Village of Viola Public Noticed Permit Fact Sheet

General Information

Permit Number	WI-0021148-11-0
Permittee Name and Address	Village of Viola, 106 W. Wisconsin St., Viola, WI 54664
Permitted Facility Name and Address	Viola Wastewater Treatment Facility, 410 York St, Viola, WI
Permit Term	January 01, 2025 to December 31, 2029
Discharge Location	north bank of Kickapoo river west of the HWY 131, NE ¼, NE ¼, Section 24, T12N, R3W, Liberty Township, Vernon County
Receiving Water	Kickapoo River in Middle Kickapoo River of Wisconsin River (lower) in Vernon County
Stream Flow ($Q_{7,10}$)	63 cfs
Stream Classification	Cold Water (Category 4), Class II trout stream, non-public water supply
Discharge Type	Existing, continuous
Annual Average Design Flow (MGD	0.100 MGD
Industrial or Commercial Contributors	None
Plant Classification	A4 - Ponds, Lagoons and Natural Systems; P - Total Phosphorus; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

The Viola Wastewater Treatment Plant treats domestic wastewater from the Village of Viola. Primary treatment consists of a Huber fine screen and secondary treatment consists of a two-cell activated aerated lagoon system prior to continuous discharge to the Kickapoo River. The annual average design flow of the facility is 0.100 million gallons per day (MGD). The actual annual average influent flow in 2023 was 0.055 MGD. The Department has reapproved water quality trading (WQT) as the method of complying with effluent phosphorus limits at Outfall 001. The Village of Viola submitted updated Water Quality Trading Plan WQT-2024-0018 that provides details the trade. The plan provides calculations and a table that shows the amount of phosphorus credits that will be available each year. Even with phosphorus credits available, there is still a phosphorus monthly average concentration effluent limit of 1 mg/L that acts as the minimum control level. Significant effluent monitoring and/or limit changes proposed in the upcoming term are as follows: 1) the addition of annual monitoring for total nitrogen, nitrite + nitrate nitrogen and total Kjeldahl nitrogen, 2) an increase in the monitoring frequency for BOD, TSS, phosphorus & ammonia, 3) fecal coliform monitoring and limits will be replaced during the permit term with Escherichia coli (E. coli) monitoring and limits, per the associated compliance schedule, 4) the variable daily maximum ammonia limit table has been expanded to include applicable limits at a lower effluent pH & the limits apply year-round, 5) addition of acute WET testing twice in the permit term, 6) the addition of chloride

monitoring during one year of the permit, 7) the flow monitoring sample type & frequency has changed, and 8) a requirement has been added, along with a compliance schedule, that the permittee change their effluent sample collection type from grab to 24 hour flow proportional composite. The following influent monitoring changes have been made: 1) the flow monitoring frequency has been changed from continuous to daily for DMR reporting purposes, 2) BOD & TSS monitoring frequency increased from weekly to 2/week. Clarification language has been added notifying the permittee they must monitor sludge for List 2 nutrients and meet the requirements of List 3 (Pathogen Control) and List 4 (Vector Attraction Reduction) prior to landspreading if they remove sludge from the lagoon(s). A schedule has been included requiring the permittee submit a sludge management plan prior to removal and land application of sludge from the pond(s). Additionally, to quantitate the risk, PFAS sludge sampling has been included in the permit pursuant to ss. NR214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code. A schedule has been added requiring the permittee go through proper plan review to install a permanent effluent flow proportional sampler.

Substantial Compliance Determination

Enforcement During Last Permit: A Notice of Noncompliance was issued in September of 2021 for missing Phosphorus Compliance Schedule Reports and Fecal Coliform exceedances. The facility has completed all previously required actions.

After a site visit inspection by Julia Stephenson on 4/19/2023 and a desktop review of all: discharge monitoring reports, compliance schedule items, land application reports, this facility has been found to be in substantial compliance with their current permit by Katie Jo Jerzak, PE on 10/16/2024.

Sample Point Descriptions

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
701	**Influent:** 0.055 MGD (2023)	Representative influent samples shall be collected at the forcemain in the lift station prior to the treatment plant.
001	**Effluent to Kickapoo River**: 0.057 MGD (2023)	Representative effluent samples shall be collected from the Parshall flume prior to discharge to the Kickapoo River.
002	**Pond Sludge**: no sludge removed during the last permit term and is not expected this permit term.	Representative composite sludge samples shall be collected in 2025 and monitored for the parameters as listed in the table below. If the permittee plans to remove sludge, they shall monitor sludge for Lists 1, 2, 3 & 4 prior to land application. The Department shall be notified at least 30 days in advance of sludge removal so that appropriate monitoring forms can be provided. Approval of landspreading sites must be completed prior to sludge removal.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- INFLUENT AT FORCEMAIN

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

1.1.1 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: 1) the flow monitoring frequency has been changed from continuous to daily for DMR reporting purposes, 2) BOD & TSS monitoring frequency increased from weekly to 2/week. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

1.1.2 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 AT PARSHALL FLUME

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	45 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	
BOD5, Total	Monthly Avg	30 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	
Suspended Solids, Total	Monthly Avg	60 mg/L	2/Week	Grab/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 Variable Limit		mg/L	2/Week	See table	Look up the variable ammonia limit from the 'Variable Ammonia Limitation' table and report the variable limit in the Ammonia Variable Limit column on the eDMR.
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	Report the daily maximum Ammonia result in the Nitrogen, Ammonia (NH3-N) Total column of the eDMR. See Ammonia Limitation Section.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	17 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	Limit applies May - Oct
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	17 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	Limit applies May - Oct
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	34 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	Limit applies Nov - April
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	34 mg/L	2/Week	Grab/24-Hr Flow Prop	Limit applies Nov - April

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
				Comp*	
Fecal Coliform	Geometric Mean - Monthly	400 #/100 ml	Weekly	Grab	Interim limit effective May through September annually until the final E. coli limit goes into effect per the Effluent Limitations for E. coli Schedule.
E. coli		#/100 ml	Weekly	Grab	Monitoring only May through September annually until the final limit goes into effect per the Effluent Limitations for E. coli Schedule.
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit Effective May through September annually per the Effluent Limitations for E. coli Schedule.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit Effective May through September annually per the Effluent Limitations for E. coli Schedule. See the E. coli Percent Limit section below. Enter the result in the DMR on the last day of the month.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monthly monitoring required Jan – Dec 2028
Phosphorus, Total	Monthly Avg	1.0 mg/L	2/Week	Grab/24-Hr Flow Prop Comp*	Limit effective throughout the permit term, as it represents a minimum control level.
Phosphorus, Total		lbs/day	Annual	Calculated	Report daily mass discharged using Equation 1a. in the Water Quality Trading (WQT) section.
WQT Credits Used (TP)		lbs/month	Monthly	Calculated	Report WQT TP Credits used per month using Equation 2c in the Water Quality Trading (WQT) section. Available TP

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					Credits are specified in Table 2 and in the approved Water Quality Trading Plan.
WQT Credits Used (TP)	Annual Total	107 lbs/yr	Annual	Calculated	The sum of total monthly credits used may not exceed Table 2 values listed below.
WQT Computed Compliance (TP)	6-Month Avg	0.1 mg/L	Monthly	Calculated	Compliance with the 6-month average limit is evaluated at the end of the six-month period on June 30 and Dec 31.
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. Value entered on the last day of the month.
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. Compliance with the 6-month average limit is evaluated at the end of the 6-month period on June 30.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	Grab/24-Hr Flow Prop Comp*	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	Grab/24-Hr Flow Prop Comp*	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section below.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Monitoring required annually in specific quarters. See Nitrogen Series Monitoring section below. Total Nitrogen shall

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
					be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	Grab/24-Hr Flow Prop Comp*	See WET testing section below.

*Permittee shall collect begin collecting 24 hour flow proportional samples by 10/01/2026 per the associated compliance schedule.

2.1.1 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.

Significant effluent monitoring or limit changes proposed in the upcoming term are as follows: 1) the addition of annual monitoring for total nitrogen, nitrite + nitrate nitrogen and total Kjeldahl nitrogen, 2) an increase in the monitoring frequency for BOD, TSS, phosphorus & ammonia from weekly to 2/week, 3) fecal coliform monitoring and limits will be replaced during the permit term with Escherichia coli (E. coli) monitoring and limits, per the associated compliance schedule, 4) the variable daily maximum ammonia limit table has been expanded to include applicable limits at a lower effluent pH & the limits apply year-round, 5) addition of acute WET testing twice in the permit term, 6) the addition of chloride monitoring during one year of the permit, 7) the flow monitoring sample type/ frequency has changed from daily/total daily to daily/continuous, and 8) A requirement has been added, along with a compliance schedule, that the permittee change their effluent sample collection type for appropriate parameters, as noted above, from grab to 24-hour flow proportional composite. This change in sample type will provide more representative effluent data to more accurately determine compliance.

2.1.2 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. Using the criteria previously stated, the department has determined an increase in monitoring frequency from weekly to 2/week is appropriate for BOD, TSS, phosphorus and ammonia.

Limits were determined for Viola's existing discharge to the Kickapoo River using chs. NR 102, 104, 105, 106, 207, 210, 212 and 217 of the Wisconsin Administrative Code (where applicable). For additional information on any of the limits see the November 13, 2024 memo from Ben Hartenbower to Holly Heldstab titled "Water Quality-Based Effluent Limitations for the Viola Wastewater Treatment Facility WPDES Permit No. WI-0021148".

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.

BOD, TSS and pH: Monitoring frequency for BOD & TSS increased in order to effectively characterize the effluent quality and variability, and to best determine compliance with effluent limitations. However, limits for BOD, TSS & pH correspond to the requirements of the current permit since the facility has not increased the capacity of the wastewater treatment system since the last permit issuance, nor are increases expected during the term of the permit.

In accordance with s. NR 210.07(2), Wis. Adm. Code, Viola has been granted a variance for a 60 mg/L monthly average total suspended solids (TSS) limit at Outfall 001. Like many Wisconsin aerated lagoons and stabilization ponds, the Viola lagoon/pond system is not capable of consistently meeting the 30 mg/L monthly average TSS limit that would normally apply to a discharge to the Kickapoo River, a Cold Water (Category 4), Class II trout stream. This is a continuation of the TSS variance that Viola has been granted in the past.

Ammonia: Current acute and chronic ammonia toxicity criteria for the protection of aquatic life are included in Tables 2C and 4B of ch. NR 105, Wis. Adm. Code. Subchapter IV of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for ammonia. Daily maximum ammonia limits that vary with effluent pH apply year-round. See table below titled "Variable Daily Maximum Ammonia Limits" for more information. Samples for ammonia shall be collected at the same time as the pH samples.

Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L	Effluent pH s.u.	Limit mg/L
6.0 ≤ pH ≤ 6.1	72	7.0 < pH ≤ 7.1	44	8.0 < pH ≤ 8.1	9.3
6.1 < pH ≤ 6.2	71	7.1 < pH ≤ 7.2	39	8.1 < pH ≤ 8.2	7.7
6.2 < pH ≤ 6.3	69	7.2 < pH ≤ 7.3	35	8.2 < pH ≤ 8.3	6.3
6.3 < pH ≤ 6.4	67	7.3 < pH ≤ 7.4	31	8.3 < pH ≤ 8.4	5.2
6.4 < pH ≤ 6.5	65	7.4 < pH ≤ 7.5	27	8.4 < pH ≤ 8.5	4.3
6.5 < pH ≤ 6.6	63	7.5 < pH ≤ 7.6	23	8.5 < pH ≤ 8.6	3.5
6.6 < pH ≤ 6.7	60	7.6 < pH ≤ 7.7	19	8.6 < pH ≤ 8.7	2.9
6.7 < pH ≤ 6.8	56	7.7 < pH ≤ 7.8	16	8.7 < pH ≤ 8.8	2.5
6.8 < pH ≤ 6.9	52	7.8 < pH ≤ 7.9	14	8.8 < pH ≤ 8.9	2.1
6.9 < pH ≤ 7.0	48	7.9 < pH ≤ 8.0	11	8.9 < pH ≤ 9.0	1.8

Disinfection/*E. Coli*/Fecal Coliform: Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying *E. coli* WPDES permit implementation procedures became effective May 1, 2020. The new rule requires that WPDES permits for facilities with required disinfection include monitoring for E. coli while facilities are disinfecting during the recreation period and establish effluent limitations for *E. coli* established in s. NR 210.06 (2), Wis. Adm Code. The administrative code rule changes included the following actions: revised the bacteria water quality criteria from fecal coliform to *E. coli* to protect recreation in ch. NR 102, Wis. Adm. Code.; removed fecal coliform criteria for certain individual waters from ch. NR 104, Wis. Adm. Code.; revised permit requirements for publicly and privately owned sewage treatment works in ch. NR 210, Wis. Adm. Code.; and, updated approved analytical methods for bacteria in ch. NR 219, Wis. Adm. Code.

Although disinfection is not required, monitoring for fecal coliform was required in previous permits. Whenever lagoon detention time is 180 days or longer, no risk is assumed to pose a threat to human and animal health (NR 210.06(3)(h), Wis. Adm. Code) and therefore no disinfection of effluent is required. Effluent monitoring results for E. coli from May 2022 to September 2022 indicates Viola cannot meet the new E. coli limit, therefore a compliance schedule is included in the permit to bring the permittee into compliance with the new limit. The permittee has indicated they intend to install ultraviolet (UV) light disinfection equipment.

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 VII of ch. NR 106 establishes the procedure for calculating water quality based effluent limitations (WQBELs) for chloride. Effluent concentration of chloride samples submitted with the permit application, and additional samples submitted separate from the application, indicate that no effluent limits for chloride

are required. However, monthly monitoring is required in 2028 in order to have representative data for evaluation of limit in the next permit reissuance.

Phosphorus: Phosphorus Rules took effect 12/1/2010 and detailed in NR 102, Water Quality Standards for Wisconsin Surface Waters and NR 217, Effluent Standards and Limitations for Phosphorus. For the reasons explained in the April 30, 2012 paper entitled 'Justification for Use of Monthly, Growing Season and Annual Average Periods for Expression of WPDES Permit Limits for Phosphorus Discharges in Wisconsin', WDNR has determined that it is impracticable to express the phosphorus WQBEL for the permittee as a maximum daily, weekly or monthly values.

The applicable phosphorus standard for the Kickapoo River, which is classified as a Cold Water (Category 4), Class II trout stream, is 0.100 mg/L. Since the Kickapoo River is exceeding its applicable phosphorus criteria, the discharge is subject to s. NR 217.13 (8), Wis. Adm. Code. The final effluent limits for phosphorus are 0.100 mg/L and 0.083 lbs/day, expressed as a six-month average, and 0.300 mg/L expressed as a monthly average. The 6-month averaging periods will be January – June and July - December. These phosphorus water quality-based effluent limits appear as 'WQT TP Computed Compliance", because the Village of Viola has opted to comply with these limits through water quality trading (WQT-2024-0018 approved August 9, 2024). By installing streambank stabilization practices within the watershed., the Village of Viola will generate 107 lbs/year of phosphorus credits. The permittee is also required to report "WQT TP Credits" as shown above. The permittee is also required to comply with a monthly average phosphorus limit of 1.0 mg/L as the 'Minimum Control Level". This "Minimum Control Level" is required as described in the water quality trading guidance (DNR Guidance 3800-2013-04). Additional WQT subsections in the permit provide information on annual reporting and re-opening of the permit.

Table 1. Available Phosphorus Credits per WQT-2024-0018

Year	Available TP Credits (lbs/yr) – Total
2025	107
2026	107
2027	107
2028	107
2029	107

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:

- 1st quarter (Jan – March) 2025
- 2nd quarter (April – June) 2026
- 4th quarter (Oct – Dec) 2027
- 3rd quarter (July – Sept) 2028
- 1st quarter (Jan – March) 2029

Whole Effluent Toxicity- Whole effluent toxicity (WET) testing requirements and limits (if applicable) are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at http://dnr.wi.gov/topic/wastewater/wet.html).

Acute WET tests are required in the following quarters:

- 3rd quarter (July – Sept) 2027
- 1st quarter (Jan – March) 2029

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	B	Liquid	The permittee has never removed sludge from the ponds and does not anticipate removing sludge this permit term.			
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- LAGOON SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	
Nitrogen, Total Kjeldahl		Percent	Per Application	Composite	Prior to land app.
Nitrogen, Ammonia (NH3-N) Total		Percent	Per Application	Composite	Prior to land app.
Phosphorus, Total		Percent	Per Application	Composite	Prior to land app.
Phosphorus, Water Extractable		% of Tot P	Per Application	Composite	Prior to land app.
Potassium, Total Recoverable		Percent	Per Application	Composite	Prior to land app.
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	
PFOA + PFOS		ug/kg	Once	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Once	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

3.1.1 Changes from Previous Permit:

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

List 2 Nutrient monitoring – Monitoring for list 2 (nutrients) is highly recommended at the same time as the monitoring of List 1 (metals) in year 2 of the permit. Results will assist in the determination of the acres needed for land application of sludge should it be necessary.

Change in form submittal – In prior permit reissuances when it has been noted in the application that sludge would not be removed during the permit term, the department required sampling during the second year of the permit term and the sludge characteristic report (3400-049) would be generated only during that year. Due to moving to electronic submittal of forms via Switchboard, forms 3400-049 ("Characteristics Report"), 3400-052 ("Other Methods of Disposal") and 3400-055 ("Annual Land Application") will now be generated by the department and the permittee will be required to submit all three reports each year of the permit term. This change was adopted to provide the permittee flexibility because many lagoon desludging projects can be unexpected, are delayed or staggered over multiple years. Additionally, it is used to officially report that no land application of sludge has occurred, and annual submittal of the forms is required per the standard requirements section.

PFAS – Monitoring for PFAS is required once pursuant s. NR 204.06(2)(b)9., Wis. Adm. Code.

3.1.2 Explanation of Limits and Monitoring Requirements

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

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA is currently developing a risk assessment to determine future land application rates and expects to release this risk assessment by the end of 2024. In the interim, the department has developed the "Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS."

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 Effluent Autosampler Installation

Required Action	Due Date
Submit Plans & Specifications: Permittee shall submit to the Department for approval Plans & Specifications for installation of the effluent sampler as discussed in Surface Water Section 2.2.1.2.	09/30/2025
Complete Installation: Permittee shall complete installation of the effluent sampler per the Plans & Specifications approved by the Department.	09/30/2026

Explanation of Schedule: The permittee is required to switch from collecting effluent grab samples to 24-hour flow proportional composite samples for BOD, TSS, total ammonia nitrogen, total phosphorus, total Kjeldahl nitrogen and total nitrite + nitrate nitrogen. The 24-hour flow proportional composite samples provide more representative data to accurately track and determine compliance.

4.2 Effluent Limitations for E. coli

The permittee shall comply with surface water limitations for E. coli as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification.

Required Action	Due Date
Status Update: The permittee shall submit information within the discharge monitoring report (DMR) comment section documenting the steps taken in preparation for properly monitoring and testing for E. coli including, but not limited to, selected test method and location of sampling.	02/21/2025
Operational Evaluation Report: The permittee shall prepare and submit an Operational Evaluation Report to the Department for review and approval. The report shall include an evaluation of collected effluent data and proposed operational improvements that will optimize efficacy of disinfection at the treatment plant during the period prior to complying with final E. coli limitations and, to the extent possible, enable compliance with the final E. coli limitations. The report shall include a plan and schedule for implementation of the operational improvements. These improvements shall occur as soon as possible, but not later than 04/30/2026. The report shall state whether the operational improvements are expected to result in compliance with the final E. coli limitations. The permittee shall implement the operational improvements in accordance with the approved plan and schedule specified in the Operational Evaluation Report and in no case later than 04/30/2026. If the Operational Evaluation Report concludes that the operational improvements are expected to result in compliance with the final E. coli limitations, the permittee shall comply with the final E. coli limitations by 04/30/2026 and the permittee is not required to comply with subsequent milestones identified below in this compliance schedule (‘Submit Facility Plan’, 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet Limitations', ‘Construction Upgrade Progress Report’, 'Complete Construction', 'Achieve Compliance'). FACILITY PLAN - If the Operational Evaluation Report concludes that operational improvements alone are not expected to result in compliance with the final E. coli limitations, the permittee shall initiate development of a facility plan for meeting final E. coli limitations and comply with the remaining required actions in this schedule of compliance. If the Department disagrees with the conclusion of the report and determines that the permittee can achieve final E. coli limitations using the existing treatment system with only operational improvements, the Department may reopen and modify the permit to include an implementation schedule for achieving the final E. coli limitations sooner than 04/30/2029.	11/30/2025
Submit Facility Plan: If the Operational Evaluation Report concluded that the permittee cannot achieve final E. coli limitations with operational improvements alone, the permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan if the Department determines that the modifications are minor.	04/30/2026
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to ch. NR 108, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with final E. coli limitations and a schedule for completing construction of the upgrades by the complete construction date specified below.	03/31/2027
Treatment Plant Upgrade to Meet Limitations: The permittee shall initiate bidding, procurement, and/or construction of the project. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41. Stats., prior to initiating activities defined as construction under ch. NR 108, Wis. Adm. Code. Upon approval of the final construction plans and	09/30/2027

schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades.	09/30/2028
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	03/31/2029
Achieve Compliance: The permittee shall achieve compliance with final E. coli limitations.	04/30/2029

Explanation of Schedule: A compliance schedule is included in the permit to provide time for the permittee to investigate options for meeting new effluent E. coli water quality-based effluent limits while coming into compliance with the limits as soon as reasonably possible.

4.3 Annual Water Quality Trading (WQT) 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.	01/31/2026
Annual WQT Report #2: Submit an annual WQT report that shall cover the previous year.	01/31/2027
Annual WQT Report #3: Submit an annual WQT report that shall cover the previous year.	01/31/2028
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.	01/31/2029
Annual WQT Report Required After Permit Expiration: In the event that this permit is not reissued by the expiration date, the permittee shall continue to submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.	

Explanation of Schedule: The permittee shall submit annual WQT reports by January 31 each year covering the total number of pollutant credits used, the source of the pollution reduction credits, a summary of annual inspection reports performed, and identification of noncompliance or failure to implement any terms or conditions of the approved water quality trading plan for the previous calendar year.

4.4 Sludge Management Plan

Required Action	Due Date
Submit a Sludge Management Plan: The permittee shall submit a management plan for approval if removal of sludge will occur during this permit term. The plan shall demonstrate compliance with ch. NR 204, Wis. Adm. Code and at minimum address 1) How and where is sludge sampled; 2) Available sludge storage details and location(s); 3) How will the sludge be removed with details on volume, characterization and how will the treatment plant continue to function during the drawdown; 4) Describe the type of transportation and spreading vehicles and loading and unloading practices; 5) Identify approved land application sites, apply for needed sites, site limitations, total acres needed and vegetative cover management; 6) Specify record keeping procedures including site loading; 7) Address contingency plans for adverse weather and odor/nuisance abatement; and 8) Include any other pertinent information such as other disposal options that may be used or specifications of any pretreatment processes Once approved, all sludge management 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. No desludging may occur unless approval from the Department is obtained. Daily logs shall be kept that record where the sludge has been disposed. The plan is due at least 60 days prior to desludging.	

Explanation of Sludge Management Plan Schedule: If the lagoons are to be de-sludged during this permit term, a management plan is needed to show compliance with ch NR 204, Wis. Adm. Code that clearly explains how the sludge will be safely removed, what contingencies are in place, the type of equipment that will be used and how the sludge will be land applied to ensure the proper precautions are in place to prevent any negative impacts to surface water or groundwater.

Other Comments

Publishing newspaper: Vernon County Broadcaster, PO Box 472, Viroqua, WI 54665-0472

Attachments

- Water Quality Based Effluent Limits: November 13, 2024 memo from Ben Hartenbower to Holly Heldstab titled "Water Quality-Based Effluent Limitations for the Viola Wastewater Treatment Facility WPDES Permit No. WI-0021148"
- Water Quality Trading Plan, WQT-2024-0018
- Water Quality Trading Conditional Plan Approval letter dated August 9, 2024 from Jenna Monahan to Dana George, Clerk/Treasurer of the Village of Viola

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:** November 14, 2024