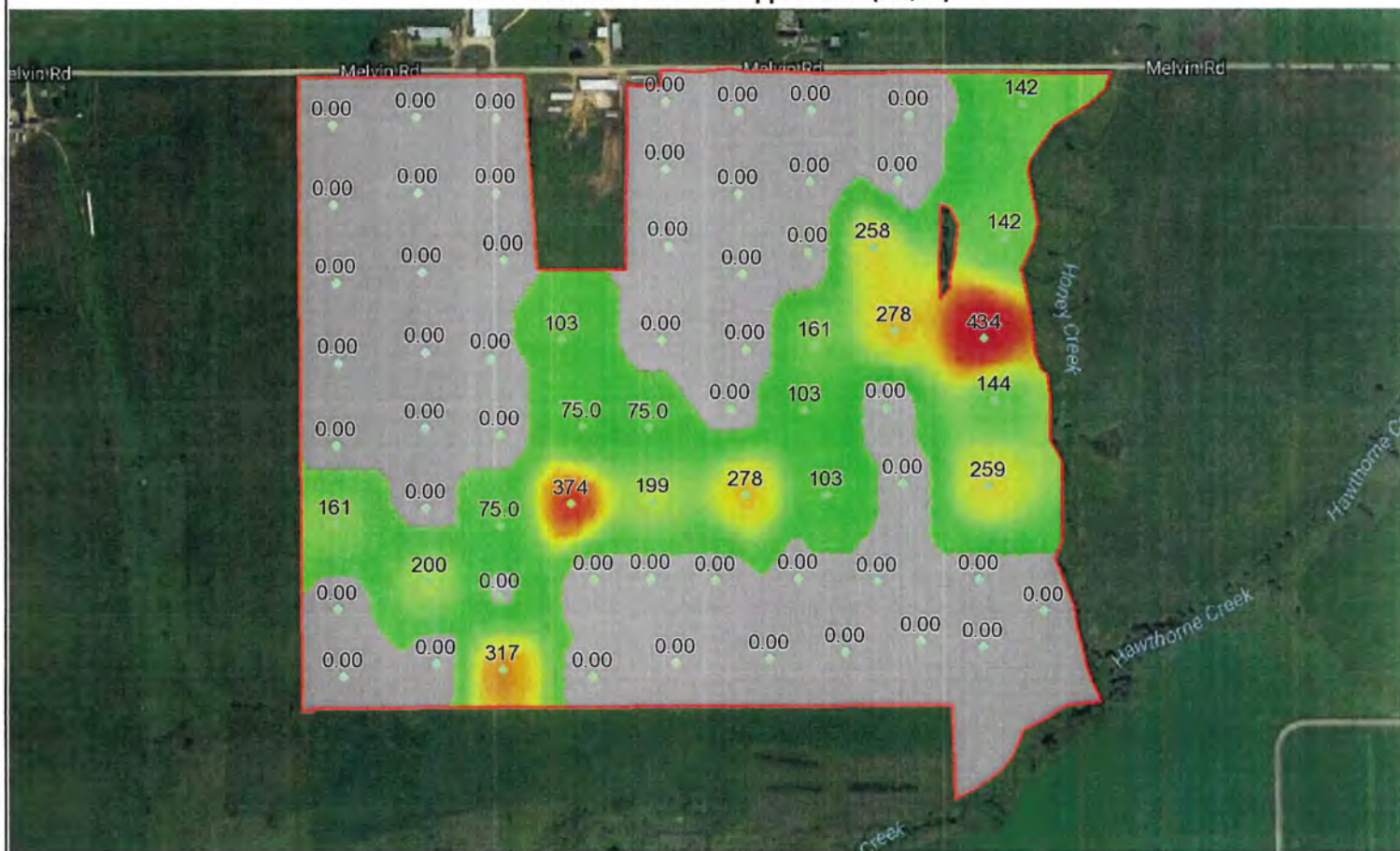
.00

Fertility Analysis

POSTMARK DATE 11/14/17

Field(s): HOME 5

DAP 18-46-00 - Fertilizer Application (lbs/ac)



Lab: AgSource Labs

Custom Eq: PCE CEC Recs

Commodity: Corn

Sample Date: 2017-11-10

Constraints:

Bean Yield Goal: 60 bu/ac Corn Yield Goal: 200 bu/ac

Max Rate: N/A Multiplier: N/A

Build Level: 2yr C/B  
30-200

Min Rate: 75 lbs/ac Subtract: N/A

Switch Rate: 30 lbs/ac

Minimum Application Rate: 75.0 lbs/ac  
Maximum Application Rate: 434.5 lbs/ac  
Average Application Rate: 149.4 lbs/ac  
Application Area: 73.6 ac  
Average Field Rate: 60.7 lbs/ac  
Total Area: 181.2 ac

Total Product: 11004.3 lbs  
Total Product Bulk: 5.5022 ton  
Product Cost / Bulk: \$0.0/ton  
Total Product Price: \$0.0  
Application Cost / Area: \$8.95/ac  
Total Application Cost: \$659.12  
Total Cost: \$659.12



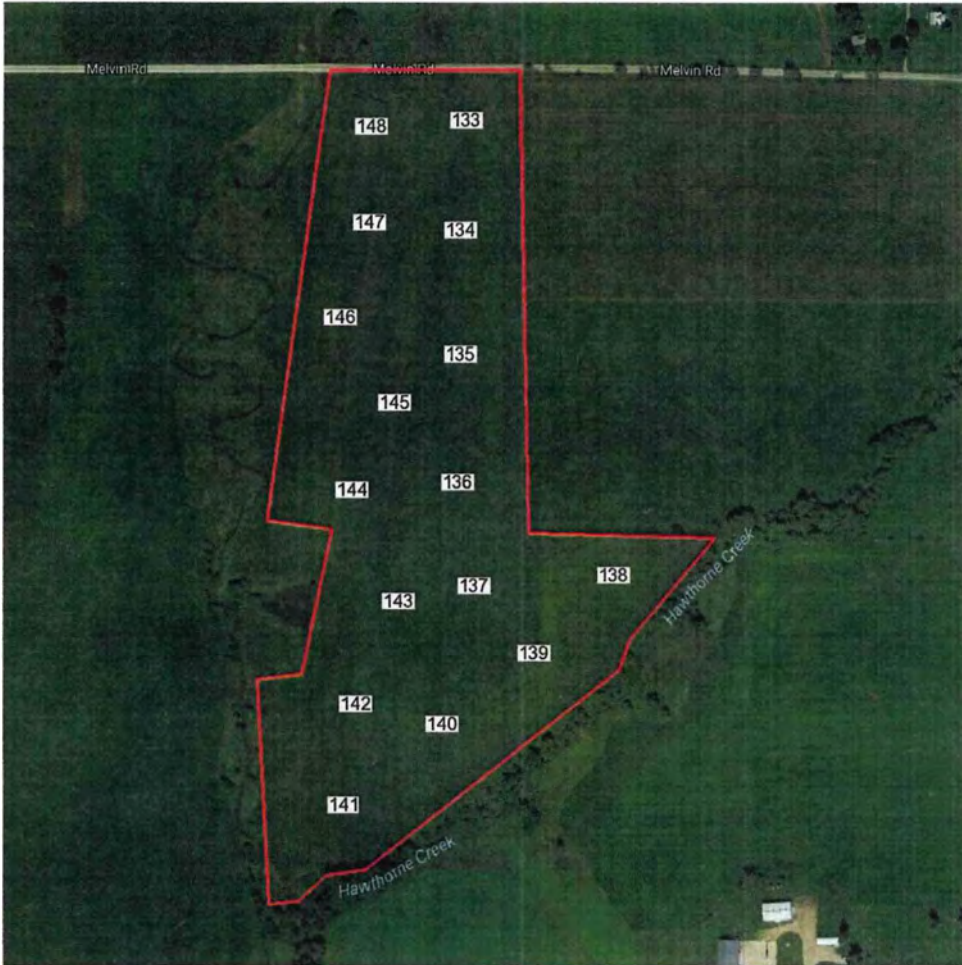
Quies, Derek

11/14/17 10:19 AM  
1/3





| Location     | Grower     | Farm | Field            | Area        | Centroid              |
|--------------|------------|------|------------------|-------------|-----------------------|
| Quies, Derek | CLARK, KEN | FARM | HUFFMAN S BRIDGE | 38.33 acres | 42.559944, -89.682133 |



|     | Min  | Max  | Avg  |
|-----|------|------|------|
| P   | 29.0 | 103  | 61.4 |
| K   | 106  | 267  | 202  |
| Mg  | 278  | 1023 | 475  |
| Ca  | 906  | 3399 | 1780 |
| S   | 4.0  | 7.2  | 5.6  |
| B   | 0.18 | 0.43 | 0.33 |
| Cu  | 1.2  | 3.1  | 2.5  |
| Mn  | 35.4 | 163  | 107  |
| Zn  | 5.8  | 17.1 | 13.5 |
| pH  | 6.9  | 7.6  | 7.4  |
| bpH | 0.00 | 0.00 | 0.00 |
| OM  | 1.4  | 5.3  | 2.9  |
| CEC | 7.3  | 26.1 | 13.5 |
| %K  | 1.9  | 6.0  | 4.1  |
| %Mg | 23.1 | 29.4 | 26.0 |
| %Ca | 64.4 | 71.6 | 68.4 |
| %H  | 0.70 | 2.5  | 1.4  |
| BS  | 0.00 | 0.00 | 0.00 |

Sample Date: 2017-11-10 Soil Lab: AgSource Labs

| ID  | P ppm | K ppm | Mg ppm | Ca ppm | S ppm | B ppm | Cu ppm | Mn ppm | Zn ppm | pH  | bpH  | OM % | CEC meq | %K % | %Mg % | %Ca % | %H % | BS % |
|-----|-------|-------|--------|--------|-------|-------|--------|--------|--------|-----|------|------|---------|------|-------|-------|------|------|
| 133 | 80.0  | 228   | 389    | 1355   | 4.7   | 0.62  | 2.8    | 103    | 13.8   | 7.4 | 0.00 | 2.5  | 10.7    | 5.6  | 27.3  | 65.9  | 1.2  | 0.00 |
| 134 | 67.0  | 198   | 324    | 1338   | 5.2   | 0.65  | 2.3    | 118    | 14.6   | 7.3 | 0.00 | 2.0  | 10.0    | 5.2  | 24.3  | 69.3  | 1.3  | 0.00 |
| 135 | 67.0  | 189   | 361    | 1516   | 6.8   | 0.67  | 2.5    | 159    | 14.3   | 7.4 | 0.00 | 2.4  | 11.2    | 4.4  | 24.1  | 70.0  | 1.5  | 0.00 |
| 136 | 49.0  | 177   | 391    | 1466   | 5.0   | 0.60  | 2.6    | 163    | 10.9   | 7.5 | 0.00 | 1.9  | 11.2    | 4.1  | 26.2  | 68.1  | 1.6  | 0.00 |
| 137 | 52.0  | 242   | 393    | 1314   | 5.3   | 0.48  | 2.2    | 102    | 15.0   | 7.4 | 0.00 | 2.4  | 10.6    | 6.0  | 27.9  | 64.4  | 1.6  | 0.00 |
| 138 | 43.0  | 218   | 697    | 2291   | 7.2   | 0.81  | 2.8    | 87.7   | 14.8   | 7.4 | 0.00 | 4.5  | 18.0    | 3.2  | 29.1  | 66.4  | 1.4  | 0.00 |
| 139 | 32.0  | 188   | 1023   | 3399   | 5.6   | 0.74  | 3.0    | 35.4   | 14.3   | 7.4 | 0.00 | 5.3  | 26.1    | 1.9  | 29.4  | 68.0  | 0.70 | 0.00 |
| 140 | 42.0  | 226   | 623    | 2351   | 6.4   | 0.71  | 2.3    | 55.7   | 11.4   | 6.9 | 0.00 | 4.7  | 17.7    | 3.3  | 26.2  | 68.9  | 1.5  | 0.00 |
| 141 | 60.0  | 267   | 618    | 2248   | 5.2   | 0.86  | 2.7    | 82.8   | 14.5   | 7.1 | 0.00 | 3.9  | 17.2    | 4.1  | 26.9  | 68.0  | 1.0  | 0.00 |
| 142 | 60.0  | 202   | 599    | 2129   | 6.7   | 0.85  | 2.4    | 143    | 12.8   | 7.6 | 0.00 | 3.1  | 16.3    | 3.2  | 27.6  | 68.1  | 1.0  | 0.00 |
| 143 | 29.0  | 106   | 278    | 906    | 4.0   | 0.37  | 1.2    | 90.8   | 5.8    | 7.2 | 0.00 | 1.4  | 7.3     | 3.7  | 29.0  | 64.9  | 2.5  | 0.00 |
| 144 | 66.0  | 129   | 331    | 1442   | 6.3   | 0.63  | 3.1    | 140    | 15.2   | 7.5 | 0.00 | 1.9  | 10.4    | 3.1  | 23.7  | 71.6  | 1.6  | 0.00 |
| 145 | 67.0  | 163   | 305    | 1275   | 5.2   | 0.58  | 2.5    | 124    | 16.6   | 7.5 | 0.00 | 1.9  | 9.5     | 4.4  | 24.1  | 69.6  | 1.9  | 0.00 |
| 146 | 102   | 200   | 338    | 1492   | 5.0   | 0.59  | 2.5    | 106    | 17.1   | 7.5 | 0.00 | 2.3  | 10.9    | 4.8  | 23.1  | 70.7  | 1.4  | 0.00 |



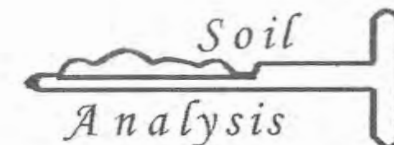


# AgSource Laboratories

A Subsidiary of Cooperative Resources International

P.O. Box 7  
Bonduel, WI 54107

Tel: (715) 758-2178  
Fax: (715) 758-2620



Submitted By: PEARL CITY ELEVATOR INC

PO BOX 248 119 S MAIN ST  
PEARL CITY, IL 61062 -0248

Submitted For: Ken Clark

Date Processed:

31-Oct-2013

Lab #:

738815

| Sample<br>Id                | Soil<br>pH | Buffer<br>pH | OM<br>% | Bray 1 |     |      |     | B | Mn<br>PPM | Zn | S | Cu | Fe | 60 - 69       |       | Est<br>CEC | Total<br>CEC | % Base Saturation |         |         |          |        |
|-----------------------------|------------|--------------|---------|--------|-----|------|-----|---|-----------|----|---|----|----|---------------|-------|------------|--------------|-------------------|---------|---------|----------|--------|
|                             |            |              |         | P      | K   | Ca   | Mg  |   |           |    |   |    |    | Tons<br>pH6.6 | pH6.8 |            |              | K<br>%            | Ca<br>% | Mg<br>% | Tot<br>% | H<br>% |
| Field Id: Huffman S. Bridge |            |              |         |        |     |      |     |   |           |    |   |    |    |               |       |            |              |                   |         |         |          |        |
| Min:                        | 6.2        | 7.2          | 1.3     | 17     | 58  | 850  | 210 |   |           |    |   |    |    | 2.0           | 2.0   | 6.1        | 6.5          | 0.9               | 60.6    | 22.7    | 89.8     |        |
| Max:                        | 7.3        | 7.3          | 5.0     | 81     | 273 | 2500 | 650 |   |           |    |   |    |    | 2.0           | 2.0   | 18.0       | 18.8         | 5.5               | 72.3    | 29.5    | 100.0    | 10.2   |
| Avg:                        | 6.9        | 7.3          | 3.0     | 50     | 156 | 1722 | 421 |   |           |    |   |    |    |               |       | 12.5       | 12.7         | 3.4               | 67.8    | 26.6    | 97.8     | 2.5    |
| 133                         | 7.2        |              | 2.6     | 81     | 259 | 1630 | 430 |   |           |    |   |    |    |               |       | 12.3       | 12.3         | 5.4               | 66.0    | 28.6    | 100.0    | 0.0    |
| 134                         | 6.9        |              | 2.1     | 62     | 177 | 1440 | 310 |   |           |    |   |    |    |               |       | 10.2       | 10.3         | 4.4               | 69.8    | 24.6    | 98.9     | 1.1    |
| 135                         | 7.1        |              | 2.4     | 67     | 192 | 1410 | 270 |   |           |    |   |    |    |               |       | 9.8        | 9.8          | 5.0               | 72.3    | 22.7    | 100.0    |        |
| 136                         | 7.0        |              | 2.0     | 46     | 167 | 1310 | 300 |   |           |    |   |    |    |               |       | 9.4        | 9.4          | 4.5               | 69.4    | 26.0    | 100.0    | 0.0    |
| 137                         | 6.2        | 7.2          | 2.1     | 43     | 147 | 1180 | 300 |   |           |    |   |    |    | 2.0           | 2.0   | 8.7        | 9.7          | 3.9               | 60.6    | 25.3    | 89.8     | 10.2   |
| 138                         | 6.7        |              | 4.8     | 17     | 58  | 2230 | 600 |   |           |    |   |    |    |               |       | 16.2       | 17.1         | 0.9               | 65.3    | 28.8    | 95.0     | 5.0    |
| 139                         | 6.6        |              | 5.0     | 43     | 91  | 2440 | 630 |   |           |    |   |    |    |               |       | 17.6       | 18.8         | 1.2               | 65.0    | 27.5    | 93.7     | 6.3    |
| 140                         | 6.9        |              | 4.9     | 30     | 78  | 2500 | 650 |   |           |    |   |    |    |               |       | 18.0       | 18.3         | 1.1               | 68.2    | 29.1    | 98.4     | 1.6    |
| 141                         | 6.7        |              | 3.9     | 33     | 148 | 2070 | 550 |   |           |    |   |    |    |               |       | 15.2       | 15.9         | 2.4               | 65.0    | 28.3    | 95.7     | 4.4    |
| 142                         | 7.2        |              | 3.7     | 40     | 112 | 2370 | 620 |   |           |    |   |    |    |               |       | 17.2       | 17.2         | 1.7               | 68.8    | 29.5    | 100.0    | 0.0    |
| 143                         | 6.5        | 7.3          | 1.3     | 20     | 67  | 850  | 210 |   |           |    |   |    |    | 2.0           | 2.0   | 6.1        | 6.5          | 2.6               | 65.2    | 26.4    | 94.2     | 5.8    |
| 144                         | 7.1        |              | 1.9     | 57     | 151 | 1450 | 350 |   |           |    |   |    |    |               |       | 10.5       | 10.5         | 3.7               | 69.0    | 27.3    | 100.0    | 0.1    |
| 145                         | 7.1        |              | 1.8     | 59     | 156 | 1420 | 310 |   |           |    |   |    |    |               |       | 10.0       | 10.0         | 4.0               | 70.7    | 25.3    | 100.0    | 0.0    |
| 146                         | 7.1        |              | 2.3     | 81     | 205 | 1350 | 270 |   |           |    |   |    |    |               |       | 9.5        | 9.5          | 5.5               | 71.1    | 23.3    | 100.0    | 0.0    |
| 147                         | 7.0        |              | 3.6     | 71     | 220 | 1790 | 410 |   |           |    |   |    |    |               |       | 12.9       | 12.9         | 4.4               | 69.5    | 26.1    | 100.0    |        |
| 148                         | 7.3        |              | 3.5     | 56     | 273 | 2110 | 520 |   |           |    |   |    |    |               |       | 15.5       | 15.5         | 4.5               | 68.0    | 27.5    | 100.0    | 0.0    |



## Soil Trend Analysis

Grower: CLARK, KEN

Farm: FARM

Field: KOLB W BLDGS

Area: 76.01 acres

| Year  | 2013-10-30 | 2017-11-10 |
|-------|------------|------------|
| P     | 31.4       | 27.3       |
| K     | 210.9      | 176.9      |
| Mg    | 579.4      | 582.4      |
| Ca    | 1810.9     | 1752.7     |
| S     | 0.0        | 6.4        |
| B     |            | 0.4        |
| Cu    | 0.0        | 1.9        |
| Mn    | 0.0        | 119.6      |
| Zn    | 0.0        | 8.8        |
| pH    | 7.0        | 7.3        |
| bpH   | 0.0        | 0.0        |
| OM    | 3.4        | 3.4        |
| CEC   | 14.4       | 14.2       |
| %K    |            | 3.3        |
| %Mg   |            | 30.5       |
| %Ca   | 0.0        | 64.6       |
| %H    |            | 1.7        |
| BS    |            | 0.0        |
| %Sand | 0.0        |            |
| %Silt | 0.0        |            |
| %Clay | 0.0        |            |





| Location            | Grower     | Farm              | Field        | Area        | Centroid             |
|---------------------|------------|-------------------|--------------|-------------|----------------------|
| Pearl City Elevator | CLARK, KEN | AG SOURCE TESTING | KOLB W BLDGS | 76.01 acres | 42.552456,-89.683224 |



|       | Min | Max  | Avg  |
|-------|-----|------|------|
| P     | 9.0 | 135  | 31.4 |
| K     | 115 | 410  | 210  |
| Mg    | 280 | 860  | 579  |
| Ca    | 5.6 | 12.1 | 9.1  |
| S     | 0.0 | 0.0  | 0.0  |
| Cu    | 0.0 | 0.0  | 0.0  |
| Mn    | 0.0 | 0.0  | 0.0  |
| Zn    | 0.0 | 0.0  | 0.0  |
| pH    | 6.6 | 7.4  | 7.0  |
| bpH   | 0.0 | 0.0  | 0.0  |
| OM    | 2.0 | 4.6  | 3.4  |
| CEC   | 8.4 | 19.7 | 14.4 |
| %Ca   | 0.0 | 0.0  | 0.0  |
| %Sand | 0.0 | 0.0  | 0.0  |
| %Silt | 0.0 | 0.0  | 0.0  |
| %Clay | 0.0 | 0.0  | 0.0  |

Sample Date: 2013-10-30 Soil Lab: None

| ID | P<br>ppm | K<br>ppm | Mg<br>ppm | Ca<br>meq/100g | S<br>ppm | Cu<br>ppm | Mn<br>lbs/ac | Zn<br>lbs/ac | pH  | bpH | OM<br>% | CEC<br>meq/100g | %Ca<br>% | %Sand<br>% | %Silt<br>% | %Clay<br>% |
|----|----------|----------|-----------|----------------|----------|-----------|--------------|--------------|-----|-----|---------|-----------------|----------|------------|------------|------------|
| 1  | 29.0     | 227      | 570       | 9.2            | 0.0      | 0.0       | 0.0          | 0.0          | 6.7 | 0.0 | 3.4     | 14.5            | 0.0      | 0.0        | 0.0        | 0.0        |
| 2  | 28.0     | 192      | 610       | 9.2            | 0.0      | 0.0       | 0.0          | 0.0          | 6.8 | 0.0 | 3.6     | 14.8            | 0.0      | 0.0        | 0.0        | 0.0        |
| 3  | 23.0     | 213      | 550       | 8.9            | 0.0      | 0.0       | 0.0          | 0.0          | 6.8 | 0.0 | 3.3     | 14.0            | 0.0      | 0.0        | 0.0        | 0.0        |
| 4  | 59.0     | 287      | 800       | 11.0           | 0.0      | 0.0       | 0.0          | 0.0          | 7.1 | 0.0 | 3.6     | 18.3            | 0.0      | 0.0        | 0.0        | 0.0        |
| 5  | 38.0     | 241      | 650       | 9.4            | 0.0      | 0.0       | 0.0          | 0.0          | 7.1 | 0.0 | 3.2     | 15.4            | 0.0      | 0.0        | 0.0        | 0.0        |
| 6  | 16.0     | 180      | 490       | 8.2            | 0.0      | 0.0       | 0.0          | 0.0          | 6.9 | 0.0 | 2.8     | 12.6            | 0.0      | 0.0        | 0.0        | 0.0        |
| 7  | 25.0     | 209      | 390       | 6.8            | 0.0      | 0.0       | 0.0          | 0.0          | 7.0 | 0.0 | 2.5     | 10.6            | 0.0      | 0.0        | 0.0        | 0.0        |
| 8  | 73.0     | 339      | 370       | 8.1            | 0.0      | 0.0       | 0.0          | 0.0          | 6.9 | 0.0 | 3.3     | 12.0            | 0.0      | 0.0        | 0.0        | 0.0        |
| 9  | 51.0     | 249      | 340       | 6.9            | 0.0      | 0.0       | 0.0          | 0.0          | 6.7 | 0.0 | 2.6     | 10.3            | 0.0      | 0.0        | 0.0        | 0.0        |
| 10 | 28.0     | 185      | 280       | 5.6            | 0.0      | 0.0       | 0.0          | 0.0          | 6.9 | 0.0 | 2.0     | 8.4             | 0.0      | 0.0        | 0.0        | 0.0        |
| 11 | 18.0     | 167      | 520       | 8.1            | 0.0      | 0.0       | 0.0          | 0.0          | 7.0 | 0.0 | 2.7     | 12.8            | 0.0      | 0.0        | 0.0        | 0.0        |
| 12 | 24.0     | 215      | 720       | 9.8            | 0.0      | 0.0       | 0.0          | 0.0          | 7.2 | 0.0 | 3.3     | 16.3            | 0.0      | 0.0        | 0.0        | 0.0        |
| 13 | 23.0     | 136      | 610       | 9.2            | 0.0      | 0.0       | 0.0          | 0.0          | 7.0 | 0.0 | 3.4     | 14.6            | 0.0      | 0.0        | 0.0        | 0.0        |
| 14 | 135      | 410      | 770       | 11.7           | 0.0      | 0.0       | 0.0          | 0.0          | 7.2 | 0.0 | 4.6     | 19.0            | 0.0      | 0.0        | 0.0        | 0.0        |



## Appendix VIII





## Appendix VIII continued

