

# Public Noticed Draft Elmwood WWTF Permit Fact Sheet

## General Information

Permit Number	WI-0023922-11-0
Permittee Name and Address	Village of Elmwood PO Box 26 323 W Winter Ave, Elmwood, WI 54740-0026
Permitted Facility Name and Address	Elmwood, Village of WWTF 310 W. Groot Avenue, Elmwood, WI
Permit Term	July 01, 2026 to June 30, 2031
Discharge Location	310 W. Groot Avenue, Elmwood, WI
Receiving Water	Eau Galle River in Eau Galle River Watershed of Lower Chippewa River Basin in Pierce County
Stream Flow (Q <sub>7,10</sub> )	11 cfs
Stream Classification	Coldwater Sport Fish, Non-public Water Supply
Discharge Type	Continuous, Existing
Annual Average Design Flow (MGD)	0.079 MGD
Industrial or Commercial Contributors	commercial wastewater Sailer's Meat Market and Contract Manufacturing
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; P - Total Phosphorus; D - Disinfection; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

## Facility Description

The Village of Elmwood Wastewater Treatment Facility (WWTF) treats domestic and commercial wastewater from the Village of Elmwood, Sailer's Meat Market, and Contract Manufacturing. The annual average design flow of the plant is 0.0792 million gallons per day (MGD), and the actual annual average influent flow for 2025 was 0.055 MGD. No significant operational changes occurred during the last permit term. The WWTF consists of screening via a Huber screen, raw wastewater pumping, phosphorus removal chemical (Alum) is added to the raw wastewater before it is pumped to the two sequencing batch reactors (SBRs), which uses biology to further treat the wastewater. The treated effluent wastewater from the SBRs discharges to the Eau Galle River. Wastewater is disinfected seasonally via ultraviolet light. Sludge is digested aerobically prior to land application on Department approved sites. Significant effluent monitoring and/or limit changes in the upcoming permit term are as follows: 1) The effluent phosphorus monitoring frequency was increased from weekly to 3/week to match the BOD5 and TSS frequency, 2) addition of acute and chronic whole effluent toxicity (WET) testing, and 3) PFAS sludge sampling has been included in the WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code to quantitate risk.

## Substantial Compliance Determination

**Enforcement During Last Permit:** While there were no enforcement actions during this permit term, Elmwood Village WWTP (Elmwood) had some missing data and exceedances that have been addressed.

After a desktop review of all discharge monitoring reports, land application reports, compliance schedule, and a compliance inspection on May 6, 2025, this facility has been found to be in substantial compliance with its current permit.

Compliance determination made by Adebowale Adesanwo on July 3, 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	0.055 MGD (2025)	Representative influent samples shall be collected from the raw wastewater influent wet well.
002	0.041 MGD (2025)	Representative liquid sludge samples shall be collected from the sludge storage tank prior to land application and monitored annually for Lists 1, 2, 3, 4, and PFAS and once in 2027 for PCBs.
003	18 dry US tons	Representative flow proportional composite effluent samples shall be collected in the flow channel before ultraviolet disinfection. Grab samples shall be collected in the flow channel after disinfection.

## Permit Requirements

### 1 Influent – Monitoring Requirements

#### 1.1 Sample Point Number: 701- INFLUENT TO PLANT

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	

#### 1.1.1 Changes from Previous Permit:

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

### 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: 003- EFFLUENT to EAU GALLE RIVER

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Monthly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, 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	
Suspended Solids, Total	Weekly Avg	45 mg/L	3/Week	24-Hr Flow Prop Comp	
pH Field	Daily Max	9.0 su	Daily	Grab	
pH Field	Daily Min	6.0 su	Daily	Grab	
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	32 mg/L	3/Week	24-Hr Flow Prop Comp	Limit applies Oct-May annually.
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	72 mg/L	3/Week	24-Hr Flow Prop Comp	Limit applies June-Sept annually.
Nitrogen, Ammonia (NH3-N) Total	Weekly Avg	72 mg/L	3/Week	24-Hr Flow Prop Comp	Limit applies year round.
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	3/Week	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 Variable Limit		mg/L	3/Week	Calculated	Look up the variable ammonia limit from the 'Variable Ammonia Limitation' table and report the variable limit in the

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					Ammonia Variable Limit column on the eDMR.
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit applies May-Sept annually.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit applies May-Sept annually.
Phosphorus, Total	Monthly Avg	1.9 mg/L	3/Week	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	1.3 lbs/day	3/Week	Calculated	
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in specific quarters. See Nitrogen Series Monitoring section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in specific quarters. See Nitrogen Series Monitoring section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in specific quarters. See Nitrogen Series Monitoring section. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	Calculated	See WET section.
Chronic WET		TUc	See Listed Qtr(s)	Calculated	See WET section.

### 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.

### 2.1.2 Explanation of Limits and Monitoring Requirements

Detailed discussions of limits and monitoring requirements can be found in the attached water quality-based effluent limits (WQBEL) memo from Benjamin Hartenbower to Angela Parkhurst dated March 3, 2026 and titled ‘Water Quality-Based Effluent Limitations for the Elmwood Wastewater Treatment Facility WPDES Permit No. WI-0023922’.

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. Changes with the criteria in mind for this permit term is increased phosphorus frequency from weekly to 3/week.

**BOD, TSS, and pH:** Limits for BOD, TSS, and pH correspond to the requirements in 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 proposed permit.

**Ammonia:**

Weekly average limits are required to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes. Monthly average limits that vary by season and daily maximum ammonia limits that vary with effluent pH apply year-round have also been given and continue from the previous permit term. See table below for more information on specific daily maximum limits. 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:** 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. Seasonal limits continue from the previous term.

**Total Nitrogen Monitoring (NO2+NO3, TKN and Total N):** The Department has included effluent monitoring for Total Nitrogen through the authority under s. 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 monitoring in rotating quarters is required as specified in the permit.

**Phosphorus:** Phosphorus requirements are based on the Phosphorus Rules that became effective December 1, 2010 as detailed in chs. NR 102, Water Quality Standards and NR 217, Effluent Standards and Limitations for Phosphorus, Wis. Adm. Code. Chapter NR 217, Wis. Adm. Code, addresses point source dischargers of phosphorus to surface waters.

Discharge effluent concentration (mg/L) shall be reported three times per week upon permit reissuance and will be used to calculate amounts reported for mass-based parameters.

**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> After the WET checklist was completed March 3, 2026, the facility submitted their Standard Operating Procedures for Phosphorus chemicals (SOP) which was approved March 30, 2026. Having this document reduces the points total in the WET checklist and the number of tests required. Therefore, the revised number of WET tests based on these new point totals are three acute WET tests and two chronic WET tests. The tests will be assigned in rotating quarters which are specified in the permit.

### 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	Aerobic Digestion/Fecal Coliform	Volatile Solids Reduction	Land App	18
Does sludge management demonstrate compliance? Yes						
Is additional sludge storage required? Yes and 180+ days provided on-site.						
Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? No						
Is a priority pollutant scan required? No						

#### 3.1 Sample Point Number: 002- LIQUID SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	

<b>Monitoring Requirements and Limitations</b>					
<b>Parameter</b>	<b>Limit Type</b>	<b>Limit and Units</b>	<b>Sample Frequency</b>	<b>Sample Type</b>	<b>Notes</b>
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH <sub>4</sub> -N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	See PCB Section for more information.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	See PCB Section for more information.
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

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					Permit Sections for more information.

### 3.1.1 Changes from Previous Permit:

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

**PFAS** –Monitoring is required annually pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

### 3.1.2 Explanation of Limits and Monitoring Requirements

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

**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.

## Other Comments

TBD

## Attachments

Water Quality Based Effluent Limits - memo from Benjamin Hartenbower to Angela Parkhurst dated March 3, 2026 and titled ‘Water Quality-Based Effluent Limitations for the Elmwood Wastewater Treatment Facility WPDES Permit No. WI-0023922’

Public Notice - Sun-Argus, PO Box 308, Elmwood, WI 54740-0308

## Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By: Angela Parkhurst

Wastewater Specialist

Date: April 27, 2026