



**National Pollutant Discharge Elimination System (NPDES)/
State Disposal System (SDS) Permit Program Fact Sheet
Permit Reissuance
MN0040738**

Permittee: Alexandria Lake Area Sanitary District
2201 Nevada St SW
Alexandria, MN 56308-9152

Facility name: Alexandria Lakes Area Sanitary District
2201 Nevada St SW
Alexandria, MN 56308-9152

Current permit expiration date: October 31, 2025

Public comment period begins: June 5, 2025

Public comment period ends: August 4, 2025

Receiving water: Lake Winona - Class 2B, 3, 4A, 4B, 5, 6 water

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Purpose and participation

Applicable statutes

This fact sheet has been prepared according to the 40 C.F.R. § 124.8 and 124.56 and Minn. R. 7001.0100, subp. 3, in regards to a draft National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) permit to construct and/or operate wastewater treatment facilities and to discharge into waters of the State of Minnesota.

Purpose

This fact sheet outlines the principal issues related to the preparation of this draft permit and documents the decisions that were made in the determination of the effluent limitations and conditions of this permit.

The primary reason for reissuing the permit is due to permit expiration.

Public participation

You may submit written comments on the terms of the draft permit or on the Commissioner's preliminary determination. Your written comments must include the following:

1. A statement of your interest in the permit application or the draft permit.
2. A statement of the action you wish the Minnesota Pollution Control Agency (MPCA) to take, including specific references to sections of the draft permit that you believe should be changed.
3. The reasons supporting your position, stated with sufficient specificity as to allow the Commissioner to investigate the merits of your position.

You may also request that the MPCA Commissioner hold a public informational meeting. A public informational meeting is an informal meeting which the MPCA may hold to help clarify and resolve issues.

In accordance with Minn. R. 7000.0650 and Minn. R. 7001.0110, your petition requesting a public informational meeting must identify the matter of concern and must include the following: items one through three identified above; a statement of the reasons the MPCA should hold the meeting; and the issues you would like the MPCA to address at the meeting.

In addition, you may submit a petition for a contested case hearing. A contested case hearing is a formal hearing before an administrative law judge. Your petition requesting a contested case hearing must include a statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing pursuant to the criteria identified in Minn. R. 7000.1900, subp. 1, and a statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested. To the extent known, your petition should include a proposed list of witnesses to be presented at the hearing, a proposed list of publications, references, or studies to be introduced at the hearing, and an estimate of time required for you to present the matter at hearing.

You must submit all comments, requests, and petitions during the public comment period identified on page one of this notice. All written comments, requests, and petitions received during the public comment period will be considered in the final decisions regarding the permit. If the MPCA does not receive any written comments, requests, or petitions during the public comment period, the Commissioner or other MPCA staff as authorized by the Commissioner will make the final decision concerning the draft permit.

Comments, petitions, and/or requests must be submitted by the last day of the public comment period to:

Laura Lacquement
Minnesota Pollution Control Agency
714 Lake Ave, Ste 220
Detroit Lakes, MN 56501-3058

The permit will be reissued if the MPCA determines that the proposed Permittee or Permittees will, with respect to the facility or activity to be permitted, comply or undertake a schedule to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the MPCA and the conditions of the permit and that all applicable requirements of Minn. Stat. ch. 116D and the rules promulgated thereunder have been fulfilled.

More detail on all requirements placed on the facility may be found in the Permit document.

General information

The permit is based on an NPDES/SDS permit application dated September 3, 2024 and additional documents found in the Administrative record.

Description of permitted facilityExisting facility

The existing facility has a continuous discharge (SD 001) to Lake Winona (Class 2B, 3, 4A, 4B, 5, 6 water). The facility is a Class A facility.

The facility is designed to treat:

- an average wet weather (AWW) flow of 4.7 million gallons per day (mgd);
- five-day carbonaceous biochemical oxygen demand (CBOD₅) of 6,900 pounds per day (lb/day);
- total suspended solids (TSS) of 6,000 lb/day;
- total phosphorus (TP) of 210 lb/day; and
- total ammonia nitrogen of 470 lb/day.

The existing facility consists of a main lift station, force main, influent screening, screenings washing and compaction, vortex grit removal and grit washing, two primary settling tanks, three fine pore ceramic diffuser aeration tanks, three secondary clarifiers, cloth media tertiary filtration, chlorination tanks, dissolved air flotation thickening of waste activated sludge, four aerobic digesters, centrifuge dewatering, and outfall pipeline. There are no known bypass points for the wastewater collection/treatment system.

Proposed facility

The proposed facility will consist of a new equalization basin and improvements to the main pump station; replacing influent screening, grit removal and the disinfection system; installation of membrane bioreactor and upgrades to solids treatment and dewatering. The proposed facility will be designed to treat 5.7 million gallons per day average wet weather flow, 10.9 mgd peak hourly wet weather flow, 9,900 pounds CBOD₅ average per day and 9,800 pounds suspended solids average per day.

Facility location

The facility is located in Section 25, Township 128 North, Range 38 West, City of Alexandria, Douglas County, Minnesota (latitude: 45.867398, longitude: -95.408053). The address for the facility is 2201 Nevada Street Southwest, Alexandria, Minnesota 56308-9152, Douglas County.

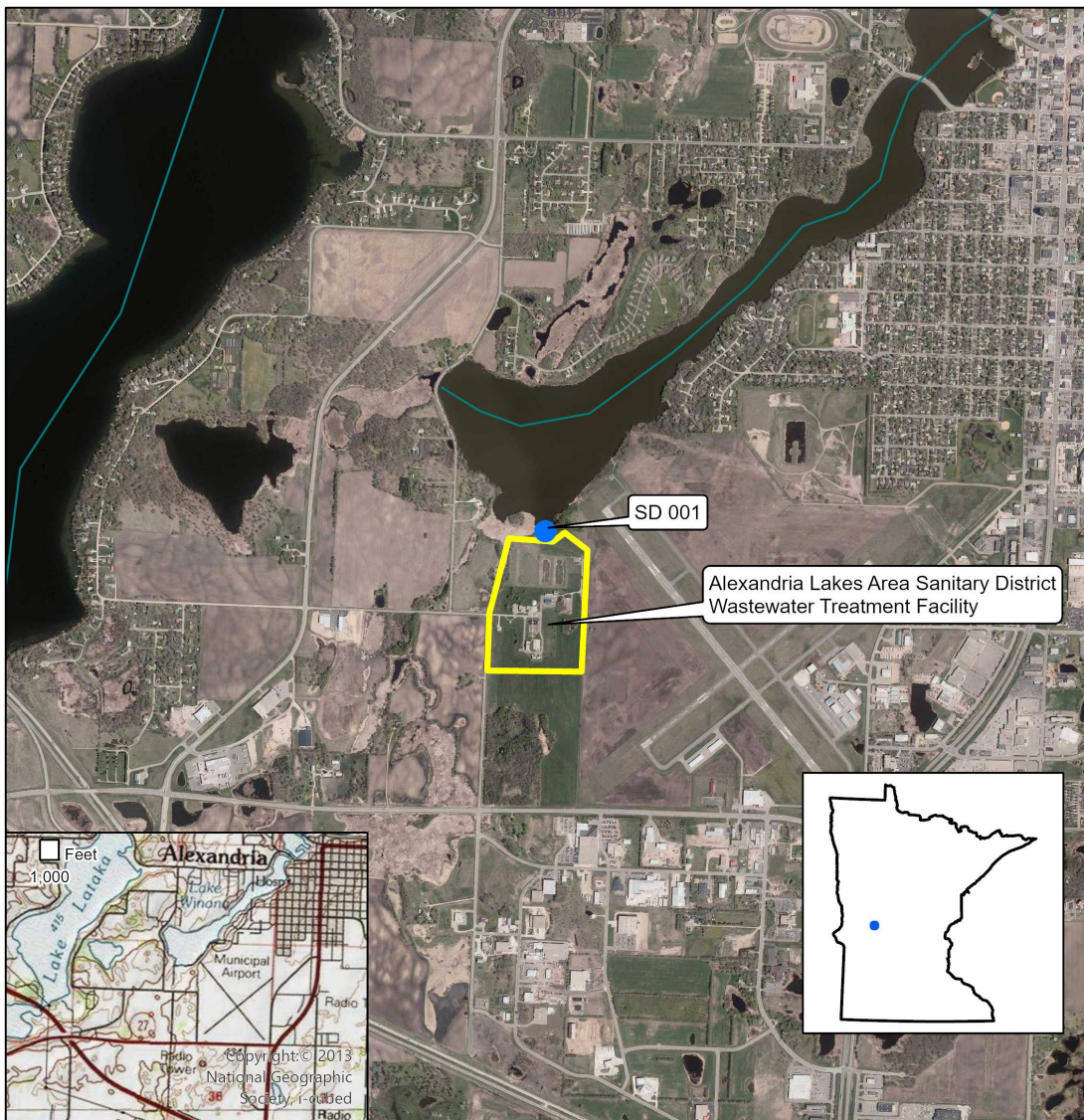
The facility is located within city limits along Southwest corner of the city of Alexandria. The facility is located along the southwestern shore of Lake Winona.

Outfall location

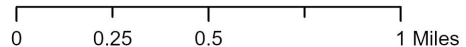
The outfall SD 001 for the facility is located in Section 25, Township 128 North, Range 38 West, City of Alexandria, Douglas County, Minnesota. The outfall is less than one mile north of the facility and has a continuous discharge to Lake Winona - Class 2B, 3, 4A, 4B, 5, 6 water.

Map of permitted facility

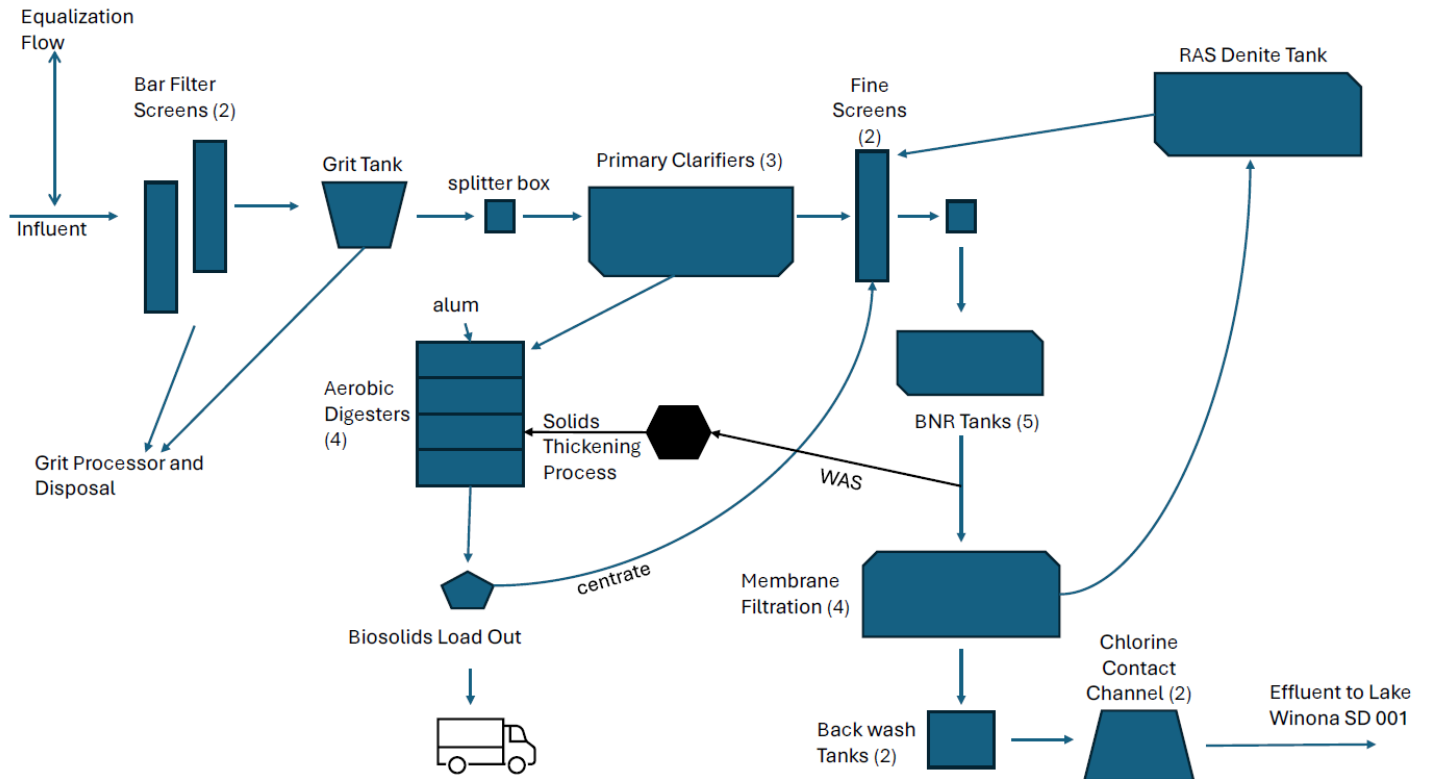
Facility Location Map
MN0040738: Alexandria Lakes Area Sanitary District
Wastewater Treatment Facility
T128N, R38W, Section 25
Alexandria, Douglas County, Minnesota



Map produced by: MPCA Staff, 3/13/2025
Scale: 1:24,000



Proposed Flow Diagram



Historical changes to facility or operation

Significant changes from the previous permit

The draft permit contains the following changes from the last issued permit:

- The Permittee has chosen to abandon the adaptive management plan and pursue facility improvements through construction to meet the final total phosphorus effluent limits.
- Influent and effluent monitoring for ammonia nitrogen, nitrite plus nitrate-nitrogen, total Kjeldahl nitrogen (TKN), and total nitrogen (TN) have been updated to the most recent frequencies based on the MPCA's Nitrogen Monitoring Guidance.
- The Permittee is no longer required to monitor bicarbonates, calcium, hardness, magnesium, potassium, and sodium. The Permittee shall continue to monitor specific conductance.
- The Permittee chose to accept mass cap limits for the parameters of chloride, copper, mercury, sulfate, total dissolved solids (TDS), and Zinc. The mass limits are based on the current AWW design flow of 4.7 mgd. This decision avoids the need for an antidegradation assessment.
- The water quality variance for the parameter of chloride was re-evaluated and the interim limit was adjusted. The Permittee shall meet an interim chloride limit of 805 milligrams per liter (mg/L) as a calendar month average and collected four times per month.

Special conditions

- This permit includes a variance from the Water Quality Based Effluent Limits (WQBELs) for the calculated calendar month average and daily maximum for chloride. A schedule of activities leading to compliance with this limit is included in a Chloride Action Tree. The Water Quality Variance expires November 14, 2028.

- **Chloride Management Plan.** The Permittee shall submit an updated chloride investigation and minimization plan by 180 days after permit issuance. This plan corresponds to the initial phase of the Streamlined Chloride Variance Action Tree.
- **Mercury Pollutant Minimization Plan.** The Permittee shall submit a Mercury Pollutant Minimization Plan and annual progress reports as part of the Mercury Variance Action Tree.
- The Permittee shall submit an application for permit modification one year prior to the expiration of the water quality variance.

Significant Industrial Users (SIUs)

The facility has six SIUs, all of which have a control mechanism associated with the facility.

Table 1: Facility SIU’s

Name	Total Average Flow (gpd)	Flow from Process Wastewater (gpd)	Flow from non-process wastewater (gpd)	Principal Products or raw materials used	Considered an SIU? (Y/N)	Is there currently a control mechanism and/or local limits? (Y/N)	Is the IU subject to Categorical Standards? (Y/N)
Douglas Finishing	35,000	35,000	0	Metal plating process	Y	Y	N
Alexandria Extrusion Co.	1,800	1,283	1,030	Extruded aluminum, polyurethane moldings	Y	Y	N
TWF Industries, Inc.	43,000	43,000	0	Caustic cleaners and pretreatment cleaners	Y	Y	N
SunOpta Grains and Foods, Inc.	220,000			Liquid beverages—soy, oat, rice, fruit	Y	Y	N
3M	35,480			Silica, adhesives	Y	Y	N
SunOpta Aseptic Minnesota Street Plant SOA	175,000			Liquid beverages—soy, oat, rice, fruit	Y	Y	N

Recent compliance history

A Compliance Evaluation Inspection (CEI) occurred on February 19, 2025, by Kevin Peterson and Laura Lacquement of the MPCA. The CEI consisted of a visual inspection of the facility and a discussion with Troy Drewes, Plant Superintendent, and Scott Gilbertson, Executive Director. There was also a review of the monthly discharge monitoring reports (DMRs) for the time-period of April 1, 2023 to February 19, 2025.

Based on the results of the inspection, the following violations were noted:

- Three unauthorized releases of wastewater

Enforcement is currently ongoing to address these violations.

Recent and existing monitoring table

The table below lists the last 12 months of monitoring data submitted by the facility and the existing monitoring parameters.

Table 2: Recent monitoring history

Station	Parameter	Limit Type	Limit	Units	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
SD 001	Bicarbonates (HCO3)	CalQtrMax		mg/L			404			365			314			317	
	CBOD5	CalMoAvg	25	mg/L	3.2	2	3.2	1.9	1.4	0.79	2.5	3.3	2	1.1	0.67	2.3	2.5
			282	kg/d	32	19	30	20	19	10	31	47	23	12	6.5	23	25
		MxCalWkAvg	40	mg/L	5.5	2.4	4.9	2.9	1.8	2.5	3.1	4.8	2.5	1.4	2	3.2	3.6
			452	kg/d	53	23	45	32	22	34	40	73	28	14	19	33	38
	CBOD5 Percent Removal	MnCalMoAvg	85	%	99	99	99	99	99	99	99	98	99	99	99	99	99
	Calcium, Total (as Ca)	CalQtrMax		mg/L			120			111			121			109	
	Chloride, Total	DailyMax	839	mg/L	778	763	780	758	655	640	738	585	750	765	790	790	780
	Chlorine, Total Residual	DailyMax	0.038	mg/L	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
	Copper, Total (as Cu)	CalQtrMax		mg/L			0.007			0.007			0.006			0.007	
	Fecal Coliform, MPN or Membrane Filter 44.5C	CalMoGeoMn	200	#/100 ml				6.6	9.3	9.4	93	16	18	13			
	Flow	CalMoAvg		mgd	2.632	2.573	2.51	2.87	3.321	3.449	3.379	3.763	2.981	2.626	2.573	2.603	2.606
		CalMoMax		mgd	2.805	2.724	2.676	3.683	3.725	4.114	3.613	6.021	3.179	2.877	2.919	2.777	2.789
		CalMoTot		Mgal	81.584	74.606	77.819	86.086	102.96	103.48	104.74	116.66	89.417	81.407	77.18	80.683	80.778
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	CalQtrMax		mg/L			473			431			478			439		
Magnesium, Total (as Mg)	CalQtrMax		mg/L			42			37			43			40		
Mercury, Dissolved (as Hg)	CalMoMax		ng/L					0				0					

Station	Parameter	Limit Type	Limit	Units	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
	Mercury, Total (as Hg)	CalMoMax		ng/L					0				0				
	Nitrite Plus Nitrate, Total (as N)	CalMoAvg		mg/L	6.37	12.54	8.01	9.85	19.15	22.17	7.77	16.04	17.23	21.91	21.03	15.04	4.67
	Nitrogen, Ammonia, Total (as N)	CalMoAvg		mg/L	0.27	0.12	0.15	0.07	0.13	0.09	0	0.37	0.05	0.06	0	0.14	0.07
	Nitrogen, Kjeldahl, Total	CalMoAvg		mg/L	2.02	1.56	1.98	1.02	0.14	0	1.64	0.52	0.3	0	0.6	1.73	1.73
	Nitrogen, Total (as N)	CalMoAvg		mg/L	8.39	14	9.99	11	19	22	9.41	17	18	21.91	22	17	6.4
	Oxygen, Dissolved	CalMoMin		mg/L	7.7	7.3	7.1	7	7.1	7.1	7	7.3	7	7.3	7.3	7.1	7.3
	pH	CalMoMax	9	SU	7.5	7.6	7.4	7.4	7.4	7.4	7.4	7.4	7.5	7.4	7.6	7.5	7.4
		CalMoMin	6	SU	7.2	7.3	7.2	7.2	7.2	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.2
	Phosphorus, Total (as P)	12MoTotal	1,087	kg/yr	489.76	498.58	513.38	526.96	535.57	541.54	572.48	619.19	628.61	627.31	629.72	646.01	645.21
		CalMoAvg		kg/d	1.77	1.494	1.478	1.638	1.761	1.439	2.716	2.942	1.883	1.251	1.403	1.571	1.764
			0.25	mg/L	0.18	0.15	0.15	0.15	0.14	0.11	0.21	0.2	0.16	0.13	0.14	0.16	0.18
	Potassium, Total (as K)	CalQtrMax		mg/L			16			14			19			15	
	Sodium, Total (as Na)	CalQtrMax		mg/L			532			377			434			458	
	TDS	CalQtrMax		mg/L			1883			1471			1714			1826	
	TSS	CalMoAvg	30	mg/L	6.5	3.8	4.5	2.5	1.9	0.23	2.7	4.6	3	2.5	1.8	1.8	4.3
			339	kg/d	65	37	43	26	25	2.8	34	65	34	26	17	18	43
		MxCalWkAvg	45	mg/L	11	4.4	6.3	4.2	2.5	5.5	4.8	7.2	4.3	4.2	5.1	4	5.6
			508	kg/d	109	44	61	43	32	74	63	101	48	42	49	39	57
	TSS Percent Removal	MnCalMoAvg	85	%	98	98	98	99	98	99	98	97	98	99	99	98	98
	TSS grab (Mercury)	CalMoMax		mg/L					4				2.5				
	Specific Conductance	CalQtrMax		umhos/cm			3308			2717			2993			2944	

Station	Parameter	Limit Type	Limit	Units	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
	Zinc, Total (as Zn)	CalQtrAve		mg/L			0.062			0.042			0.03			0.046	
SW 001	Chlorophyll a, corrected	CalMoAvg		mg/L					0.062	0.042	0.048	0.03	0.052	0.033			
	Phosphorus, Total (as P)	CalMoAvg		mg/L					0.049	0.061	0.057	0.032	0.035	0.068			
	Transparency, Secchi Disc	CalMoAvg		m					0.5578	0.4816	0.5593	0.6218	0.5334	0.9144			
SW 002	Chlorophyll a, corrected	CalMoAvg		mg/L					0.053	0.042	0.041	0.036	0.054	0.023			
	Phosphorus, Total (as P)	CalMoAvg		mg/L					0.038	0.059	0.037	0.036	0.044	0.027			
	Transparency, Secchi Disc	CalMoAvg		m					0.634	0.572	0.6858	0.7864	0.6096	1.2192			
SW 003	Chlorophyll a, corrected	CalMoAvg		mg/L					0.005	0.009	0.014	0.033	0.055	0.008			
	Phosphorus, Total (as P)	CalMoAvg		mg/L					0.007	0.017	0.013	0.018	0.016	0.029			
	Transparency, Secchi Disc	CalMoAvg		m					2.286	1.9812	1.6764	1.143	1.143	3.048			
WS 001	CBOD5	CalMoAvg		mg/L	259	223	292	217	177	164	183	172	224	206	217	177	230
		CalMoMax		mg/L	350	279	498	277	358	220	284	269	329	309	270	274	303
	Copper, Total (as Cu)	CalQtrAve		mg/L			0.086			0.077			0.104			0.096	
	Flow	CalMoAvg		mgd	2.86	2.763	2.709	3.017	3.492	3.755	3.734	4.18	3.267	2.884	2.853	2.933	3.007
		CalMoMax		mgd	3.03	2.874	2.866	3.794	4.024	4.453	4.069	6.513	3.572	3.063	3.188	3.084	3.145
		CalMoTot		Mgal	88.657	80.117	83.985	90.523	108.26	112.64	115.75	129.58	98.007	89.407	85.604	90.912	93.227
	Nitrite Plus Nitrate, Total (as N)	CalMoAvg		mg/L	0.1	0.06	0.75	0	0.12	0.07	0.06	0	0	0	0.09	0	0.13
	Nitrogen, Kjeldahl, Total	CalMoAvg		mg/L	33	40	40	30	30	34	32	31	33	30	39	36	32
	Nitrogen, Total (as N)	CalMoAvg		mg/L	33	40	41	30	31	35	32	31	33	30	39	36	32
pH	CalMoMax		SU	7.7	7.6	7.5	7.7	8.4	7.7	7.6	7.8	7.7	7.7	7.7	7.7	7.6	

Station	Parameter	Limit Type	Limit	Units	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
		CalMoMin		SU	6.8	7	7.1	7	6.9	7.1	7	6.9	6.7	6.9	7	7.1	7.1
	Phosphorus, Total (as P)	CalMoAvg		mg/L	5.26	5.27	5.55	5.04	4.73	4.55	4.99	4.27	5.08	5.13	5.43	5.34	5.24
	Precipitation	CalMoTot		in	0.19	4.43	2.58	6.15	10.32	14.26	10.86	8.62	1.43	1.53	3.97	0.19	1.37
	TSS	CalMoAvg		mg/L	265	277	274	246	212	227	221	201	226	239	263	199	234
		CalMoMax		mg/L	312	338	298	268	286	350	250	286	270	312	370	258	266

Receiving water(s)

Use classification

Minn. R. 7053.0205, subp. 8, authorizes the MPCA to develop WQBELs for point source discharges to waters of the state of Minnesota to protect receiving waters for the applicable use classifications.

The facility has a continuous discharge via surface discharge station SD 001 to the Lake Winona - Class 2B, 3, 4A, 4B, 5, 6 water. All waters of the state of Minnesota must be classified based on considerations of best usage in the interest of the public and in conformance with the requirements of the applicable statutes, as described in Minn. R. 7050.0140.

Class 2 waters, aquatic life and recreation. Aquatic life and recreation includes all waters of the state that support or may support aquatic biota, bathing, boating, or other recreational purposes and for which quality control is or may be necessary to protect aquatic or terrestrial life or their habitats or the public health, safety, or welfare.

Class 3 water, industrial consumption. Industrial consumption includes all waters of the state that are or may be used as a source of supply for industrial process or cooling water, or any other industrial or commercial purposes, and for which quality control is or may be necessary to protect the public health, safety, or welfare.

Class 4 waters, agriculture and wildlife. Agriculture and wildlife includes all waters of the state that are or may be used for any agricultural purposes, including stock watering and irrigation, or by waterfowl or other wildlife and for which quality control is or may be necessary to protect terrestrial life and its habitat or the public health, safety, or welfare.

Class 5 waters, aesthetic enjoyment and navigation. Aesthetic enjoyment and navigation includes all waters of the state that are or may be used for any form of water transportation or navigation or fire prevention and for which quality control is or may be necessary to protect the public health, safety, or welfare.

Class 6 waters, other uses and protection of border wars. Other uses includes all waters of the state that serve or may serve the uses in subparts 2 to 6 or any other beneficial uses not listed in this part, including without limitation any such uses in this or any other state, province, or nation of any waters flowing through or originating in this state, and for which quality control is or may be necessary for the declared purposes in this part, to conform with the requirements of the legally constituted state or national agencies having jurisdiction over such waters, or for any other considerations the agency may deem proper.

More information on the classification of waters can be found in [Minn. R. 7050.0140](#).

Impairments

A recent impaired waters review was completed on January 29, 2025. The following information is a summary of the recent impaired waters review; the full impaired waters review memo is available upon request.

The Alexandria Lake Area Sanitary District WWTF discharges to Lake Winona in the Long Prairie River Watershed. There are 66 impairments downstream of this discharge, including the following parameters: aluminum, chloride, dissolved oxygen, fecal coliform, mercury in fish tissue, mercury in water column, nutrients perfluorooctane sulfate (PFOS) in fish tissue, total suspended solids (TSS), fish bioassessments, polychlorinated biphenyls (PCBs) in fish tissue, PFOS, and sulfate.

Downstream Impairments	Number of Impairments
Lake Winona (21-0081-00)	2
Chloride	1
Nutrients	1
Lake Agnes (21-0053-00)	3
Mercury in Fish Tissue	1
Chloride	1
Nutrients	1
Lake Le Homme Dieu (21-0056-00)	1
Mercury in Fish Tissue	1
Lake Henry (21-0051-00)	2
Chloride	1
Nutrients	1
Lake Carlos (21-0057-00)	1
Mercury in Fish Tissue	1
Long Prairie River (07010108-534)	18
Mercury in Fish Tissue	7
Dissolved Oxygen	7
Fishes Bioassessments	2
Sulfate	2
Crow Wing River (07010106-721)	1
Mercury in Fish Tissue	1
Sylvan Lake (49-0036-01)	1
Mercury in Fish Tissue	1
Mississippi River (07010104-657)	25
Mercury in Fish Tissue	8
Mercury in Water Column	2

Downstream Impairments	Number of Impairments
Fecal Coliform	3
Total Suspended Solids	2
Nutrients	2
PCBF	4
PFOS-F	1
PFOS-W	1
Aluminum	2
Lake Pepin (25-0001-00)	1
Nutrients	1
Mississippi River (07040003-627)	9
Mercury in Fish Tissue	3
PCBF	3
Aluminum	1
Sulfate	2
Grand Total	64

Existing permit effluent limits

Please see the Recent and Existing Monitoring Table for a summary of existing permit effluent limits.

Technology-Based Effluent Limits (TBELs)

Limits are applied pursuant to Minn. R. 7053.0215, subp. 1, for 5-day carbonaceous biochemical oxygen demand (CBOD₅), CBOD₅ percent removal, TSS, TSS percent removal, and potential of hydrogen (pH). The CBOD₅ and the TSS monthly average limits are used to determine the calendar week average maximum limits.

Table 3: TBELs in existing permit

Pollutant	Calendar month average	Calendar week maximum	Calendar month max/ Calendar month min	Minimum calendar month average
CBOD ₅	25 mg/L 282 kg/day	40 mg/L 452 kg/day		
CBOD ₅ % Removal				85%
pH			9.0 SU 6.0 SU	
TSS	30 mg/L 339 kg/day	45 mg/L 508 kg/day		
TSS % Removal				85%

Water Quality-Based Effluent Limits (WQBELs)

Limits are applied pursuant to Minn. R. 7053.0215 for total residual chlorine. Limits for total phosphorus are applied pursuant to Minn. R. 7053.0205, subp. 8, and Minn. R. 7050.0222 to protect for lake and river eutrophication standards.

Table 4: WQBELs in existing permit

Pollutant	Calendar month average	12 Month moving total	Daily maximum
Chlorine, Total Residual			0.038 mg/L ¹
Chloride, Total	230 mg/L ³		839 mg/L ² 252 mg/L ³
Phosphorus, Total (as P)	0.25 mg/L ⁵ 0.157 mg/L ⁶	1087 kg/yr ⁵ 665 kg/yr ⁶	

¹Limit applies January-December

²Limit applies January-December (Interim Limit) Phase 1, 2, 3

³Limit applies January-December (final limit) Phase 4

⁴Limit applies during disinfection periods

⁵Limit applies during January-December Phase 1, 2

⁶Limit applies during January-December Phase 3, 4

State Discharge Restrictions (SDRs)

SDRs are not considered WQBELs. The MPCA requires secondary treatment or the equivalent as a minimum to protect water quality and maintain in-stream water quality standards (WQS)¹. Therefore, the restrictions are generally stringent enough to protect WQS, except where there is inadequate dispersion, or dilution at applicable minimum stream flows.

The 200 organisms per 100 milliliters (orgs/100mL) for fecal coliform is based on Minn. R. 7053.0215, subp.1.

¹Minnesota Regulation WPC 15, Criteria for the Classification of the Interstate Waters of the State and the Establishment of Standard of Quality and Purity. Minnesota Pollution Control Agency, April 8, 1969.

Table 5: SDRs in existing permit

Pollutant	Calendar month average	Calendar month geometric mean
Fecal Coliform, MPN or Membrane Filter 44.5 C		200 orgs/100mL ¹

¹Limit applies April-October

Proposed permit effluent limits

Limits and monitoring requirements for surface water discharges are set in consideration of Minnesota state water discharge criteria also known as SDRs. SDRs are based on Minn. R. ch. 7053, Minnesota state WQBELs for the receiving water use classification, federal TBEL limits applicable to specific discharge types, or a combination of these limits to regulate the discharge of wastewater. When limits overlap for a particular pollutant, the most restrictive limit is applied in the permit. In addition, MPCA may derive limits that are specific to a particular discharge. These limits may be based on toxicity studies, professional judgment analysis, technology-based standards, and in some instances, standards developed by other U.S. states or regulatory agencies.

Waste stream stations

Limits and monitoring requirements for waste streams are assigned to ascertain their impact on wastewater treatment processes, contributions to other treatment facilities, and/or land treatment/discharge sites. Requirements are based on Minnesota Pollution Control Agency (MPCA) sampling policies and/or state health requirements.

This permit contains one waste stream station, for monitoring and reporting purposes. The influent wastewater will be monitored as WS 001. The proposed limit and monitoring requirements for the waste stream station are found in the limits and monitoring table in the accompanying draft permit document.

Groundwater stations

There are no groundwater stations in this permit for monitoring and reporting purposes. Limit and monitoring requirements for groundwater are assigned to ascertain their impact on land treatment/discharge sites and downgradient groundwater quality. Requirements are based on MPCA sampling policies and/or state health requirements.

Surface water stations

There are three surface water monitoring stations. Monitoring of nearby surface waters is required in the permit. SW 001 monitors the Northeast site of Lake Winona. SW 002 monitors the Southwest site of Lake Winona. SW 003 monitors Lake Agnes.

The proposed limits and monitoring requirements for the surface water stations are found in the limits and monitoring table in the accompanying draft permit document. An Information Protocol document with additional details regarding the surface water stations is available upon request.

Surface water discharge stations

The monitoring frequencies for outfall SD 001 are based on MPCA guidelines for Class A municipal discharges that are greater than one million gallons per day. The monitoring frequencies are set to achieve sufficient data to determine the compliance with established limits. The proposed limit and monitoring requirements for the surface discharge stations are found in the limits and monitoring table in the accompanying draft permit document.

Technology-Based Effluent Limits (TBELs)

Limits are applied pursuant to Minn. R. 7053.0215, subp. 1, for CBOD₅ percent removal, TSS, TSS percent removal, and potential of hydrogen (pH).

Maximum calendar week average limits are calculated based on the facility type.

- Mechanical facilities’ limits are calculated using an equation that takes into consideration the facility’s average wet weather design flow, the calendar month average concentration limits and a conversion factor.

Table 6: TBELs in proposed permit

Pollutant	Daily Maximum	Calendar month average	Calendar week maximum	Calendar month max/ Calendar month min	Minimum calendar month average
CBOD ₅		25 mg/L ¹ 282 kg/day ¹	40 mg/L ¹ 452 kg/day ¹		
CBOD ₅ % Removal					85% ¹
Chloride, Total	14952 kg/day ² 4483 kg/day ³	4092 kg/day ³			
Copper, Total (as Cu)	2.437 kg/day ⁴	1.618 kg/day ⁴			
Mercury, Total (as Hg)	299 mg/day ⁵	173 mg/day ⁵			
pH				9.0 SU ¹ 6.0 SU ¹	
Sulfate, Total (as SO ₄)		2828 kg/day ¹			
TDS	34,511 kg/day ⁴				

Pollutant	Daily Maximum	Calendar month average	Calendar week maximum	Calendar month max/ Calendar month min	Minimum calendar month average
TSS		30 mg/L ¹ 339 kg/day ¹	45 mg/L ¹ 508 kg/day ¹		
TSS % Removal					85% ¹
Zinc, Total (as Zn)	5.283 kg/day ⁴	3.45 kg/day ⁴			

¹Limit applies January-December

²Interim mass limit with effective period of January-December

³Final mass limit with effective period of January-December

⁴Limit applies March, June, September, December

⁵Limit applies January, March, May, July, September, November

Water Quality-Based Effluent Limits (WQBELs)

Minn. R. 7053.0205, subp. 8, authorizes the MPCA to develop WQBELs for point source discharges to waters of the state of Minnesota to protect receiving waters for the applicable use classifications.

Minn. R. 7050.0155 requires that all waters must maintain a level of water quality that provides for the attainment and maintenance of the water quality standards of downstream waters, including the waters of another state.

WQBELs for total residual chlorine and phosphorus (Minn. R. 7053.0255) are based on Class 2B waters (Minn. R. 7050.0222). See the ‘Explanation of Total Phosphorus Review’ section below for additional information regarding the development of the total phosphorus limit(s).

The quality of Class 2B surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water aquatic biota, and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. This class of surface water is not protected as a source of drinking water (Minn. R. 7050.0222, subp. 4).

Limits for total residual chlorine are applied pursuant to Minn. R. 7053.0205, subp. 8. The limits for TP are applied pursuant to Minn. R. 7053.0205, subp. 8, and Minn. R. 7050.0222 to protect for lake and/or river eutrophication standards.

Table 7: WQBELs in proposed permit

Pollutant	Calendar month average	12 Month moving total	Daily maximum
Chlorine, Total Residual			0.038 mg/L ¹
Chloride, Total	805 mg/L ²		252 mg/L ³
	230 mg/L ³		
Phosphorus, Total (as P)	0.25 mg/L ²	1087 kg/yr ²	
	0.157 mg/L ³	665 kg/yr ³	

¹Limit applies April-October

²Interim limit applies January-December

³final limit applies January-December

State Discharge Restrictions (SDRs)

SDRs are not considered WQBELs. The MPCA requires secondary treatment or the equivalent as a minimum to protect water quality and maintain in-stream WQS. Therefore, the restrictions are generally stringent enough to protect WQS, except where there is inadequate dispersion, or dilution at applicable minimum stream flows.

The 200 organisms per 100 milliliters (orgs/100mL) for fecal coliform is based on Minn. R. 7053.0215, subp. 1.

¹ Minnesota Regulation WPC 15, Criteria for the Classification of the Interstate Waters of the State and the Establishment of Standard of Quality and Purity. Minnesota Pollution Control Agency, April 8, 1969.

Table 8: SDRs in proposed permit

Pollutant	Calendar month average	Calendar month geometric mean
Fecal Coliform, MPN or Membrane Filter 44.5 C		200 orgs/100mL ¹

¹ Limit applies April-October

Summary of proposed effluent limit and monitoring requirements

The following table lists the all the proposed limits and monitoring requirements for station SD 001.

Table 9: Proposed Effluent Limit and Monitoring Requirements

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency
CBOD ₅	282	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	3 x Week
CBOD ₅	452	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	3 x Week
CBOD ₅	25	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	3 x Week
CBOD ₅	40	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	3 x Week
CBOD ₅ % Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	1 x month
Copper, Total (as Cu)	1.618	kg/day	Calendar Month Average	Mar, Jun, Sep, Dec	24-Hour Flow Composite	2 x month
Copper, Total (as Cu)	2.437	kg/day	Daily maximum	Mar, Jun, Sep, Dec	24-hour Flow Composite	2 x month
Chloride, Total ¹	14925	kg/day	Daily maximum	Jan-Dec	24-Hour Flow Composite	4 x month
Chloride, Total ¹	805	mg/L	Calendar month average	Jan-Dec	24-hour Flow composite	4 x month
Chloride, Total ²	4092	kg/day	calendar month average	Jan-Dec	24-Hour Flow Composite	4 x month
Chloride, Total ²	4483	kg/day	Daily Maximum	Jan-Dec	24-Hour Flow Composite	4 x month
Chloride, Total ²	230	mg/L	calendar month average	Jan-Dec	24-Hour Flow Composite	4 x month
Chloride, Total ²	252	mg/L	Daily Maximum	Jan-Dec	24-Hour Flow Composite	4 x month
Chlorine, Total Residual	0.038	mg/L	Daily Maximum	Apr-Oct	Grab	1 x Day
Fecal Coliform	200	#100ml	Calendar Month Geometric Mean	Apr-Oct	Grab	3 x Week
Flow	Monitor Only	mgd	Calendar Month Average	Jan-Dec	Measurement, Continuous	1 x Day
Flow	Monitor Only	mgd	Calendar Month Maximum	Jan-Dec	Measurement, Continuous	1 x Day
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement, Continuous	1 x Day
Mercury, Total	173	mg/day	Calendar Month Average	Jan, Mar, May, Jul, Sep, Nov	Grab	2 x Month
Mercury, Total	Monitor Only	ng/L	Calendar Month Maximum	Jan, Mar, May, Jul, Sep, Nov	Grab	2 x Month
Mercury, Total	299	mg/day	Daily Maximum	Jan, Mar, May, Jul, Sep, Nov	Grab	2 x Month
Nitrite Plus Nitrate, Total	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Month
Nitrogen, Ammonia, Total	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Month
Nitrogen, Kjeldahl, Total	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x Month
Nitrogen, Total (as N)	Monitor Only	mg/L	Calendar month Average	Jan-Dec	Calculation	1 x month
Oxygen, Dissolved	Monitor Only	mg/L	Calendar Month Minimum	Jan-Dec	Grab	1 x Day
pH	9.0	SU	Calendar Month Maximum	Jan-Dec	Grab	1 x Day
pH	6.0	SU	Calendar Month Minimum	Jan-Dec	Grab	1 x Day
Phosphorus, Total ¹	1087	kg/yr	12 Month Moving Total	Jan-Dec	24-Hour Flow Composite	1 x month

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency
Phosphorus, Total ²	665	kg/yr	12 Month Moving Total	Jan-Dec	24-Hour Flow Composite	1 x month
Phosphorus, Total ¹	0.25	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x week
Phosphorus, Total	Monitor Only	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x week
Phosphorus, Total ²	0.157	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	1 x week
Solids, Total Dissolved	34511	kg/day	Daily Maximum	Mar, Jun, Sep, Dec	24-Hour Flow Composite	2 x month
TSS	339	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	3 x Week
TSS	30	mg/L	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	3 x Week
TSS	508	kg/day	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	3 x Week
TSS	45	mg/L	Maximum Calendar Week Average	Jan-Dec	24-Hour Flow Composite	3 x Week
TSS % Removal	85	%	Minimum Calendar Month Average	Jan-Dec	Calculation	3 x Week
TSS, Grab (Mercury)	Monitor Only	mg/L	Calendar Month Maximum	Jan, Mar, May, Jul, Sep, Nov	Grab	2 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Maximum	Mar, Jun, Sep, Dec	Measurement	1 x month
Sulfate, Total	2828	kg/day	Calendar Month Average	Jan-Dec	24-Hour Flow Composite	2 x month
Zinc, Total (as Zn)	3.45	kg/day	Calendar Month Average	Mar, Jun, Sep, Dec	24-Hour Flow Composite	2 x month
Zinc, Total (as Zn)	5.283	kg/day	Daily Maximum	Mar, Jun, Sep, Dec	24-Hour Flow Composite	2 x month

¹Interim Limit

²Final Limit

Explanation of total phosphorus limit review

Total phosphorus WQBEL

Federal law [40 C.F.R. § 122.44(d)] restricts mass increases of pollutants upstream of an impaired water and requires WQBEL(s) to be established for pollutant parameters where it is found that a NPDES/SDS discharger has the reasonable potential (RP) to cause or contribute to an excursion above a state WQS. An effluent limits analysis was completed to determine if the facility's discharge has RP to cause or contribute to an exceedance of a state WQS or contribute to any downstream impairment. As a result of the analysis, total phosphorus effluent limits were established for the facility to ensure protection of downstream waters and to comply with Lake Eutrophication Standards and Site Specific Standard.

Lake Eutrophication Standards (LES)

Effluent from the facility is discharged to Lake Winona which currently exceeds numeric lake eutrophication standards. Lake Winona is located in the North Central Hardwoods Forest Ecoregion. Minn. R. 7050.0222 (<https://www.revisor.mn.gov/rules/?id=7050.0222>) details eutrophication standards for lakes, shallow lakes, and reservoirs. Federal law [40 C.F.R. § 122.44(d)] restricts mass increases upstream of impaired waters and states that NPDES/SDS permits for all dischargers that have the RP to cause or contribute to downstream impaired waters are required to contain WQBELs derived from the WQS. When determining RP, the Code of Federal Regulations also states that the MPCA shall use procedures which account for existing controls on point and nonpoint sources of pollution. Permittees are found to have RP for TP if: 1) they discharge upstream of a nutrient impaired waterbody, 2) they discharge at TP concentrations greater than the ambient target; and 3) there is no geographical barrier capable of trapping a significant mass of nutrients between the outfall and the impairment. For all reasons listed above, the facility is found to have RP for TP. Therefore, the facility is assigned a 12-month moving total mass TP WQBEL as a result of the Waste Load Allocation (WLA) derived from the WQS.

The TP effluent limit assigned to the facility to protect for eutrophication impairment is, 665 kilograms per year (kg/yr) as a 12-month moving total.

River Eutrophication Standards (RES)

The Lake Winona Watershed analysis demonstrated that the facility does not have RP to cause or contribute to a river eutrophication impairment in the watershed, under permitted effluent conditions. As such, existing limits in the permit are sufficient to protect the immediate receiving waters.

Reasonable potential for chemical specific pollutants [40 C.F.R. § 122.44 (d)(1)]

Background for reasonable potential review

The facility discharges into Lake Winona. Lake Winona is a class 2B, 3, 4A, 4B, 5, and 6 lake. This toxics review is for an expansion. Their current discharge rate is 4.7 mgd for their average wet-weather design flow (AWWDF) and their average dry-weather design flow (ADWDF) is 3.0 mgd. The expansion is set to have a AWWDF of 5.70 mgd and an ADWDF of 3.70 mgd. This expansion does not trigger antidegradation as the facility as agreed to accept freezes to their mass loadings. This facility is currently in a Toxicity Reduction Evaluation (TRE). This facility has a site specific WQS for total copper. They have a chloride limit as well. This facility has been monitoring for several salty parameters, total copper, total mercury, and total zinc. Since their discharge is going into a lake, the 7Q10 flow is 0.0 cubic feet per second (cfs). The analysis below is based on data submitted over the previous five years.

The facility discharges to (the) Winona - Class 2B, 3, 4A, 4B, 5, 6 water.

Federal regulations require the MPCA to evaluate the discharge to determine whether the discharge has the reasonable potential (RP) to cause or contribute to a violation of water quality standards. The MPCA must use acceptable technical procedures, accounting for variability (coefficient of variation, or CV), when determining whether the effluent causes, has the reasonable potential to cause, or contribute to an excursion of an applicable water quality standard. Projected effluent quality (PEQ) derived from effluent monitoring data is compared to Preliminary Effluent Limits (PELs)

determined from mass balance inputs. Both determinations account for effluent variability. Where PEQ exceeds the PEL, there is reasonable potential to cause or contribute to a water quality standards excursion. When RP is indicated, the permit must contain a WQBEL for that pollutant.

Pollutants of concern

Chloride

A recent RP analysis has determined a WQBEL for total chloride is necessary. The following final effluent limits for total chloride have been placed in the permit document: 230 mg/L as a calendar month average and 252 mg/L as a daily maximum.

The facility is not currently designed to treat wastewater to meet the final effluent limits described above. The permittee has indicated the need for a water quality variance to meet final effluent limits. Refer to the Chloride Variance section of the permit for further information.

Mercury

This permit contains requirements for mercury monitoring (and limits, *if applicable*). These requirements were added in response to the EPA approval of the Minnesota statewide Mercury Total Maximum Daily Load (TMDL) plan. More information on the TMDL can be found on the MPCA's website at <https://www.pca.state.mn.us/business-with-us/statewide-mercury-tmdl>. Specific mercury monitoring requirements are found in the Waste Stream Stations and/or Surface Discharge Stations sections of this permit. Those requirements include sampling for TSS via a grab sample taken at the same time as the total and dissolved mercury grab samples are taken.

The mercury monitoring at outfall SD 001 is consistent with the MPCA *Permitting Strategy for Addressing Mercury in Municipal and Industrial Wastewater Permits* (2013) located on the MPCA's website at <https://www.pca.state.mn.us/sites/default/files/wq-wwprm1-16.pdf>.

Mercury Minimization Plan (MMP)

The Permittee is required to submit a MMP or an updated MMP. This requirement complies with the EPA's approval of the Minnesota statewide Mercury TMDL plan. Guidance for completing the MMP is available on the MPCA's website at <https://www.pca.state.mn.us/business-with-us/wastewater-permit-additional-guidance-and-information>.

Nitrogen

Nitrogen is a pollutant that can negatively impact the quality of Minnesota's water resources, including water used for drinking. Studies have shown that nitrogen in lakes and streams has a toxic effect on aquatic life such as fish. Like phosphorus, nitrogen is a nutrient that promotes algae and aquatic plant growth, often resulting in decreased water clarity and oxygen levels. The Statewide Nutrient Reduction Strategy (<https://www.pca.state.mn.us/air-water-land-climate/reducing-nutrients-in-waters>) identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources in Minnesota. To gain a better understanding of the current nitrogen concentrations and loadings received by and discharged from the facility, effluent nitrogen monitoring is required in accordance with Minn. Stat. § 115.03.

The permit includes influent monitoring for TN, total nitrite plus nitrate-nitrogen, and TKN at a frequency of once per month. The permit includes effluent monitoring for ammonia nitrogen and total dissolved solids at a frequency of once per month and nitrite plus nitrate-nitrogen, TKN, and TN at a frequency of once per month for the five-year term of the permit. There is no effluent nitrogen limit in the permit.

This nitrogen monitoring will provide the data necessary to develop a better understanding of the TN concentrations and loadings that are discharged. Once a more extensive TN data set is established, nitrogen reduction work can begin to achieve the necessary reductions to meet the goal of a 20% reduction in TN loads from point source dischargers by 2025. The changes and/or increases in TN monitoring in wastewater permits as a result of the *Statewide Nutrient*

Reduction Strategy is outlined in the *Minnesota NPDES Wastewater Permit Nitrogen Monitoring Implementation Plan* document located on the MPCA's website at <https://www.pca.state.mn.us/sites/default/files/wq-wwprm1-22.pdf>.

(Voluntary) Nitrogen Reduction Strategy Optimization Incentive

An optimization incentive is being offered to all NPDES/SDS permitted wastewater treatment facilities (WWTFs) to encourage WWTFs to start making nitrogen reductions now. In return, pending successful rulemaking, implementation of a potential state discharge restriction limit (SDR) may be deferred within their individual permits.

Rulemaking efforts will be undertaken to adopt a 10 mg/L nitrogen SDR for all major municipal WWTFs, high concentration minor municipal WWTFs, and high concentration industrial dischargers. Permittees will need to optimize their existing plant operations to achieve a 15 mg/L total nitrogen concentration or lower, as a 12-month moving average, for a 12-month period, during the Nitrogen Reduction Strategy's phase 1 efforts (now until adoption of an SDR).

The success of optimization efforts will be determined post-SDR adoption during the effluent limit review process. The review will factor in the following:

- Beginning April 1, 2024, if the facility's effluent concentration is already at or below 15 mg/L, as a 12-month rolling average, that facility will need to operate below their existing levels consistently for a minimum of 12-months.
- Once facilities have started to optimize their wastewater treatment to reduce their nitrogen concentrations, they should continue optimization efforts until the SDR limit is applied in their permits.

The following should be noted:

- The SDR limit is proposed for all major municipal and high concentration industrial dischargers; if you are not currently a major facility but may be prior to SDR adoption, you may still have the opportunity to participate in this optimization incentive so long as the optimization period is at least 12-months long.
- The optimization incentive is included in the rulemaking effort for the SDR limit however, the deferral of the SDR limit for another permit cycle is dependent on successful rulemaking efforts. If this incentive is not successful during SDR rulemaking efforts, the SDR limit will not be able to be deferred an additional permit cycle.

Phosphorus

Phosphorus is a common constituent in many wastewater discharges and a pollutant that has the potential to negatively impact the quality of Minnesota's lakes, wetlands, rivers, and streams. Phosphorus promotes algae and aquatic plant growth, often resulting in decreased water clarity and oxygen levels. In addition to creating general aesthetic problems, these conditions can also impact a water body's ability to support healthy fish and other aquatic species. Therefore, phosphorus discharges are being carefully evaluated throughout the state.

The Permittee is required to meet a phosphorus limit as specified in the limits and monitoring section of this permit. Although the Permittee is not required to prepare a Phosphorus Management Plan, elimination or reduction of phosphorus at the source will decrease the influent load to the wastewater treatment facility and has the potential to improve treatment efficiency and reduce treatment costs. The MPCA strongly encourages the Permittee to identify and eliminate/reduce sources of phosphorus to, and optimize phosphorus management within, the facility.

All phosphorus samples must be analyzed by a certified laboratory and the data submitted to the MPCA. If the laboratory would like more information about becoming certified, please call the Environmental Laboratory Certification Unit at 612-676-5200. Samples must be collected in a clean bottle (preferably cleaned by a certified laboratory) that was not washed with phosphate detergent. Also, a sulfuric acid preservative must be added immediately after the sample is collected, and it must be stored at four degrees Celsius until analysis. If a contract laboratory is used, the bottle and preservative would typically be provided by the laboratory analyzing the sample.

Salty discharge monitoring

In recent years, MPCA staff became aware of issues associated with “salty discharges.” As a result, MPCA staff began to request monitoring for these facilities and began assigning effluent limits to facilities that already have data that show RP to exceed a WQS for classes 2, 3 and 4 water bodies.

Because of increased concern regarding salty discharges, MPCA staff determined that there is a need to obtain more information from dischargers. Facilities with continuous, periodic/seasonal, or intermittent waste flows where the receiving water stream flow to effluent design flow dilution ratio under low flow conditions is less than 5:1 (annual climatic 7Q₁₀: Maximum Daily Design Flow) will be required to monitor effluent for the following parameters: chloride, total dissolved solids, specific conductance, and sulfate.

In studies of waters for use in irrigation and fish production, the salinity is often expressed as specific electrical conductance. Since specific conductance is a reliable method of measuring the ionic concentration of waters, it serves as a surrogate measure for salinity and can be used to calculate salinity.

Samples will be collected from one location at surface discharge station SD 001.

Sulfate

Sulfate monitoring for protection of wild rice waters

In 1973 Minnesota adopted a sulfate water quality standard to protect wild rice. In a February 16, 2022 letter to the MPCA, the U.S. Environmental Protection Agency (EPA) stated their expectations that MPCA issued NPDES/SDS permits are required to comply with the federally-approved sulfate water quality standard and Minnesota Rules.

In order to comply with the total sulfate water quality standard, MPCA is including total sulfate limits and monitoring requirements in permits that are upstream of a waters used for the production of wild rice. There are currently approximately 2400 waters within the state of Minnesota have been identified as waters used for the production of wild rice (this includes the 35 waters identified on the 303(d) impaired waters list).

Total Suspended Solids (TSS)

Suspended solids may include both organic and inorganic matter. The inorganic compounds may include sand, silt, clay and precipitated metals. The organic fraction may include such materials as wood fibers and unsettled biomass from biological treatment systems.

These solids may settle out rapidly and bottom deposits are often a mixture of both organic and inorganic solids. Solids may be suspended in water for a time and then settle to the bed of the stream or lake. They may be inert, slowly biodegradable materials, or rapidly decomposable substances. While in suspension they increase the turbidity of the water, reduce light penetration, and impair the photosynthetic activity of aquatic plants. Suspended solids may kill fish and shellfish by causing abrasive injuries, by clogging gills and respiratory passages, by screening out light and by promoting and maintaining the development of noxious conditions through oxygen depletion. Suspended solids also reduce the recreational value of water.

Total Maximum Daily Load (TMDL) study

To address water quality impairments, a TMDL study of the Lake Winona watershed was conducted. The study determined the capacity to assimilate pollutant loads as the basis for recommendations of WLA for point sources and load allocation for nonpoint sources in the watershed. An appropriate balance of point and nonpoint source controls that attain water quality objectives were selected with full stakeholder involvement. Based on the results of the TMDL study, the permit may be reopened and effluent limitations for this facility may be re-examined. This permit will be modified or reissued as needed to incorporate effluent loading recommendations from the TMDL study.

Chemical additives

Chemical additives are addressed by the additive limits and associated monitoring in the permit.

Table 11: Chemical additives currently approved for use at this facility consist of the following:

Name	Dosage frequency	Location and maximum addition rate	Discharge location
Neo Water FX		100 gal/day	SD 001
Sodium Hypochlorite	Slug dosing 2 times per week; 2 times per year for recovery cleans	Fed to membrane tanks; MC 340 gpd; RC 460 gpd	SD 001
Citric Acid	Slug dosing 2 time per year for recovery cleans	Fed to membrane tanks; 180 gpd	SD 001
Sodium Hypochlorite	As needed	Former chlorine contact channels; 861 gpd	SD 001
Aluminum Sulfate	Continuous	Dosing to digesters; 50 gpd	SD 001

Biosolids and septage

Biosolids land application

This permit section requires biosolids to be treated to meet specific standards, and specifies monitoring, recordkeeping, reporting, and general requirements for biosolids that are applied to the land. Unless they are exceptional quality biosolids, sites to which biosolids are applied are approved by the MPCA by the procedures found in Minn. R. 7041.0800.

Industrial stormwater coverage

Industrial Stormwater Coverage Within the NPDES/SDS Permit on April 1, 2020, the Industrial Stormwater General Permit (MNR050000) was reissued. This permit addresses stormwater discharges associated with industrial activity for facilities that discharge stormwater to waters of the state, including Municipal Separate Storm Sewer Systems. The General Permit also addresses stormwater discharges associated with industrial activities at facilities that provide onsite infiltration of industrial stormwater discharges associated with the facility.

Variance

Chloride variance

In July 2019, the Permittee submitted an application for a variance from the chloride water WQS in Minn. R. ch. 7050, designed to protect the Class 2 beneficial use of the receiving water. The chloride WQS is located in Minn. R. 7050.0222, subp. 4. A variance is a temporary change in a state WQS for a specified pollutant and its associated WQBEL that reflects the Highest Attainable Condition (HAC) for a permittee during the term of the variance. Compliance with the chloride WQS is not feasible because controls more stringent than those required by sections 301(b) and 306 of the CWA would result in a substantial and widespread economic and social impact to the community.

Upon review of the application, the MPCA staff have determined that the Permittee has satisfied the conditions necessary to grant a variance and, as a result, recommends the Commissioner grant the variance and has prepared a draft NPDES/SDS permit with additional conditions. A schedule of compliance activities has been included in the draft permit under the section, "Chloride Variance".

All proposed variance submittals are subject to MPCA review and approval. Work completed by the Permittee as part of the variance schedule of compliance activities may require a modification of the permit, in accordance with Minn. R. 7001.0170, including public notice of the proposed permit modifications. Additional information regarding the MPCA initiated permit modifications can be found in the Total Facility Requirements section of the draft permit.

A copy of the complete variance preliminary determination and draft permit is available online on the MPCA's Public Notice website.

Total facility requirements

Certified laboratory

Effective January 1, 2013, all Minnesota municipal, county, or industrial laboratories that analyze wastewater per Clean Water Act requirements must be certified by the MPCA or the Minnesota Department of Health. Information regarding MPCA laboratory certification is located on the MPCA's website at <https://www.pca.state.mn.us/business-with-us/mpca-laboratory-certification>. If there are any questions concerning MPCA laboratory certification, please contact the MPCA at 800-657-3864 or by email at qa.questions.mpca@state.mn.us. Commercial laboratories doing these analyses must maintain Minnesota Department of Health certification.

Electronic Discharge Monitoring Reports (eDMRs)

The eDMRs, Sample Values/Operational Spreadsheets, and related attachments shall be electronically submitted via the MPCA e-Services (https://rsp.pca.state.mn.us/TEMPO_RSP/Orchestrate.do?initiate=true). Paper copies of DMRs will no longer be accepted. The eDMR and Sample Value/Operational Spreadsheets are generated directly from the limits and monitoring requirements in permit for the facility. They are generated by the Pollution Control Data Specialist assigned to manage the data for the facility and will be available online within 30 days of the permit action, please make sure to download the most recent version of the eDMR and Sample Value/Operational Spreadsheet prior to submitting the next monthly eDMRs.

Construction projects

Separate written approval of plans and specifications, in addition to the final issued permit, must be obtained from the MPCA before construction can begin for any planned construction projects.

Antidegradation and anti-backsliding

The mass limits for CBOD₅ and TSS are capped at the existing values to avoid antidegradation analysis. CBOD₅ and TSS limits are based on the 2.987 mgd and capped from 1988 (Draft Permit Requirement 5.4.51). New chloride, copper, mercury, sulfate, zinc and TDS mass cap limits were calculated for the expanded facility and based on the new flow of 4.7 mgd. The facility has chosen to accept the mass caps for the expansion in lieu of antidegradation analysis.

Antidegradation: Changes to the facility may result in an increase in pollutant loading to surface waters or other causes of degradation to surface waters. If a change to the facility will result in a net increase in pollutant loading or other causes of degradation that exceed the maximum loading authorized through conditions specified in the existing permit, the changes to the facility are subject to antidegradation requirements found in Minn. R. 7050.0250 to 7050.0335. The permit does not propose to allow a new or increased discharge and does not trigger antidegradation.

Anti-backsliding: Any point source discharger of sewage, industrial, or other wastes for which a NPDES Permit has been issued by the MPCA that contains effluent limits more protective than those that would be established by Minn. R. 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less protective effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342. The permit complies with Minn. R. 7053.0275 regarding anti-backsliding.

Term of permit

The MPCA has made a preliminary determination to reissue this NPDES/SDS permit for a term of approximately five years.

The effective date of the permit and the permit expiration date will be determined at the time of issuance.