

Eleva Strum Joint Sewerage Commission

Public Noticed Permit Fact Sheet

General Information

Permit Number	WI-0064998-03-0
Permittee	Eleva Strum Joint Sewerage Commission WWTF, 202 5th Ave S, Strum, WI 54770
Permitted Facility	Eleva Strum Joint Sewerage Commission WWTF, N49237 County Rd V Strum WI 54770
Permit Term	February 01, 2026 to December 31, 2030
Discharge Location	South bank of Buffalo River, 1 mile upstream of Missell Rd Bridge
Receiving Water	the surface waters of the Buffalo River in the Upper Buffalo River Watershed of the Buffalo-Trempealeau River Basin located in Trempealeau County
Stream Flow (Q _{7,10})	21 cfs
Stream Classification	Warmwater Sport Fish, Non-public Water Supply
Discharge Type	Existing, Continuous
Annual Average Design Flow	0.201 MGD
Industrial or Commercial Contributors	North American Fly Co.
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; P - Total Phosphorus; D - Disinfection
Approved Pretreatment Program?	N/A

Facility Description

The Villages of Eleva and Strum have a combined wastewater treatment facility to treat domestic wastewater from both communities, and industrial wastewater from the North American Fly Company. The annual average design flow is 0.201 million gallons per day (MGD). In 2024, the actual average influent flow was 0.075 MGD and effluent flow was 0.112 MGD. The facility has enhanced biological nutrient removal, activated sludge, extended aeration, secondary clarification and addition of alum for phosphorus removal. Effluent is disinfected via ultraviolet (UV) light prior to discharge to the Buffalo River. Sludge is hauled to the West Central Wisconsin Biosolids Facility. No significant operational changes occurred during the last permit term or are proposed for the upcoming term. The Department reapproved the water quality trading (WQT) plan (WQT-2025-001) submitted by the permittee as a way to demonstrate compliance with water quality based effluent limits (WQBELs) for total phosphorus. The plan provides calculations and a table that shows the amount of phosphorus credits that will be available each year.

Substantial Compliance Determination

Enforcement during last permit term: Eleva Strum Join Sewerage Commission has had no enforcement in the last permit term. After a desk top review of all Discharge monitoring reports, CMARs, Land application reports, and compliance schedule items, and an inspection on 08/01/2024, Eleva Strum Joint Sewerage Commission has been found to be in substantial compliance with their current permit.

Compliance determination made by Jenna Monahan on 08/27/2024.

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	Influent: 0.075 MGD (2024)	Representative influent samples shall be collected after the mechanical screen.
001	Effluent: 0.112 MGD (2024)	Representative effluent samples shall be collected after UV disinfection and prior to discharge to the Buffalo River.
003	Sludge sent to the WCWBF: estimated to be 18 dry US tons (per the permittee's reissuance application)	As long as sludge is shipped to the West Central Wisconsin Biosolids Facility (WCWBF) for reuse and disposal, representative sludge samples shall be collected once per year and monitored for List 1 and PFAS. Sludge samples shall be collected prior to hauling and test results shall be reported on Form 3400-49 "Waste Characteristics Report". Hauled sludge reports shall be submitted on Form 3400-52 "Other Methods of Disposal or Distribution Report" following each year that sludge is hauled. Department notification and approval is required prior to changing this disposal option.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- Influent After Screen

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Flow Prop Comp	

Changes from Previous Permit:

Influent 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

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 Surface Water - Monitoring and Limitations

2.1 Sample Point Number: 001- Prior to Discharge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Nitrogen, Ammonia (NH3-N) Total	Daily Max	7.8 mg/L	3/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	7.8 mg/L	3/Week	24-Hr Flow Prop Comp	
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	7.8 mg/L	3/Week	24-Hr Flow Prop Comp	
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit Effective May through September annually per the Effluent Limitations for E. coli Schedule.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit Effective May through September annually per the Effluent

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					Limitations for E. coli Schedule. See the E. coli Percent Limit section in the permit. Enter the result in the DMR on the last day of the month.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective throughout the permit term, as it represents a minimum control level.
Phosphorus, Total		lbs/day	3/Week	Calculated	Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) 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) section. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	Monthly Avg	0.225 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) section. Value entered on the last day of the month.
WQT Computed Compliance (TP)	6-Month Avg	0.075 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	0.126 lbs/day	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) section. Compliance with the six-month average limit is evaluated at the end of the

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					six-month period on June 30 and Dec 31.
WQT Credits Used (TP)	Annual Total	238 lbs/yr	Annual	Calculated	The sum of total monthly credits used may not exceed Table 2 values listed in the permit.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section in permit.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section in permit.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section in the permit. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET	Daily Max	1.0 TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET testing section in permit

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: fecal coliform monitoring and limits have been replaced with *Escherichia coli* (*E. coli*) monitoring and limits.

Explanation of Limits and Monitoring Requirements

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.

Limits were determined for Eleva Strum’s existing discharge to the Buffalo River using chs. NR 102, 104, 105, 106, 207, 210, 212 and 217 of the Wisconsin Administrative Code (where applicable). For additional information on any of the limits see the October 20, 2025 memo from Ben Hartenbower to Holly Heldstab titled “Water Quality-Based Effluent Limitations for the Eleva Strum Joint Sewerage commission WWTF WPDES Permit No. WI-0064998”.

MUNICIPAL EFFLUENT LIMITS – In accordance with the federal regulation 40 CFR 122.45(d), and to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable.

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 the Buffalo River is 0.075 mg/L. In this case, the WQBEL is 0.225 mg/L (monthly average), 0.075 mg/L & 0.126 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 limits were derived from and comply with the applicable water quality criterion. phosphorus concentration limit is necessary to prevent backsliding during the term of the permit, therefore a limit of 1.0 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. This permit includes terms and conditions related to the Water Quality Trading Plan (WQT-2025-0001) or approved amendments thereof. The total ‘WQT TP Credits’ available are designated in the approved WQT Plan. Eleva Strum is generating credits via streambank stabilization projects. The WQT Plan proposes the generation of 238 lbs/yr of phosphorus credits for the next five years.

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

PFOS and PFOA: NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Pursuant to s. NR 106.98(3)(b), Wis. Adm. Code, the department evaluated the need for PFOS and PFOA monitoring taking into consideration the presence of potential PFOS or PFOA industrial wastes, remediation sites and other potential sources of PFOS or PFOA. Based on information available at the time the permit was drafted, the department has determined the permittee does not need to sample for PFOS or PFOA as part of this permit reissuance. The department may re-evaluate the need for sampling at the next permit reissuance if new information becomes available that suggests PFOS or PFOA may be present in the discharge.

3 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)
003	Class B	Liquid	N/A	N/A	Haul to WCWBF	18
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						

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)
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? No						
Is a priority pollutant scan required? No						
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.						

3.1 Sample Point Number: 003- Hauled Sludge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

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

3.1.2 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.

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.

4 Schedules

4.1 Water Quality Trading (WQT) Annual Report

Required Action	Due Date
Annual WQT Report: Submit an annual WQT report that shall cover the first year of the permit term. The WQT Report shall include: The number of pollutant reduction credits (lbs/month) used each month of the previous year to demonstrate compliance; The source of each month’s pollutant reduction credits by identifying the approved water quality trading plan that details the source; A summary of the annual inspection of each nonpoint source management practice that generated any of the pollutant reduction credits used during the previous year; and	01/31/2027

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.	
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2028
Annual WQT Report #3: Submit an annual WQT report that shall cover the previous year.	01/31/2029
Annual WQT Report #4: Submit the 4th annual WQT report. If the permittee wishes to continue to comply with phosphorus limits through WQT in subsequent permit terms, the permittee shall submit 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.	01/31/2030
Annual WQT Report Required After Permit Expiration: 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: The permittee shall 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.

Other Comments

Publishing Newspaper: Trempealeau Times, 36435 Main St. P.O. Box 95 Whitehall, WI 54773.

Attachments

- Water Quality Based Effluent Limits: October 20, 2025 memo from Ben Hartenbower to Holly Heldstab titled “Water Quality-Based Effluent Limitations for the Eleva Strum Joint Sewerage Commission WWTF WPDES Permit No. WI-0064998”
- Water Quality Trading Plan, WQT-2025-0001
- Water Quality Trading Conditional Credit Certification letter dated February 5, 2025 from Jenna Monahan to Dean Boehne, Village President

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By: Holly Heldstab, Wastewater Specialist

Date: 11/18/2025

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: October 20, 2025

TO: Holly Heldstab – WCR/Eau Claire

FROM: Benjamin Hartenbower – WCR/Eau Claire

SUBJECT: Water Quality-Based Effluent Limitations for the Eleva Strum Joint Sewerage Commission
WWTF
WPDES Permit No. WI-0064998

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 the Eleva Strum Joint Sewerage Commission Wastewater Treatment Facility in Trempealeau County. This municipal wastewater treatment facility (WWTF) discharges to the Buffalo River, located in the Upper Buffalo River Watershed in the Buffalo - Trempealeau River Basin. The evaluation of the permit recommendations is discussed in more detail in the attached report.

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 ₅			45 mg/L	30 mg/L		1, 3
TSS			45 mg/L	30 mg/L		1, 3
pH	9.0 s.u.	6.0 s.u.				1
Ammonia Nitrogen	7.8 mg/L		7.8 mg/L	7.8 mg/L		1, 4
<i>E. coli</i> May - September				126 #/100 mL geometric mean		5
Phosphorus MCL WQT Computed (TP)				1.0 mg/L 0.225 mg/L	0.075 mg/L, 0.126 lbs/day	6
TKN, Nitrate+Nitrite, and Total Nitrogen						7
Acute WET	1.0 TUa					8, 9

Footnotes:

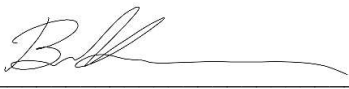
1. No changes from the current permit.
2. Monitoring only.
3. These limits are based on the Warm Water Sport Fish (WWSF) community of the immediate receiving water as described in s. NR 210.05(1), Wis. Adm. Code.

4. Additional 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.
5. Additional limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
6. WQT computed compliance limits also require a corresponding Minimum Control Level (MCL) of 1.0 mg/L to be met at the discharge.
7. As recommended in the Department's October 1, 2019 *Guidance for Total Nitrogen Monitoring in Wastewater Permits*, annual total nitrogen monitoring is recommended for all minor municipal 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 (NO₃), nitrite (NO₂), and total Kjeldahl nitrogen (TKN) (all expressed as N).
8. Annual Acute WET tests are recommended. 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 for acute WET should continue after the permit expiration date (until the permit is reissued).
9. 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.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Benjamin Hartenbower at (715) 225-4705 or benjamin.hartenbower@wisconsin.gov or Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (3) – Narrative, Thermal Table, & Map

PREPARED BY:


Benjamin Hartenbower, PE,
Water Resources Engineer

Date: 10/20/2025

E-cc: Geisa Bittencourt, Regional Wastewater Supervisor – WCR/Eau Claire
Diane Figiel, Water Resources Engineer – WY/3
Nate Willis, Wastewater Engineer – WY/3
Kurt Rasmussen, Water Quality Biologist – WCR/La Crosse

**Water Quality-Based Effluent Limitations for
The Eleva Strum Joint Sewerage Commission WWTF**

WPDES Permit No. WI-0064998

Prepared by: Benjamin P. Hartenbower

PART 1 – BACKGROUND INFORMATION

Facility Description

The Eleva Strum Joint Sewerage Commission WWTF receives domestic wastewater from the Villages of Eleva and Strum. The facility became operational in November 2013 and the annual design flow is 0.201 MGD. The WWTF utilizes enhanced biological nutrient removal, activated sludge, and UV disinfection to treat the wastewater. Outfall 001 is located on the south bank of the Buffalo River, one mile upstream of the Missell Road Bridge.

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

Existing Permit Limitations

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

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1, 2
BOD ₅			45 mg/L	30 mg/L		1, 3
TSS			45 mg/L	30 mg/L		1, 3
pH	9.0 s.u.	6.0 s.u.				1
Ammonia Nitrogen	7.8 mg/L		7.8 mg/L	7.8 mg/L		
Fecal Coliform May - September			656 #/100 mL geometric mean	400 #/100 mL geometric mean		
<i>E. coli</i>						2
Phosphorus MCL WQT Computed (TP)				1.0 mg/L 0.225 mg/L	0.075 mg/L, 0.126 lbs/day	2
TKN, Nitrate+Nitrite, and Total Nitrogen						2
Acute WET	1.0 TUa					4

Footnotes:

Attachment #1

1. 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.
2. Monitoring only.
3. These limits are based on the Warm Water Sport Fish (WWSF) community of the immediate receiving water as described in s. NR 210.05(1), Wis. Adm. Code.
4. Acute WET testing required: April - June 2020, July - September 2021, October - December 2022, January - March 2023, April - June 2024, and April - June 2025.

Receiving Water Information

- Name: Buffalo River
- Waterbody Identification Code (WBIC): 1813900
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply.
- Low flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q₁₀ and 7-Q₂ values are from USGS for Station 05371860, at Strum, in the Buffalo River, where Outfall 001 is located.
 - 7-Q₁₀ = 21 cubic feet per second (cfs)
 - 7-Q₂ = 37 cfs
 - Harmonic Mean Flow = 51 cfs using a drainage area of 123 mi²The Harmonic Mean has been estimated based on average flow and the 7-Q₁₀ 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).
- Hardness = 164 mg/L as CaCO₃. This value represents the geometric mean of hardness from the Buffalo River from 01/11/1990 to 09/05/1996 (n = 36).
- % 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 the Chippewa River at Durand are used in this evaluation because there is no data available for the Buffalo River. The Chippewa River 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: Mondovi Wastewater Treatment Facility, Osseo Wastewater Treatment Facility, and SPF North America, Inc. also discharge to the Buffalo River, however they are not in the immediate vicinity and the mixing zones do not overlap. Therefore, the other dischargers do not impact this evaluation.
- Impaired water status: The Buffalo River is impaired for Total Phosphorus (miles 0 to 67.56).

Effluent Information

- Design Flow Rate(s):
Annual Average = 0.201 MGD (Million Gallons per Day)
For reference, the actual average flow from April 2020 to August 2025 was 0.106 MGD.
- Hardness = 153 mg/L as CaCO₃. This value represents the geometric mean of data (n = 4) from April 2024 to April 2024.
- 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.
- Water supply: Eleva Waterworks
- Additives: Aluminum Sulfate (Water Quality Conditioner)
- Effluent characterization: This facility is categorized as a minor municipality, so the permit application required effluent sample analyses for a limited number of common pollutants, as specified in s. NR 200.065, Table 1, Wis. Adm. Code, primarily metal substances plus chloride and hardness. The permit-required monitoring for Ammonia Nitrogen and Phosphorus from April 2020 to August 2025 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.

Effluent Data for Outfall 001

Sample Date	Copper µg/L	Sample Date	Chloride mg/L
4/2/2024	3.30	4/2/2024	60.2
4/9/2024	3.21	4/9/2024	58.5
4/16/2024	9.78	4/16/2024	79.4
4/23/2024	3.52	4/23/2024	61.8
4/30/2024	4.91		
5/7/2024	3.20		
5/14/2024	3.40		
5/21/2024	3.96		
5/28/2024	5.12		
6/4/2024	3.72		
6/11/2024	2.68		
1-day P ₉₉	10.78	mean	65.0
4-day P ₉₉	7.06		

The following table presents the average concentrations and loadings at Outfall 001 from April 2020 to August 2025 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 ₅	5 mg/L*	
TSS	3 mg/L*	
pH	7.64 s.u.	
Fecal Coliform	9 #/100 mL**	
Ammonia Nitrogen	0.1 mg/L*	
Phosphorus	0.0706 mg/L	0.1 lbs/day

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

** The average measurement for bacteria is calculated as a geometric mean. Values reported below the LOD are replaced with a value of 1 for the calculation of the geometric mean.

PART 2 – 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 99th percentile (or P₉₉) 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-Q₁₀

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. 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-Q₁₀ 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_s = average minimum 1-day flow which occurs once in 10 years (1-day Q₁₀)
if the 1-day Q₁₀ flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q₁₀).

Q_e = 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_s = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

Attachment #1

If the receiving water is effluent dominated under low stream flow conditions, the 1-Q₁₀ method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is not the case for the Eleva Strum Joint Sewerage Commission WWTF, and the limits are set based on two times the acute toxicity criteria.

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

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 17 cfs, (1-Q₁₀ (estimated as 80% of 7-Q₁₀)), as specified in s. NR 106.06(3)(bm), Wis. Adm. Code.

SUBSTANCE	REF. HARD. mg/L	ATC	MEAN BACK-GRD.	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P ₉₉	1-day MAX. CONC.
Arsenic		339.8		680	136	<0.77		
Cadmium	153	16.78	0.0103	34	7	<0.084		
Chromium (+3)	153	2553.87	0.5	5108	1022	<0.7		
Copper	153	23.17	1.21	46			10.78	9.78
Lead	153	161.23	0.3384	322	64	<1.08		
Nickel	153	672.22		1344	269	1.04		
Zinc	153	174.57	1.413	349	70	30.2		
Chloride (mg/L)		757	11	1514	303	65.0		79.4

**The 2 × ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 1-Q₁₀ flow rates per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 5.3 cfs, (¼ of 7-Q₁₀), as specified in s. NR 106.06(4)(c), Wis. Adm. Code.

SUBSTANCE	REF. HARD. mg/L	CTC	MEAN BACK-GRD.	WEEKLY AVE. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P ₉₉
Arsenic		152.2		2721	544	<0.77	
Cadmium	164	3.63	0.0103	65	13	<0.084	
Chromium (+3)	164	197.85	0.5	3529	706	<0.7	
Copper	164	15.78	1.21	262			7.06
Lead	164	45.1	0.3384	801	160	<1.08	
Nickel	164	79.22		1417	283	1.04	
Zinc	164	185.28	1.413	3289	658	30.2	
Chloride (mg/L)		395	11	6877	1375	65.0	

Monthly Average Limits based on Wildlife Criteria (WC)

The effluent characterization did not include any effluent sampling results for substances for which Wildlife Criteria exist.

Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 13 cfs, (1/4 of Harmonic Mean), as specified in s. NR 106.06(4)(c), Wis. Adm. Code.

SUBSTANCE	HTC	MEAN BACK- GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P ₉₉
Cadmium	370	0.0103	15546	3109	<0.084	
Chromium (+3)	3818000	0.5	160423296	32084659	<0.7	
Lead	140	0.3384	5869	1174	<1.08	
Nickel	43000		1806758	361352	1.04	

Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = 13 cfs, (1/4 of Harmonic Mean), as specified in s. NR 106.06(4)(c), Wis. Adm. Code.

SUBSTANCE	HCC	MEAN BACK- GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P ₉₉
Arsenic	13.3		558.8	111.8	<0.77	

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 calculated limitations and effluent data, effluent limitations are not required for toxic substances.

Mercury— The permit application did not require monitoring for mercury because the Eleva Strum Joint Sewerage Commission WWTF is categorized as a minor facility as defined in s. NR 200.02(8), Wis. Adm. Code. In accordance with s. NR 106.145(3)(a)3, Wis. Adm. Code, a minor municipal discharger shall monitor, and report results of influent and effluent mercury monitoring once every three months if, “there are two or more exceedances in the last five years of the high-quality sludge mercury concentration of 17 mg/kg specified in s. NR 204.07(5), Wis. Adm. Code.” A review of the past six years of sludge characteristics data reveals that all sample results are within expected analytical ranges and well below the 17 mg/kg level. The average concentration in the sludge from 2020 to 2025 was 0.397 mg/kg, with a maximum reported concentration of 1.1 mg/kg. **Therefore, no mercury monitoring is recommended at Outfall 001.**

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 Eleva Waterworks (PWS ID: 66202708) is provided in the table below:

Water Supply PFAS Data				
Sample Date	Sample ID	Well #	PFOS (ng/L)	PFOA (ng/L)
11/26/2024	CC14195-01	ZV161	<0.48	<0.47
07/16/2025	CD08237-04	ZV161	<0.48	<0.47
06/11/2025	CD06692-04	ZV161	<0.47	<0.46
05/23/2023	CB05456-01	BH059	<0.31	<0.49
03/17/2025	CD02934-03	ZV161	<0.47	<0.46
Average =			ND	ND

The limited data above shows the municipal water supply is below 1/5th of the applicable PFOS and PFOA criteria.

Based on the annual design flow and lack of nondomestic contributions, it is unlikely that the effluent will contain PFOS or PFOA. Therefore, **PFOS and PFOA monitoring is not recommended.**

PART 3 – 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 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.
- Section NR 106.07(3), Wis. Adm. Code requires weekly and monthly average limits for municipal treatment plants.
- The Maximum expected 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.

Attachment #1

The effluent pH data was examined as part of this evaluation. A total of 1979 samples were reported from April 2020 to August 2025. The maximum reported value was 8.61 s.u. (Standard pH Units). The effluent pH was 8.11 s.u. or less 99% of the time. The 1-day P₉₉, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 8.20 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 8.18 s.u. Therefore, a value of 8.20 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 8.20 s.u. into the equation above yields an ATC = 5.73 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-Q₁₀ 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-Q₁₀ (estimated as 80 % of 7-Q₁₀) and the 2×ATC approach are shown below.

Daily Maximum Ammonia Nitrogen Determination

	Ammonia Nitrogen Limit mg/L
2×ATC	11.45
1-Q ₁₀	207

The 2×ATC method yields the most stringent limits for the Elewa Strum Joint Sewerage Commission WWTF.

Presented below is a table of daily maximum limitations corresponding to various effluent pH values.

Daily Maximum Ammonia Nitrogen Limits – WWSF

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	108	7.0 < pH ≤ 7.1	66	8.0 < pH ≤ 8.1	14
6.1 < pH ≤ 6.2	106	7.1 < pH ≤ 7.2	59	8.1 < pH ≤ 8.2	11
6.2 < pH ≤ 6.3	104	7.2 < pH ≤ 7.3	52	8.2 < pH ≤ 8.3	9.4
6.3 < pH ≤ 6.4	101	7.3 < pH ≤ 7.4	46	8.3 < pH ≤ 8.4	7.8
6.4 < pH ≤ 6.5	98	7.4 < pH ≤ 7.5	40	8.4 < pH ≤ 8.5	6.4
6.5 < pH ≤ 6.6	94	7.5 < pH ≤ 7.6	34	8.5 < pH ≤ 8.6	5.3
6.6 < pH ≤ 6.7	89	7.6 < pH ≤ 7.7	29	8.6 < pH ≤ 8.7	4.4
6.7 < pH ≤ 6.8	84	7.7 < pH ≤ 7.8	24	8.7 < pH ≤ 8.8	3.7
6.8 < pH ≤ 6.9	78	7.8 < pH ≤ 7.9	20	8.8 < pH ≤ 8.9	3.1
6.9 < pH ≤ 7.0	72	7.9 < pH ≤ 8.0	17	8.9 < pH ≤ 9.0	2.6

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

The ammonia limit calculation also warrants evaluation of weekly and monthly average limits based on chronic toxicity criteria for ammonia, because those limits relate to the assimilative capacity of the receiving water.

Weekly average and monthly average limits for ammonia nitrogen are based on chronic toxicity criteria in ch. NR 105, Wis. Adm. Code.

The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a Warm Water Sport Fish Community is calculated by the following equation, according to subchapter IV of NR 106, Wis. Adm. Code.

$$CTC = E \times \{ [0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})] \} \times C$$

Where:

pH = the pH (s.u.) of the receiving water,

E = 0.854,

C = the minimum of 2.85 or $1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or

C = $1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and

T = the temperature (°C) of the receiving water – (Early Life Stages Present), or

T = the maximum of the actual temperature (°C) and 7 – (Early Life Stages Absent)

The 4-day criterion is equal to the 30-day criterion multiplied by 2.5. The 4-day criteria are used in a mass-balance equation with the 7-Q₁₀ (4-Q₃, if available) to derive weekly average limitations. And the 30-day criteria are used with the 30-Q₅ (estimated as 85% of the 7-Q₂ if the 30-Q₅ is not available) to derive monthly average limitations. The stream flow value is further adjusted to temperature; 100% of the flow is used if the Temperature ≥ 16 °C, 25% of the flow is used if the Temperature < 11°C, and 50% of the flow is used if the Temperature ≥ 11 °C but < 16 °C.

Section NR 106.32 (3), Wis. Adm. Code, provides a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the Buffalo River, based on raw fish data in the Fisheries Management Information System. So “ELS Absent” criteria apply from October through March, and “ELS Present” criteria will apply from April through September for a Warm Water Sport Fish classification.

The default basin assumed values are used for temperature. The pH and background ammonia concentrations are from the Buffalo River. These values are shown in the table below, with the resulting criteria and effluent limitations.

Weekly and Monthly Average Ammonia Nitrogen Limits – WWSF

		April & May	June - September	October - March
Effluent Flow	Qe (MGD)	0.201	0.201	0.201
Background Information	7-Q10 (cfs)	21	21	21
	7-Q2 (cfs)	37	37	37
	Ammonia (mg/L)	0.06	0.05	0.14
	Average Temperature (°C)	12	19	3.5
	Maximum Temperature (°C)	14	21	10
	pH (s.u.)	7.77	7.80	7.73
	% of Flow used	50	100	25
	Reference Weekly Flow (cfs)	10.50	21.00	5.25
	Reference Monthly Flow (cfs)	15.73	31.45	7.86
Criteria mg/L	4-day Chronic			
	Early Life Stages Present	8.28	5.41	8.68
	Early Life Stages Absent	8.32	5.41	11.62
	30-day Chronic			
	Early Life Stages Present	3.31	2.16	3.47
	Early Life Stages Absent	3.33	2.16	4.65
Effluent Limitations mg/L	Weekly Average			
	Early Life Stages Present	286	367	
	Early Life Stages Absent			205
	Monthly Average			
	Early Life Stages Present	168	215	
	Early Life Stages Absent			119

Effluent Data

The following table evaluates the statistics based upon ammonia data reported from April 2020 to August 2025.

Ammonia Nitrogen Effluent Data

Ammonia Nitrogen mg/L	April & May	June - September	October - March
1-day P ₉₉	0.3	1.3	2.9
4-day P ₉₉	0.2	0.8	2.5
30-day P ₉₉	0.1	0.4	1.5
Mean*	0.1	0.1	0.2
Std	0.1	0.5	2.1
Sample size	150	302	389
Range	<0.1 - 0.6	<0.1 - 6.9	<0.1 - 38

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

Reasonable Potential

The need to include ammonia limits in the Eleva Strum Joint Sewerage Commission WWTF permit is determined by calculating 99th upper percentile (or P₉₉) values for ammonia during the month ranges and comparing those to the calculated limits. However, since the permit currently has daily maximum, weekly and monthly average limits of 7.8 mg/L, **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.

Conclusions and Recommendations

In summary, after rounding to two significant figures, a daily maximum ammonia nitrogen limitation of 7.8 mg/L is recommended year-round. No mass limitations are recommended in accordance with s. NR 106.32(5), Wis. Adm. Code.

Final Ammonia Nitrogen Limits

Daily Maximum mg/L	Weekly Average mg/L	Monthly Average mg/L
7.8	7.8	7.8

Additional limits to meet the requirements in s. NR 106.07, Wis. Adm. Code, are denoted in bold text.

PART 4 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR BACTERIA

On May 1, 2020, revisions to chs. NR 102 and NR 210, Wis. Adm. Codes, became effective which replace fecal coliform limits with new *Escherichia coli* (*E. coli*) limits for protection of recreational uses. Section NR 210.06(2)(a)1, Wis. Adm. Code, includes two limits which must be included in permits for facilities which are required to disinfect:

1. The geometric mean of *E. coli* bacteria in effluent samples collected in any calendar month may not exceed 126 counts/100 mL.
2. No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 counts/100 mL.

E. coli monitoring is recommended at the same frequency that fecal coliform monitoring is required in the current permit. Because the Eleva Strum Joint Sewerage Commission WWTF permit requires weekly monitoring, the 410 counts/100 mL limit will effectively function as a daily maximum limit unless the facility performs additional monitoring. Any additional monitoring beyond what is required by the permit must also be reported on the DMR as required in the standard requirements section of the permit.

These limits are required May through September. No changes are recommended to the current recreational period and the required disinfection season.

Effluent Data

The Eleva Strum Joint Sewerage Commission WWTF has monitored effluent *E. coli* from June 2024 to September 2024 and a total of 17 results are available. A geometric mean of 126 counts/100 mL was never exceeded in the last 4 months, with a maximum monthly geometric mean of 30 counts/100 mL. Effluent data never exceeded 410 counts/100 mL. The maximum reported value was 190 counts/100 mL. Based on this effluent data it appears that the facility can meet new *E. coli* limits and a compliance schedule is not needed in the reissued permit.

PART 5 – PHOSPHORUS

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 the Eleva Strum Joint Sewerage Commission WWTF 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 The Buffalo River.

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.

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

Where:

WQC = 0.075 mg/L for the Buffalo River

Qs = 100% of the 7-Q₂ of 37 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 = 0.201 MGD = 0.311 cfs

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

Attachment #1

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. 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.

The following data were considered in estimating the background phosphorus concentration:

In Stream Total Phosphorus Data	
SWIMS ID	623092
Station Name	Buffalo River - Railroad Bridge
Waterbody	Buffalo River
Sample Count	6
First Sample	5/10/2012
Last Sample	10/10/2012
Mean	0.221
Median	0.226

Substituting a background concentration above criteria into the limit calculation equation above would result in a calculated limit that is less than the applicable criterion of 0.075 mg/L. However, s. NR 217.13(7), Wis. Adm. Code, specifies that “if the WQBEL calculated pursuant to the procedures in this section is less than the phosphorus criterion specified in s. NR 102.06, Wis. Adm. Code, for the water body, the effluent limit shall be set equal to the criterion.”

The impaired water listing of the Buffalo River also points towards the notion that effluent phosphorus limits equal to the water quality criterion are needed to prevent the discharge from contributing to further impairment of the receiving water. *The Guidance for Implementing Wisconsin’s Phosphorus Water Quality Standards for Point Source Discharges (2020)* suggests setting effluent limits equal to the criterion in the absence of an EPA approved total maximum daily load for discharges of phosphorus to phosphorus impaired waters.

Effluent Data

The following table summarizes effluent total phosphorus monitoring data from April 2020 to August 2025.

Total Phosphorus Effluent Data	
	Phosphorus mg/L
1-day P ₉₉	1.21
4-day P ₉₉	0.70
30-day P ₉₉	0.30
Mean	0.14
Std	0.28
Sample size	847
Range	<0.028 - 6.65

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 meet the WQBELs. Therefore, **the WQBELs are required to continue in the reissued permit per ss. NR 217.15 and 205.067(5), Wis. Adm. Codes.**

Limit Expression

According to s. NR 217.14(2), Wis. Adm. Code, because the calculated WQBEL is less than or equal to 0.3 mg/L, the effluent limit of 0.075 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 0.225 mg/L, equal to three times the WQBEL 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

A mass limit is also required, pursuant to s. NR 217.14(1)(a), Wis. Adm. Code, because the discharge is to a surface water that is impaired for phosphorus. **This final mass limit shall be $0.075 \text{ mg/L} \times 8.34 \times 0.201 \text{ MGD} = 0.126 \text{ lbs/day}$ expressed as a six-month average.**

Water Quality Trading Minimum Control Level

The Eleva Strum Joint Sewerage Commission WWTF is currently utilizing Water Quality Trading (WQT) as an alternative compliance option to offset any total phosphorus discharged from Outfall 001 that exceed 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 location. Therefore, the current MCL of **1.0 mg/L as a monthly average is recommended to continue.**

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 April 2020 to August 2025.

Monthly Temperature Effluent Limits

	Representative Highest Monthly Effluent Temperature		Daily Maximum Effluent Limitation	
	(°F)	(°F)	(°F)	(°F)
JAN			NA	120
FEB			NA	120
MAR			NA	120
APR			NA	120
MAY			NA	120
JUN			NA	120
JUL			NA	120
AUG			NA	120
SEP			NA	120
OCT			NA	120
NOV			NA	120
DEC			NA	120

* NA denotes “not applicable” when the calculated weekly average limit is greater than or equal to 120 °F.

The lowest calculated limitation is 120 °F. For activated sludge systems of domestic waste, there is no reasonable potential for the discharge to exceed this limit. **Therefore, temperature limits and monitoring are not recommended.**

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 LC₅₀ (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

Attachment #1

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 IC₂₅ (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 5%**, 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 = 0.201 MGD = 0.311 cfs

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

Q_s = $\frac{1}{4}$ of the 7- Q_{10} = 21 cfs $\div$ 4 = 5.25 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.
- 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.

WET Data History

Date Test Initiated	Acute Results LC ₅₀ %				Footnotes or Comments
	<i>C. dubia</i>	Fathead minnow	Pass or Fail?	Used in RP?	
3/18/2015	>100	72.4	Fail	Yes	
4/29/2015	>100	>100	Pass	Yes	
5/13/2015	>100	>100	Pass	Yes	
7/19/2017	>100	>100	Pass	Yes	
9/5/2018	>100	>100	Pass	Yes	
6/10/2020	>100	>100	Pass	Yes	
8/31/2021	>100	>100	Pass	Yes	
11/15/2022	>100	>100	Pass	Yes	
3/8/2023	>100	>100	Pass	Yes	
4/30/2024	>100	>100	Pass	Yes	
5/20/2025	>100	>100	Pass	Yes	

Attachment #1

- 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.**

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

Acute WET Limit Parameters

TUa (maximum) 100/LC ₅₀	B (multiplication factor from s. NR 106.08(5)(c), Wis. Adm. Code, Table 4)
100/72.4 = 1.38 TUa	6.2 Based on 1 detect

$$[(\text{TUa effluent}) (B)] = 8.56 > 1.0$$

Therefore, reasonable potential is shown for acute WET limits using the procedures in s. NR 106.08(6), Wis. Adm. Code, and representative data from 2015 to 2025.

Expression of WET limits

$$\text{Acute WET limit} = 1.0 \text{ TU}_a \text{ (daily maximum)}$$

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

Attachment #1

	Acute	Chronic
AMZ/IWC	Not Applicable. 0 Points	IWC = 5%. 0 Points
Historical Data	Eleven tests used to calculate RP. One test failed. 0 Points	No testing available. 5 Points
Effluent Variability	Little variability, consistent WWTF operations. 0 Points	Same as Acute. 0 Points
Receiving Water Classification	Warm Water Sport Fish (5 pts) 5 Points	Same as Acute. 5 Points
Chemical-Specific Data	No reasonable potential for limits based on ATC. Ammonia nitrogen limit carried over from the current permit. Ammonia, Chloride, Copper, Nickel, and Zinc detected. (3 pts) Additional Compounds of Concern: None. 3 Points	No reasonable potential for limits based on CTC. Ammonia nitrogen limit carried over from the current permit. Ammonia, Chloride, Copper, Nickel, and Zinc detected. (3 pts) Additional Compounds of Concern: None. 3 Points
Additives	One Water Quality Conditioner (1 pt) added. Permittee has proper P chemical SOPs in place. 1 Point	All additives are used more frequently than once per 4 days. 1 Point
Discharge Category	No Industrial Contributors. 0 Points	Same as Acute. 0 Points
Wastewater Treatment	Secondary or Better 0 Points	Same as Acute. 0 Points
Downstream Impacts	No impacts known. 0 Points	Same as Acute. 0 Points
Total Checklist Points:	9 Points	14 Points
Recommended Monitoring Frequency (from Checklist):	1x yearly throughout permit term (rotating quarters)	No WET tests needed
Limit Required?	Yes Limit = 1.0 TUa	No
TRE Recommended? (from Checklist)	No	No

- After consideration of the guidance provided in the Department's *WET Program Guidance Document* (2022) and other information described above, annual acute WET tests are recommended in the

Attachment #1

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).

- According to the requirements specified in s. NR 106.08, Wis. Adm. Code, an acute WET limit is required. The acute WET limit shall be expressed as 1.0 TUa as a daily maximum in the effluent limits table of the permit.
- A minimum of annual acute monitoring is required because an acute WET limit is required. Federal regulations in 40 CFR Part 122.44(i) require that monitoring occur at least once per year when a limit is present.

Temperature limits for receiving waters with unidirectional flow

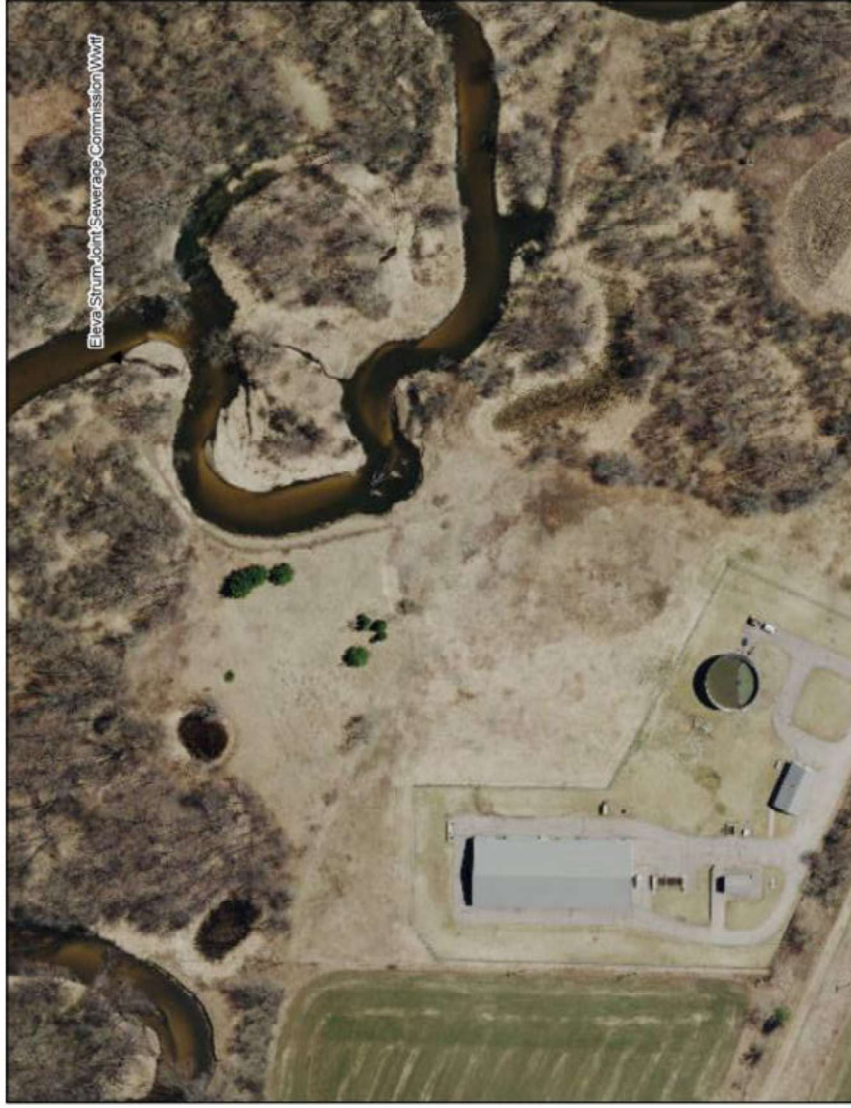
(calculation using default ambient temperature data)

Facility:	Eleva Strum Joint Sewerage Commission WWTF	7-Q10:	21.00 cfs	Temp Dates	Flow Dates
Outfall(s):	001	Dilution:	25%	Start:	04/01/20
Date Prepared:	10/03/2025	f:	0	End:	08/31/25
Design Flow (Qe):	0.201 MGD	Stream type:	Small warm water sport or forage fish community		
Storm Sewer Dist.	0	Qs:Qe ratio:	16.9 :1		
		Calculation Needed?	YES		

Month	Water Quality Criteria			Receiving Water Flow Rate (Qs) (cfs)	Representative Highest Effluent Flow Rate (Qe) (MGD)		f	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Ta (default) (°F)	Sub-Lethal WQC (°F)	Acute WQC (°F)		7-day Rolling Average (Qesl) (MGD)	Daily Maximum Flow Rate (Qea) (MGD)		Weekly Average (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°F)
JAN	33	49	76	21.00	0.121	0.132	0			NA	120
FEB	34	50	76	21.00	0.134	0.254	0			NA	120
MAR	38	52	77	21.00	0.115	0.137	0			NA	120
APR	48	55	79	21.00	0.143	0.160	0			NA	120
MAY	58	65	82	21.00	0.132	0.191	0			NA	120
JUN	66	76	84	21.00	0.155	0.170	0			NA	120
JUL	69	81	85	21.00	0.166	0.246	0			NA	120
AUG	67	81	84	21.00	0.139	0.170	0			NA	120
SEP	60	73	82	21.00	0.127	0.169	0			NA	120
OCT	50	61	80	21.00	0.123	0.150	0			NA	120
NOV	40	49	77	21.00	0.123	0.139	0			NA	120
DEC	35	49	76	21.00	0.116	0.178	0			NA	120



Eleva Strum Joint Sewerage Commission WWTF



Legend:
▲ Surface Water Outfalls
Latest Leaf Off Imagery

Notes:



Service Layer Credits:
Latest Leaf Off: DNR Basic Feature Vector File Layer WWT, Permits & Determinations; WI DNR Bureau of Watershed Management
Map projection: NAD 1983 NADN Wisconsin TM
Date Printed: 10/6/2025 12:18 AM
This map is a product generated by a DNR web 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/about>



February 5, 2025

Dean Boehne, Village President
Village of Strum
PO Box 25
202 5th Ave S
Strum, WI 54770

Subject: Eleva Strum Joint Sewerage Commission WWTF WPDES Permit #WI-0064998
Water Quality Trading Plan – CONDITIONAL CREDIT CERTIFICATION

Dear Mr. Boehne

The Department received a final draft of the updated water quality trading plan (WQT Plan) for compliance with phosphorus effluent limits at the Eleva Strum Joint Sewerage Commission Wastewater Treatment Facility on 12/26/2024. Based on WDNR review, the final WQT Plan is in general conformance with the WDNR Water Quality Trading Guidance and Section 283.84 of the Wisconsin Statutes. An approval was issued on January 14, 2025. On January 31, 2025 a correction was made to the final summation of credits and the report updated and resubmitted for re-approval. The department agrees with this correction. The WQT proposed generation of phosphorus credits via streambank stabilization projects at several different sites. 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 in the reissued permit.

In the event that the permit is not reissued prior to the expiration date, annual available TP credits listed below will be available in the subsequent year(s).

Table 1: Total Phosphorus Credits Available per WQT-2025-0001

Year	Available TP Credits Total (lbs/yr)
2025	238
2026	238
2027	238
2028	238
2029	238

The Department conditionally certifies 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-2025-0001 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 715-492-4323 or at jenna.monahan@wisconsin.gov

Thank You,

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

Jenna Monahan, P.E.
Wastewater Engineer - West Central Region
Wisconsin Department of Natural Resources

e-CC: Brad Olson, OIC
Mike Davy, Davy Engineering
Rachel Jaeger, Davy Engineering
Matthew Claucherty, WDNR
Geisa Bittencourt, WDNR

**2024 STATUS REPORT
WATER QUALITY TRADING PLAN
ELEVA STRUM WWTP
ELEVA-STRUM, WI**



DECEMBER 2024

1305-005.010

TABLE OF CONTENTS

WATER QUALITY TRADE PLAN

ELEVA-STRUM, WI

- 1 EXECUTIVE SUMMARY
- 2 PURPOSE OF WATER QUALITY TRADING
- 3 DESCRIPTION OF EXISTING LAND USES IN VICINITY OF WQT PROJECTS
- 4 MANAGEMENT PRACTICES USED TO GENERATE CREDITS
- 5 AMOUNT OF CREDIT BEING GENERATED
- 6 DESCRIPTION OF APPLICABLE TRADE RATIO PER AGREEMENT/MANAGEMENT PRACTICE
- 7 LOCATION WHERE CREDITS WILL BE GENERATED
- 8 TIMELINE FOR CREDITS AND AGREEMENTS
- 9 METHOD FOR QUANTIFYING CREDITS
- 10 TRACKING PROCEDURES
- 11 CONDITIONS UNDER WHICH THE MANAGEMENT PRACTICES MAY BE INSPECTED
- 12 REPORTING REQUIREMENTS SHOULD THE MANAGEMENT PRACTICE FAIL
- 13 OPERATION AND MAINTENANCE PLAN FOR EACH MANAGEMENT PRACTICE
- 14 LOCATION OF CREDIT GENERATOR IN PROXIMITY TO RECEIVING WATER AND CREDIT USER
- 15 PRACTICE REGISTRATION DOCUMENTS, IF AVAILABLE
- 16 HISTORY OF PROJECT SITE(S)
- 17 AVAILABLE PHOSPHORUS CREDITS
- 18 COMPLIANCE WITH WATER QUALITY TRADING CHECKLIST
- 19 CERTIFICATION OF WATER QUALITY TRADING PLAN

APPENDICES

APPENDIX 5-1	PHOSPHORUS LOSS CALCULATION
APPENDIX 5-2	SOIL ANALYSES
APPENDIX 6-1	SPARROW MAP
APPENDIX 6-2	HUC 12 WATERSHED BASIN
APPENDIX 6-3	IMPAIRMENT MAP
APPENDIX 7-1	BELOW DAM & PARKING LOT SITE MAP
APPENDIX 7-2	CAMPGROUND SITE MAP
APPENDIX 7-3	KINVILLE AND CRAWFORD SITE MAP
APPENDIX 10-1	ANNUAL INSPECTION REPORTS
APPENDIX 10-2	BEFORE PHOTOS
APPENDIX 14-1	PROJECT LOCATION MAP
APPENDIX 15-1	REGISTRATION DOCUMENTS
APPENDIX 17-1	KINVILLE/CRAWFORD AGREEMENT

1 **EXECUTIVE SUMMARY**

The existing WPDES Permit for the Eleva-Strum Sewer Commission wastewater treatment facility (WWTF) includes an effluent limit of 0.075 mg/L phosphorus and that is expected to continue with the reissued Permit. Eleva-Strum plans to continue to comply with the permit through Water Quality Trades (WQT) to offset the discharged phosphorus mass to meet the 0.075 mg/L limit. The WWTP discharges to the Buffalo River in Trempealeau County. All WQT projects needed are completed. This report updates flows, credit calculations, SPARROW values, and other values that are known to have changed since the original WQT report was submitted.

In 2020-2024, the discharge flow from the Eleva-Strum WWTP averaged 0.11 MGD. The 2020-2024 average effluent phosphorus concentration was 0.126 mg/L. The effluent phosphorus mass loading at 0.11 MGD and 0.126 mg/L is 41 lbs./year. At the same flow, the 0.075 mg/L Permit limit reduces the phosphorus mass loading to 24 lbs./year, a reduction of 17 lbs./year. This is the Base Trade amount to offset by WQT for current conditions. With a 3:1 Trade Ratio, WQT needs to secure an equivalent of 51 lbs./year of credit to meet the limit via Water Quality Trade (WQT). The Base Trade amount increases to 93 lbs./year (TR=3:1) at the Design Flow.

The projects described in the original Water Quality Trading Plan have all been constructed, inspected annually and continue to perform as planned. Those will continue in use during the new Permit term and will continue to provide the ~~231~~ lbs./year in Phosphorus credit.

238

2 **PURPOSE OF WATER QUALITY TRADING PLAN**

The purpose of this 2024 Status Report to the Water Quality Trading Plan is to describe how the Eleva Strum WWTF utilizes water quality trading (WQT) to comply with the phosphorus limits for the renewal application filed in October 2024.

3 **DESCRIPTION OF EXISTING LAND USES IN VICINITY OF WQT PROJECTS**

Several of the WQT sites are located along the banks of Crystal Lake, within the Village of Strum in northern Trempealeau County. Crystal Lake is a flowage of the Buffalo River and is a 55-acre lake with a maximum depth of eight feet. While the main portion of Crystal Lake is occupied by single family dwellings in the Village of Strum, the eastern portion of the lake is wetlands and forest, and the northern side includes parklands and a campground. The Buffalo River upstream of Crystal Lake is heavily dominated by agricultural practices and is the receiving body of water for several streams that carry high phosphorus loads due to agricultural runoff and the desedimentation of streambanks.

3.1 Below Dam – Both North and South Side

The specific 250-foot riprap WQT site (North Side) and the 140-foot riprap WQT site (South Side) are located directly below the Crystal Lake dam that runs along 5th Avenue in Strum. The land immediately surrounding the lower dam site and streambank is planted in bluegrass and serves as a lawn primarily for use by fishermen.

3.2 Parking Lot Site

The specific 45-foot streambank WQT site is located on the southwest side of Crystal Lake, within Woodland Park. It is located near a parking lot that once served as a tennis court. The land immediately surrounding the streambank is planted in bluegrass and serves as a lawn for the park.

3.3 Campground

The approximately 400-foot streambank WQT site is located on the northwest side of Crystal Lake. The property is the Village of Strum's campground facility. The campground maintains 42 camping sites and is across the street from a nine (9) hole golf course. The streambank height ranges from four to six feet. There is a large goose population near the banks. The land surrounding the streambanks is planted in bluegrass and serves as a lawn for the campground facility.

3.4 Kinville & Crawford Site

The approximately 300 linear foot Kinville and Crawford WQT project site is located northeast of Strum south of USH 10 and along the Buffalo River. The project site is mainly open space along the streambank. There are twelve (12) foot high stream banks. The Buffalo River can experience high velocities during flood periods.

The WWTF Outfall Pipe discharge to the Buffalo River is downstream of all the project sites.

4 MANAGEMENT PRACTICES USED TO GENERATE CREDITS

Below Dam – North Side. The 250-foot streambank site for this WQT project was chosen as a site to generate WQT credits through a **riprap project**, as this section of streambank below the dam is where very high-velocity waters rapidly erode the banks during flood events. It was determined that riprapping the site to permanently armor the banks was the best solution to the problem, along with covering the rock with topsoil and native plantings.

Below Dam – South Side. The 140-foot streambank WQT site for this project was chosen as a site to generate WQT credits through a **riprap project**, as this section of streambank below the dam is where very high-velocity waters rapidly erode the banks during flood events. It was determined that riprapping the site to permanently armor the banks was the best solution to the problem, along with covering the rock with topsoil and native plantings.

Parking Lot Site. The 45-foot streambank site for this WQT project was chosen as a site to generate WQT credits through a **riprap project**, as this section of streambank was where high-velocity waters rapidly erode the banks during flood events. It was determined that riprapping the site to permanently armor the banks was the best solution to the problem, along with covering the rock with topsoil and native plantings.

Campground. The 400-foot streambank WQT site for this project was chosen as a site to generate WQT credits through a **riprap project**, as this section is near the inlet of Beaver Creek to Crystal Lake where high-velocity waters rapidly erode the banks during flood events. It was also determined that riprapping the site to permanently armor the banks was the best solution to the problem, along with covering the rock with topsoil and native plantings. The campground area is a portion of the lake where geese also congregate. Each goose produces two pounds of manure per day, adding a source of phosphorus.

Kinville and Crawford. The 300-foot streambank WQT site for this project was chosen as a site to generate WQT credits through a **riprap project**, as this section of streambank is where very high-velocity waters rapidly erode the banks during flood events. The banks are also very high and benefit from streambank protection.

4.1 Duration of Management Practice

The duration of the rock riprap streambank restoration management practices can be essentially 100+ years if maintained properly. The construction required shaping of the streambank and

placement of properly sized riprap. In several of the projects, the landowner is the Village. The operation and maintenance are discussed in more detail in Section 13 of this plan.

5 AMOUNT OF CREDIT BEING GENERATED

238

The original calculations show that the WQT projects prevent ~~234~~ pounds of phosphorus per year from entering Crystal Lake and Buffalo River. The NRCS Streambank Erosion Estimator (Direct Volume Method) spreadsheet was used to calculate the phosphorus credits. The percentage phosphorus in the soil was sampled by the Trempealeau County Land Conservation Staff and tested by the University of Wisconsin Soil and Forage Analysis Laboratory. See **Appendix 5-1** for the Phosphorus Loss Calculation and **Appendix 5-2** for the Soil Test Lab results.

6 DESCRIPTION OF APPLICABLE TRADE RATIO PER AGREEMENT/MANAGEMENT PRACTICE

Trade Ratio = Delivery + Downstream + Equivalency + Uncertainty – Habitat Adjustment:1

6.1 Delivery Factor

The delivery factor is determined by the following equation:

Delivery Fraction = (1 / SPARROW delivery fraction) – 1

The SPARROW delivery fraction is determined by a model found on the USGS website. The WDNR has implemented the Sparrow trade factors onto the Surface Data Viewer on their website. Upon review of the website the delivery factor was shown to be a 1:1 ratio (a zero in the trade ratio equation). The WWTP has a delivery fraction of 0.92. See **Appendix 6-1** for the SPARROW Map.

Below Dam – Both North and South. The credit user (WWTP) and credit generator (project site) are in the same HUC 12 basin, and the credit generator is upstream of the credit user. Since the credit generator is upstream of the credit user and in the same HUC 12, the delivery factor is zero (0). See **Appendix 6-2** for the HUC 12 Watershed Basin Maps.

Parking Lot. The credit user and credit generator are in two (2) different HUC 12 basins, but the same HUC 10 basin. The credit generator is upstream of the credit user and the distance between the two is approximately 1.0 miles or 2.1 miles if the meandering path of the Buffalo River is measured. Per the *Guidance for Implementing Water Quality Trading in WPDES Permits*, the Delivery Factor in section 2.11.1 states “The delivery factor accounts for the distance between trading partners and the impact that this distance has on the fate and transport of the traded pollutant in surface waters” (pg. 14). Based upon the Sparrow fraction discussed previously in this report, the fraction for both HUC 12 basins are identical, which results in a delivery factor value of zero (0).

Campground. The credit user and credit generator are in two (2) different HUC 12 basins, but the same HUC 10 basin. The credit generator is upstream of the credit user. Based upon the identical Sparrow fraction for both HUC 12 basins, the delivery factor value is zero (0).

Kinville and Crawford. The credit user and credit generator are in two (2) different HUC 12 basins, but the same HUC 10 basin. The credit generator is upstream of the credit user. Based upon the identical Sparrow fraction for both HUC 12 basins, the delivery factor value is zero (0).

The delivery factor for each of the project sites is as follows:

Site	Delivery Fraction	Delivery Factor
WWTP	0.92	0
N and S of Dam	0.92	0
Parking Lot	0.92	0
Campground	0.92	0
Kinville and Crawford	0.92	0

The credit user and every site have the same delivery fraction, 0.92. The Delivery Factor is zero (0) for all sites.

6.2 Downstream Factor

The Department of Natural Resources guidance (2013) states, “The downstream factor is used to help prevent a violation of water quality criteria in the receiving water between the credit user and generator.” (pg. 16). The downstream factor is only measured when the credit generator is downstream of the credit user. If the credit generator is upstream of the user, then the downstream factor is zero. In this case, all the project sites are upstream of the credit user, therefore the downstream factor is zero (0).

6.3 Equivalency Factor

The WQT for the credit user is based upon total phosphorus (TP). When accounting for the equivalency factor for TP, the equivalency factor is zero. This is because the differences between the soluble and sediment-bound P have been accounted for in the Delivery Factor (pg. 17). The equivalency factor is zero (0).

6.4 Uncertainty Factor

The uncertainty factor is used to compensate for the uncertainty of the effectiveness of the WQT project/plan. The uncertainty, especially with non-point discharges, is because many factors which are not controllable determine the effectiveness of the implementation, such as climate, potential inaccuracies from field testing or the reliability of the management practice to perform under various hydrological conditions. The WDNR has established a table to help assign values to the uncertainty variable of the equation. The table can be seen on pages 20-23 in the *Guidance for Implementing Water Quality Trading in WPDES Permits* (Wisconsin Department of Natural Resources, 2013).

6.4.1 Bank Stabilization

For bank stabilizations, WDNR has assigned an Uncertainty Factor value of three (3) without aquatic habitat restoration. These WQT projects have an Uncertainty Factor value of three (3).

In addition to the bank stabilization, the project involved constructing a 30-foot wide vegetative buffer along the top of the bank. Based upon the above-mentioned table, an assigned Uncertainty Factor of three (3) applies to the buffers. There is no habitat adjustment for the buffers.

6.5 Habitat Adjustment

To be eligible to claim credit for habitat restoration the surface water where the project work is taking place must be listed by WDNR as an impaired water body due to the pollutant which the credit user is attempting to mitigate.

Per the WDNR website <https://dnr.wi.gov/water/impairedDetail.aspx?key=14496>, the waterbody of the Buffalo River is considered an impaired system (Degraded Biological Community) due to total phosphorus and would qualify for Aquatic Habitat Adjustment. The Buffalo River Impaired Water documentation can be seen in **Appendix 6-2**.

In order to obtain the Habitat Adjustment, best management practices must be implemented and established as part of the project. Per Table 4, pg. 21 of the *Guidance for Implementing Water Quality Trading in WPDES Permits*, the Uncertainty Factor for the Buffalo River can be reduced from a three (3) to a two (2) with aquatic habitat restoration.

Kinville and Crawford. This WQT project included construction of fish habitat features per NRCS guidance and those are still in place. The fish habitat at this site includes three (3) root wads. According to the landowner the habitat structures are still in place and functioning properly (December 2024). The Habitat Adjustment factor for this project is one (1).

All Other Sites. Due to the locations of the project sites, construction of fish habitat was not considered practical and those sites do not qualify for Habitat Adjustment credit.

6.6 Summary

Table 6.1 below summarizes the list of projects and their trade ratio. Not all projects have the same trade ratio.

TABLE 6.1: WATER QUALITY TRADING FACTORS

	Project	Delivery Factor	Downstream Factor	Equivalency Factor	Uncertainty Factor	Habitat Adjustment	Trade Ratio
1	Below Dam South Side	0	0	0	3	0	3
2	Below Dam North Side	0	0	0	3	0	3
3	Parking Lot	0	0	0	3	0	3
4	Crystal Lake Campground	0	0	0	3	0	3
5	Kinville and Crawford	0	0	0	3	1	2

7 LOCATIONS WHERE CREDITS ARE GENERATED

Credits are generated in different areas within the Eleva Strum Sanitary District WWTF HUC 12 and adjacent HUC 12. The Buffalo River and Crystal Lake are used to generate credits in this plan.

Below Dam – South Side. This site is located directly underneath the dam of Crystal Lake, in the Village of Strum. The site is depicted in **Appendix 7-1** and described as “Below Dam – South Side.” The dam that goes underneath 5th Avenue in Strum is in the middle of the photo. The site was originally planned to have 192 feet of streambank, but the first ~50 feet of streambanks were already rippedrap some time ago. The credit calculations for this project only includes the 140 feet of new work.

Below Dam – North Side. This site is located directly underneath the dam of Crystal Lake, in the Village of Strum. The site is depicted in **Appendix 7-1** and described as “Below Dam – North Side.”

Parking Lot Site. This site is located along the banks of Crystal Lake, within Woodland Park in the Village of Strum. The site is depicted in **Appendix 7-1** and described as “Parking Lot.” In the air photo, the old tennis court/parking lot can be seen, along with the banks of Woodland Park. The dam in Strum is on the far left in the photo.

Campground. This site is located directly on the northeast side of Crystal Lake, in the Village of Strum. The site is depicted in **Appendix 7-2** and described as “Campground Project Site.” The dam is located to the west of the project. Geese congregate in this area, which produces a large amount of phosphorus that could be transported into the surface water. The installation of riprap helps prevent the geese from congregating at the edge and also reduces the phosphorus from sediment entering the water.

Kinville and Crawford. This site is located along Buffalo River, northeast of the Village of Strum. The site is depicted in **Appendix 7-3** and described as “Kinville and Crawford Project Location Map.”

8 TIMELINE FOR CREDITS AND AGREEMENTS

All projects are completed and producing credits.

Streambank Stabilization. Since the sites are armored and performing as designed, they continue to generate credit on an annual basis as long as the riprap is maintained.

9 METHOD FOR QUANTIFYING CREDITS

Streambank Stabilization. Phosphorus loss for this streambank project was produced using the equation of $P_L = (L) (H) (R) (P_c)$, as shown in the worksheet in **Appendix 5-1**. The data for the streambank in linear feet, the average stream bank height in feet, and the total soil phosphorus concentration in units of % P (see attached soil test data from the University of Wisconsin Soil Science Laboratory) were used to determine the phosphorus loss in pounds per year. The calculations showed the projects would withhold ~~231~~ pounds of phosphorus from entering the Buffalo River and Crystal Lake each year.

238

10 TRACKING PROCEDURES

This project was tracked with photography before, during, and after riprap installation. The projects are monitored with annual inspections that are documented in a logbook, see **Appendix 10-1**. See the before photos in **Appendix 10-2**. Aquatic habitat features are included in the annual inspections. John Kinville and Tristi Crawford evaluate their WQT project site annually and send the inspection reports to the Trempealeau County Department of Land Management for review before submittal to Eleva-Strum.

The Kinville and Crawford banks are stable, and phosphorus is being prevented from entering the water each year. Eleva-Strum staff have annually inspected the other four WQT sites that are owned by the Village of Strum and documented that the banks are stable, and that phosphorus is prevented from entering the water each year. No deficiencies have been reported for any sites. No noncompliance or failure to implement any terms or conditions of the approved plan have occurred. The County and Eleva-Strum will continue to do annual inspections, including inspecting the aquatic habitat, as long as credits are being utilized. The 2024 Inspection Reports for the Below Dam-North Side, Below Dam-South Side, Crystal Lake Campground, Parking Lot, and Kinville WQT sites are attached. No deficiencies were reported in 2024.

11 CONDITIONS UNDER WHICH THE MANAGEMENT PRACTICES MAY BE INSPECTED

The riprap is inspected at least once per year in August-September and immediately after flood events. The velocity of Buffalo River through the Village of Strum increases greatly during flood events, and these portions of the streambank were eroding at alarming rates during heavy rains. The Village of Strum should continue to work with the Trempealeau County Department of Land Management to ensure that these sites are properly maintained and use the County for technical assistance if there are any concerns regarding the projects.

12 REPORTING REQUIREMENTS SHOULD THE MANAGEMENT PRACTICE FAIL

If the riprap were to fail at these sites, the landowners should immediately report the situation to the Trempealeau County Department of Land Management to develop a remediation action plan.

13 OPERATION AND MAINTENANCE PLAN FOR EACH MANAGEMENT PRACTICE

Maintenance of the riprap is the responsibility of the Village of Strum and the Commission with technical assistance from the Trempealeau County Department of Land Management. The maintenance consists of the following:

1. Inspect riprap annually and after heavy storms for any erosion or displacement of rocks. Repairs should be done immediately. Note that the Kinville-Crawford WQT Agreement excluded the landowners' obligation to make repairs at their cost. If damage occurs, Eleva-Strum may be responsible for the cost of repairs necessary to maintain sufficient credits for the required offset.
2. Debris will be removed to prevent clogging or rerouting of water in the channel. Channel clearing to remove stumps, fallen trees, debris, and sediment bars will only be performed when they are causing or could cause unacceptable bank erosion, flow restriction, or damage to structures. Habitat forming elements that provide cover, food, pools, and water turbulence shall be retained or replaced to the extent possible.
3. Check for sloughing, erosion, or damage to vegetative cover. Damaged areas must be regraded, shaped, and re-vegetated as soon as possible.
4. Periodically cut grass to control weeds and invading brush.
5. Eliminate burrowing animals and repair damage.

14 LOCATION OF CREDIT GENERATOR IN PROXIMITY TO RECEIVING WATER AND CREDIT USER

Buffalo River and Crystal Lake. The projects are located two miles east, upstream from the Eleva Strum Wastewater Treatment Facility Discharge. The projects named "Below the Dam" are within the same HUC-12 (HUC 070400030105), the Trout Creek-Buffalo River Watershed. The projects named "Parking Lot," "Campground," and "Kinville and Crawford," are in the adjacent HUC 12 (HUC

070400030103), the Pine Creek-Buffalo River Watershed. The adjacent HUC 12 is upstream of the WWTF Discharge. See **Appendix 14-1** and **Appendix 7-3** for Location Maps.

15 **PRACTICE REGISTRATION DOCUMENTS, IF AVAILABLE**

Registration documents were submitted to the DNR. See registration documents in **Appendix 15-1**.

16 **HISTORY OF PROJECT SITE(S)**

Below Dam – Both North & South Side. This project site is owned by the Village of Strum and has been maintained as public property and a fishing area for many years. The streambanks of Crystal Lake within the Village of Strum have been having erosion problems due to an increasing number of flood events and heavy rainfalls. The streambanks are frequently used by fishing enthusiasts and outdoor recreationists.

Parking Lot. This project site is owned by the Village of Strum and has been maintained as a park for many years. The streambanks of Crystal Lake within the Village of Strum have been having erosion problems due to an increasing number of flood events and heavy rainfalls. The streambanks are frequently used by fishing enthusiasts and outdoor recreationists.

Campground. This project site is owned by the Village of Strum and has been maintained as a park and campground for many years. The streambanks of Crystal Lake within the Village of Strum have been having erosion problems due to an increasing number of flood events and heavy rainfalls. The streambanks are frequently used by fishing enthusiasts and outdoor recreationists. There are geese congregating on the banks in the campground, which explains the high phosphorus content in the soil samples.

Kinville and Crawford. These sites have been owned by John Kinville and Tristi Crawford for many years. They have had erosion problems due to an increasing number of flood events and heavy rainfalls.

17 **REQUIRED PHOSPHORUS CREDITS**

During the last permit term, the 2020-2024 Annual Average Flow was 0.11 MGD and the average effluent P concentration 0.126 mg/L, the phosphorus mass loadings and the required WQT are summarized in the following table:

TABLE 17.1: 2024 ANNUAL AVERAGE DATA – REQUIRED PHOSPHORUS MASS OFFSET

Description	Units	Amount
Annual Average Daily Existing Effluent Flow	MGD	0.11
Effluent Phosphorus Concentration	mg/L	0.126
Target P Concentration	mg/L	0.075
Annual Mass of Phosphorus	lbs/year	41
WQT Target Mass of Phosphorus	lbs/year	24
Baseline Mass (Existing - Target)	lbs/year	17

With a baseline of 17 credits and a 3:1 ratio, only 51 credits are needed. With 238 lbs./year in WQT credits available, the WWTP has met the credit offset through the WQT program.

The WWTP Design Flow is 0.201 MGD. Below is the table for phosphorus mass loading requirements for the WWTP at design capacity.

TABLE 17.2: DESIGN FLOW DATA - REQUIRED PHOSPHORUS MASS OFFSET

Description	Units	Amount
Annual Average Daily Existing Flow	MGD	0.201
Effluent Phosphorus Concentration	mg/L	0.126
Target P Concentration	mg/L	0.075
Annual Mass of Phosphorus	lbs/year	77
WQT Target Mass of Phosphorus	lbs/year	46
Baseline Mass (Existing - Target)	lbs/year	31

With a baseline of 31 credits at a 3:1 ratio only 93 credits are needed, fewer than the 238 lbs./year available.

Overall, the WWTP has a more than adequate number of credits. The WWTP was designed to produce an effluent Phosphorus concentration of <0.5 mg/l biologically. With some supplemental chemical addition during supernatant return, the facility produces a much better effluent than planned. The operator does an excellent job in optimizing the performance. The WWTP does not need many credits as the effluent phosphorus concentrations are low following treatment. Generally, there have been higher levels of phosphorus in late summer and early fall in comparison to the rest of the year, however, still low levels overall. The monthly effluent flows were also consistent throughout the years, none nearing the design flow of 0.201 MGD on a monthly average. See below for a table showing the credit usage over the last 5 years.

From 2020-2024, the credit use was consistent, ranged from 0 to 5.13 credits per month with one outlier of 15.4 credits in August of 2020. There are no significant increases in flow expected in the next permit term. There may be slight increases as new construction in some residential developments has occurred.

The Eleva Strum operator notes that both the influent mag meters need replacement. Flows are expected to look different once replaced, but it will only appear different numerically, not as an actual increase of flow. Treatment performance is expected to be maintained.

See Table 17.4 below for the WQT phosphorus mass credits generated and implemented.

TABLE 17.3: CREDIT USAGE (2020-2024)- Pounds Per Month

MONTH (2023)	CREDITS USED	Credits Available	Credits Remaining
January	0	238	238
February	0	238	238
March	0.38	238	237.62
April	0.84	237.62	236.78
May	0.94	236.78	235.84
June	0	235.84	235.84
July	5	235.84	230.84
August	1.5	230.84	229.34
September	1	229.34	228.34
October	2	228.34	226.34
November	1	226.34	225.34
December	1	225.34	224.34
MONTH (2024)	CREDITS USED	Credits Available	Credits Remaining
January	0	238	238
February	0.7	238	237.3
March	0.58	237.3	236.72
April	0.77	236.72	235.95
May	1.34	235.95	234.61
June	1	234.61	233.61
July	3	233.61	230.61
August	6	231.29	225.32
September	3	225.32	221.83
October	0	221.83	221.83
November	17	221.76	204.44
December			

17. AVAILABLE PHOSPHORUS CREDITS

TABLE 17.4: WATER QUALITY TRADING PROJECT PHOSPHORUS MASS CREDITS

	Project	BMP Type	TR	P lbs/year	
1	Below Dam - South Side	Streambank Stabilization	3	17	6
2	Below Dam - North Side	Streambank Stabilization	3	48	16
3	Parking Lot	Streambank Stabilization	3	14	5
4	Crystal Lake Campground	Streambank Stabilization	3	147	49
5	Kinville and Crawford	Streambank Stabilization	2	325	163
	Total			531	

The required phosphorus credits needed were 97 pounds of phosphorus per year based upon the data used in the first approved WQT plan. With the most recent data, 31 pounds is needed to satisfy the credit needs at the WWTP at design flow. The amount of phosphorus prevented from entering the waterways due to the constructed WQT projects is ~~231~~ pounds per year with the trade ratio applied. Therefore, the District far exceeds the required WQT. No additional credits are anticipated to be needed. The District explored selling excess credits through the Clearinghouse but that was denied as the intent was not stated in advance.

238

17.1 Identification of Noncompliance

The Eleva-Strum wastewater treatment facility has been consistently in compliance with the TP Monthly Average Concentration limit of 1.0 mg/L and the Monthly Average WQT Computed Compliance concentration limit of 0.225 mg/L, 6-Month Average WQT Computed Compliance concentration limit of 0.075 mg/L, 6-Month Average WQT Computed Compliance mass limit of 0.126 lbs./day and the Annual WQT Credits Used of <238 lbs./year. (Note that there is no Monthly Average Mass Limit).

17.2 Agreements with Property Owners

With the Village of Strum being part of the Eleva-Strum Sewer Commission, there are no formal WQT Agreements for the Village owned sites. The Agreement with Kinville-Crawford is included in **Appendix 17-1**. The 2020 agreement has a term of 20 years. Note that the Kinville-Crawford WQT Agreement excluded the landowners' obligation to make repairs at their cost. If damage occurs, Eleva-Strum may be responsibility for the cost of repairs necessary to maintain sufficient credits for the required offset.

17.3 Summary

238

The completed projects create ~~231~~ phosphorus credits, which is enough to comply with the water quality trade program given the current flow, design flow and the current treatment performance of the Eleva-Strum WWTP. The influent mag meters are being replaced to produce reliable Flow data.

18 COMPLIANCE WITH WATER QUALITY TRADING CHECKLIST

The original Water Quality Trading Plan was produced in accordance with the Wisconsin Department of Natural Resources, *Guidance for Implementing Water Quality Trading in WPDES Permits* based upon Table 8 (2013, p. 37). Table 8 contains several columns of checklist items, but this plan must adhere to column (e), which states “credits are obtained from a construction project or implementation of a plan undertaken by the credit user for sources other than that covered by the credit user’s WPDES permit.” The Villages of Eleva and Strum constructed rip rap bank stabilization at several locations to generate credits for the WWTP.

Below is a list of the requirements to be included in a WQT plan per column (e) of Table 8. This list includes a brief statement of where to find the information in this plan.

- Permittee’s / credit user’s WPDES Permit number. The Eleva-Strum WWTP WPDES permit number is WI-0064998-01-0 and is referenced in Section 2.
- Permittee’s / credit user’s contact information. The contact information is included in Section 19.
- Pollutants for which credits will be generated. Credits will be generated for total phosphorus, which is discussed in Section 5.
- Amounts of credits available from each location / management practice / local governmental unit when acting as a broker. The amount of credit available is discussed in Section 17.
- Certification that the content of the trading application is accurate and correct. The certification is included in Section 19.
- Signature and date of the permittee’s / credit user’s authorized representative. The signature of the authorized representative is included in Section 19.
- Location where credits will be generated (i.e. map of site where management practice will be applied including major drainage ways from the project). The location where credits are generated are discussed in Section 7 and 14. A map is located in Appendix 14-1.
- Identification of method(s) including management practice(s) that will be used to generate credits at each location. Identifications of methods are discussed in Section 9.
- Duration of agreement (i.e. the design life of the management practice) with each credit generator. The duration of the agreement is discussed in Section 4.1.
- Schedule for installation / construction of each management practice. The schedule is discussed in Section 8.
- Operation and maintenance plan for each management practice used to generate credits. The operation and maintenance plan are discussed in Section 13.
- Date when credits become available for each management practice (i.e. when practice is established and effective). The date when the credits become effective is September 1, 2020 when the permit is modified, and this date is referenced in Section 8.
- Models used to derive the amount of credits. The model used to derive the amount of credits is a scientific equation for phosphorus loss. This is discussed in Section 9.
- The applicable trade ratio for each management practice includes supporting technical basis (see Table 4 on p. 20 of the WQT Guidance). The applicable trade ratio is 3:1 and the technical basis and calculation of the trade ratio is discussed in Section 6.

19 CERTIFICATION OF WATER QUALITY TRADING PLAN

This plan was prepared by Davy Engineering Co. This Water Quality Trading Plan is complete, accurate and correct, to the best of our knowledge and belief.

Prepared By: Davy Engineering Co., Inc.

Owner: Eleva Strum Sanitary District

By: Rachel A. Jaeger

By: Dean Boehne

Rachel Jaeger, E.I.T.
Project Engineer
Davy Engineering Co.
115 6th Street South
La Crosse, WI 54601
Telephone: 608.782.3130

Dean Boehne
Strum Village President
Eleva Strum Joint Sewerage Commission
N4937 CTH V
Strum, WI 54770
Telephone: 715.737.4069

Reviewed by: Michael Davy, P.E.

References

Wisconsin Department of Natural Resources. (2013). *A Water Quality Trading How To Manual*.
doi:Guidance Number: 3400-2013-03

Wisconsin Department of Natural Resources. (2013). *Guidance for Implementing Water Quality Trading in WPDES Permits*. doi:Guidance Number: 3800-2013-04

APPENDIX 5-1

Stream Bank Restoration Projects
Below Dam - South Side of River
Calculation of Phosphorus Loss

May 2017

P_L-Phosphorus Loss for Stream Bank Restoration Projects

$$P_L = (L) (H) (R) (P_c)$$

L = Stream bank length in linear feet	100
H = Average stream bank height in feet	3.5
R = Annual recession rate of stream bank in <u>feet</u> year	0.3
P _c = Total soil phosphorus concentration in units of % P	0.13
P _L = Phosphorus loss in lbs P/year	14

Example:

L = 825 Feet
H = 5.75 Feet
R = 0.3 Feet/Year
P_C = 0.13%
P_L - 185 lb P/Year
P Credit at 2:1 Trade Ratio
P Credit = $\frac{185}{2} = 92.5$ lb P/Year

Note:

$$P \text{ Credit} = \frac{P_L}{\text{Trade Ratio}}$$

Trade Ratio - dependent upon the location of the stream bank improvement in relation to the location of the WWTF point of discharge

Stream Bank Restoration Projects
Below Dam - South Side of River Site 2
Calculation of Phosphorus Loss

May 2017

P_L-Phosphorus Loss for Stream Bank Restoration Projects

$$P_L = (L) (H) (R) (P_c)$$

L = Stream bank length in linear feet	40
H = Average stream bank height in feet	3
R = Annual recession rate of stream bank in <u>feet</u> year	0.5
P _c = Total soil phosphorus concentration in units of % P	0.05
P _L = Phosphorus loss in lbs P/year	3

Example:

L = 825 Feet
H = 5.75 Feet
R = 0.3 Feet/Year
P_C = 0.13%
P_L - 185 lb P/Year
P Credit at 2:1 Trade Ratio
P Credit = $\frac{185}{2} = 92.5$ lb P/Year

Note:

$$P \text{ Credit} = \frac{P_L}{\text{Trade Ratio}}$$

Trade Ratio - dependent upon the location of the stream bank improvement in relation to the location of the WWTF point of discharge

Stream Bank Restoration Projects
Calculation of Phosphorus Loss
May 2017

P_L-Phosphorus Loss for Stream Bank Restoration Projects
Below Dam on North Side of Buffalo River

$$P_L = (L) (H) (R) (P_c)$$

L = Stream bank length in linear feet	250
H = Average stream bank height in feet	6
R = Annual recession rate of stream bank in <u>feet</u> year	0.4
P _c = Total soil phosphorus concentration in units of % P	0.08
P _L = Phosphorus loss in lbs P/year	48

Example:

L = 825 Feet
H = 5.75 Feet
R = 0.3 Feet/Year
P_C = 0.13%
P_L - 185 lb P/Year
P Credit at 2:1 Trade Ratio
P Credit = $\frac{185}{2} = 92.5$ lb P/Year

Note:

$$P \text{ Credit} = \frac{P_L}{\text{Trade Ratio}}$$

Trade Ratio - dependent upon the location of the stream bank improvement in relation to the location of the WWTF point of discharge

NRCS Streambank and Irrigation Ditch Erosion Estimator (Direct Volume Method)	
Farmer / Cooperator Name:	Eleva-Strum WQT
Tract Number:	John Kinville_US Hwy 10 - Buffalo River
Evaluated By:	Kirstie Heidenreich
Evaluation Date:	June 10, 2020

Eleva-Strum WQT
John Kinville US Hwy 10 - Buffalo River

Evaluation Date:

Total Phosphorus Loss for sum of reaches (lbs/yr):	325
---	------------

Streambank or Ditch Erosion Calculation Formula:

2000

Stream Bank Restoration Projects
 Crystal Lake Parking Lot
 Calculation of Phosphorus Loss
 May 2017

P_L-Phosphorus Loss for Stream Bank Restoration Projects

$$P_L = (L) (H) (R) (P_c)$$

L = Stream bank length in linear feet	45
H = Average stream bank height in feet	5
R = Annual recession rate of stream bank in <u>feet</u> year	0.6
P _c = Total soil phosphorus concentration in units of % P	0.1
P _L = Phosphorus loss in lbs P/year	14

Example:

L = 825 Feet
 H = 5.75 Feet
 R = 0.3 Feet/Year
 P_C = 0.13%
 P_L - 185 lb P/Year
 P Credit at 2:1 Trade Ratio
 P Credit = $\frac{185}{2} = 92.5$ lb P/Year

Note:

$$P \text{ Credit} = \frac{P_L}{\text{Trade Ratio}}$$

Trade Ratio - dependent upon the location of the stream bank improvement in relation to the location of the WWTF point of discharge

NRCS Streambank and Irrigation Ditch Erosion Estimator (Direct Volume Method)			
Farmer / Cooperator Name:		Village of Strum - Crystal Lake	
Tract Number:		Campground Park	
Evaluated By:		Kirstie Heidenreich	
Evaluation Date:		July 8, 2019	

Field Number	Eroding Streambank Reach #; or Ditch Side/Bottom	Eroding Bank or Ditch Length (Feet)	Eroding Bank Height; or Ditch Bottom Width* (Feet)	Area of Eroding Streambank or Ditch (FT ²)	Lateral or Ditch Bottom Recession Rate (Estimated) (FT / Year)	Estimated Volume (FT ³) Eroded Annually	Soil Texture	Approximate Pounds of Soil per FT ³	Estimated Soil Loss (Tons/Year)
	1	310.0	6.0	1,860	0.20	372.0	Sandy Loam	100	18.6
	2	88.0	6.0	528	0.20	105.6	Sandy Loam	100	5.3
	3	60.0	4.0	240	0.20	48.0	Sandy Loam	100	2.4
Total Estimated Annual Streambank or Ditch Erosion Soil Loss (Tons):						26.3			
Percent Leachable Phosphorus in the Soil (nitric/peroxide):						0.28%			
Total Estimated Annual Streambank or Ditch Erosion Phosphorus Loss (Tons):						0.074			
Total Estimated Annual Streambank or Ditch Erosion Phosphorus Loss (lbs):						147			

Total Phosphorus Loss for sum of reaches (lbs/yr):	147
---	------------

* Eroding bank height is measured along the bank, not the vertical height of bank.

Streambank or Ditch Erosion Calculation Formula:

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/ft³)

=

Estimated Soil Loss Per Year (Tons)

APPENDIX 5-2



Soil and Forage Analysis Lab
COLLEGE OF AGRICULTURAL & LIFE SCIENCES
UNIVERSITY OF WISCONSIN-MADISON

2611 Yellowstone Drive
Marshfield WI 54449
715-387-2523

<http://uwlabs.soils.wisc.edu>

Trempealeau County Land Management
PO Box 67
Whitehall WI 54773
Eleva-Strum WQT Project

Date 6/19/2020
Acct # 558613
Lab # 2047

Soil Nutrient Analysis

Sample	Total Leachable P
	nitric/peroxide %
1	0.22
2	0.21
Average	0.22

Soil and Forage Analysis Laboratory

2611 Yellowstone Dr, Marshfield, WI 54449
Phone 715-387-2523

University of Wisconsin
Madison/Extension

Trempealeau County

Kirstie Heidenreich

36245 Main St

Whitehall WI 54773

Eleva Strum Riprap Project

Below Dam, North Side

Date 10/25/17

Acct # 558646

Lab # 6037

Soil Nutrient Analysis

Total Leachable P nitric/peroxide	
Sample	%
1	0.09
2	0.07
Average	0.08

Soil and Forage Analysis Laboratory

2611 Yellowstone Dr, Marshfield, WI 54449
Phone 715-387-2523

University of Wisconsin
Madison/Extension

***Trempealeau County Land Management
PO Box 67
Whitehall WI 54773
Eleva-Strum Riprap Project
Campground Park Soil Samples***

Date 7/15/19
Acct # 558654
Lab # 3383

Soil Nutrient Analysis

Total Leachable P nitric/peroxide	
Sample	%
1	0.25
2	0.31
3	0.27
Average	0.28

Soil and Forage Analysis Laboratory

2611 Yellowstone Dr, Marshfield, WI 54449
Phone 715-387-2523

University of Wisconsin
Madison/Extension

Kirstie Heidenreich, Trempealeau County
36245 Main St, Whitehall WI 54773

Bill to Village of Strum, Michelle Loken

Date 6/22/17
Acct # 558613
Lab # 3498

Project ID Eleva-Strum
Riprap

Soil Nutrient Analysis

Sample	P	Sample	P
	nitric/peroxide %		nitric/peroxide %
near parking lot	0.10		
beach	< 0.03		
below dam 1 - South Side	0.13		
below dam 2 - South Side	0.05		
Nelson property	0.07		

APPENDIX 6-1



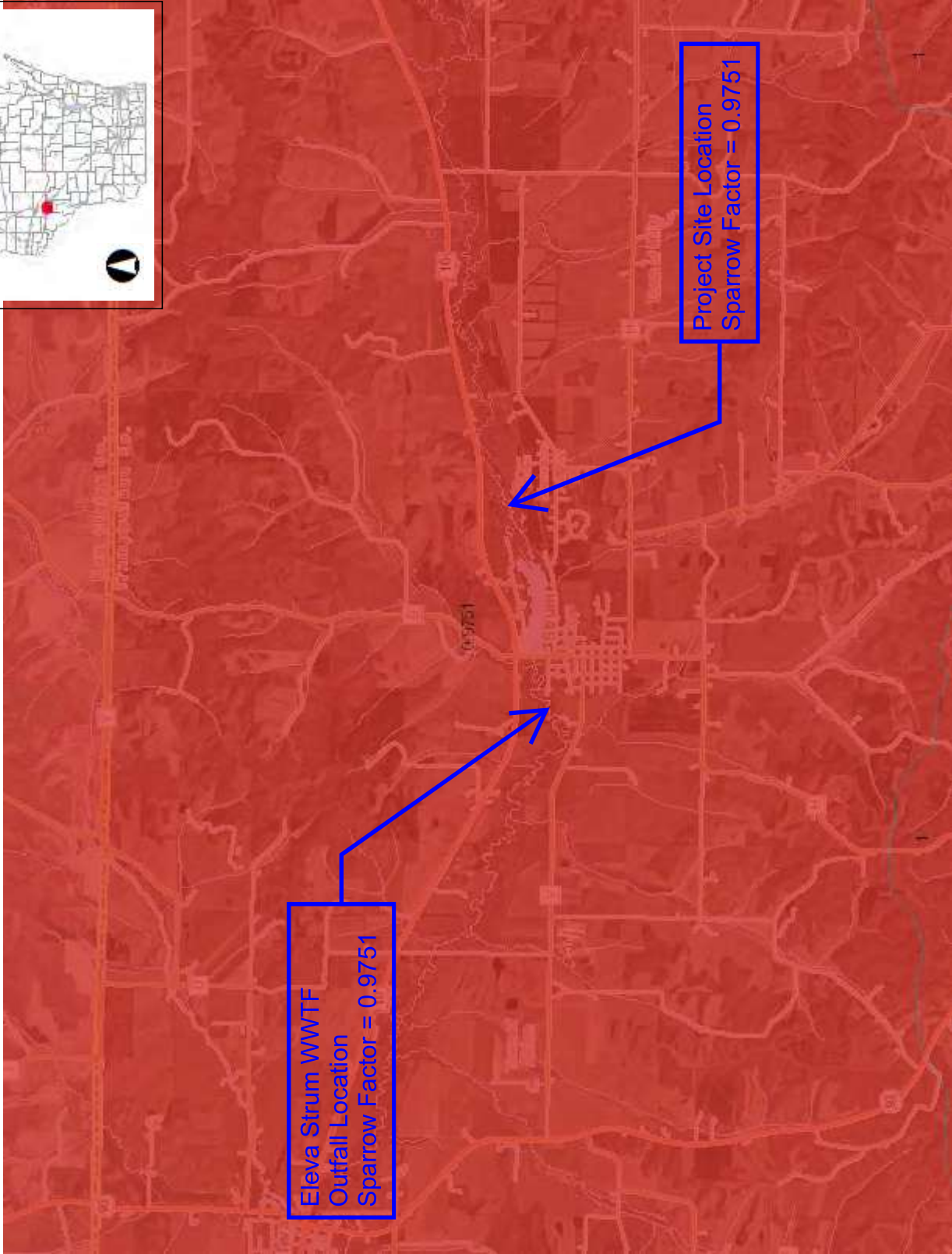
Sparrow Model



Legend

- SPARROW Model Catchment**
- 0.092600 - 0.459700
 - 0.459701 - 0.621400
 - 0.621401 - 0.825600
 - 0.825601 - 0.947100
 - 0.947101 - 1.000000
- 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**
- Index to EN_Image_Basemap_Leaf_Off**

Notes

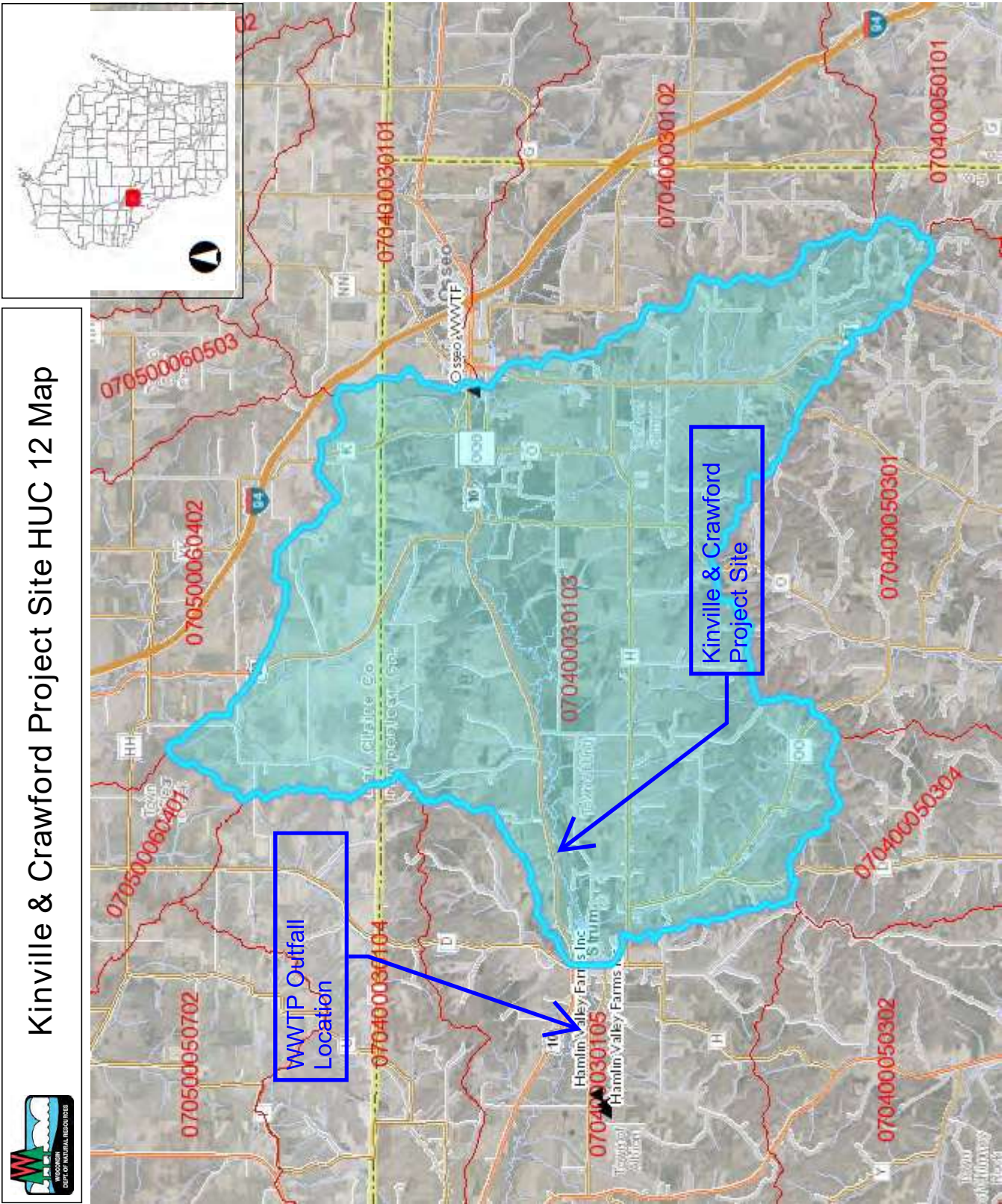


DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No 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/>

APPENDIX 6-2



Kinville & Crawford Project Site HUC 12 Map



Legend

- 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
- Index to EN_Image_Basemap_Leaf_Off

-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-
-

Notes

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/>

4.0

0

2.00

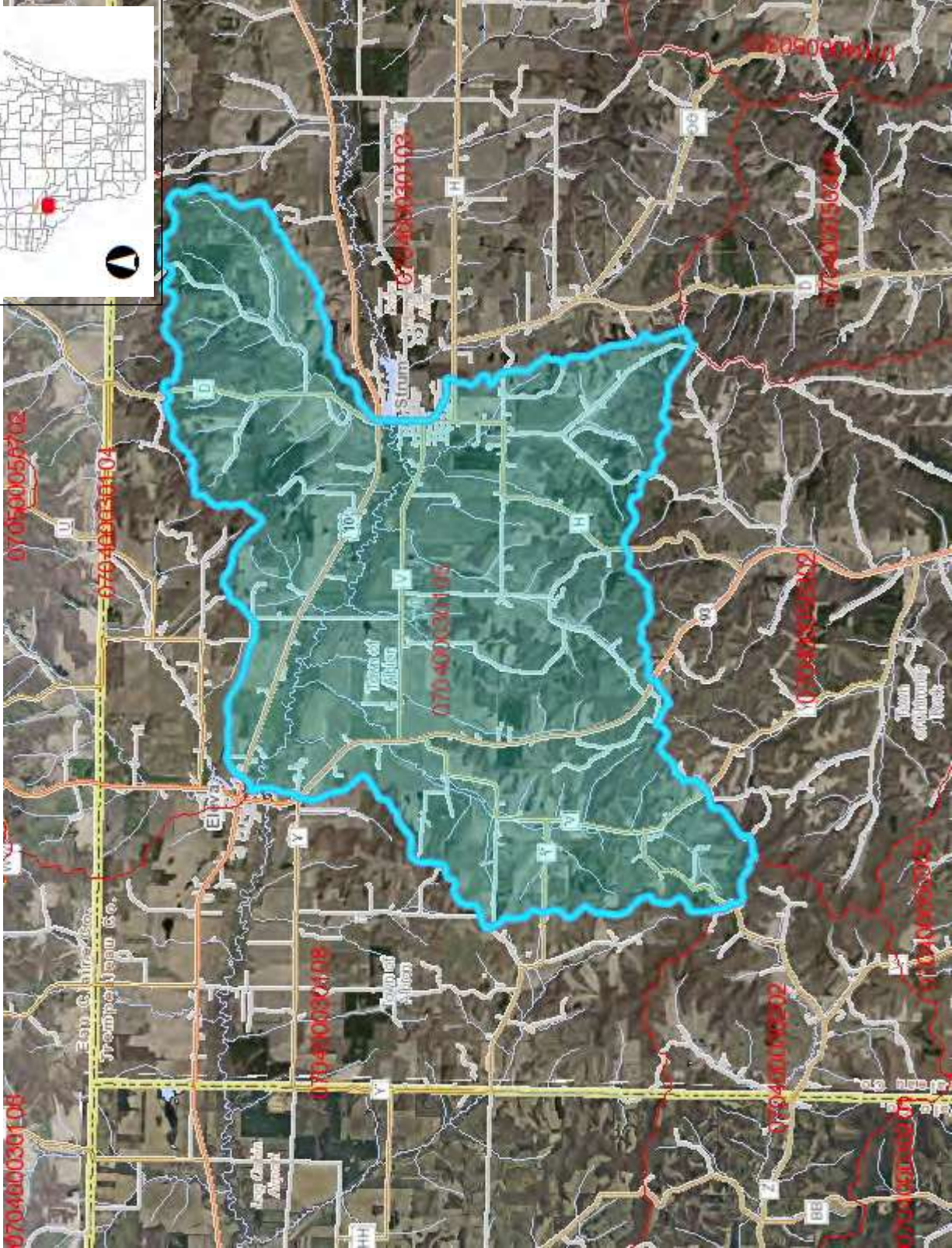
4.0 Miles

1: 126,720

NAD_1983_HARN_Wisconsin_TM



HUC 12 Watershed Map



- Legend
- 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

Index to EN_Image_Basemap_Leaf_Off

Notes

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/>

3.0

0

1.50

3.0 Miles

NAD_1983_HARN_Wisconsin_TM

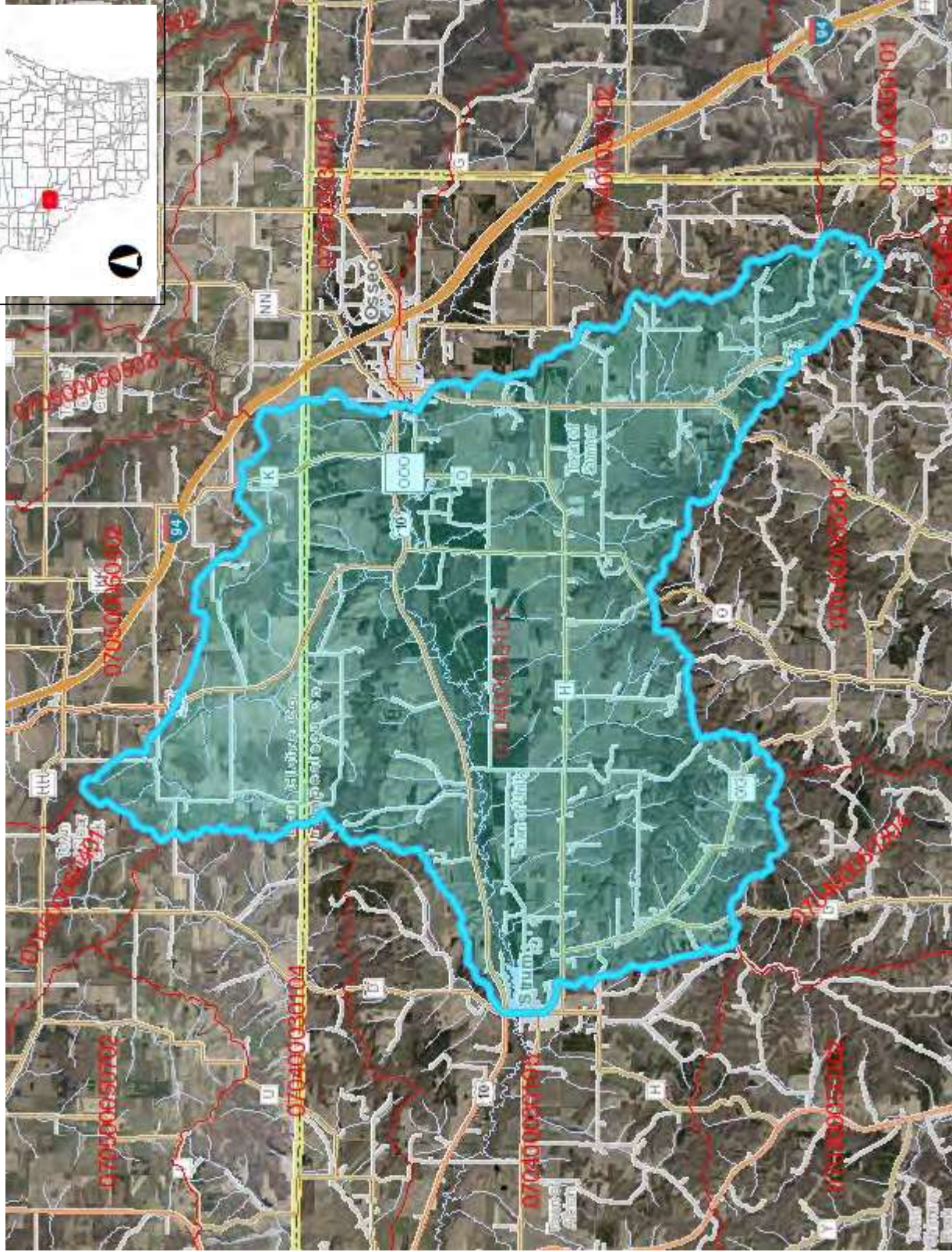
1: 95,040



HUC 12 Watershed Map



- Legend**
- 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
 - Index to EN_Image_Basemap_Leaf_Off



4.0 0 2.00 4.0 Miles

NAD_1983_HARN_Wisconsin_TM

1: 126,720

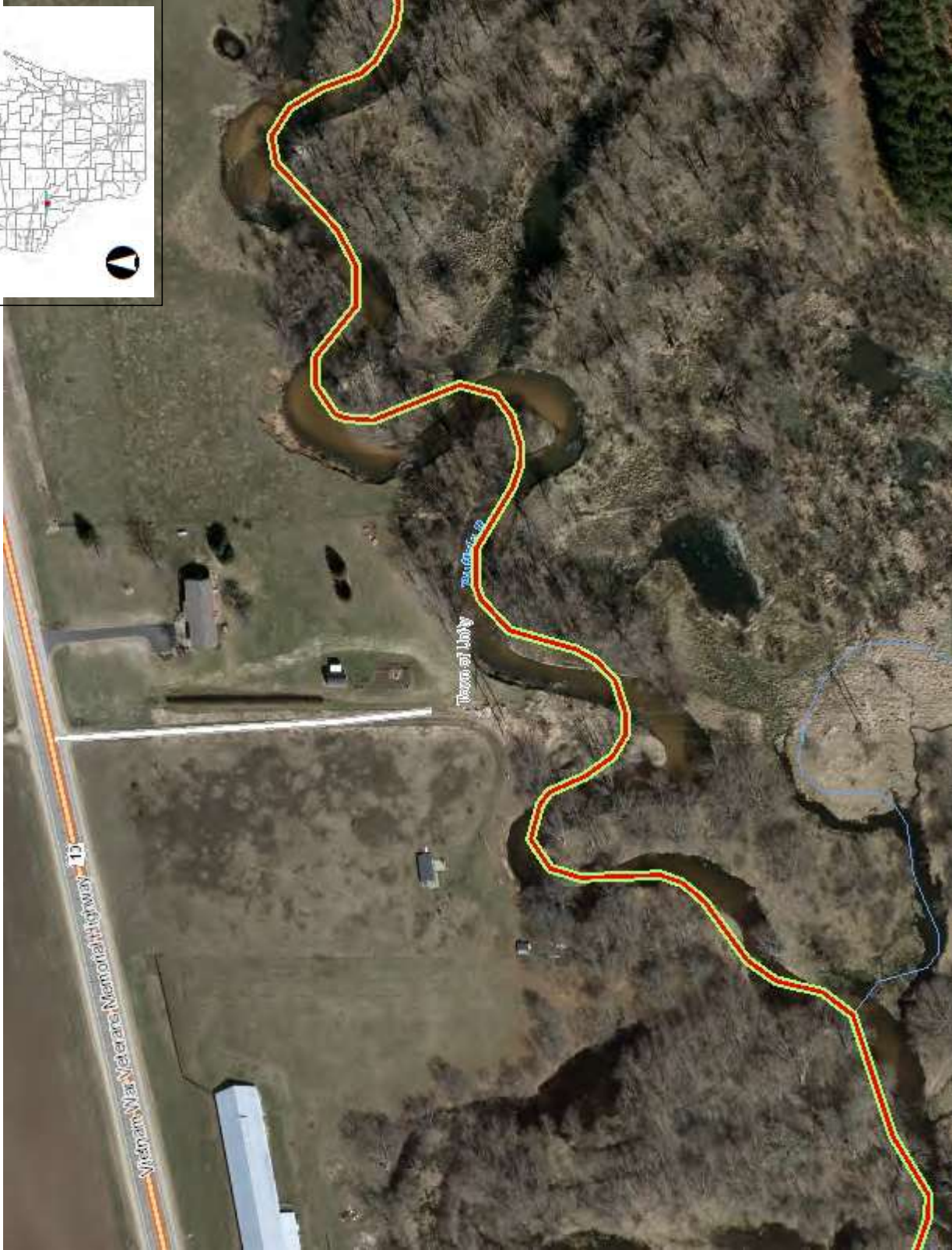
DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No 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

APPENDIX 6-3



Buffalo River Total Phosphorus Impairment Map



- Legend**
- Impaired Rivers and Streams
 - Impaired Lakes
 - Stream Assessments
 - Lake Assessments
 - Surface Water Outfalls
 - Index to EN_Image_Basemap_Leaf_Off

Notes

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/>

0.1 0 0.03 0.1 Miles

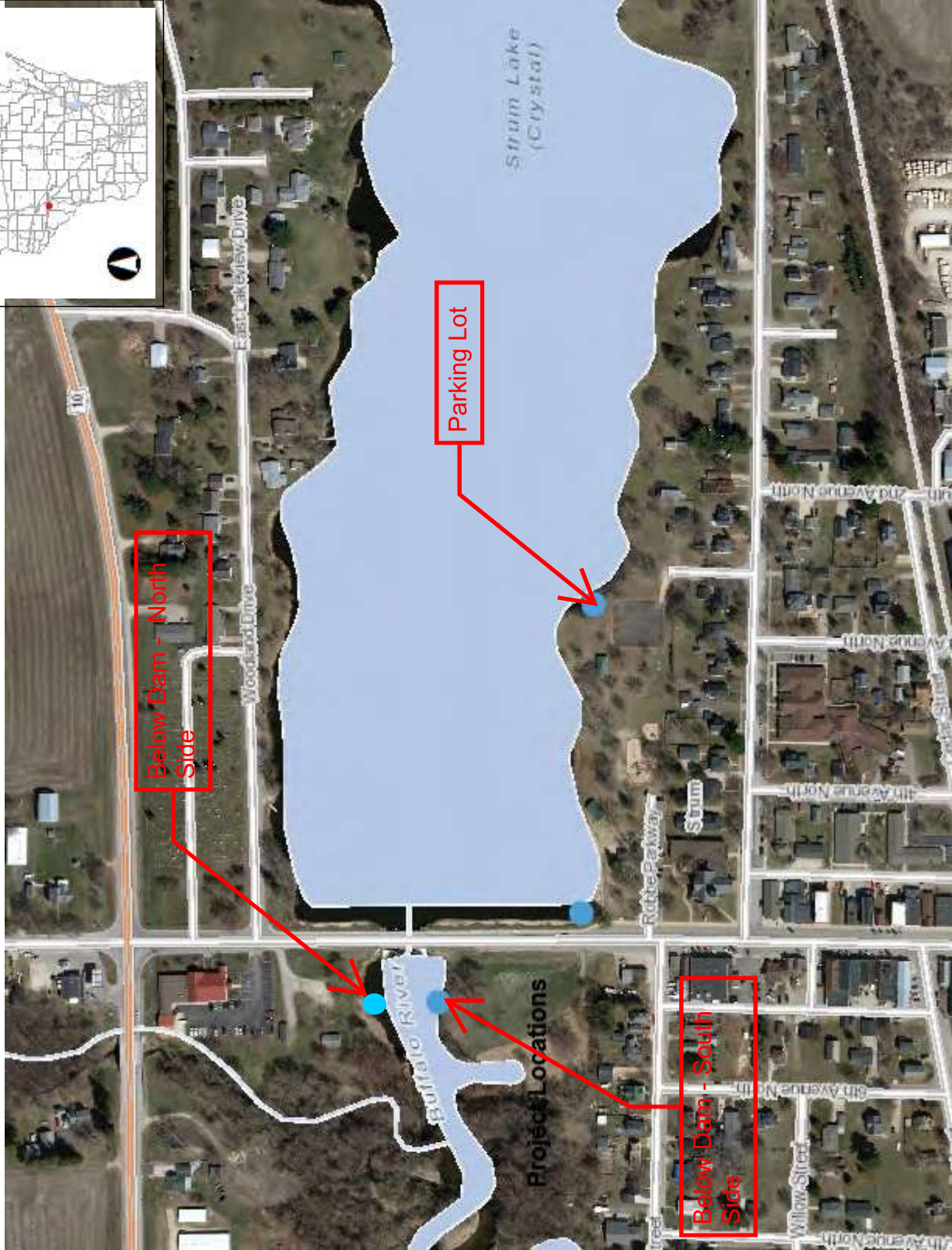
1: 1,980

NAD_1983_HARN_Wisconsin_TM

APPENDIX 7-1



Surface Water Data Viewer Map-Project Locations



- Legend**
- 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
 - Index to EN_Image_Basemap_Leaf Off

Notes

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/>

0.1 0 0.06 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 3,960

APPENDIX 7-2



Campground Site Map



Legend

- 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
- Index to EN_Image_Basemap_Leaf_Off

Notes

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/>

0.1

0

0.06

0.1 Miles

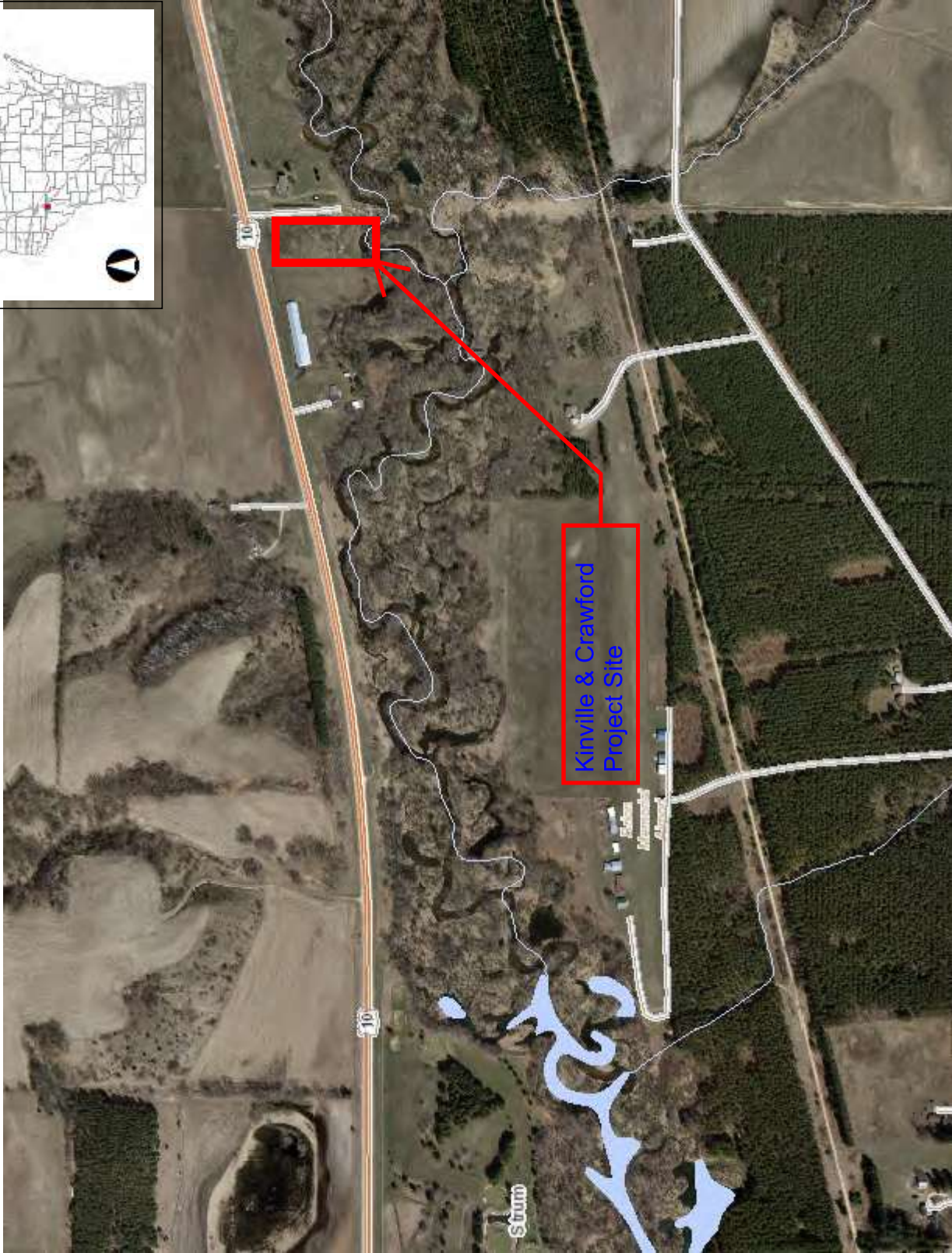
NAD_1983_HARN_Wisconsin_TM

1: 3,960

APPENDIX 7-3



Kinville & Crawford Project Location Map



- Legend**
- Surface Water Outfalls
 - 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
 - Index to EN_Image_Basemap_Leaf_Off

Notes

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/>

0.3 0 0.13 0.3 Miles

1: 7,920

NAD_1983_HARN_Wisconsin_TM

APPENDIX 10-1

Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

Location(s) of land for which Water Quality Trading credit is claimed:

<i>LOCATION</i>	<i>IN COMPLIANCE</i>	<i>NOT COMPLIANT</i>
<i>BELOW DAM-NORTH SIDE</i>	<i>YES</i>	
<i>BELOW DAM- SOUTH SIDE</i>	<i>YES</i>	
<i>CRYSTAL LAKE CAMPGROUND</i>	<i>YES</i>	
<i>PARKING LOT</i>	<i>YES</i>	
<i>KINVILLE SITE</i>	<i>YES</i>	

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.

VILLAGE OF STRUM
Landowner

Brad Olson
Representative

10-6-2020
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

Location(s) of land for which Water Quality Trading credit is claimed:

<i>LOCATION</i>	<i>IN COMPLIANCE</i>	<i>NOT COMPLIANT</i>
<i>BELOW DAM-NORTH SIDE</i>	<i>YES</i>	
<i>BELOW DAM- SOUTH SIDE</i>	<i>YES</i>	
<i>CRYSTAL LAKE CAMPGROUND</i>	<i>YES</i>	
<i>PARKING LOT</i>	<i>YES</i>	
<i>KINVILLE SITE</i>	<i>YES</i>	

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.

VILLAGE OF STRUM
Landowner

Brad Olson
Representative

9-23-2021
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

If you are unsure of your compliance status or have questions as you complete the following checklist, please contact your county conservation office at (715) 538-2311, ext 321.

Please complete this form and send it to the WI DNR specialist for Water Quality Trading.

Landowner and Property Information

Name(s): Village of Strum

Phone: Office: 715-695-3601

E-mail: strumbrad@tcc.coop

<i>LOCATION</i>	<i>COMPLIANCE</i>	
<i>BELOW DAM - NORTH SIDE</i>	<i>YES</i>	
<i>BELOW DAM – SOUTH SIDE</i>	<i>YES</i>	
<i>CRYSTAL LAKECAMPGROUND</i>	<i>YES</i>	
<i>PARKING LOT</i>	<i>YES</i>	
<i>KINVILLE SITE</i>	<i>YES</i>	

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.

Village of Strum
Landowner

Brad Olson
Representative

7-26-2022
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

Location(s) of land for which Water Quality Trading credit is claimed:

<i>LOCATION</i>	<i>IN COMPLIANCE</i>	<i>NOT COMPLIANT</i>
<i>BELOW DAM-NORTH SIDE</i>	<i>YES</i>	
<i>BELOW DAM- SOUTH SIDE</i>	<i>YES</i>	
<i>CRYSTAL LAKE CAMPGROUND</i>	<i>YES</i>	
<i>PARKING LOT</i>	<i>YES</i>	
<i>KINVILLE SITE</i>	<i>YES</i>	

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.

VILLAGE OF STRUM
Landowner

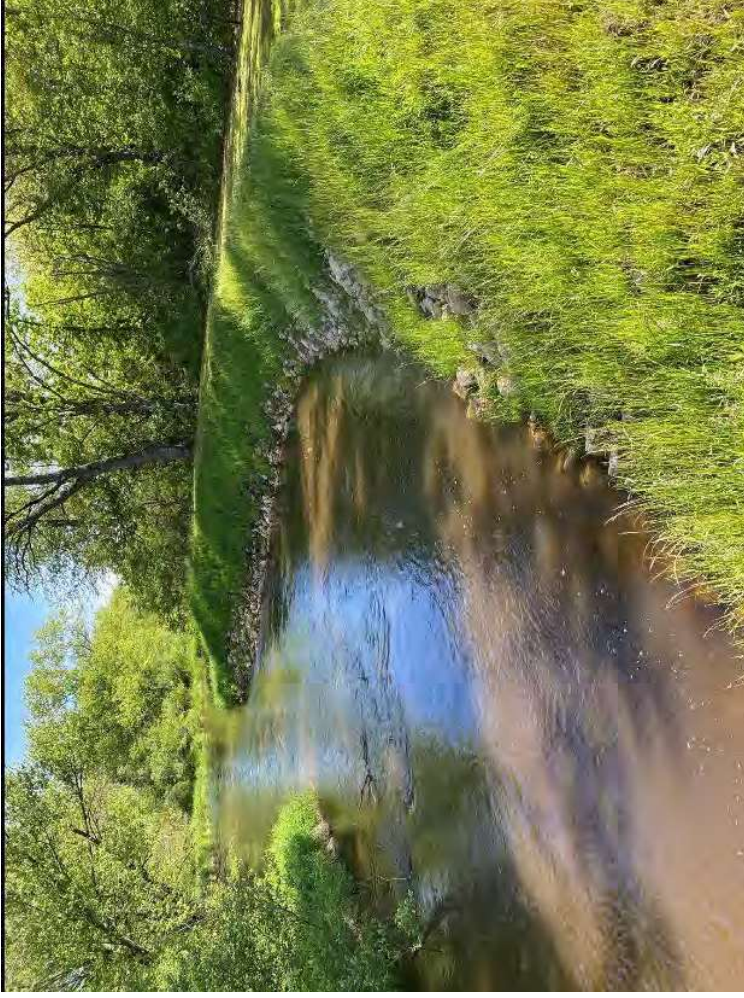
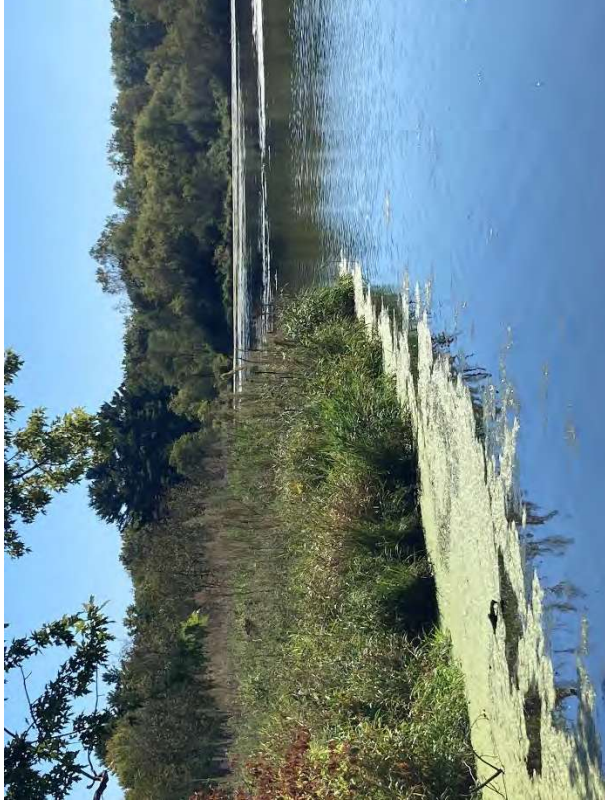
Brad Olson
Representative

9-13-2023
Date

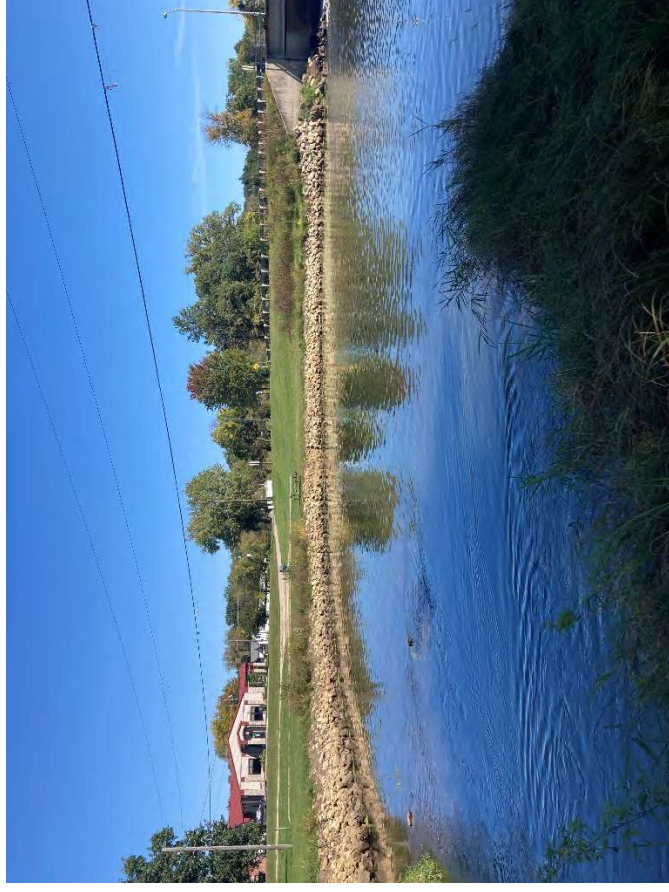
Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

2020 and 2021 Inspection Photos



2020 and 2021 Inspection Photos



2022 Inspection Photos



2023 Inspection Photos



Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

If you are unsure of your compliance status or have questions as you complete the following checklist, please contact your county conservation office at (715) 538-1917.

Please complete and return this form by September 29, 2023 to the Trempealeau County Land Management Department at the following address or email at haillie.passow@co.trempealeau.wi.us:

Trempealeau County Land Management
Attn: Haillie Passow
36245 Main St
PO Box 67
Whitehall WI 54773

Landowner and Property Information

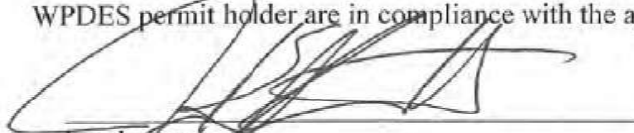
Name(s): John Kinville & Tristi Crawford
Address: 7374 203RD St., Chippewa Falls, WI. 54729
Phone: 715-226-0449 E-mail: kinville.socialstudies@gmail.com

Location(s) of land for which Water Quality Trading credit is claimed:

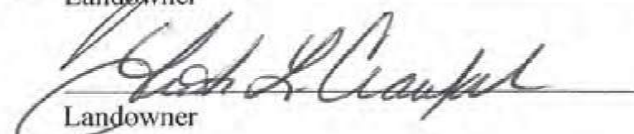
TOWNSHIP	RANGE	SECTION	TOWN, VILLAGE, CITY	PARCEL ID#S
24N	8W	16	UNITY	030-00333-0005

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.


Landowner

08/04/2023
Date


Landowner

8/10/2023
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐







Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

If you are unsure of your compliance status or have questions as you complete the following checklist, please contact your county conservation office at (715) 538-1917.

Please complete and return this form by September 25, 2024 to the Trempealeau County Land Management Department at the following address or email at haillie.passow@co.trempealeau.wi.us:

Trempealeau County Land Management
Attn: Haillie Passow
18600 Hobson St
Whitehall WI 54773

Landowner and Property Information

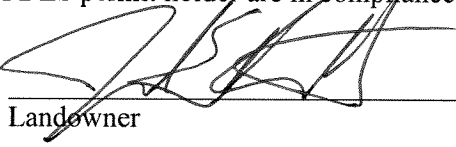
Name(s): John E. Kinville
Mailing Address: 7374 203RD St., Chippewa Falls, WI. 54729
Phone: 715-226-0449 E-mail: kinville.socialstudies@gmail.com

Location(s) of land for which Water Quality Trading credit is claimed:

TOWNSHIP	RANGE	SECTION	TOWN, VILLAGE, CITY	PARCEL ID #'S
24N	8W	16	UNITY	030-00333-0005

Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.


Landowner

6-30-24
Date

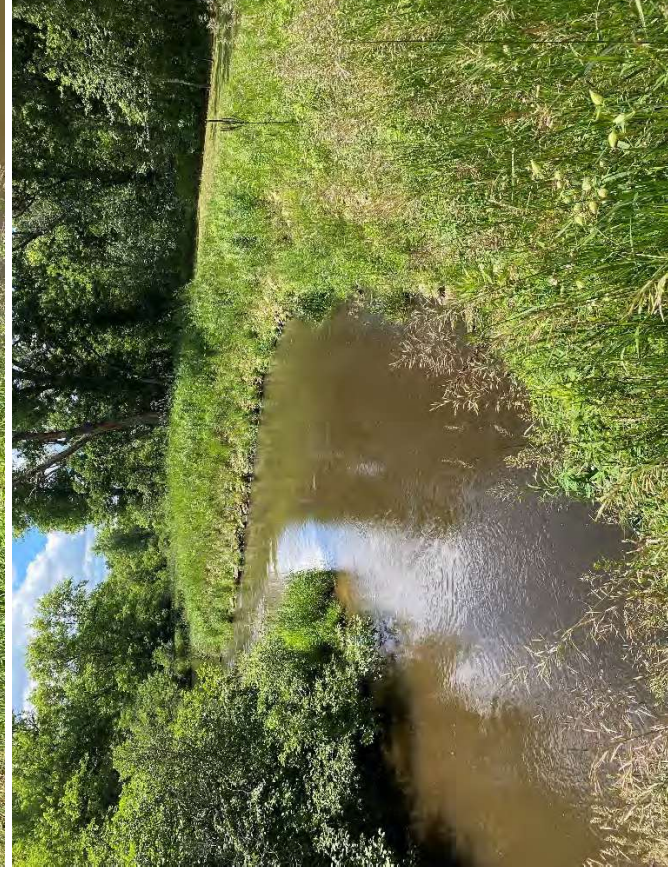
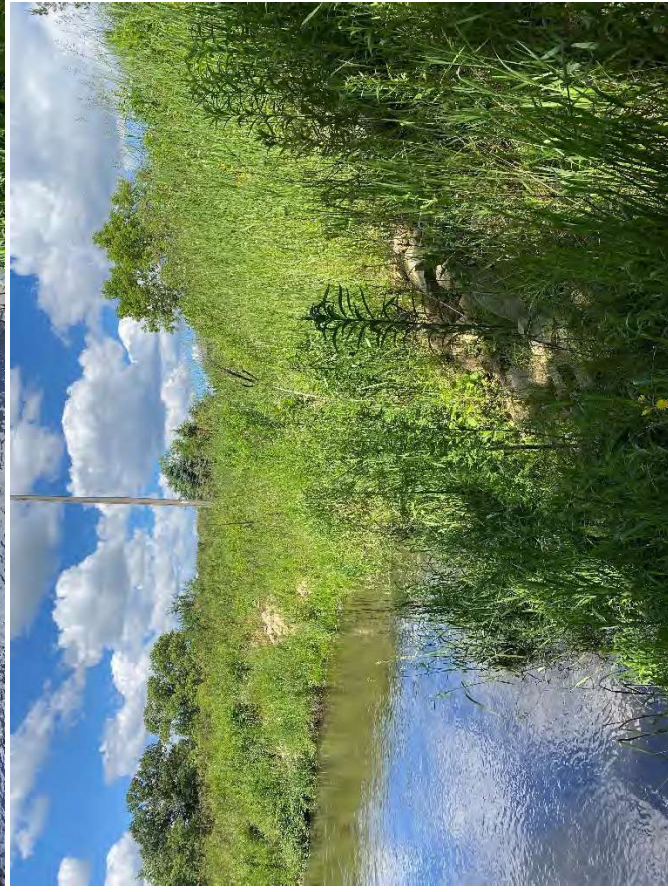
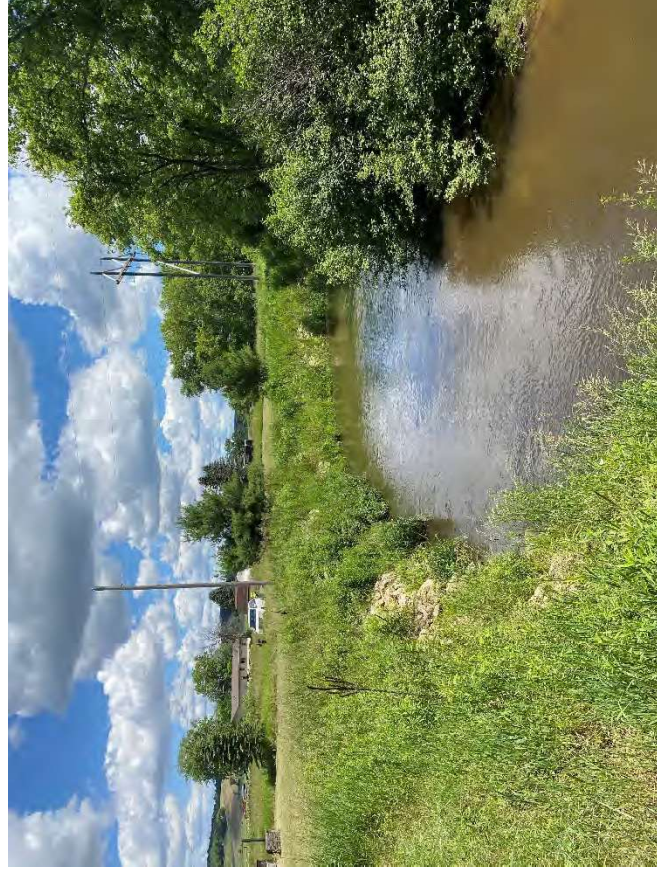
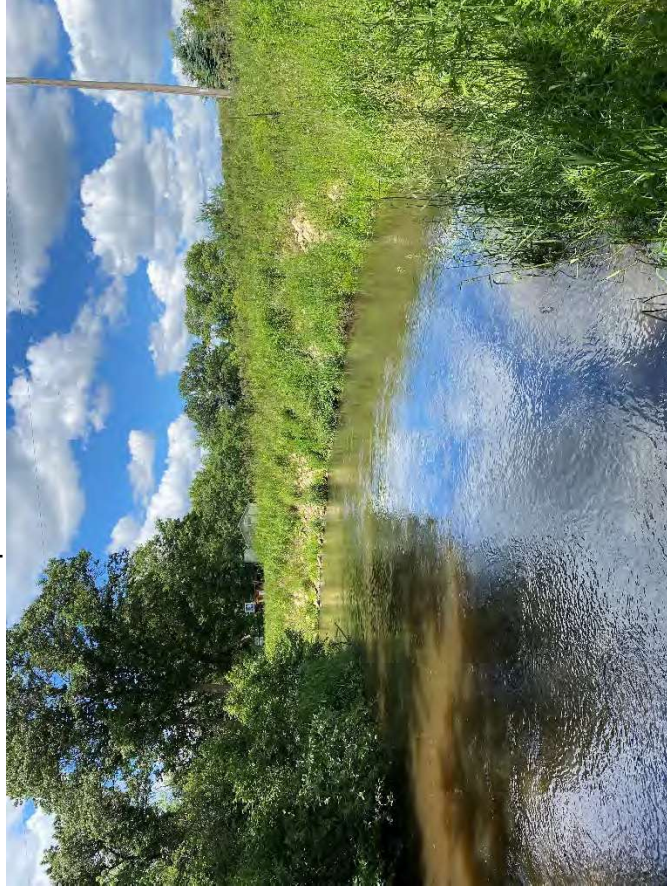

Landowner

6/30/24
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

2024 Kinville Annual Inspection



Water Quality Trading

Annual Conservation Best Management Practice (BMP) Compliance Certification

Wisconsin Pollutant Discharge Elimination System (WPDES) Permittees need to submit annual reports as part of their permit requirements. The purpose of the annual report is to inform WDNR of the status of management practices, provide Wisconsin Department of Natural Resources (WDNR) with an update of the trading project overall, and submit any needed changes to the plan to WDNR.

The following should be included in the annual report that is submitted by the landowner to the WPDES Permittee:

- Verification that site inspections occurred
- Brief summary of site inspection findings
- Photos from the site inspection

Landowner and Property Information

Name(s): Village of Strum

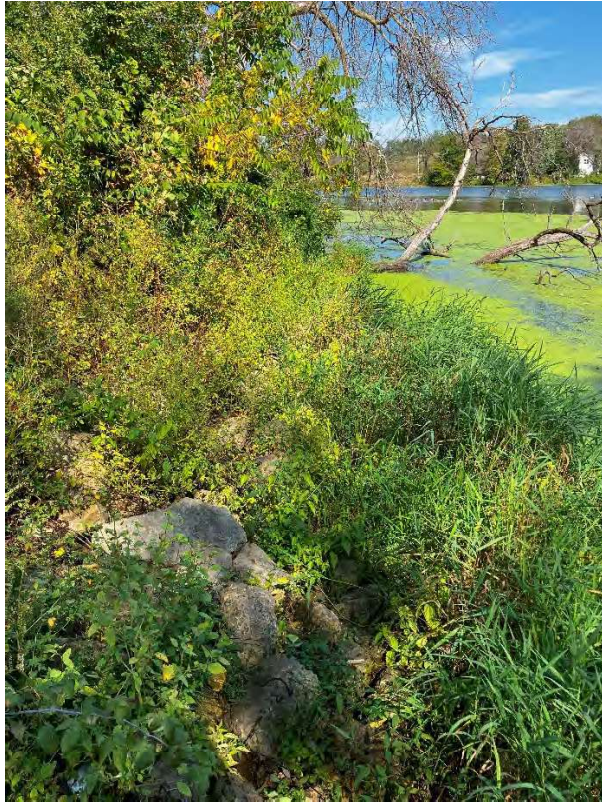
Address: 202 5th Avenue South P.O. Box 25

Phone: 715-695-3601 Office 715-797-1387 Cell E-mail: strumbrad@tcc.coop esww@tcc.coop

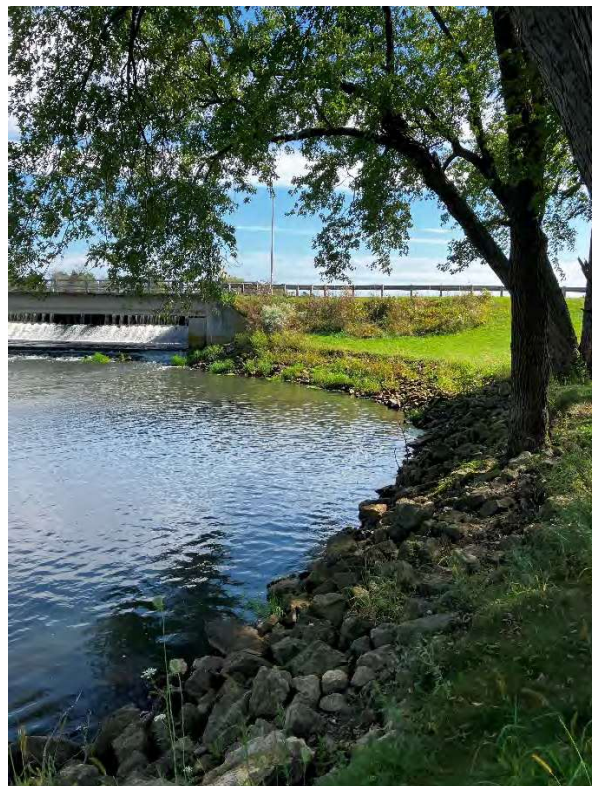
Location(s) of land for which Water Quality Trading credit is claimed:

<i>LOCATION</i>	<i>COMPLIANCE YES</i>	<i>COMPLIANCE NO</i>		
<i>BELOW DAM-NORTH SIDE</i>	<i>YES</i>			
<i>BELOW DAM- SOUTH SIDE</i>	<i>YES</i>			
<i>CRYSTAL LAKE CAMPGROUND</i>	<i>YES</i>			
<i>PARKING LOT</i>	<i>YES</i>			
<i>KINVILLE SITE</i>	<i>YES</i>			

2024



2024



Certification and Signatures

The landowner(s) certify that the Best Management Practices used in Water Quality Trading efforts with a WPDES permit holder are in compliance with the applicable conservation standards.

VILLAGE OF STRUM
Landowner

Brad Olson
Representative

9-17-2024
Date

Best Management Practice (BMP) Conservation Compliance Checklist

Conservation Standards	In Compliance	Not Compliant
There is no trash and unwanted debris.	☒	☐
There is no grazing of animals will occur within 30 feet of the stream channel.	☒	☐
There is no soil erosion and accumulation, especially at the top and bottom of the slope.	☒	☐
There are no invasive weeds.	☒	☐
There are no animal burrows, holes or mounds.	☒	☐
Facilities have no visible signs of leakage or failure.	☒	☐
There are no dislodged or unstable rocks which could pose a safety hazard.	☒	☐
There are no unusual or unsafe conditions structural damage, dumping, tree establishment, etc.	☒	☐
Project has been monitored with inspections and documented with dates in a log book, to ensure the preservation of the site.	☒	☐
Project has been inspected after flood events.	☒	☐
20 foot vegetative buffer has been periodically mowed to control weeds and invading brush.	☒	☐
Farm equipment and row crops have remained outside of the agreed upon 20 foot vegetated buffer from the top of the bank.	☒	☐

APPENDIX 10-2

KINVILLE AND CRAWFORD BEFORE PHOTOS





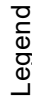






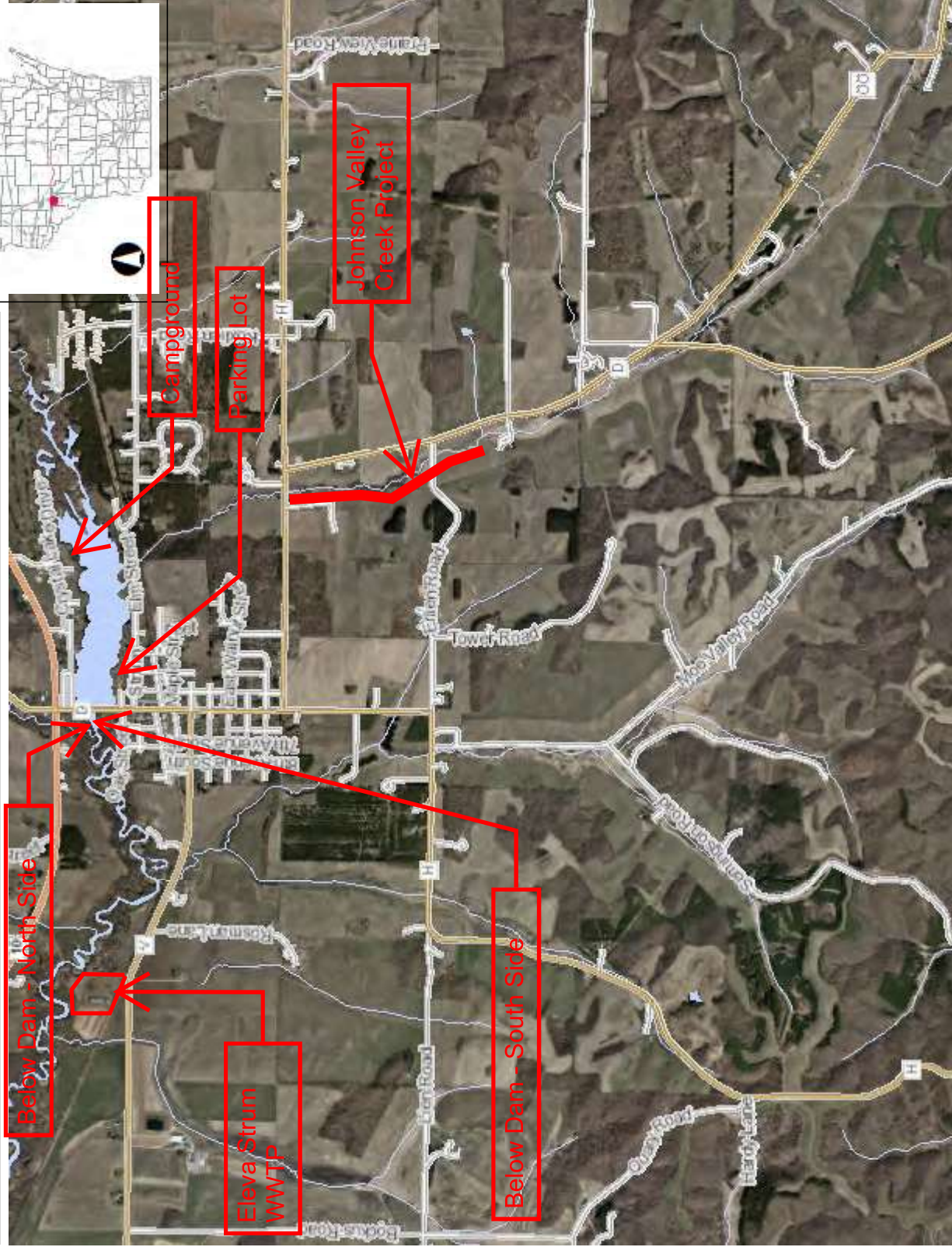


APPENDIX 14-1



- 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
 Index to
 EN_Image_BaseMap_Leaf_

Notes



1.0 Miles

1.0

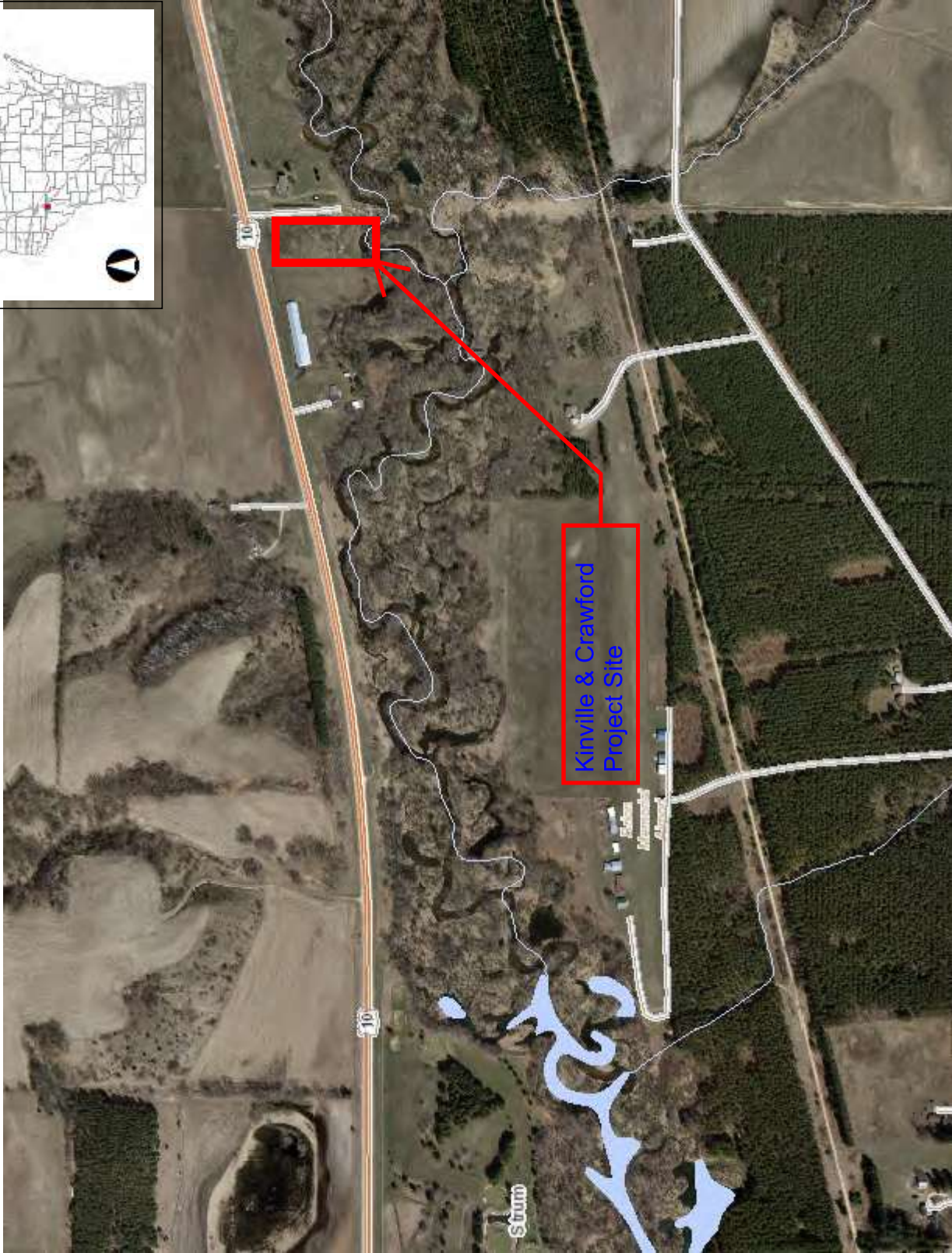
NAD 1983 HARN Wisconsin TM

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/>



Kinville & Crawford Project Location Map



- Legend**
- ▲ Surface Water Outfalls
 - 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
 - Index to
 - EN_Image_Basemap_Leaf_
 - Off

Notes

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/>

0.3 0 0.13 0.3 Miles

NAD_1983_HARN_Wisconsin_TM

1: 7,920

APPENDIX 15-1

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 Eleva Strum Joint Sewerage Commission	Permit Number WI- 0064998-020	Facility Site Number		
Facility Address N49237 County Rd V	City Strum	State WI	ZIP Code 54770	
Project Contact Name (if applicable) Brad Olsen	Address	City	State	ZIP Code
Project Name Eleva Strum Water Quality Trade				

Broker/Exchange Information (if applicable)

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

Broker/Exchange Organization Name Trempealeau County Land Conservation Dept	Contact Name Tess Johnson	
Address PO Box 67, Whitehall, WI 54773	Phone Number (715) 538-1917	Email tess.johnson@co.trempealeau.wi.us

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
☐ Urban NPS ☐ Agricultural NPS ☒ Other		Streambank Restoration Below Dam - N. Side Completed: Nov 2019	48	3:1	NRCS Soil Loss Spreadsheet
County Trempealeau	Closest Receiving Water Name Buffalo River	Land Parcel ID(s)	Parameter(s) being traded 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 <i>Bruce A. Nelson</i>	Date Signed 10/23/2020
---	---------------------------

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 <i>Matthew S. Nelson</i>	Date Signed 10/29/2020
--	---------------------------

Leave Blank – For Department Use Only

Date Received	Trade Docket Number	
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

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 Eleva Strum Joint Sewerage Commission		Permit Number WI- 0064998-02-0		Facility Site Number	
Facility Address N49237 County Rd V			City Strum	State WI	ZIP Code 54770
Project Contact Name (if applicable) Brad Olsen		Address		City	State ZIP Code
Project Name Eleva Strum Water Quality Trade					

Broker/Exchange Information (if applicable)

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

Broker/Exchange Organization Name Trempealeau County Land Conservation Dept		Contact Name Tess Johnson	
Address PO Box 67, Whitehall, WI 54773		Phone Number (715) 538-1917	Email tess.johnson@co.trempealeau.wi.us

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
☐ Urban NPS ☐ Agricultural NPS ☒ Other		Streambank Restoration Below Dam - S. Side Completed: Nov 2017	17	3:1	NRCS Soil Loss Spreadsheet

County Trempealeau	Closest Receiving Water Name Buffalo River	Land Parcel ID(s)	Parameter(s) being traded 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 <i>Brice A. Nelson</i>	Date Signed 10/23/2020
---	---------------------------

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 <i>Brice A. Nelson</i>	Date Signed 10/29/2020
--	---------------------------

Leave Blank - For Department Use Only

Date Received	Trade Docket Number	
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

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 Eleva Strum Joint Sewerage Commission		Permit Number WI- 0064998-02-0		Facility Site Number	
Facility Address N49237 County Rd V			City Strum	State WI	ZIP Code 54770
Project Contact Name (if applicable) Brad Olsen		Address		City	State ZIP Code
Project Name Eleva Strum Water Quality Trade					

Broker/Exchange Information (if applicable)

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

Broker/Exchange Organization Name Trempealeau County Land Conservation Dept		Contact Name Tess Johnson	
Address PO Box 67, Whitehall, WI 54773		Phone Number (715) 538-1917	Email tess.johnson@co.trempealeau.wi.us

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
☐ Urban NPS ☐ Agricultural NPS ☒ Other		Streambank Restoration Crystal Lake Campground Completed: August 2020	127	3:1	NRCS Soil Loss Spreadsheet
County Trempealeau		Closest Receiving Water Name Buffalo River	Land Parcel ID(s)	Parameter(s) being traded 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 <i>Brad A. Nelson</i>	Date Signed 10/23/2020
--	---------------------------

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 <i>Matthew B. Nelson</i>	Date Signed 10/29/2020
--	---------------------------

Leave Blank - For Department Use Only

Date Received	Trade Docket Number
Entered In Tracking System ☐ Yes	Date Entered
Name of Department Reviewer	

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 Eleva Strum Joint Sewerage Commission		Permit Number WI- 0064998-02-0		Facility Site Number	
Facility Address N49237 County Rd V			City Strum	State WI	ZIP Code 54770
Project Contact Name (if applicable) Brad Olsen		Address		City	State ZIP Code
Project Name Eleva Strum Water Quality Trade					

Broker/Exchange Information (if applicable)

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

Broker/Exchange Organization Name Trempealeau County Land Conservation Dept		Contact Name Tess Johnson	
Address PO Box 67, Whitehall, WI 54773		Phone Number (715) 538-1917	Email tess.johnson@co.trempealeau.wi.us

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
☐ Urban NPS ☐ Agricultural NPS ☒ Other	WQT-0064998-02	Streambank Restoration Kinville & Crawford Hwy 10 Completed: Sept 2020	325	2:1	NRCS Soil Loss Spreadsheet
County Trempealeau	Closest Receiving Water Name Buffalo River		Land Parcel ID(s)	Parameter(s) being traded 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 <i>Bruce A. Nelson</i>	Date Signed 10/23/2020
---	---------------------------

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 <i>Matthew B. Olson</i>	Date Signed 10/29/2020
---	---------------------------

Leave Blank – For Department Use Only

Date Received	Trade Docket Number	
Entered In Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

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 Eleva Strum Joint Sewerage Commission		Permit Number WI- 0064998-02-0		Facility Site Number	
Facility Address N49237 County Rd V			City Strum	State WI	ZIP Code 54770
Project Contact Name (if applicable) Brad Olsen		Address		City	State ZIP Code
Project Name Eleva Strum Water Quality Trade					

Broker/Exchange Information (if applicable)

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

Broker/Exchange Organization Name Trempealeau County Land Conservation Dept		Contact Name Tess Johnson	
Address PO Box 67, Whitehall, WI 54773		Phone Number (715) 538-1917	Email tess.johnson@co.trempealeau.wi.us

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
☐ Urban NPS ☐ Agricultural NPS ☒ Other		Streambank Restoration Parking Lot Completed: Nov 2019	14	3:1	NRCS Soil Loss Spreadsheet
County Trempealeau		Closest Receiving Water Name Crystal Lake	Land Parcel ID(s)	Parameter(s) being traded 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 <i>Bruce A. Nelson</i>	Date Signed 10/23/2020
---	---------------------------

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 <i>Matthew B. Olson</i>	Date Signed 10/29/2020
---	---------------------------

Leave Blank – For Department Use Only

Date Received	Trade Docket Number	
Entered in Tracking System ☐ Yes	Date Entered	Name of Department Reviewer

APPENDIX 17-1

Water Quality Trading Agreement: Eleva-Strum Joint Sewerage Commission and John Kinville, Tristi Crawford

Permittee Information

Credit User Name (Permittee) Eleva-Strum Joint Sewerage Commission	Permit Number WI-0064998-02-0
---	----------------------------------

Credit User Address

202 5th Ave S., Strum, WI 54770

Broker Name Trempealeau County Dept. of Land Management	Trade Agreement Number WQT-64998020-02
--	---

Broker Address

Street Address 36245 Main St.	City Whitchall	State WI	ZIP Code 54773
----------------------------------	-------------------	-------------	-------------------

Project Name

Kinville & Crawford Buffalo River Bank Stabilization

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

Kinville, John E. and Crawford, Tristi L.

Street Address 7375 203 RD	City Chippewa Falls	State WI	ZIP Code 54729
--	------------------------	-------------	-------------------

Property Information

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

Street Address W20511 US HWY 10	City Strum	State WI	ZIP Code 54770
------------------------------------	---------------	-------------	-------------------

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

Parcel 030-00333-0005
PT SE NW Sec 16, T24N, R08W

Parcel ID(s):

030003330005

Site Locator for Construction Projects

County	Township	Range	E / W	Section	Quarter/Quarter (e.g., NW ¼ of the NE ¼)
Trempealeau	24N	08W		16	SE1/4 of the NW 1/4
	N				
	N				
	N				

Agreement

The property described above is enrolled in a Water Quality Trade Agreement. Funds are provided by the credit user in return for the installation (by the broker), operation and maintenance (by the landowner) 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 credit user.

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

Landowner/Operator

Signed this

13th

day of

July

20 20

Signature of Operator

Signature of Landowner/Operator

John E. Kinville, Operator/Landowner
Typed Name of Operator

Tristi L. Crawford, Operator/Landowner
Typed Name of Landowner/Operator

STATE OF WISCONSIN

County

MICHELLE A. LOKEN

Personally came before me this 13th day of July, 2020

The above named Tristi L. Crawford + John E. Kinville 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 Trempealeau County, Wisconsin

My commission (is permanent) (expires 7-1-2021).

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 ILLINOIS

County

Personally came before me this _____ day of _____, 20 20

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

Signed this 13 day of July, 20 20

Signature of credit user

Eleva-Strum Joint Sewerage Commission
Typed Name of credit user/broker/exchange

STATE OF WISCONSIN

County

MICHELLE A. LOKEN

Personally came before me this 13th day of July, 20 20

The above named Eleva-Strum Joint Sewerage Commission to me known to be the person(s) who executed the foregoing instrument and acknowledge the same.

Signature of Notary Public

Notary Public Trempealeau County, Wisconsin

My commission (is permanent) (expires 7-1-2021).

Other Signer- Specify title or relationship: Trempealeau County Dept. of Land Management – Broker

Signed this 13th day of July, 2020.

Kirstie Heidenreich
Signature

Signature

Kirstie Heidenreich, Planning & Conservation Coordinator

Typed Name

Typed Name



Personally came before me this 13th day of July, 2020.
ss. The above named Kirstie Heidenreich to me known to be
the person(s) who executed the foregoing instrument and acknowledge the same.

Michelle A. Loken
Signature of Notary Public

Michelle A. Loken
Typed Name of Notary Public

Notary Public Trempealeau 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

1. The following relationship has been established for this Water Quality Trading Agreement:

A. The Eleva-Strum Joint Sewerage Commission will hereby be known as the Credit User. They will hereby be responsible for all monetary costs incurred with the BMP practice installation, which includes but is not limited to: site preparation, clearing, and finished to planned grades; stream shaping; limestone rock riprap and installation; liming, fertilizing, seeding and mulching. The Credit User shall have the right to access the property for inspection or maintenance.

B. The Trempealeau County Department of Land Management will be known as the Broker. The Broker will be responsible for the oversight of the BMP practice design, contractor bidding process and signed agreements, inspection of site preparation and design installation, regulation of applicable performance standards, and monitoring of landowners' obligations in the form of performing on-site checks as needed and as stated in Section B. The Broker shall not have any financial obligation for this project except as expressly stated in this agreement.

C. John E. Kinville and Tristi L. Crawford will be known as the Landowners/Operators. Landowners will be responsible for all aspects of the operation and maintenance of BMP practices as outlined in Section B below.

1. If any land covered by this agreement is transferred or otherwise changes ownership, this agreement will be held in obligation with the land for the full 20 years and the new owners will be obligated to comply with this agreement. Landowners are obligated to notify any prospective buyers of this agreement and their responsibilities under this agreement and applicable law.

2. The Landowners agree to repay all project costs to the credit user, upon demand by the Broker, if the Landowner fails to comply with the terms of this agreement. Repayment shall not be required if a practice(s) is rendered ineffective by circumstances which are beyond the control of the Landowner.

3. This contract will be recorded in the Trempealeau County Register of Deeds office.

2. This contract may be amended, by written mutual agreement of the parties, during the installation or maintenance period, if the proposed changes will provide equal or greater control of water pollution. For any changes in practice components or costs, the County will determine eligibility and whether to approve such changes. Any increases to the project cost shall be approved in advance in writing by the Credit User.

3. By request of the landowners/operators, the Eleva-Strum Joint Sewerage Commission agrees to fully remediate the driveway (leading up to the cabin) and parkway (mowed area in front of the cabin and shed) after completion of the project, ensuring that no gullies or ruts remain from construction equipment.

4. The Broker reserves the right to enter the property to verify the information on the inspection report is accurate.

5. Any duly authorized officer, employee or representative of WDNR shall have the right to access and inspect the practices pursuant to Wis. Stat. 283.55(2) so long as this Agreement remains in effect.

Section B – Landowner/Operator Shall:

1. Inspect riprap annually and after heavy storms for any erosion or displacement of rocks. The Broker should be contacted immediately and directly if any damage has occurred. ~~Repairs should be done immediately by Landowner, at Landowner's cost.~~ 7-13-2020
JES
JES

2. Ensure that no grazing of animals will occur within 30 feet of the stream channel to prevent clogging or rerouting of water in the channel.

3. Ensure that debris is removed from the channel and that vegetation is controlled around the channel only when the vegetation or obstructions are threatening stream function. Invasive vegetation should be controlled and channel obstructions deemed harmful may be removed. Channel clearing to remove stumps, fallen trees, debris, and sediment bars shall only be performed when they are causing or could cause unacceptable bank erosion, flow restriction, or damage to structures. Habitat forming elements that provide cover, food, pools, and water turbulence shall be retained or replaced to the extent possible.

4. Check for sloughing, erosion, or damage to vegetative cover. Damaged areas shall be graded, shaped, and replanted by Landowner as soon as possible with a seed mix pre-approved by the broker.

5. If cattle are introduced to the stream corridor, fencing must be installed to prevent unlimited access of cattle to waters of the State. If fences are installed, they shall be maintained to prevent unauthorized human or livestock access. Fencing shall be set back to allow for a 30-foot vegetative buffer along the stream corridor.

6. Periodically, mow vegetative buffer to control weeds and invading brush. All farm equipment and row crops must remain outside of the agreed upon 30-foot vegetated buffer from the top of the bank.

7. Eliminate all burrowing rodents and repair damage caused by them.

8. Maintain the project consistent with NRCS technical standard 580.

9. Installation of this practice allows the Landowner to comply with the applicable state/local performance standard. Compliance with this performance standard shall be for a period of 20 years. This practice must be maintained or replaced with a practice which ensures continued compliance with the applicable performance standard.

10. The landowner agrees that the annual inspections are to be performed on inspection forms, which will be provided by the Broker. The landowner will be required to take pictures of the BMP for the annual report, which will be submitted with the inspection form to the Broker. **The landowner agrees to submit the annual inspection and pictures by September 30th each year.**

Should the landowner fail to submit the annual inspection to the Broker within 30 days of the due date, then the Broker may enter the Landowner's property to perform the inspection. Should the Broker need to perform the inspection due to failure of the Landowner to submit the inspection, then the Landowner will be responsible for a \$250 inspection fee payable to the Broker.

TA Number	Typed Name of Landowner/Operator	Initials of Landowner/Operator	Date
	John E. Kinville and Tristi L. Crawford		7/13/2020 7/13/2020

Installation Period	
From (MM/YY) 08/20	To (MM/YY) 10/20

Initials Landowner/Operator
 Date 7/13/2020