Village of Pepin Public Noticed Permit Fact Sheet

General Information

Permit Number	WI-0022811-11-0
Permittee	Village of Pepin, PO Box 277, Pepin, WI 54759
Permitted Facility	Pepin Wastewater Treatment Facility, 100 1st Street, Pepin, WI
Permit Term	January 01, 2026 to December 31, 2030
Discharge Location	North Bank of the Mississippi River, Lake Pepin, South of Burlington Northern Railroad Tracks immediately east of the Pepin Municipal boat landing (2 blocks east off 1st and Prairie Streets) NW1/4 NE1/3, Section 36, T23R14W, Pepin County, WI
Receiving Water	Mississippi River (Lake Pepin) in the Rush River Watershed of the Lower Chippewa River Basin in Pepin County
Stream Flow ($Q_{7,10}$)	NA- Lake Discharge
Stream Classification	Warmwater Sport Fish, Nonpublic Water Supply
Discharge Type	Existing, Continuous
Annual Average Design Flow	0.099 MGD
Industrial or Commercial Contributors	N/A
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; D - Disinfection; L - Laboratory; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

The Village of Pepin owns and operates the Pepin Wastewater Treatment Facility, which has an annual average design flow of 0.099 million gallons per day (MGD). The actual annual average influent flow in 2024 was 0.05 MGD. Preliminary treatment consists of a mechanical fine screen and a manual bar screen. The wastewater treatment process consists of an equalization/anaerobic selector tank, two activated sludge aeration basins, and final clarification. Wastewater is disinfected seasonally via ultraviolet light prior to discharge to the Mississippi River (Lake Pepin). This permit authorizes the use of trading as a tool to demonstrate compliance with the phosphorus water quality based effluent limits. The permittee has entered into a credit purchase agreement with the water quality trading Clearinghouse pursuant to s. 283.84(1)(f), Wis. Stats. This permit includes terms and conditions related to the Credit Verification Package CVP-2025-03 submitted by the water quality trading Clearinghouse. Sludge is treated via aerobic digestion and then shipped to the West Central Wisconsin Biosolids Facility (WCWBF). See specific sections of the fact sheet for information on monitoring and limitation changes for this permit term.

Substantial Compliance Determination

Enforcement During Last Permit: Although a NON was sent during the permit term (June 1, 2023), Pepin's response resulted in an approved WQT that will be included in the reissued permit. Pepin WWTF had some missing data, exceedances, and report issues that have been addressed. After a desk top review of all discharge monitoring reports, land application reports, compliance schedules, and a compliance inspection on September 22, 2025, this facility has been found to be in substantial compliance with its current permit.

Compliance determination made by Wale Adebowale on 09/30/2025.

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	0.05 MGD (2024)	Representative influent samples shall be collected from the influent wet well.
001	0.05 MGD (2024)	Representative effluent samples (except those for E coli) shall be collected at the head end of the ultraviolet disinfection channel. Grab samples for E coli shall be collected after disinfection.
002	31 dry US tons shipped to WCWBF	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 AT WET WELL

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. The following changes was made: the sample frequency for flow has been changed from "continuous" to "daily" for eDMR reporting purposes.

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- EFFLUENT TO MISSISSIPPI RIVER

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD_5, 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 Min	6.0 su	Daily	Grab	
pH Field	Daily Max	9.0 su	Daily	Grab	
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	66 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective Jan - March
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	25 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective Jan - March
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	41 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective April & May
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	16 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective April & May
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	31 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective June - Sept

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	12 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective June - Sept
Nitrogen, Ammonia (NH_3-N) Total	Weekly Avg	71 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective Oct - Dec
Nitrogen, Ammonia (NH_3-N) Total	Monthly Avg	28 mg/L	3/Week	24-Hr Flow Prop Comp	Limit effective Oct - Dec
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit & monitoring apply May - Sept
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit & monitoring apply May-Sept. See the E. coli Percent Limit section in permit. Enter the result in the DMR on the last day of the month
Phosphorus, Total	Monthly Avg	0.9 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 in permit.
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 in permit. Available TP Credits are specified in Table 2 and in the approved Water Quality Trading Plan.
WQT Computed Compliance (TP)	Monthly Avg	0.3 mg/L	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3a. in the Water Quality Trading (WQT) section in permit. Value entered on the last day of the month.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
WQT Computed Compliance (TP)	6-Month Avg	0.1 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	0.083 lbs/day	Monthly	Calculated	Report the WQT TP Computed Compliance value using Equation 3b. in the Water Quality Trading (WQT) section in permit. Compliance with the six-month average limit is evaluated at the end of the six-month period on June 30 and Dec 31.
WQT Credits Used (TP)	Annual Total	60 lbs/yr	Annual	Calculated	The sum of total monthly credits used may not exceed Table 2 values listed below.
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 permit. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

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: 1) The sample frequency for flow has been changed from “continuous” to “daily” for eDMR reporting purposes, 2) fecal coliform monitoring & limits have been replaced with *Escherichia coli* (*E. coli*)

monitoring and limits, 3) total nitrogen monitoring (TKN, NO2+NO3 and Total Nitrogen) added during specific quarters as outlined in the permit, and 4) the department approved the permittee's plan to implement Water Quality Trading Plan using the Wisconsin Water Quality Trading Clearinghouse to meet phosphorus 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. At this time, no effluent monitoring frequency changes are included in the permit.

Limits were determined for Pepin's existing discharge to the Mississippi River (Lake Pepin) 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 27, 2025 memo from Ben Hartenbower to Holly Heldstab titled "Water Quality-Based Effluent Limitations for the Pepin Wastewater Treatment Facility WPDES Permit No. WI-0022811".

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 and Water Quality Trading: Pepin is not able to meet the WQBEL. This permit authorizes the use of trading as a tool to demonstrate compliance with the phosphorus WQBELs. The permittee has entered into a credit purchase agreement with the water quality trading Clearinghouse pursuant to s. 283.84(1)(f), Wis. Stats. This permit includes terms and conditions related to the Credit Verification Package CVP-2025-03 submitted by the water quality trading clearinghouse. The total 'WQT TP Credits' available are designated in a credit purchase agreement between the permittee and Clearinghouse. The credit generator is implementing a variety of management practices including conversion of corn/alfalfa row crop agricultural fields to perennial grass/hay. The Credit Verification Package proposes the generation of 74 lbs/yr phosphorus credits for the next 10 years. Additional WQT subsections in the permit provide information on compliance determinations, annual reporting and re-opening of the permit.

Total Nitrogen Monitoring (NO2+NO3, TKN and Total N)- The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the "Guidance for Total Nitrogen Monitoring in Wastewater Permits" dated October 1, 2019. See the permit for the specific quarters that testing is required.

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)**
002	Class B	Liquid	N/A	N/A	Haul to WCWBF	31
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? No						
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: 002- SLUDGE TO WCWBF

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	

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

Changes from Previous Permit:

Sludge limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit: PFAS monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

Explanation of Limits and Monitoring Requirements

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

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 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.	01/31/2027
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:

Annual Water Quality Trading (WQT) Reports - Reports are required that include the following information:

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

4.2 Operator in Charge

Required Action	Due Date
Operator Certification: The permittee shall have an operator in charge with the proper certification by the due date. Within 30 days of submitting the experience form(s) (3400-066A) and receiving certification, the permittee shall notify the department in writing of the certified operator's name and certification number.	07/31/2026

Explanation of Schedule: Pepin WWTF lost its Operator in Charge in July 2025. Per NR 114.53(6), Pepin WWTF has 12 months to have a certified Operator in Charge since that event.

Other Comments

Publishing Newspaper: Courier-Wedge, 103 W Main Street, Durand, WI, 54736

Attachments

- Water Quality Based Effluent Limits: October 27, 2025 memo from Ben Hartenbower to Holly Heldstab titled "Water Quality-Based Effluent Limitations for the Pepin Wastewater Treatment Facility WPDES Permit No. WI-0022811
- Verification of Pollutant Reduction Credits CVP-2025-03 Letter
- WQT Plan Approval Letter

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:** January 2, 2026

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: October 27, 2025

TO: Holly Heldstab – WCR/Eau Claire

FROM: Benjamin Hartenbower – WCR/Eau Claire

SUBJECT: Water Quality-Based Effluent Limitations for the Pepin Wastewater Treatment Facility
WPDES Permit No. WI-0022811

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 Pepin Wastewater Treatment Facility in Pepin County. This municipal wastewater treatment facility (WWTF) discharges to Lake Pepin, located in the Rush River Watershed in the Lower Chippewa 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						1
January - March			66 mg/L	25 mg/L		
April & May			41 mg/L	16 mg/L		
June - September			31 mg/L	12 mg/L		
October - December			71 mg/L	28 mg/L		
E. coli						4
May - September				126 #/100 mL geometric mean		
Phosphorus						5
MCL				0.9 mg/L		
WQT Computed (TP)				0.300 mg/L	0.100 mg/L, 0.083 lbs/day	
TKN, Nitrate+Nitrite, and Total Nitrogen						6

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 limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
5. WQT computed compliance limits also require a corresponding Minimum Control Level (MCL) of 0.9 mg/L to be met at the discharge.

6. 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 (NO_3), nitrite (NO_2), and total Kjeldahl nitrogen (TKN) (all expressed as N).

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: _____ Date: 10/27/2025

Benjamin Hartenbower, PE,
Water Resources Engineer

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

Attachment #1

Water Quality-Based Effluent Limitations for
The Pepin Wastewater Treatment Facility

WPDES Permit No. WI-0022811

Prepared by: Benjamin P. Hartenbower

PART 1 – BACKGROUND INFORMATION

Facility Description

The Village of Pepin owns and operates the Pepin Wastewater Treatment Facility, a facility with an annual average design flow of 0.099 million gallons per day (MGD). Preliminary treatment consists of a mechanical fine screen and a manual bar screen. The wastewater treatment process consists of an equalization/anaerobic selector tank, two activated sludge aeration basins, final clarification and ultraviolet disinfection. Wastewater effluent is discharged to the Mississippi River (Lake Pepin). Sludge is treated via aerobic digestion and then shipped to the West Central Wisconsin Biosolids Facility (WCWBF).
Attachment #3 is a map of the area showing the approximate location of Outfall 001.

Existing Permit Limitations

The current permit, which expired on June 30, 2024, 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 January - March April & May June - September October - December			 66 mg/L 41 mg/L 31 mg/L 71 mg/L	 25 mg/L 16 mg/L 12 mg/L 28 mg/L		
Fecal Coliform May - September			**656 #/100 mL** **geometric mean**	400 #/100 mL geometric mean		4
Phosphorus Interim Final WQBEL				 0.9 mg/L 0.300 mg/L	 0.100 mg/L, 0.083 lbs/day	5

Footnotes:

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. 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. A compliance schedule is in the current permit to meet the final WQBEL by August 1, 2021.

Receiving Water Information

- Name: Lake Pepin
- Waterbody Identification Code (WBIC): 731800
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply.
- A ten-to-one dilution ratio will be used for calculating effluent limitations based on chronic or long-term impacts, in accordance with s. NR 106.06(4)(b)2, Wis. Adm. Code, because the receiving water does not exhibit a unidirectional flow at the point of discharge.
- Hardness = 160 mg/L as $CaCO_3$. This value represents the geometric mean of hardness from the Mississippi River from 10/04/1988 to 12/05/1990 (n = 43).
- Source of background concentration data: Chloride data is from the Mississippi River. Metals data from the Mississippi River at Diamond Bluff are used in this evaluation because there is no data available for Lake Pepin. The Mississippi 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: There are several other dischargers to the Mississippi 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 Mississippi River is impaired for Mercury (multiple segments between miles 580.8 and 811.5), PCBs (multiple segments between miles 580.8 and 811.5), PFOS from mile 714.2 to 811.5, Sediment/Total Suspended Solids from mile 763.4 to 811.5, and Total Phosphorus (multiple segments between miles 580.8 and 811.5).

Effluent Information

- Flow Rate(s):

  Annual Average = 0.099 MGD (Million Gallons per Day)

For reference, the actual average flow from July 2019 to August 2025 was 0.047 MGD.

- Hardness = 313 mg/L as $CaCO_3$. This value represents the geometric mean four samples collected in August and September 2023 which were reported in the permit application.
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Wastewater source: Domestic wastewater.
- Water supply: Pepin 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 July 2019 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
8/24/2023	15	8/21/2023	240
8/31/2023	11	8/28/2023	219
9/7/2023	6	9/4/2023	219
9/14/2023	28	9/11/2023	215
9/21/2023	14		
9/28/2023	18		
10/5/2023	22		
10/12/2023	24		
10/19/2023	22		
10/26/2023	17		
11/2/2023	14		
1-day P_{99}	37	mean	223
4-day P_{99}	26		

The following table presents the average concentrations and loadings at Outfall 001 from July 2019 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	6.63 s.u.	
Fecal Coliform	2 #/100 mL**	
Ammonia Nitrogen	6.0 mg/L*	
Phosphorus	0.16 mg/L*	0.06 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 P_{99}) 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)

Limitation = 11(WQC) – 10 (Cs)

Where:

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

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

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 = 10 to 1

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	<1		
Cadmium	313	38.09	0.079	76	15	<2		
Chromium (+3)	301	4445.84		8892	1778	<3		
Copper	313	45.47	2.51	91			37	28
Lead	313	321.56	1.88	643	129	<1		
Nickel	268	1080.28		2161	432	<8		
Zinc	313	326.09	6.99	652	130	40		
Chloride (mg/L)		757	18	1514	303	223		240

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

* * The 2 × ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 10 to 1 dilution.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)
RECEIVING WATER FLOW = 10 to 1

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		1674	335	<1	
Cadmium	160	3.57	0.079	38	8	<2	
Chromium (+3)	160	194.58		2140	428	<3	
Copper	160	15.51	2.51	146			26
Lead	160	44.22	1.88	468	94	<1	
Nickel	160	77.86		856	171	<8	
Zinc	160	182.01	6.99	1932	386	40	
Chloride (mg/L)		395	18	4165	833	223	

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 = 10 to 1

SUBSTANCE	HTC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P_{99}
Cadmium	370	0.079	4069	814	<2	
Chromium (+3)	3818000		41998000	8399600	<3	
Lead	140	1.88	1521	304	<1	
Nickel	43000		473000	94600	<8	

Monthly Average Limits based on Human Cancer Criteria (HCC)
RECEIVING WATER FLOW = 10 to 1

SUBSTANCE	HCC	MEAN BACK-GRD.	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	30-day P_{99}
Arsenic	13.3		146.3	29.3	<1	

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

Conclusions and Recommendations
Based on a comparison of the 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 Pepin Wastewater Treatment Facility 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 2019 to 2024 was 0.472 mg/kg, with a maximum reported concentration of 1.9 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 Pepin Waterworks (PWS ID: 64701417) is provided in the table below:

Water Supply PFAS Data

Sample Date	Sample ID	Well #	PFOS (ng/L)	PFOA (ng/L)
08/17/2022	637886001	YJ334	<0.898	<1.80
08/17/2022	637888001	BG664	<0.892	<1.78
08/17/2022	637889001	BG665	<0.902	<1.80
06/12/2023	683387001	BG664	<0.273	<0.376
06/12/2023	683385001	BG665	<0.273	<0.376
06/12/2023	683386001	YJ334	<0.278	<0.383
		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 and monthly average limits. These limits are re-evaluated at this time due to the following changes:

- 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:

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

Where:

A = 0.411 and B = 58.4 for a Warm Water Sport Fishery, and

pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 2254 samples were reported from July 2019 to August 2025. The maximum reported value was 7.90 s.u. (Standard pH Units). The effluent pH was 7.50 s.u. or less 99% of the time. The 1-day P_{99}, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 7.33 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 7.31 s.u. Therefore, a value of 7.5 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 7.5 s.u. into the equation above yields an ATC = 19.89 mg/L.

Presented below is a table of daily maximum limitations corresponding to various effluent pH values. Use of this table is not necessarily recommended in the permit, but it is presented herein for informational purposes.

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
$6.0 \leq pH \leq 6.1$	108	$7.0 < pH \leq 7.1$	66	$8.0 < pH \leq 8.1$	14
$6.1 < pH \leq 6.2$	106	$7.1 < pH \leq 7.2$	59	$8.1 < pH \leq 8.2$	11
$6.2 < pH \leq 6.3$	104	$7.2 < pH \leq 7.3$	52	$8.2 < pH \leq 8.3$	9.4
$6.3 < pH \leq 6.4$	101	$7.3 < pH \leq 7.4$	46	$8.3 < pH \leq 8.4$	7.8
$6.4 < pH \leq 6.5$	98	$7.4 < pH \leq 7.5$	40	$8.4 < pH \leq 8.5$	6.4
$6.5 < pH \leq 6.6$	94	$7.5 < pH \leq 7.6$	34	$8.5 < pH \leq 8.6$	5.3
$6.6 < pH \leq 6.7$	89	$7.6 < pH \leq 7.7$	29	$8.6 < pH \leq 8.7$	4.4
$6.7 < pH \leq 6.8$	84	$7.7 < pH \leq 7.8$	24	$8.7 < pH \leq 8.8$	3.7
$6.8 < pH \leq 6.9$	78	$7.8 < pH \leq 7.9$	20	$8.8 < pH \leq 8.9$	3.1
$6.9 < pH \leq 7.0$	72	$7.9 < pH \leq 8.0$	17	$8.9 < pH \leq 9.0$	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 to derive weekly average limitations, and the 30-day criteria are used to derive monthly average limitations, both by a mass-balance using a ten-to-one dilution ratio.

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 Lake Pepin, 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, pH, and background ammonia. These values are shown in the table below, with the resulting criteria and effluent limitations.

Weekly and Monthly Average Ammonia Nitrogen Limits – WWSF

		January - March	April & May	June - September	October - December
Effluent Flow	Qe (MGD)	0.099	0.099	0.099	0.099
Background Information	Ammonia (mg/L)	0.38	0.03	0.05	0.49
	Average Temperature (°C)	1.5	8.9	20	6.3
	Maximum Temperature (°C)	1.7	13	22	11
	pH (s.u.)	6.95	7.44	8.07	7.37
	Dilution Factor (for lakes)	10	10	10	10

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		January - March	April & May	June - September	October - December
Criteria mg/L	4-day Chronic				
	Early Life Stages Present	15.03	11.51	3.36	12.12
	Early Life Stages Absent	24.41	12.88	3.36	15.10
	30-day Chronic				
	Early Life Stages Present	6.01	4.60	1.34	4.85
	Early Life Stages Absent	9.76	5.15	1.34	6.04
Effluent Limitations mg/L	Weekly Average				
	Early Life Stages Present		126	36	
	Early Life Stages Absent	265			161
	Monthly Average				
	Early Life Stages Present		50	14	
	Early Life Stages Absent	104			62

Effluent Data

The following table evaluates the statistics based upon ammonia data reported from July 2019 to August 2025.

Ammonia Nitrogen Effluent Data

Ammonia Nitrogen mg/L	January - March	April & May	June - September	October - December
1-day P_{99}	37.4	30.4	24.1	32.4
4-day P_{99}	22.1	16.8	13.4	17.7
30-day P_{99}	14.3	9.0	6.0	9.4
Mean*	10.8	5.7	3.0	5.9
Std	7.3	6.4	5.6	6.8
Sample size	232	158	340	237
Range	0.3 - 33.9	<0.1 - 36.9	<0.1 - 34.1	<0.1 - 35.5

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

Reasonable Potential

The need to include ammonia limits in the Pepin Wastewater Treatment Facility permit is determined by calculating 99th upper percentile (or P_{99}) values for ammonia during the month ranges and comparing those to the calculated limits. Based on this comparison, there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. However, since the permit currently has weekly and monthly average limits, **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, the current ammonia nitrogen limitations and monitoring are recommended to continue. 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
January - March		66	25
April & May		41	16
June - September		31	12
October - December		71	28

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 Pepin Wastewater Treatment Facility 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 Pepin Wastewater Treatment Facility has monitored effluent *E. coli* from June 2023 to September 2023 and a total of 16 results are available. A geometric mean of 126 counts/100 mL was never exceeded in the last 4 months of monitoring, with a maximum monthly geometric mean of 21 counts/100 mL. Effluent data never exceeded 410 counts/100 mL. The maximum reported value was 87 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 Pepin Wastewater Treatment Facility 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.

As per s. NR 217.13(3), discharges of phosphorus directly to inland lakes, reservoirs, and other receiving waters which do not exhibit a unidirectional flow at the point of discharge, the department shall set the effluent limit equal to the criterion for the receiving water. As Lake Pepin is part of the Mississippi River, the water quality-based phosphorus limit is set equal to the applicable criterion for the Mississippi River of 0.100 mg/L.

Effluent Data
The following table summarizes effluent total phosphorus monitoring data from July 2019 to August 2025.

Total Phosphorus Effluent Data

	Phosphorus mg/L
1-day P_{99}	0.79
4-day P_{99}	0.44
30-day P_{99}	0.25
Mean	0.16
Std	0.16
Sample size	968
Range	<0.027 - 1.7

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 0.100 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 0.300 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 lake or reservoir. **This final mass limit shall be 0.100 mg/L × 8.34 × 0.099 MGD = 0.083 lbs/day expressed as an annual mass limit.**

Water Quality Trading Minimum Control Level
The Pepin Wastewater Treatment Facility has indicated interest in 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 interim limit of **0.9 mg/L as a monthly average is recommended during the reissued permit term to serve as the MCL.**

PART 6 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

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

In accordance with s. NR 106.53(2)(b), Wis. Adm. Code, the highest daily maximum flow rate for a calendar month is used to determine the acute (daily maximum) effluent limitation. In accordance with s. NR 106.53(2)(c), Wis. Adm. Code, the highest 7-day rolling average flow rate for a calendar month is used to determine the sub-lethal (weekly average) effluent limitation. These values were based off actual flow reported from July 2019 to December 2024.

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Monthly Temperature Effluent Limits

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum (°F)	Daily Maximum (°F)	Weekly Average Effluent Limitation (°F)	Daily Maximum Effluent Limitation (°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			118	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 mixing zone area allowed in the limit calculation for inland lake discharges is 15,708 ft^2. Using procedures specified in s. NR 106.55(7), the lowest calculated limitation is 118° F. For systems of domestic waste, there is no reasonable potential for the discharge to exceed this limit, **therefore no limits or monitoring are 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 LC_{50} (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm Code.

- Chronic tests predict the concentration that interferes with the growth or reproduction of test organisms during a seven-day exposure. To assure that a discharge is not chronically toxic to organisms in the receiving water, WET tests must produce a statistically valid IC_{25} (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 9%** based on dilution of 10 parts lake water to 1-part effluent, as specified in s. NR 106.06(4)(b)2, Wis. Adm. Code, or a factor of 1 in 11 to calculate the IWC.

- 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.

- 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} %				Chronic Results IC_{25} %					Footnotes or Comments
	C. dubia	Fathead minnow	Pass or Fail?	Used in RP?	*C. dubia*	Fathead Minnow	Algae (IC_{50})	Pass or Fail?	Use in RP?	
6/4/2024	>100	>100	Pass	Yes	>100	>100		Pass	Yes	

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

  Acute Reasonable Potential = [(TUa effluent) (B)]
  Chronic Reasonable Potential = [(TUc effluent) (B)(IWC)]

  According to s. NR 106.08(6)(d), Wis. Adm. Code, TUa and TUc effluent values are equal to zero whenever toxicity is not detected (i.e. when the LC_{50}, IC_{25} or $IC_{50} \geq 100\%$).

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

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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

	Acute	Chronic
AMZ/IWC	Not Applicable. **0 Points**	IWC = 9%. **0 Points**
Historical Data	One test used to calculate RP. No tests failed. **0 Points**	One test used to calculate RP. No tests failed. **0 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, Chloride, Copper, 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, 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**	**9 Points**
Recommended Monitoring Frequency (from Checklist):	No WET tests needed	No WET tests needed
Limit Required?	No	No
TRE Recommended? (from Checklist)	No	No

- No WET testing is required because information related to the discharge indicates the potential for effluent toxicity is believed to be low.

Attachment #2

Temperature limits for receiving waters without unidirectional flow

(calculation using default ambient temperature data)

Facility: Pepin WWTF

Outfall(s): 001

Date Prepared: 10/9/2025

Design Flow (Qe): 0.099 MGD

Lake Type: Southern Inland Lakes

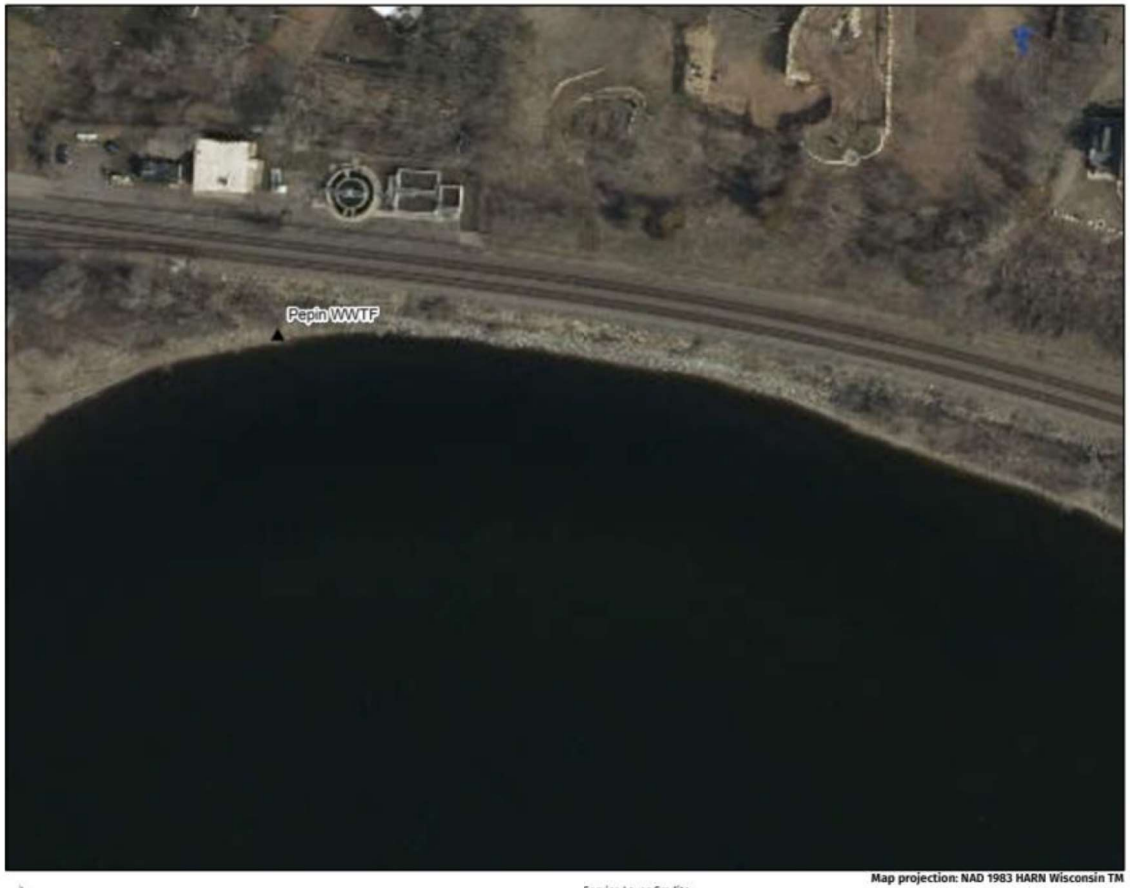
Discharge Type: Inland lake or impoundment shore discharge

Maximum area of mixing zone allowed (coefficient "A"): 15,708 ft²

Month	Water Quality Criteria			Representative Highest Effluent Flow Rate (Qe)					Representative Highest Monthly Effluent Temperature		**Calculated Effluent Limit**	
	Ta (default)	Sub-Lethal WQC	Acute WQC	7-day Rolling Average (Qesl)	Daily Maximum Flow Rate (Qea)	B	e^{-a} (for SL-WQBEL)	e^{-a} (for A-WQBEL)	Weekly Average	Daily Maximum	**Weekly Average Effluent Limitation**	**Daily Maximum Effluent Limitation**
	(°F)	(°F)	(°F)	(MGD)	(MGD)				(°F)	(°F)	(°F)	(°F)
JAN	35	49	77	0.05	0.13	0.405	0.017	0.195			NA	**120**
FEB	39	52	78	0.05	0.07	0.405	0.010	0.045			NA	**120**
MAR	41	55	78	0.05	0.06	0.405	0.008	0.028			NA	**120**
APR	49	60	80	0.09	0.12	0.405	0.100	0.171			NA	**120**
MAY	58	68	82	0.07	0.08	0.405	0.047	0.073			NA	**120**
JUN	70	75	86	0.08	0.09	0.667	0.027	0.044			NA	**120**
JUL	77	80	87	0.07	0.08	0.667	0.014	0.029			NA	**120**
AUG	76	80	87	0.08	0.11	0.667	0.026	0.065			NA	**120**
SEP	67	73	85	0.06	0.09	0.555	0.018	0.052			NA	**120**
OCT	54	61	81	0.10	0.12	0.405	0.109	0.161			**118**	**120**
NOV	42	50	78	0.06	0.07	0.405	0.030	0.049			NA	**120**
DEC	35	49	77	0.04	0.06	0.405	0.007	0.025			NA	**120**

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Pepin WWTF



Legend: (some map layers may not be displayed)

- ▲ Surface Water Outfalls
- Latest Leaf Off Imagery

Notes:

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 100 200 Feet / 0 25 50 Meters

Service Layer Credits:
Latest Leaf Off: , DNR Basic Feature Vector Tile Layer WTM: , Permits & Determinations^: WI DNR Bureau of Watershed Management

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

This map is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose user agrees to be bound by all disclaimers found here: https://dnr.wisconsin.gov/legal

Date Printed: 10/10/2025 5:04 PM

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
G.E.F. 2 Central Office
101 S. Webster St.
Madison, WI 53707

Tony Evers, Governor
Karen Hyun, Ph.D., Secretary
Telephone 608-266-2621
FAX 608-267-3579
TTY Access via relay - 711

6/20/2025

Wisconsin Clearinghouse
c/o: Chris Murphy, Nutrient Trading Manager
17921 Smith Road
Brodhead, WI 53520

Subject: Verification of Pollutant Reduction Credits
Hope Farm School Credit Verification Package: CVP-2025-03

Dear Mr. Murphy:

The Department recently received a credit verification package (CVP) for proposed generation of phosphorus credits via the State's Water Quality Trading Clearinghouse. An initial CVP was received on May 12, 2025 and a final CVP was received on June 16, 2025. Based on the Department's review, the final CVP (dated 6/16/2025) is in general conformance with the DNR Water Quality Trading Guidance and Sections 16.9685 and 283.84 of the Wisconsin Statutes. The CVP proposes conversion of corn/soy/alfalfa cropping rotation to perennial grass/hay. The timeline for practice installation, as set forth in the CVP, indicates that seeding will occur in spring of 2025 and will be certified prior to August 1, 2025. Credits generated from approved practices result in available credit quantities shown in Table 1. These credits may be incorporated into WPDES permits, subject to public notice and permit modification/reissuance procedures. An agreement must be established with a credit buyer pursuant to s. 283.84(1)(f), Wis Stats., and buyers must be located in the applicable hydrologic area, as defined at s. 283.84(1m)(e)2., Wis. Stats. Pollutant credits may be used to demonstrate compliance with phosphorus water quality-based effluent limits.

Table 1: Total Phosphorus Credits Available per CVP-2025-03

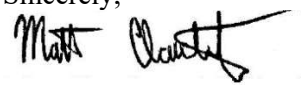
Year	Available Credits (lbs/yr) – Total*
2025**	30.8
2026	74
2027	74
2028	74
2029	74
2030	74
2031	74
2032	74
2033	74
2034	74
2035	74

*The Lake Pepin TMDL may result in a combination of long-term and duration-limited interim credits
** credits prorated for five months of the year based on practices install date of 8/1/2025

The Department conditionally verifies pollutant credits for a duration of ten years, provided operation & maintenance, inspection reporting, and NRCS technical standard protocols are adhered to. This verification is not to be construed as an approval for any activities requiring a permit under ch. 30 or 31, Wis. Stats. or other permits/approvals required at the county or municipal level. The Department has assigned the CVP a tracking number of CVP-2025-03 and will be referenced as such in the WPDES permits of credit users. The CVP will be included as part of the public notice when a credit buyer's permit is reissued to incorporate credits. The WPDES permit will include a requirement for an annual trading inspection report, requirements to implement the CVP as approved, and effluent monitoring for total phosphorus to demonstrate credit use and computed compliance.

If you have any questions or comments, please contact me at (608) 400 - 5596 or at matthew.claucherty@wisconsin.gov.

Sincerely,



Matt Claucherty
Phosphorus Implementation Coordinator
Wisconsin Department of Natural Resources

e-CC:

Erin Delawalla, RES
Laura Dietrich, DNR

WATER QUALITY TRADING CLEARINGHOUSE AGREEMENT

THIS WATER QUALITY TRADING CLEARINGHOUSE AGREEMENT (this "**Agreement**") is entered into as of the latest date set forth on the signature pages hereto (the "**Effective Date**"), by and between Village of Pepin, ("**Buyer**"); Hope Farm School ("**Generator**"); and Wisconsin Clearinghouse, LLC, a Wisconsin limited liability company (the "**Clearinghouse**" and together with Buyer and Generator, the "**Parties**" and each individually, a "**Party**").

RECITALS

WHEREAS, the Wisconsin Department of Natural Resources (the "**WDNR**") regulates the discharge of pollutants to waters of the state and administers a program for the trading of water pollutant reduction credits in accordance with Wis. Stat. § 283.84;

WHEREAS, the State of Wisconsin, as represented by its Department of Administration, Division of Enterprise Operations ("**DOA**"), entered into a contract with the Clearinghouse (the "**Clearinghouse Contract**") for the establishment and operation of a centralized clearinghouse for the buying and selling of water pollutant reduction credits ("**Credits**") that may be traded under Wis. Stat. § 283.84(1)(f);

WHEREAS, the Clearinghouse is authorized to facilitate water quality trades by contracting with parties for the generation of Credits through water pollutant reduction activities and the purchase of Credits generated by such activities;

WHEREAS, Buyer operates Pepin Wastewater Treatment Facility (the "**Facility**") located in Pepin County, Wisconsin, under an existing Wisconsin Pollutant Discharge Elimination System Permit, (the "**Permit**");

WHEREAS, Buyer and/or its agents have, prior to the date hereof, in good faith and using the WDNR's *Guidance for Implementing Water Quality Trading in WPDES, Edition 2* (Guidance No. 3200-3400-3800-2020-03, dated June 1, 2020) (the "**Guidance**"), estimated that Buyer's Facility will discharge pollutant above its permitted limit per year (the "**Excess Pollutant**"), requiring a modification to and a reissuance of Buyer's Permit ("**Permit Reissuance**");

WHEREAS, as a condition of Permit Reissuance, the WDNR will require Buyer to offset the Excess Pollutant with Credits in accordance with Wis. Stat. § 283.84;

WHEREAS, in order to generate Credits within the applicable hydrologic area of the Facility, as defined under Wis. Stat. § 283.84(1m)(e), Generator desires to install perennial vegetation known as conservation easement as set forth in the credit verification package and Attachment A on that certain real property (the "**Property**") described in Attachment B;

WHEREAS, the Clearinghouse submitted to the WDNR for review, information pertaining to the **Credit Verification Package**, Attachment D as required under Wis. Stat. § 16.9685(3)(g), including the amount of Credits generated by the conservation easement and the duration for which the Credits are valid;

WHEREAS, following the WDNR's review of the Credit Verification Package, the WDNR fully certified the number of Credits (the "**Verified Credits**") generated by the conservation easement in each year of Buyer's Permit (the "**Permit Term**"), and such amounts are shown in Attachment A; and

WHEREAS, Buyer desires for Generator to implement and maintain the conservation easement in order to generate the Verified Credits for the duration of the Permit Term, and Buyer and Generator desire to engage the Clearinghouse to facilitate the transaction.

NOW, THEREFORE, for and in consideration of the premises and the payments set forth herein, and subject to the terms and conditions set forth herein, the Parties agree to the following:

AGREEMENTS

1. Generator Services.

(a) Generator shall implement and maintain the conservation easement on the Property consistent with the plans and specifications contained in the credit verification package in order to generate the verified credits throughout the permit term described in Attachment A.

Generator will perform the requirements set forth in the Credit Verification Package, including (i) permitting and constructing the conservation easement contemplated thereby; and (ii) maintaining the conservation easement according to the maintenance schedule. Additionally, after constructing the conservation easement on the Property, Generator will execute and record a deed restriction or similar instrument which protects the Property during the Agreement Term. Generator shall timely respond to any reasonable requests from the Clearinghouse for information relating to this Agreement, the Verified Credits, the Property, or the conservation easement.

(b) To the best of Generator's knowledge, (i) the description of the Property on Attachment B is accurate in all respects; (ii) the Property does not contain any significant archaeological or historical artifacts; and (iii) no party other than Generator (and the Clearinghouse with respect to inspection rights granted herein) has any material rights in all or any part of the Property. Throughout the Permit Term, Generator shall maintain all rights in the Property necessary to carry out its obligations as set forth in this Agreement. Prior to the sale, lease, or conveyance of any material rights in all or any part of the Property during the Permit Term, Generator shall notify the intended grantee, in writing, of any continuing obligations of Generator in the Property.

(c) Unless otherwise agreed to in writing by the Parties, Generator shall not be required to perform any inspections of the conservation easement or report the results of any such inspections to the WDNR or the WDOA.

2. Engagement of the Clearinghouse.

(a) *Registration.* Following the complete execution of this Agreement and payment by Generator and Buyer of the Clearinghouse Fees (defined below), the Clearinghouse will ensure that the Verified Credits are registered to support Buyer's Permit compliance.

(b) *Reporting.* The Clearinghouse will submit to the WDNR and the WDOA Contract Manager, digital monthly reports, including (i) a monthly transaction report, and (ii) a monthly inspection report, as further described in the Clearinghouse Contract.

(c) *Inspections.* The Clearinghouse will perform, or cause to be performed by qualified third parties, inspections of the conservation easement to confirm compliance with Permit requirements and at the frequency described in the Credit Verification Package. The generator shall permit and enable the Clearinghouse, its agents, to conduct such inspections and hereby authorizes the Clearinghouse, its agents, representatives, and contractors, to enter the Property at any reasonable time to conduct the Inspections. The Clearinghouse will provide at least 24 hours' notice of any inspection to the Generator.

(d) *Enforcement.* The Clearinghouse shall be permitted to enforce the transaction contemplated by this Agreement as described herein. The Clearinghouse reserves the right to stop work or withhold payment if Generator has breached any of the terms of this Agreement. Notwithstanding anything to the contrary in this Agreement, the Clearinghouse shall not be required to provide any prior notice or cure period if the Clearinghouse determines that immediate intervention is necessary to prevent or mitigate imminent harm to the waters of the state.

3. Required Payments.

(a) *Clearinghouse Fees.* As consideration for the Clearinghouse facilitating the trade of Verified Credits and other services described in this Agreement, Generator agrees to pay to the Clearinghouse the sum of $1,400.00, and Buyer agrees to pay to the Clearinghouse the sum of $3,200.00 (together, the "**Clearinghouse Fees**"). The Clearinghouse Fees were determined using the Fee Structure set out in Attachment C, which is based on the total number of Verified Credits. The Clearinghouse Fees shall be due and payable on the Effective Date. All amounts paid under this Section 3(a) shall, when paid, be deemed fully earned by the Clearinghouse and non-refundable.

(b) *Default.* If Generator or Buyer fails to pay their respective portion of the Clearinghouse Fees when due, then after a ten (10) day cure period beginning upon the Clearinghouse's notification of non-payment to the defaulting Party, the Clearinghouse may terminate this Agreement upon written notice to both Generator and Buyer.

(c) *Purchase Price.* The total purchase price for **60 annual verified credits** for a term of **10 years** is **$45,000** ("**Purchase Price**"), which reflects a **per Credit price of $75**. The Purchase Price shall be paid to the Clearinghouse in annual installments, equal to **$4,500, for ten years** as shown in Attachment A.

(d) Any amount due and payable hereunder by the Credit Buyer shall be paid within thirty (30) days of such amount becoming due and payable no later than October 15 and shall be paid by wire transfer or by other method as directed by the Clearinghouse. If Buyer fails to pay any of the Purchase Price when due, (i) Generator shall not be required to perform hereunder unless and until such default is cured and shall not be responsible for any breach, liability, or damage resulting from such non-performance; and (ii) after a 30-day cure period beginning upon the Clearinghouse's notification to Buyer of such non-payment, Generator shall be entitled to terminate this Agreement upon written notice to Buyer.

(e) *Payments to Generator.* All payments from the Clearinghouse to Generator are expressly and unequivocally contingent upon and subject to the Clearinghouse's receipt of payment from Buyer. Within thirty (30) days of the Clearinghouse's receipt of any installment payment from Buyer, the Clearinghouse shall pay Generator all amounts paid by Buyer on account of the work performed and maintained by Generator.

4. Credit Certification by WDNR. The Verified Credits have been fully certified for trade by the WDNR pursuant to Wis. Stat. § 16.9685(4) and following the WDNR's review of the Credit Verification Package. The Credit Verification Package contained pertinent information about the proposed pollution reducing activities, including (i) the location of the activities; (ii) the type of practice or technology used; (iii) any maintenance schedule; (iv) the frequency of inspections; (v) the duration for which the Credits are valid; and (vi) the number of Credits generated by the proposed pollution reducing activities. The Verified Credits are located within the applicable hydrologic area of Buyer's Facility, as defined in Wis. Stat. § 283.84(1m)(e), and were calculated using a final trade ratio based on the location of Buyer relative to Generator and which is consistent with the Guidance. Generator shall fully comply with the requirements for performance set forth in the Credit Verification Package during the term of the Permit and shall not deviate therefrom without the prior written approval from the Buyer and Clearinghouse.

5. Noncompliance. If Generator fails to (i) implement the conservation easement in a timely manner; (ii) implement the conservation easement pursuant to the plans and specifications contained in the Credit Verification Package; or (iii) fails to maintain any conservation easement after implementation, such failure may constitute noncompliance. Generator shall immediately report any noncompliance to the Clearinghouse. Following the Clearinghouse's discovery or notification by Generator of any potential noncompliance, the Clearinghouse shall notify (i) the WDNR's designated compliance engineer of such discovery by electronic mail within twenty-four (24) hours (or the next business day), and (ii) Buyer of such discovery, promptly following notification to the WDNR. The foregoing reporting requirement does not increase the frequency of inspections performed by the Clearinghouse as described in Section 2(c) of this Agreement. Neither the WDNR nor the WDOA shall have any right of enforcement against the Clearinghouse for conservation easement noncompliance or for any failure by Buyer to comply with its Permit obligations.

6. Default Security. Buyer and Generator agrees no default security is required under this Agreement.

7. Buyer's Default Remedies. If Generator fails to perform any of its obligations under this Agreement and such failure remains uncured for a period of thirty (30) days after receipt of written notice from Buyer, then without limiting any of Buyer's other rights or remedies, Buyer shall be entitled to terminate this Agreement upon written notice to Generator. Buyer shall simultaneously deliver to the Clearinghouse copies of any written notices sent to Generator pursuant to this Section 7.

8. Term. This Agreement shall remain in force for a period of ten years (10) years beginning upon Generator's commencement of construction of the conservation easement, as described in Section 1(c) of this Agreement, unless sooner terminated as provided herein.

9. Termination.

(a) If the Clearinghouse terminates this Agreement as permitted by Section 3(b), then neither Party will have any remaining obligations or responsibilities to the other hereunder, except that the Clearinghouse will return any Clearinghouse Fees that have been paid.

(b) If Generator terminates this Agreement as permitted by Section 3(d), then:

i. any Milestone Payment that has been paid, or is at the time of termination due and payable to Generator, shall be retained by and/or paid to Generator as compensation for services performed;

ii. Buyer shall not owe any additional amounts to Generator;

iii. Generator shall not have any additional obligations to Buyer;

iv. the Clearinghouse shall be entitled to retain the Clearinghouse Fees; and

v. the Parties shall execute and deliver such additional documents, instruments, conveyances, and assurances, and take such further actions as may be reasonably required to carry out the intent of this Section 9(b), including as required by the WDNR and/or WDOA.

(c) If Buyer terminates this Agreement as permitted by Section 7, then:

i. Generator will repay the installment of the current year's Purchase Price paid to Generator within thirty (30) days of receiving Buyer's termination notice;

ii. the Clearinghouse shall be entitled to retain the Clearinghouse Fees;

iii. Buyer shall be entitled to all amounts retained by the Clearinghouse pursuant to Section 3(d); and

iv. Buyer may enforce its rights under any Default Security obtained by Buyer in accordance with Section 6.

(d) Termination under this Agreement shall not be deemed to relieve any Party of any obligations that expressly survive termination of this Agreement (e.g., confidentiality obligations under Section 14(a)).

10. Indemnification.

(a) Buyer and Generator hereby further release the Clearinghouse from any and all claims of damage of any kind which may arise as a result of constructing, installing, maintaining, and operating the conservation easement in accordance with this Agreement, or as a result of material breach by Buyer or Generator of any of their respective representations, warranties, or obligations under this Agreement.

11. Insurance. Subject to and without limiting the defense and indemnity obligations here, Generator or Buyer, at its expense, may maintain insurance coverage and shall provide the Clearinghouse with a certificate of insurance evidencing the coverage within thirty (30) days of the Effective Date:

12. Responsibilities, Representations and Covenants. The Parties each, as applicable, expressly acknowledge, represent, covenant, and agree that:

(a) the number of Credits ultimately required by the WDNR and WDOA as a condition to Permit Reissuance may be greater than the number of Verified Credits, and Generator is not responsible for providing any additional Credits unless otherwise agreed to in a written amendment signed by all Parties.

(b) Buyer is responsible for providing the Clearinghouse with the amount of Excess Pollutant required by the WDNR as a condition to Permit Reissuance.

(c) the Clearinghouse shall not be responsible for the actions or omissions of Generator.

(d) the Clearinghouse shall not be responsible for any failure by Buyer to meet its respective obligations, such as under a WPDES permit.

(e) the WDNR and WDOA shall in no way be responsible for making any payments that may become due and owing under this Agreement.

(f) Generator shall at all times comply with and observe all federal, state, and local laws, ordinances, and regulations that are in effect during the term of this Agreement and that are applicable to Generator's work or obligations hereunder;.

(g) Buyer (i) has provided the Clearinghouse with true, correct, and complete copies and/or summaries of any correspondence with the WDNR or WDOA related to the compliance requirements associated with the Facility or the Permit, and (ii) shall promptly provide to the Clearinghouse true, correct, and complete copies or summaries of any such correspondence or requirements received or occurring after Effective Date.

(h) the Parties shall execute and deliver such additional documents, instruments, conveyances, and assurances and take such further actions as may be reasonably required to carry out the intent of the provisions hereof.

13. Miscellaneous.

(a) *Confidentiality*. Neither this Agreement nor the terms hereof may be furnished to any third party, without the written consent of all Parties, except as may otherwise be required by law (including, without limitation, Wisconsin's Open Records Law, Wis. Stat. §19.31 et seq.), an administrative tribunal, the Clearinghouse-WDOA contract established under s. 16.9685(2), Wis. Stats., or a court of competent jurisdiction; provided, that the foregoing shall not prohibit the Parties from providing this Agreement or the terms hereof to their attorneys, consultants, professional advisors, and current and prospective investors and primary lenders. Buyer agrees that it shall not, without the prior written consent of Generator, which consent may be withheld by Generator in its sole discretion, contact or communicate directly or indirectly (including through its advisors) with any landowners, third party easement holders, or other parties having a right in the Property. The terms and conditions of this paragraph shall survive any termination of this Agreement.

(b) *Clearinghouse's Records*. This Agreement may be subject to public disclosure under Wis. Stat. §19.36(3), unless otherwise exempted by applicable law. The Clearinghouse shall retain all records produced or collected under this Agreement for no less than three (3) years following the expiration or earlier termination of the Clearinghouse Contract. The Clearinghouse has established an internet-based platform which will serve as a centralized registry and contain information related to Credit transactions. Generator and Buyer hereby permit the Clearinghouse to store in its internet-based registry any information pertaining to the transaction contemplated by this Agreement.

(c) *Governing Law and WAIVER OF JURY TRIAL.* This Agreement and all matters arising out of or relating to this Agreement are governed by the laws of Wisconsin, including its statutes of limitations, without giving effect to any conflict of laws provisions thereof. Any Party may institute any legal suit, action, or proceeding arising out of or relating to this Agreement in the federal or state courts in each case located in Madison, Wisconsin. EACH PARTY HEREBY IRREVOCABLY AND UNCONDITIONALLY: (A) CONSENTS AND SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE AFOREMENTIONED COURTS; (B) WAIVES ANY OBJECTION TO THAT CHOICE OF FORUM BASED ON VENUE OR TO THE EFFECT THAT THE FORUM IS NOT CONVENIENT; AND (C) WAIVES ANY RIGHT TO TRIAL BY JURY. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(d) *Counterparts and Authorization.* This Agreement may be signed by facsimile signature, which signature shall be deemed to constitute an original signature and be binding as such. This Agreement may be executed in identical counterparts, each of which when so executed and delivered will constitute an original, but all of which taken together will constitute one and the same instrument. The Parties each represent that the person signing this Agreement on their behalf is duly authorized to sign this Agreement.

(e) *Notices.* All notices, requests, consents, claims, demands, waivers, approvals, and other communications hereunder (each, a "**Notice**") shall be in writing and addressed to the Parties at the addresses set forth on its signature page (or to such other address that may be designated by the receiving Party from time to time in accordance with this Section 14(e)). All Notices shall be delivered by personal delivery, nationally recognized overnight courier, email (with confirmation of transmission), certified or registered mail, or electronic mail. A Notice is effective only if the Party giving the Notice has complied with the requirements of this Section 14(e). Copies of all written notices issued between Buyer and Generator pursuant to this Agreement shall be provided to the Clearinghouse. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(f) *Entire Agreement, Severability and Waiver.* This Agreement embodies the entire agreement between the Parties and supersedes all prior agreements and understandings relating to the subject matter of this Agreement. If any portion of this Agreement is held invalid or inoperative, then so far as is reasonable and possible the remainder of this Agreement shall be deemed valid and operative, and, to the greatest extent legally possible, effect shall be given to the intent manifested by the portion held invalid or inoperative. The failure by any Party to enforce against the other any term or provision of this Agreement shall not be deemed to be a waiver of such Party's right to enforce against the other Party the same or any other such term or provision in the future. In the event of a conflict or inconsistency between the terms of the body of this Agreement and those of any exhibit attached hereto, the terms of the body of this Agreement shall control. The provisions of this paragraph shall survive the expiration or termination of this Agreement.

(g) *Survivability.* The Clearinghouse Contract, dated effective March 20, 2023, contains an initial term of five (5) years, which may be extended for an additional one (1) year by mutual agreement, or at the WDOA's request, on a month-to-month basis for a period not to exceed six (6) months. Upon expiration of the term or earlier cancellation or termination of the Clearinghouse Contract by the WDOA, this Agreement shall continue in force and effect (unless otherwise terminated as permitted herein) and shall remain subject to the terms of the Clearinghouse Contract. If the Clearinghouse Contract is terminated or the Clearinghouse ceases to function, the WDNR shall continue to administer all Credit transactions then in effect until a new entity is appointed as Clearinghouse.

(h) *Force Majeure.* No Party shall be liable or responsible to the other Party, or deemed to have breached this Agreement, for any failure or delay in satisfying its obligations hereunder if such failure is attributable to any of the following: strikes, riots, acts of God, war, terrorist acts or activities, orders, or any other causes which are beyond the reasonable control of the responsible Party. Following any such failure or delay, Generator shall cooperate with Buyer and the Clearinghouse to reasonably respond to any requests from the WDOA or WDNR for information about any such failure or delay and shall provide all relevant information in connection therewith upon request.

(i) *No Interest.* No provision of this Agreement shall be deemed to grant to Buyer or the Clearinghouse any interest in any property of Generator or any of its affiliates.

(j) *Amendment and Assignment.* This Agreement may not be changed, amended, or modified except by an instrument in writing signed by all Parties. This Agreement shall be binding upon the Parties and their respective

successors and assigns; however, this Agreement may not be assigned by any Party without the prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed. The foregoing restriction shall not be deemed to prohibit the assignment or transfer of this Agreement by any Party to (i) any third party that controls, is controlled by, or is under common control with, the assigning Party, or (ii) any purchaser of all, or substantially all, of the assets of the assigning Party, as long as, in each case, the assignee agrees to assume all obligations of the assigning Party hereunder. The Clearinghouse shall notify the WDNR within seven (7) days of any amendment or termination of this Agreement, including the details of any amendment and justification for such change(s).

(k) *Interpretation.* Section headings are included for convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement and should not be used to construe or interpret this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words "include", "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation", whether or not they are in fact followed by those words or words of like import. "Writing", "written" and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. The schedules and exhibits referred to herein shall be construed with, and as an integral part of, this Agreement to the same extent as if they were set forth verbatim herein; provided that in the event of any conflict between the body of this Agreement and an Exhibit, the terms of the body of the Agreement shall control.

(l) *Independence of Parties.* Nothing herein shall be construed to create a joint venture or partnership between the Parties hereto or an employer/employee or agency relationship.

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

CREDIT BUYER:

Village of Pepin

By: Randy Kallstrum

Name: Randy Kallstrum

Title: Village President

Date: 9/8/25

Address:
508 2nd St
Pepin, WI 54749
Atten: Village President

Email: clerk@pepinwisconsin.org

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

CREDIT GENERATOR:

Hope Farm School

By: Jeffery W Bird

Name: Jeffery W. Bird

Title: President

Date: 8/15/2025

Address:
34331 11th Ave S
Minneapolis, MN 55407
Attn: Jeff Bird

Email: jeff.bird@mbw.group

NOW THEREFORE, the Parties have caused this Agreement to be executed, sealed, and delivered all as of the Effective Date.

CLEARINGHOUSE:

Wisconsin Clearinghouse, LLC,
a Wisconsin limited liability company

By: Chris Murphy

Name: Chris_Murphy

Title: Nutrient Trading Manager

Date: 8/7/2025

Address:
17921 W Smith Road
Brodhead, WI 53520
Attn: Chris Murphy, Clearinghouse Manager

Email: cmurphy@res.us

ATTACHMENT A

	UNIQUE TRACKING CODE NO. 44394011									
	BMP Number 1: Conservation Easement									
	TOTAL COST	$45,000.00			FINAL TRADE RATIO	1.39:1				
	WPDES PERMIT TERM									
YEAR	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
VERIFIED CREDITS[1]	60	60	60	60	60	60	60	60	60	60
INCENTIVE PAYMENT	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500	$4,500
YEAR										
VERIFIED CREDITS[2]										
INCENTIVE PAYMENT										

[1] Insert the number of credits available in each year of a WPDES permit, as described in the Credit Verification Package.

[2] Insert the number of credits available in each year of a WPDES permit, as described in the Credit Verification Package.

ATTACHMENT B

Description of the Property

Parcel ID: 010002720000

Section-Township-Range: 4-23-15

Legal Description

PRT OF SW 1/4 OF SE 1/4 LYG W OF HWY

Parcel ID: 010002700000

Section-Township-Range: 4-23-15

Legal Description

NW 1/4 OF SE 1/4 EX PCL IN NE COR

ATTACHMENT C

FEE STRUCTURE

Fee Paid By	Size of Credit Transaction	Fee Paid to the Clearinghouse
Generator	0-100	$ 1,400.00
	101-200	$ 3,000.00
	201-450	$ 6,000.00
	451-700	$ 10,000.00
	701-1000	$ 16,500.00
	1001-1500	$ 20,000.00
	1501-2000	$ 28,000.00
	2001-2700	$ 36,000.00
	2701-3400	$ 49,000.00
	3401-4100	$ 63,000.00
	4101-4600*	$ 75,000.00
Buyer	0-100	$ 3,200.00
	101-200	$ 5,000.00
	201-450	$ 10,500.00
	451-700	$ 20,000.00
	701-1000	$ 32,000.00
	1001-1500	$ 42,000.00
	1501-2000	$ 64,000.00
	2001-2700	$ 84,000.00
	2701-3400	$ 114,000.00
	3401-4100	$ 150,000.00
	4101-4600*	$ 180,000.00

*Generations or purchases exceeding these thresholds will pay by the tier over 1000 (e.g., 5000 credits will incur a fee from the 4101-4600 tier plus the fee from the 201-450 tier).