Public Noticed Somerset Draft Permit Fact Sheet

General Information

Permit Number	WI-0030252-12-0
Permittee Name and Address	Village of Somerset Somerset Village Hall PO Box 356, Somerset, WI 54025
Permitted Facility Name and Address	Somerset Wastewater Treatment Facility 800 Spring Street, Somerset, WI
Permit Term	January 01, 2027 to December 31, 2031
Discharge Location	the Apple River at the SE ¼, NW ¼, Section 35, 45O 8'9" Lat, 92 O 41'11" Long (west bank ¾ miles downstream of Apple River bridge on Main St).
Receiving Water	Apple River in Lower Apple River Watershed of St. Croix River Basin in St. Croix County
Stream Flow ($Q_{7,10}$)	77 cfs
Stream Classification	Warm Water Sportfish, Warm Water Forage Fish, Non-public Water Supply
Discharge Type	Existing, continuous
Annual Average Design Flow (MGD)	0.3 MGD Annual Average
Industrial or Commercial Contributors	• American Structures Inc • American Structures, MMF • St. Croix Machine • SMC • Quality Molding • Preco Laser Systems • Seal King • Waste Management • Olson Sanitation • Safeway Bus Company • LRI Recycling
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 for minor municipalities

Facility Description

The Village of Somerset owns and operates a wastewater treatment plant to treat domestic, commercial and industrial wastewater. The plant includes primary treatment with fine screening and grit removal and secondary treatment via a

sequencing batch reactor (SBR). The SBR is a dual basin system that alternates fill and draw modes, with post equalization regulating discharge to an ultraviolet (UV) disinfection system that is a continuous discharge. Biological phosphorus removal is incorporated in the SBR design and has the ability for alum addition as a back-up measure. The phosphorus mass limit of 5.9 lbs/day in the permit is based on the Total Maximum Daily Load (TMDL) for Lake St. Croix to address phosphorus water quality impairments. The TMDL was approved by EPA on August 8, 2012. The effluent limits in this permit are based on the facility design flow of 0.30 million gallons per day (MGD). The actual annual average flow received and treated in 2025 was 0.203 MGD. Sludge is stored in an aerated storage tank. Sludge is then hauled to the West Central Wisconsin Biosolids Facility in Ellsworth, WI. Operational changes proposed during this issuance is additional sludge storage improvements. Monitoring and/or limit changes include 1) the addition of monitoring for effluent PFOS and PFOA once every two months and an associated determination of need schedule in accordance with s. NR 106.98(2)(b), Wis. Adm. Code., 2) addition of acute 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: Enforcement During Last Permit: While there were no enforcement actions during this permit term, Somerset WWTF (Somerset) had some missing data and a late report due to operator error. All have been addressed. After a desktop review of all discharge monitoring reports, land app reports, compliance schedule, and a compliance inspection on October 23, 2025, this facility has been found to be in substantial compliance with its current permit.

Compliance determination made by Adebowale Adesanwo on 09/08/2026.

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)**
702	0.203 MGD (2025)	Representative influent samples shall be collected in the headworks building between the fine screen and the vortex grit removal.
001	0.198 MGD (2025)	Representative effluent 24 hour flow proportional composite samples shall be collected from the effluent channel prior to disinfection. Grab samples shall be collected in the effluent channel after disinfection. These limits are based on an annual average design flow of 0.3 MGD.
002	13.7 US Dry Tons (2025)	Representative sludge samples shall be collected from a truckload of waste prior to shipment to the West Central Wisconsin Biosolids Facility (WCWBF). Sludge grab samples shall be collected prior to hauling and test results shall be reported on Form 3400-49 'Waste Characteristics Report'. Hauled sludge reports shall be submitted on Form 3400-52 'Other Methods of Disposal or Distribution Report' following each year that the sludge is hauled.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 702- INFLUENT-PRETREATMENT BUILDING

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
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: 001- EFFLUENT TO APPLE 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	See pH section.
pH Field	Daily Min	6.0 su	Daily	Grab	See pH section.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Limit Effective May - September annually.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Limit Effective May - September annually. See the E. coli Percent Limit section below. Enter the result in the DMR on the last day of the month.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	See Phosphorus section(s)
Phosphorus, Total	Monthly Avg	5.9 lbs/day	3/Week	Calculated	See Phosphorus section(s)
Phosphorus, Total		lbs/month	Monthly	Calculated	Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See TMDL section below.
Phosphorus, Total		lbs/yr	Monthly	Calculated	
PFOS		ng/L	1/ 2 Months	Grab	Monitoring once every two months. See PFOS/PFOA Minimization Plan Determination of Need schedule.
PFOA		ng/L	1/ 2 Months	Grab	Monitoring once every two months. See PFOS/PFOA Minimization Plan Determination of Need schedule.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See WET section.

2.1.1 Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and some 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 September 14, 2026 and titled 'Water Quality-Based Effluent Limitations for the Somerset Wastewater Treatment Facility WPDES Permit No. WI-0030252'.

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. Based on those guidelines, phosphorus limit sample frequencies increased from weekly to 3/week to better characterize effluent quality and compliance.

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: Based on the comparison between the calculated 99th upper percentile discharged values for ammonia during the month ranges and the calculated limits that would be required, there is no reasonable potential for the discharge to exceed and of the calculated ammonia nitrogen limits. Therefore, no ammonia monitoring or limits is included in the permit.

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.

PFOS and PFOA: NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for municipal dischargers with an average flow rate less than 1 MGD, to be evaluated on a case-by-case basis to determine if monitoring is required pursuant to s. NR 106.98(2)(c), 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, PFOS/PFOA monitoring is required based on presence in drinking water samples and previously reported effluent samples.

A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

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 3 times per week upon permit reissuance and will be used to calculate amounts reported for mass-based parameters. An additional reporting requirement for lbs/month and lbs/yr will be used to calculate the facility's compliance with their TMDL allotment.

Lake St. Croix River Total Maximum Daily Load (TMDL): Somerset is located within the Lake St. Croix River Basin Total Maximum Daily Load (TMDL), which was approved by EPA August 8, 2012. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus that can be discharged and still protect water quality.

Total phosphorus (TP) effluent limits in lbs/day are calculated as recommended in the *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs (April 2020)* and are based on the annual phosphorus wasteload allocation (WLA) given in lbs/yr. This WLA is found in appendix K of the *Wisconsin River TMDL Report (April 2019)* and is expressed as a maximum annual load (lbs/yr). For the Somerset Wastewater Treatment Facility, this WLA is 1,142 lbs/year.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the department's *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Program*, mass limits must be given in the permit that are consistent with the TMDL WLA and the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at https://apps.dnr.wi.gov/swims/Documents/DownloadDocument?id=167886175). Continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. The TMDL based mass limits are expressed as 5.9 lbs/day monthly average.

Facilities with Lake St. Croix TMDL based effluent limits for phosphorus must report the 12-month rolling sum of total monthly discharge (lbs/yr). If reported 12-month rolling sums exceed the facility's max annual WLA, the facility's mass limits (monthly average and six-month average) may be recalculated using more appropriate CVs or monitoring frequencies when the permit is reissued to bring discharge levels into compliance with the facility's given WLA.

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.

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 Three acute WET tests in rotating quarters are required as 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	N/A – Final treatment at West Central Wisconsin Biosolids Facility (WCWBF)	N/A – Final treatment at West Central Wisconsin Biosolids Facility (WCWBF)	Hauled	13.7 dry tons (2025) are generated and distributed to others annually
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? N/A for minor municipalities.						

3.1 Sample Point Number: 002- SLUDGE TO WCWBF

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Annual	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Annual	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Annual	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Annual	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Annual	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Annual	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Annual	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Annual	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Annual	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Annual	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Annual	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
PFOA + PFOS		ug/kg	Annual	Calculated	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

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 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.

4 Schedules

4.1 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results.	12/31/2028
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results. The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan. If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued. If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	12/31/2029

4.1.1 Explanation of Schedule

PFOS/PFOA Minimization Plan Determination of Need- As stated above, ch. NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Section NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

Other Comments

The current supplemental general permit for sludge PFAS sampling held by this facility will be discontinued with the issuance of this proposed individual WPDES permit pursuant to ss. NR 205.08(6), Wis. Adm. Code. The facility has taken their sample as required.

Supporting Documents

Water Quality Based Effluent Limits/WET Checklist Summary – Memo from Benjamin Hartenbower to Angela Parkhurst dated September 14, 2026 and titled “Water Quality-Based Effluent Limitations for the Somerset Wastewater Treatment Facility, WPDES Permit No. WI-0030252”.

Public Notice - The Hudson Star Observer, P.O. Box 147, Hudson, WI 54016-0147 and

DNR website: http://dnr.wi.gov/topic/wastewater/PublicNotices.html

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: October 14, 2026