

Permit Fact Sheet

General Information

Permit Number	WI-0062677-05-0
Permittee Name and Address	TOWN OF CABLE SANITARY DISTRICT NO. 1 P.O. Box 541, Cable, WI 54821
Permitted Facility Name and Address	Town of Cable Sanitary District No. 1 N ½ Section 7, T43N-R7W, Town of Cable
Permit Term	July 01, 2026 to June 30, 2031
Discharge Location	Spray fields (1-4) located in W1/2 NE1/4 section 7; T43N-R7W, Bayfield County
Receiving Water	Groundwater of the St. Croix River Watershed of St. Croix River Basin in Bayfield County
Discharge Type	Existing seasonal (June – September)
Annual Average Design Flow (MGD)	0.0443 MGD
Industrial or Commercial Contributors	None
Plant Classification	U - Unique Treatment Systems; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

The Town of Cable Sanitary District No. 1 owns and operates a wastewater treatment facility designed to treat 44,300 gallons per day. The facility consists of an influent septic tank for solids separation and storage, anaerobic up-flow filter, vertical filter, engineered subsurface wetland unit, a storage lagoon to hold wastewater during the non-growing season, and groundwater discharge via a 30-acre spray irrigation field divided into four zones. There are three monitoring wells in place to measure any groundwater impacts from the treatment system.

Substantial Compliance Determination

Enforcement During Last Permit:

- Two NONs were issued since the previous inspection: 11/1/2021 for late reporting and 7/7/2022 for late CMAR submittal.
- One NOV was issued 3/29/2023 for lack of certified operator and late reporting.

The facility has completed all previously required actions as part of the enforcement process. The OIC is properly certified, and a new backup operator has been hired and is in process of becoming certified. Late reporting has not been an issue since the NOV with exception of the 2024 CMAR which is currently late but is being completed following a compliance contact.

After a desktop review of all discharge monitoring reports, CMARs, land app reports, and compliance schedule items, a site visit on 6/30/2025 by Eric de Venecia, WDNR, and follow-up phone conversations with the OIC on 6/16 and 6/17/25, Cable Sanitary District has been found to be in substantial compliance with their current permit.

Sample Point Descriptions

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
701	INFLUENT An annual average of 0.009 MGD (2021-2025 data) <i>Note: average may be biased low because of missing hauled waste volume accepted by WWTF.</i>	Representative grab samples shall be collected at Lift Station No. 1.
702	INFLUENT – Hauled Waste This is a new sample point beginning this permit term.	The volume of hauled waste received by the wastewater treatment facility shall be collected.
001	EFFLUENT TO LAND TREATMENT During the discharge season (June – September) lasting approximately 32 days per year, an average of 0.2 MGD (2021-2025 data)	Treated wastewater is authorized to discharge June through September to spray fields (1-4) located in W1/2 NE1/4 section 7; T43N-R7W, Bayfield County
990	SEPTAGE Flow is not a required parameter	All septic tank solids shall be managed in accordance with ch. NR 113, Wis. Administrative Code.

Sample Point Designation For Groundwater Monitoring Systems			
System	Sample Pt Number	Well Name	Comments
Groundwater Monitoring System	801	MW801	Previously used as the upgradient background well. (*See explanation below)
	802	MW802	Previously considered side gradient (*See explanation below)
	803	MW803	Previously considered down gradient (*See explanation below)
Potable Well	807	POTABLE WELL	Sanitary district potable well TV041
Observation Wells	805	OBW01	Currently not in use.
	806	OBW02	Currently not in use.
	806	OBW03	Currently not in use.

* The “Groundwater Evaluation for Town of Cable Sanitary District No. 1” document dated February 13, 2026, determined that due to a dry MW801 the groundwater flow direction cannot be determined. A well to replace MW801 is required during the permit term.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT TO SEPTIC TANK

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	Flow is measured by an ABB Magmeter. Total Daily Flow = volume recorded by influent flow meter + hauled waste received (sample point 702).
BOD5, Total		mg/L	Weekly	Grab	
Suspended Solids, Total		mg/L	Weekly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic Nitrogen = Total Kjeldahl Nitrogen (mg/L) - Ammonia Nitrogen (mg/L)
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	Grab	

Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

Accepted hauled waste is added to system after the influent flow meter. The volume of hauled waste should be added to the volume recorded by the influent flow meter.

Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. The required parameters and sampling frequency are appropriate for a land treatment system as outlined in ch NR 206, Wis. Adm. Code.

1.2 Sampling Point 702 - Received Hauled Waste

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	

Changes from Previous Permit:

This is a new sample point this permit term. Accepted hauled waste is added to system after the influent flow meter. A monitoring table has been added to record the volume of hauled waste accepted by the facility. This volume should be added to the volume recorded by the influent flow meter (Sample Point 701).

Explanation of Limits and Monitoring Requirements

Influent monitoring is needed to assess loading to the facility and treatment performance. The required parameters and sampling frequency are appropriate for a land treatment system as outlined in ch NR 206, Wis. Adm. Code.

2 Land Treatment – Monitoring and Limitations

2.1 Sample Point Number: 001- DISCHARGE TO SPRAY IRRIGATION

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		gpd	Daily	Total Daily	Flow is measured via Siemens Magmeter installed on the irrigation pump.
Hydraulic Application Rate	Monthly Avg	7,000 gal/ac/day	Monthly	Calculated	The limit is effective during the spray season June through September.
Hydraulic Application Rate	Monthly Avg	0 gal/ac/day	Monthly	Calculated	The limit is effective during the off-season October through May.
BOD5, Total	Monthly Avg	50 mg/L	Weekly	Grab	
Suspended Solids, Total		mg/L	Weekly	Grab	
pH Field		su	Weekly	Grab	
Nitrogen, Total Kjeldahl		mg/L	Monthly	Grab	
Nitrogen, Ammonia (NH3-N) Total		mg/L	Monthly	Grab	
Nitrogen, Organic Total		mg/L	Monthly	Calculated	Organic nitrogen = total Kjeldahl nitrogen (mg/L) - ammonia nitrogen (mg/L)
Nitrogen, Nitrite + Nitrate Total		mg/L	Monthly	Grab	
Nitrogen, Total		mg/L	Monthly	Calculated	Total nitrogen = total Kjeldahl nitrogen (mg/L) + [NO2 + NO3] nitrogen

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					(mg/L)
Chloride		mg/L	Monthly	Grab	
Solids, Total Dissolved		mg/L	Monthly	Grab	
Nitrogen, Max Applied On Any Zone	Annual Total	120 lbs/ac/yr	Annual	Total Annual	Use the total nitrogen concentration when calculating the annual total. See the Maximum Applied Nitrogen On Any Zone section of the permit.
Soil - Nitrogen, Available		mg/kg	Annual	Grab	
Soil - Phosphorus, Available		mg/kg	Annual	Grab	
Soil - Potassium, Available		mg/kg	Annual	Grab	
Soil - pH Lab		su	Annual	Grab	
Other Sources of Nitrogen		lbs/ac/yr	Annual	Measure	

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. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- An off-season **hydraulic application rate** (HAR) of zero was added for the months of October through May.
- **pH field** has been added to remain consistent with other land treatment facilities.
- **Soil testing** (nitrogen, phosphorus, potassium and pH) and other sources of nitrogen applied (ie fertilizer or manure) has been moved from the annual report to the monitoring table.

2.1.1 Explanation of Limits and Monitoring Requirements

All requirements for land treatment of municipal wastewater are determined in accordance with ch. NR 206, Wis. Adm. Code. All categorical limits are based on s. NR 206.08 (2) Wis. Adm. Code. More information on the limitations can be found in the “Groundwater Evaluation for Town of Cable Sanitary District No. 1” dated February 13, 2026.

Soil testing (available nitrogen, available phosphorus, available potassium and pH) **and other sources of nitrogen** (ie fertilizer or manure) – Annual soil monitoring of the spray field(s) is required by NR 214.14(5)(c) Wis. Adm. Code and was previously submitted through the Annual Report. These parameters have been moved to the monitoring table. This eliminates the additional report allowing all data to be entered into eDMRs. One annual composite sample per outfall number is required, but if the permittee chooses to complete multiple soil tests for the fields used under Outfall 001 there is

a feature within the eDMRs that allows additional data to be recorded. It is asked that the additional samples' zones are identified in the form's general comments section.

Sampling Frequency - The "Monitoring Frequencies for Individual Wastewater Permits" guidance document (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. Based on the unique nature of the facility the department has determined at this time that the facility meets the guidance and no changes in the monitoring frequency is required this permit term.

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Groundwater Monitoring System

Location of Monitoring system: Adjacent to Spray Irrigation System

Groundwater Monitoring Well(s) to be Sampled: MW801, MW802, MW803

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: Well 801 has been consistently dry, therefore the background well cannot be verified at this time.

Groundwater Monitoring Well(s) Used for Point of Standards Application: There are no wells that meet this designation

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	1/ 6 Months
Groundwater Elevation	feet MSL	N/A	N/A	1/ 6 Months
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.0	10	1/ 6 Months
Chloride Dissolved	mg/L	125	250	1/ 6 Months
pH Field	su	7.2	N/A	1/ 6 Months
Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	1/ 6 Months
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	1/ 6 Months
Nitrogen, Organic Dissolved	mg/L	2.0	N/A	1/ 6 Months
Solids, Total Dissolved	mg/L	280	N/A	1/ 6 Months

Changes from Previous Permit:

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

Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code.

For more information, please refer to the “Groundwater Evaluation for Town of Cable Sanitary District No. 1” dated February 13, 2026.

3.2 Groundwater Monitoring System for Potable Well

Location of Monitoring System: On-site potable well

Groundwater Monitoring Well(s) to be Sampled: POTABLE WELL (MW 807)

PARAMETER	UNITS	PREVENTIVE ACTION LIMIT	ENFORCEMENT STANDARD	FREQUENCY
Chloride Dissolved	mg/L	125	250	Annual
Nitrogen, Nitrate (as N) Dissolved	mg/L	2.0	10	Annual

Changes from Previous Permit:

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

Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code.

For more information, please refer to the “Groundwater Evaluation for Town of Cable Sanitary District No. 1” dated February 13, 2026.

4 Septage Management - 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.

4.1 Sample Point Number: 990- SEPTAGE

Changes from Previous Permit:

Septage requirements were evaluated for this permit term and no changes were required in this permit section.

Explanation of Limits and Monitoring Requirements

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

5 Schedules

5.1 Land Treatment Management Plan

A management plan is required for the land treatment system.

Required Action	Due Date
Land Treatment Management Plan Submittal: Submit an update to the management plan to optimize the land treatment system performance and demonstrate compliance with ch. NR 206, Wis. Adm. Code. The land treatment system shall be operated in accordance with the approved management plan.	09/30/2026

Explanation of Schedule

Land Treatment Management Plan - An up-to-date Land Treatment Management plan is a standard requirement in reissued industrial permits per ch. NR 206, Wis. Adm. Code.

5.2 Groundwater Monitoring Well - Installation

Required Action	Due Date
Plans and Specifications: Submit plans and specifications for installation of a monitoring well which will replace MW 801 per ch. NR 141, Wis. Adm. Code.	09/30/2026
Installation: Complete well installation in accordance with ch NR 141, Wisconsin Administrative Code. Complete abandonment in accordance with s. NR 141.25, Wisconsin Administrative Code of MW 801, if noted in the plans and specifications. (Note: Documentation of well construction and abandonment must be submitted to the Department within 60 days of well installation.)	06/30/2027

Explanation of Schedule

Groundwater Monitoring Well – Installation - A compliance schedule is included in the permit to provide time for the permittee to install a well in replacement for dry MW801. Once the new well is installed MW801 wells will be abandoned.

5.3 Groundwater Monitoring Well Abandonment or Inspections

Required Action	Due Date
Observation Well Plan Submittal: Identify if observation wells (804 OBW01, 805 OBW02, 806 OBW03) will be inspected annually, with a report submitted to the department, or abandoned per ch. NR 141, Wis. Adm. Code.	09/30/2026
Abandonment or Annual Report: Complete abandonment of the monitoring wells identified in the Observation Well Plan. The wells shall be abandoned in accordance with s. NR 141.25, Wisconsin Administrative Code and the remaining actions identified below are not required. (Note: Documentation of well abandonment must be submitted to the Department within 60 days of well abandonment.) If the Observation Wells Plan concludes the wells shall remain in place the permittee shall complete the first annual inspection of the observation wells repairing or maintaining as needed. The permittee shall submit documentation of inspection to the Department by June 30th of each year.	06/30/2027
Annual Well Inspection Report: Submit Well Inspection Report.	06/30/2028
Annual Well Inspection Report: Submit Well Inspection Report.	06/30/2029
Annual Well Inspection Report: Submit Well Inspection Report.	06/30/2030
Annual Well Inspection Report: Submit Well Inspection Report.	06/30/2031

Annual Well Inspection Report: Annual well inspection after permit expiration: In the event that this permit is not reissued prior to the expiration date, the permittee shall continue conduct the well inspections and submit the required report to the Department by June 30 each year.	
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Explanation of Schedule

Groundwater Monitoring Well Abandonment or Inspections - A compliance schedule is included in the permit to provide time for the permittee to investigate and abandon observation wells (804 OBW01, 805 OBW02, 806 OBW03) or begin annual inspections.

Attachments

Water Flow Schematic created April 2010

“Groundwater Evaluation for Town of Cable Sanitary District No. 1” dated February 13, 2026

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

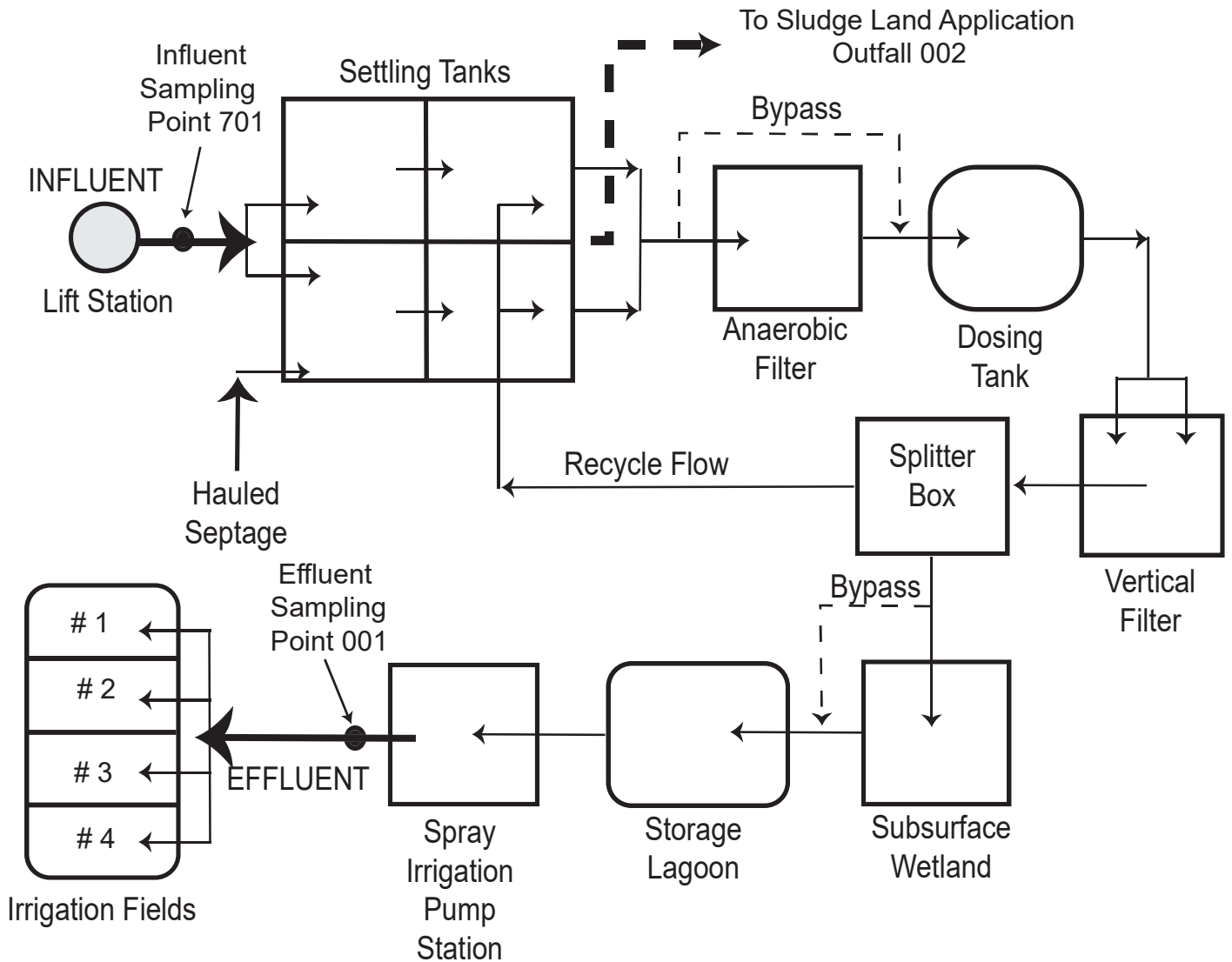
Prepared By: Sheri A. Snowbank

Wastewater Specialist

Date: February 19, 2026

Town of Cable Sanitary District No. 1 Wastewater Treatment Facility

The Cable Sanitary District No. 1 has designed a wastewater treatment facility to treat an annual average of 0.0443 million gallons per day (MGD). The treatment plant consists of an influent settling tank for solids settling and storage, anaerobic upflow filter, vertical filter, engineered subsurface wetland unit, a storage lagoon to hold wastewater during the non-growing season, and groundwater discharge via a 30 acre spray irrigation field.



Design Flow: 0.0443 MGD BOD: 124 lbs/day Construction Year: 2005
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● Represents Sample Points

NOT TO SCALE

DATE: February 13, 2026

TO: File

FROM: Woody Myers - WCR *Woody Myers*

SUBJECT: Groundwater Evaluation for Town of Cable Sanitary District NO. 1, WI-0062677

Site Information

The Town of Cable Sanitary District No. 1 is a municipal wastewater treatment facility (WWTF) and is located north of E Cable Lake Road and west of US Highway 63, north of Cable, Bayfield County. Wastewater is currently treated via settling ponds and discharged groundwater via infiltration by way of spray irrigation fields located in the W 1/2 of the SE 1/4 of Section 7, T43N, R07W, Town of St. Croix.

Land Disposal Effluent & Groundwater Evaluation Summary

Table 1 Land Disposal Outfall Sampling Point Parameters and Limits Outfall 001 Spray Irrigation

Parameter	Current Permit WI-0062677-04		Proposed Permit WI-0062677-05	
	Limits and Units	Limit Type	Limits and Units	Limit Type
Flow Rate	- gpd		- gpd	
Hydraulic Application Rate (Jun-Sep)	7,000 gal/ac/day	Monthly Avg	7,000 gal/ac/day	Monthly Avg
Hydraulic Application Rate (Oct-May)	Not Listed		*0 gal/ac/day	
BOD ₅	50 mg/l	Monthly Avg	50 mg/l	Monthly Avg
Total Suspended Solids	- mg/l		- mg/l	
pH, Field	- su		- su	
Nitrogen, Total Kjeldahl	- mg/l		- mg/l	
Nitrogen, Ammonia	- mg/l		- mg/l	
Nitrogen, Organic	- mg/l		- mg/l	
Nitrogen, Nitrite + Nitrate	- mg/l		- mg/l	
Nitrogen, Total	- mg/l		- mg/l	
Chloride	- mg/l		- mg/l	
Total Dissolved Solids	- mg/l		- mg/l	
Nitrogen, Max Applied on Any Zone	120 lbs/ac/yr	Annual Total	120 lbs/ac/yr	Annual Total
* Soil Nitrogen, Available	This information was previously required in the annual report. It is the spray field annual soil sample required in s. NR 206.08 (2) (b) 7, Wis. Adm. Code		- mg/kg	
* Soil Phosphorus, Available			- mg/kg	
* Soil Potassium, Available			- mg/kg	
* Soil pH, Lab			- mg/kg	
* Fertilizer Used			- mg/kg	

* Proposed permit changes

Table 2 Monitoring Wells

Well	Current Permit WI-0062677-04		Proposed Permit WI-0062677-05	
	Well Location	Well Designation	Well Location	Well Designation
801 (MW801)	Up-gradient	Background	*Not determined	
802 (MW802)	Down-gradient	Non-Point of standard	*Not determined	
803 (MW803)	Down-gradient	Non-Point of standard	*Not determined	
804 (OBW01)	Observation wells not used		Observation wells not used	
805 (OBW02)				
806 (OBW03)				

* Proposed permit changes

Table 3 Groundwater Quality Standards

Parameter	Current Permit WI-0062677-04		Proposed WI-0062677-05	
	PAL	ES	PAL	ES
Depth to Groundwater	N/A	N/A	N/A	N/A
Groundwater Elevation	N/A	N/A	N/A	N/A
Nitrogen, Nitrite + Nitrate	2.0 mg/l	10.0 mg/l	2.0 mg/l	10.0 mg/l
Chloride	125 mg/l	250 mg/l	125 mg/l	250 mg/l
pH, Field	5.2-7.2 su	N/A	5.2-7.2 su	N/A
Nitrogen Total Kjeldahl	N/A	N/A	N/A	N/A
Nitrogen, Ammonia	0.97 mg/l	9.7 mg/l	0.97 mg/l	9.7 mg/l
Nitrogen, Organic	2.0 mg/l	N/A	2.0 mg/l	N/A
Total Dissolved Solids	280 mg/l	N/A	280 mg/l	N/A

No proposed permit changes

Geology

The bedrock under this facility Chengwatana Volcanic Group. Consists of light to dark basalt flow with interflow of breccia and tuff (*Bedrock Geologic Map of Wisconsin*, Wisconsin Geological and Natural History Survey (WGNHS), 1982). Bedrock is anticipated to be between 50 and 100 feet below ground surface (bgs) (*Depth to Bedrock in Wisconsin*, WGNHS, 1973). The regolith consists of material ranging from fine gravel to silt. Surface soil primarily consists of the Pence sandy loam (USDA NRCS Web Soil Survey).

Hydrogeology

Calculated groundwater elevation ranges between 1359 and 1365 feet above mean sea level (msl). Depth to groundwater was reported to be between 10 and 46 feet bgs. Groundwater flow direction was not calculated due to the lack of depth to groundwater data because monitoring well 801 has been dry. Regional groundwater in this area is to the southeast in Bayfield County (*Mean Elevation of Water Table*, Map, United States Department of Interior, 1968). The site is 5,500 feet east of Cable Lake. There are two wells (municipal, other than municipal, private and high-capacity) within a 1,500-foot range of this facility's groundwater discharge.

Land Disposal Effluent Quality and Loading Rates

The following table is the average flow (hydraulic loading), total nitrite, chloride and BOD₅ and nitrogen mass loading summations for the land disposal system.

Table 5 Land Treatment Disposal Loading Averages

Year	Flow (gpd)	Nitrogen (mg/l)	Chloride (mg/l)	BOD5 (mg/l)	Nitrogen (lbs/ac/yr)
2025	88,889	4.19	236	8.3	6.5
2024	76,087	21.51	110	17.3	41.8
2023	107,692	11.91	101	15.9	27.8
2022	99,187	13.55	94	11.3	22.6
2021	99,187	8.30	108	10.5	14.3

Groundwater Monitoring System and Sampling Frequency

All parameters are analyzed for the dissolved phase in groundwater. Established groundwater quality standards are found in Table 1 Public Health Groundwater Quality Standards s. NR 140.10 Wis. Adm. Code, and Table 2 Public Welfare Groundwater Standards s. NR 140.12 Wis. Adm. Code. The thresholds of these standards are the Enforcement Standard (ES) and the Preventative Action Limit (PAL).

Table 6 Groundwater Monitoring Well Data

Sample Point	Well Name	Elevation (feet above msl)				Length (feet)		Well Type
		Casing Top	Ground Surface	Screen Top	Screen Bottom	Screen Length	Well Depth	
801	MW801	1409.43	1408.09					WT
802	MW802	1391.97	1390.31					WT
803	MW803	1379.85	1378.05					WT
804	OBW01	1390.22	1378.61					WT
805	OBW02	1390.42	1388.44					WT
806	OBW03	1385.09	1382.68					WT

All measurements in feet

WT-Water table Observation P-Piezometer O-Other

Groundwater sampling results from this facility have been analyzed for each well to evaluate trends of the regulated compounds in groundwater and to calculate PALs for s. NR 140.22 Wis. Adm. Code Indicator Parameters and to evaluate potential exemptions under s. NR 140.28 Wis. Adm. Code. The groundwater was evaluated by looking at the groundwater data from November 2021 – June 2025.

Background Groundwater Quality

Groundwater monitoring well 801 was previously designated as the background well, in which the sampling results were used to calculate the indicator parameter PALs and evaluated the need for exemptions. Because this well was dry for most of the previous permit term there is little to no data to evaluate.

Down-Gradient Groundwater Quality

Because groundwater flow direction could not be calculated and therefore the groundwater monitoring well locations could not be determined, the down-gradient groundwater quality is unknown. However,

given the groundwater sampling result from the wells where samples were collected and analyzed there were no exceedances of the groundwater limits.

Land Disposal System Impact to Groundwater Quality

No correlation could be made between the effluent loading levels and the groundwater monitoring results.

Proposed Groundwater Monitoring Requirements

**Table 7 Groundwater Quality Sampling Frequency and Limits Permit WI-0062677-05
Outfall 001 Spray Irrigation**

Sample Point	Well Name	Sample Frequency	Well Designation
801	MW801	1 / 6 Months	Not Designated
802	MW802	1 / 6 Months	Not Designated
803	MW803	1 / 6 Months	Not Designated
Parameter	PAL	ES	Source
Depth to Groundwater	N/A	N/A	Measured
Groundwater Elevation	N/A	N/A	Measured
Nitrogen, Nitrite + Nitrate	2.0 mg/l	10.0 mg/l	NR 140 Table 1
Chloride	125 mg/l	250 mg/l	NR 140 Table 2
pH, Field	su	N/A	Calculated
Nitrogen, Kjeldahl	N/A	N/A	Measured
Nitrogen, Ammonia	0.97 mg/l	9.7 mg/l	NR 140 Table 1
Nitrogen, Organic	mg/l	N/A	Calculated
Total Dissolved Solids	mg/l	N/A	Calculated

* Proposed permit changes

Indicator Parameter PALs

Indicator Parameter PALs are developed following the procedures described in s. NR 140.20(2), Wis. Adm. Code. Indicator parameters do not have Enforcement Standards. The PAL for an indicator parameter is a benchmark for evaluating site specific trends. When significant increases in the trends are observed, the facility and the department's response action under s. NR 140.24 Wis. Adm. Code should be to investigate the source of the compound. The following equations were used to calculate the indicator parameter PALs:

$$\sum [\text{Mean of the background groundwater quality} + \text{Minimum Increase (NR 140.20 Table 3)}] = \text{PAL}$$

And for pH:

$$\sum [\text{Mean of the background groundwater quality} \pm 1 \text{ su}] = \text{upper and lower PAL}$$

Alternative Concentration Limits

Alternative concentration Limits (ACLs) can be developed and provided for a groundwater monitoring system utilizing the procedures described in s. NR 140.28, Wis. Adm. Code. ACLs were calculated using the following equation:

$$\Sigma [\text{Mean of the background groundwater quality} + (2) \times \text{Standard Deviation of Results}] = \text{ACL}$$

Conclusions

There are several changes to the Sampling Point Outfall 001 Table 1 (Spray Irrigation). An additional hydraulic application rate is added; one indicates the limit for the spray season (carried over from the previous permit) and one for the off-season with a zero limit per s. NR214.14 (3)(g), Wis. Adm. Code. The final change is that the soil sampling required under s. NR 214.14(5)(c), Wis. Adm. Code will be reported on an electronic discharge monitoring report (eDMR) submitted to the department annually instead of an annual report written by the permittee.

Groundwater monitoring well 801 has been dry for most of the previous permit term, therefore no evaluation could be performed including calculating groundwater flow directions or calculating indicator parameter PALs. A third groundwater monitoring well needs to be installed and developed. This well should be near the location of groundwater monitoring well 801.

Because the groundwater monitoring well locations could not be designated with respect to the groundwater flow direction and the land disposal system, indicator parameter PALs could not be calculated. Therefore, the indicator parameter PALs will be carried over from the past permit.

The mass loading of nitrogen during this past permit term was below the permit limit of 120 lbs/ac/yr.

Compliance Schedule Recommendations

The s. NR 206.07 (2)(h) 1. Wis. Adm. Code requires a land disposal management plan for facilities with land disposal systems. The facility should review their plan within 90 days of permit reissuance and any revisions should be submitted to the department for approval.

Within 90 days of permit reissuance the facility should submit plans and specifications to the department for the installation of a replacement of the groundwater monitoring well 801. The depth of the well should be greater than that of the existing well. The current well 801 should be abandoned according to ch. NR 141, Wis. Adm. Code. Within 90 days of the approval of the plans and specification the installation of the groundwater monitoring well should be scheduled.

The observation wells (804 OBW01, 805 OBW02, 806 OBW03) need to be either inspected annually and a report submitted to the department, or they need to be abandoned per ch. NR141, Wis. Adm. Code.