Alma Center Public Noticed Permit Fact Sheet

General Information

Permit Number:	WI-0021385-11-0
Permittee Name:	Village of Alma Center, 200 North Church St., P O Box 96, Alma Center WI 54611
Discharge Location:	Alma Center Wastewater Treatment Facility, 407 North Church St., Alma Center, WI 54611 NW ¼, SW ¼, Section 17, T23N, R4W, Town of Alma Center, Jackson County
Receiving Water:	the groundwater of the Black River Drainage Basin in Jackson County
Discharge Type:	Continuous, existing- discharge is to groundwater
Design Flow:	0.074 MGD Annual Average
Significant Industrial Loading?	No
Operator at Proper Grade?	The facility is not in compliance with operator requirements. A compliance schedule is included in the permit requiring the facility have an operator in charge with the correct certifications.
Approved Pretreatment Program?	N/A

Facility Description

The Alma Center Wastewater Treatment Facility treats domestic waste from the Village of Alma Center. The annual average design flow of the facility is 0.074 million gallons per day (MGD). The actual annual average flow in 2023 was 0.031 MGD. Primary treatment at the plant is via screening and an aerated grit chamber, secondary treatment is via two rotating sequencing batch reactors (SBR) with an aerobic digester and sludge holding tank. There is a pressurized distribution system at the site of the old seepage cells that serves as an absorption cell. Sludge is hauled by a private hauler and land applied on Department approved fields. Significant monitoring and/or limit changes in this permit term are as follows: 1) The department is granting a conditional s. NR 140.28 exemption for nitrite + nitrate due to high levels (magnitude and fluctuation of concentration) in the background groundwater samples, therefore there is no longer a groundwater preventative action limit (PAL) or enforcement standard (ES) for nitrite + nitrate. 2) The total dissolved solids and organic dissolved nitrogen groundwater PALs increased. 3) Monitoring well 806 is now considered a mid-system, non-point of standard well. 4) The ammonia alternate concentration limit (ACL) increased. 5) The monitoring frequencies for chloride at the land treatment outfall increased. 6) A compliance schedule is included in the permit requiring the facility have an operator in charge with the correct certifications.

Substantial Compliance Determination

Several NON's were issued in 2020 regarding nitrogen exceedances. In 2021 a Notice of Violation (NOV) was sent, and an enforcement conference was held. The village had numerous nitrogen exceedances in the winter between the months of November-April in 2018, 2019, 2020, and 2021. Follow up to the enforcement action taken was monthly progress reports through the winter of 2022- spring 2023. No violations occurred and the plant has since been in compliance. The facility has received a C grade on operator certification since 2021 due to not having the Nitrogen subclass. The facility will be getting a compliance schedule to bring them back into compliance with operator certification requirements.

After a desk top review of all Discharge monitoring reports, CMARs, Land application reports, and compliance schedule items, and an inspection on 05/01/2024, Alma Center WWTF has been found to be in substantial compliance with their current permit.

Compliance determination entered by Jenna Monahan on 05/13/2024.

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	No influent flow monitoring	Representative influent samples shall be collected at the influent grit chamber before the wet well.
002 – Land Treatment	0.031 MGD (2023)	Representative effluent samples shall be collected in the effluent flow channel prior to discharge to the seepage cells.
003 – Land Application	305 MT (2021) 288 MT (2022) 14 MT (2023)	Representative sludge samples shall be collected annually from the sludge storage tank and monitored for Lists 1, 2, 3 & 4 and PFAS, and once in 2026 for PCBs.

Sample Point Designation For Groundwater Monitoring Systems			
System	**Sample Pt Number**	**Well Name**	**Comments**
Absorption Cells	801	MW-1	Side-gradient, Non-Point of Standard
Absorption Cells	802	MW-2	Up-gradient, Background
Absorption Cells	806	MW-6	Mid-system, Non-Point of Standard
Absorption Cells	808	MW-8	Side-gradient, Non-Point of Standard

1 Influent – Monitoring Requirements

Sample Point Number: 701- INFLUENT @ GRIT CHAMBER

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD5, Total		mg/L	2/Week	24-Hr Comp	
Suspended Solids, Total		mg/L	2/Week	24-Hr Comp	
Nitrogen, Total Kjeldahl		mg/L	2/Month	24-Hr Comp	
Nitrogen, Organic Total		mg/L	2/Month	Calculated	
Nitrogen, Ammonia (NH3-N) Total		mg/L	2/Month	24-Hr Comp	

Changes from Previous Permit:

None

Explanation of Limits and Monitoring Requirements

Influent monitoring is required by NR 210 Wis. Adm. Code, to assess wastewater strengths to demonstrate the percent removal requirements in s. NR 210.05, Wis. Adm. Code, and in the Standard Requirements section of the permit.

2 Land Treatment – Monitoring and Limitations

Sample Point Number: 002- EFFLUENT TO ABSORPTION CELLS

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total	Monthly Avg	50 mg/L	2/Week	24-Hr Flow Prop Comp	
Solids, Total Dissolved		mg/L	2/Month	24-Hr Flow Prop Comp	
pH Field		su	2/Week	Grab	
Nitrogen, Total Kjeldahl		mg/L	2/Week	24-Hr Flow Prop Comp	
Nitrogen, Organic Total		mg/L	2/Week	Calculated	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Ammonia (NH3-N) Total		mg/L	2/Week	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	2/Week	24-Hr Flow Prop Comp	
Chloride	Daily Max	250 mg/L	4/Month	24-Hr Flow Prop Comp	Monitoring & reporting are required on four consecutive days each month.
Nitrogen, Total	Monthly Avg	10 mg/L	2/Week	Calculated	

Changes from Previous Permit:

The effluent monitoring frequency for all parameters with limits were considered. Monitoring frequencies are based on the size and type of the facility and are established to best characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Requirements in administrative code (NR 108, 205, 210 and 214 Wis. Adm. Code) and Section 283.55, Wis. Stats. were considered, where applicable, when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. For more information see the March 22, 2021 version of the Bureau of Water Quality Program Guidance Document "Monitoring Frequencies for Individual Wastewater Permits". After consideration of the above factors, the chloride monitoring frequency was changed from 2/week to 4/month, on consecutive days each month.

Explanation of Limits and Monitoring Requirements

Requirements for land treatment of municipal wastewater are determined in accordance with ch. NR 206 Wis. Adm. Code. For more information on the calculations and explanations on the changes, see the August 12, 2024 memo written by Woody Myers titled "Alma Center Wastewater Treatment Facility - Land Disposal System Evaluation Report, WPDES Permit #WI-0021385".

3 Groundwater – Monitoring and Limitations

3.1 Groundwater Monitoring System for Absorption Cells

Location of Monitoring system: NW ¼, SW ¼, Section 17, T23N, R4W, Town of Alma Center, Clark County

Groundwater Monitoring Wells to be Sampled: 801 (MW-1), 802 (MW-2), 806 (MW-6), 808 (MW-8)

Groundwater Monitoring Well Used to Evaluate Background Groundwater Quality: 802 (MW-2)

Groundwater Monitoring Well Used for Point of Standards Application: None

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	Quarterly
Groundwater Elevation	feet MSL	N/A	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	N/A	N/A	Quarterly
Chloride Dissolved	mg/L	125	250	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	3.5	9.7	Quarterly
pH Field	su	6.6	N/A	Quarterly
Nitrogen, Organic Dissolved	mg/L	2.7	N/A	Quarterly
Solids, Total Dissolved	mg/L	380	N/A	Quarterly

Changes from Previous Permit:

Based on recent calculations of groundwater sampling data, the following changes are in the next permit term:1) The alternate concentration limit (ACL) for the nitrite + nitrate nitrogen preventative action limit (PAL) was replaced with an exemption from the PAL. The department is granting a conditional s. NR 140.28 exemption for nitrite + nitrate due to high levels (magnitude and fluctuation of concentration) in the background water samples. This effectively removes the PAL and enforcement standard (ES) limits for this compound in the groundwater samples. 2) The ACL for ammonia nitrogen increased from 2.3 mg/L to 3.5 mg/L. 3) The total dissolved solids PAL increased from 330 mg/L to 380 mg/L. 4) The organic nitrogen PAL increased from 2.5 mg/L to 2.7 mg/L. 5) MW well 806 is now considered a mid-system, non-point of standard well.

For more information on the calculations and explanations on the changes, see the August 12, 2024 memo written by Woody Myers titled “Alma Center Wastewater Treatment Facility - Land Disposal System Evaluation Report, WPDES Permit #WI-0021385”.

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. Alternative Concentration Limits as allowed under s. NR 140.28 Wis. Adm. Code, are established on a case by case basis. (See memo for rounding up indicator parameter PAL and ACL values in a memo dated May 6, 1987 at watershed:\manual\policies and a guidance document for Determination of Exemptions and ACLs dated October 1986 at watershed;\manual\policies.

4 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)**
003	B	Liquid	Fecal Coliform	Incorporation	Land Application	305 MT (2021) 288 MT (2022) 14 MT (2023- did not land apply in the fall)
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						

Sample Point Number: 003- 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	
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	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
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 (NH4-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	Once in 2026
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Once in 2026
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOS and PFAS. 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.

Changes from Previous Permit:

Annual PFAS monitoring is included in the permit pursuant to s. NR 204.06(2)(b)9., Wis. Adm. Code.

Explanation of Limits and Monitoring Requirements

Requirements for 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 the proposed WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

5 Schedules

5.1 Operator Certification

Required Action	Due Date
Operator Certification: Per s. NR 114.53 Wis. Adm. Code, the permittee shall have an operator in charge with the proper certification by the due date. Within 30 days of receiving certification, the permittee shall notify the department in writing of the certified operator's name and certification number with all proper certification.	04/01/2025

Explanation of Schedule: Per s. NR 114.53 Wis. Adm. Code, Alma Center WWTF must have an operator in charge that holds all certifications at the proper level.

Special Reporting Requirements

N/A

Other Comments:

Publishing Newspaper: The Banner Journal, 409 E Main St., Black River Falls, WI 54615-1460

Attachments:

NR 140 Groundwater Evaluation Report: August 12, 2024 memo written by Woody Myers titled “Alma Center Wastewater Treatment Facility - Land Disposal System Evaluation Report, WPDES Permit #WI-0021385”.

Expiration Date:

December 31, 2029

Justification Of Any Waivers From Permit Application Requirements

N/A

Prepared By: Holly Heldstab, Wastewater Specialist **Date:** September 16, 2024