Permit Fact Sheet

General Information

Permit Number:	WI-0029343-10-0	
Permittee Name:	WI DNR Peninsula State Park	
Address:	9462 Shore Rd	
City/State/Zip:	Fish Creek WI 54212	
Discharge Location:	Tennison Bay Marsh, in Peninsula State Park, in the Upper Door County Basin, in Door County	
Receiving Water:	Tennison Bay Marsh	
StreamFlow ($Q_{7,10}$):	0 cfs	
Stream Classification:	Limited Aquatic Life	
Design Flow(s)	Daily Maximum	0.0945 MGD
	Weekly Maximum	N/A
	Monthly Maximum	0.05 MGD
	Annual Average	0.05 MGD
Significant Industrial Loading?	No	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

Facility Description

The wastewater treatment facility utilizes the Recirculating Sand Filter process. It consists of two in-line 25,000-gallon septic tanks, followed by a single 50,000-gallon dosing chamber, a splitter box, and three sand filter beds. The beds have a total surface area of 16,665 sq. feet, with a design capacity of 50,000 gpd at a hydraulic loading rate of 3 gpd/sq ft. There is also a lift station that services the outfall system.

The permittee is found to be in substantial compliance with the terms and conditions of the current permit.

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
701	0.0153 MGD, July 2016 to June 2021 during months when the facility was discharging	Samples shall be collected after the lift station at the discharge to the septic tank.
702	NA – Influent to sand filter	Samples shall be collected after the septic tank prior to the dosing

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, WasteType/sample Contents and Treatment Description (as applicable)**
		chamber.
001	0.0165 MGD, July 2016 to June 2021 during months when the facility was discharging	Effluent samples shall be collected from the splitter box.
990	23,000 gallons hauled per year, 2016 to 2021	Solids from septic tanks.

1 Influent - Proposed Monitoring

Sample Point Number: 701- Influent

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	Applies May 1 through November 30, each year
BOD5, Total		mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year
Suspended Solids, Total		mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year

Changes from Previous Permit:

None.

Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. Requirements for flow, BOD, and TSS are established in accordance with ch. NR 210.04(2), Wis. Adm. Code.

Sample Point Number: 702- Influent to Sand Filter

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD5, Total		mg/L	2/Month	Grab	Applies May 1 through November 30, each year
Suspended Solids, Total		mg/L	2/Month	Grab	Applies May 1 through November 30, each year

Changes from Previous Permit:

None

Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. Requirements for flow, BOD, and TSS are established in accordance with ch. NR 210.04(2), Wis. Adm. Code.

2 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 001- Effluent

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	Applies May 1 through November 30, each year.
BOD5, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
BOD5, Total	Weekly Avg	30 mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
Suspended Solids, Total	Monthly Avg	20 mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
Suspended Solids, Total	Weekly Avg	30 mg/L	2/Week	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
pH Field	Daily Max	9.0 su	2/Week	Grab	Applies May 1 through November 30, each year.
pH Field	Daily Min	6.0 su	2/Week	Grab	Applies May 1 through November 30, each year.
Dissolved Oxygen	Daily Min	4.0 mg/L	2/Week	Grab	Applies May 1 through November 30, each year.
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
Phosphorus, Total		mg/L	Monthly	24-Hr Flow Prop Comp	Applies May 1 through November 30, each year.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Applies May 1 through November 30, for 2024 and 2025.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					Monitoring section below.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring section below. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

Changes from Previous Permit

Total Phosphorus: Monthly monitoring was added to the proposed permit.

Ammonia Nitrogen: Monthly monitoring was added to the proposed permit.

Total Nitrogen Monitoring (TKN, N02+N03 and Total N): Annual monitoring in rotating quarters throughout the permit term was added to the proposed permit.

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 fairness and 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.

Previously permitted monitoring frequencies for pH and dissolved oxygen fall below the standard monitoring frequency outlined in guidance. Since data submitted during the previous permit term shows consistent compliance with permit limitations, and the set monitoring frequency is consistent with requirements of state code, the reduced monitoring frequency is continued in the proposed permit. If performance levels begin to vary during the permitted term, the department may re-evaluate current sampling frequencies and implement more frequent monitoring via permit modification or at permit reissuance.

Explanation of Limits and Monitoring Requirements

Water Quality Based Limits and WET Requirements and Disinfection (if applicable)

Refer to the WQBEL memo for the detailed calculations, prepared by the Water Quality Bureau dated November 2, 2021 used for this reissuance.

BOD_5, Total Suspended Solids, and pH: Standard municipal wastewater requirements for BOD_5, total suspended solids, and pH are included based on ch. NR 210, Wis. Adm. Code, 'Sewage Treatment Works' requirements for discharges to fish and aquatic life streams. Chapter NR 102 Wis. Adm. Code 'Water Quality Standards for Surface Waters' also specifies requirements for pH for fish and aquatic life streams.

Regulatory changes to s. NR 205.065, Wis. Adm. Code became effective September 1, 2016 and require limits in this permit to be expressed as weekly average and monthly average limits whenever practicable. These changes are based on 40 CFR 122.45(d).

Phosphorus: Phosphorus requirements are based on the Phosphorus Rules that became effective 12/1/2010 as detailed in NR 102 Water Quality Standards and NR 217 Effluent Standards and Limitations for Phosphorus. Chapter NR 217 of the Wis. Adm. Code addresses point source dischargers of phosphorus to surface waters. The code categorically limits municipal dischargers of more than 150 pounds of phosphorus per month to 1.0 mg/L unless an alternative limit is approved. The data demonstrates that Peninsula State Park's annual monthly average phosphorus loading is less than 150 lbs/month; therefore, no technology-based limit is required.

NR 217 also specifies WQBELs for discharges of phosphorus to surface waters of the state from publicly and privately owned wastewater facilities. Phosphorus criteria in s. NR 102.06, Wis. Adm. Code, do not apply to limited aquatic life waters as described in s. NR 102.06(6)(d), Wis. Adm. Code. The discharge location of the wastewater to Tennison Bay Marsh from Peninsula State Park is classified as limited aquatic life. This wetland is diffuse so does not channelize to Lake Michigan, therefore limits based on criteria for Lake Michigan are not required. Phosphorus monitoring is required to provide data for the next permit reissuance.

Chloride: Acute and chronic chloride toxicity criteria for the protection of aquatic life are included in tables 1 and 5 of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106 established the procedure for calculating water quality based effluent limitations (WQBELs) for chloride. Peninsula State Park's calculated 1-day P99 and 4-day P99 are below the calculated WQBELs for chloride; therefore, no effluent limits are needed. Chloride monitoring is required to ensure 11 samples are available at the next permit reissuance to meet data requirements of s. NR 106.85, Wis. Adm. Code.

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. Annual tests are scheduled in the following rotating quarters: July-September 2022, October-November 2023, May-June 2024, July-September 2025, October-November 2026.

Ammonia Nitrogen: Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Table 2C and Table 4B of ch. NR 105, Wis. Adm. Code (effective 3/1/04). Subchapter IV of ch. NR 106, Wis. Adm. Code establishes procedures for calculating water quality-based effluent limitations (WQBELs) for ammonia (effective 3/1/04). Peninsula State Park's calculated P99 values are below the calculated WQBELs for ammonia nitrogen; therefore, no effluent limits are needed. Ammonia nitrogen monitoring is required to provide data for the next permit reissuance.

3 Septage Management - Proposed Monitoring and Limitations

Septage management is required in accordance ch. NR 113, Wisconsin Administrative Code. Records must be kept and made available to the Department on request. Required record keeping includes volumes of septage pumped, dates when the septage was removed, land application site DNR number and method used to satisfy pathogen and vector control, and/or the treatment plant where septage is disposed. Annual reporting is required when the permittee land applies the septage. Annual reporting is also required when the permittee disposes of septage at a designated treatment facility.

Sample Point Number: 990- Septic tank waste

Changes from Previous Permit:

The outfall number has been changed from 991 to 990. Septic tank waste is tracked statewide using waste type 990, so the 990 outfall was reactivated for consistent waste tracking purposes of septic tank waste statewide.

Explanation of Limits and Monitoring Requirements

Requirements for septage management are determined in accordance with ch. NR 113, Wis. Adm. Code.

4 Schedules

4.1 Septage/Municipal Sludge Management Plan

A management plan is required for the septage/municipal sludge system.

Required Action	Due Date
Management Plan Submittal: Submit a management plan to optimize the handling and disposal system performance and demonstrate compliance with the applicable administrative code requirements by the Due Date. The applicable administrative code is based on the definition of the waste: waste defined as septage shall follow ch. NR 113, Wis. Adm. Code, requirements, and waste defined as municipal sludge shall follow ch. NR 204, Wis. Adm. Code, requirements. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather, unavailable sites/inability to landspread, and odor/nuisance abatement; and 10) include any other pertinent information. Once approved, all landspreading activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes.	03/31/2025

Explanation of Schedules

A schedule is included in the permit to provide time for the permittee to develop a septage/municipal sludge management plan and operate in compliance with the approved plan per ch. NR 113 and ch. NR 204, Wis. Adm. Code.

5 Special Reporting Requirements

None.

6 Attachments:

Substantial Compliance Determination, prepared on October 27. 2021 by David Haas, DNR Wastewater Specialist.

Water Quality Based Effluent Limits, prepared on September 27, 2021 and updated on November 2, 2021 by Nicole Krueger, DNR Water Resources Engineer.

7 Proposed Expiration Date:

March 31, 2027

Prepared By: Laurel Last, DNR Wastewater Specialist

Date: February 15, 2022