North Dakota Department of Environmental Quality Public Notice
Reissue of an NDPDES Permit

Public Notice Date: 2/13/2025 Public Notice Number: ND-2025-009

Purpose of Public Notice

The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information

Application Date: 10/17/2024 Application Number: ND0022896

Applicant Name: Minot City Of

Mailing Address: 1025 31st St SE, Minot, ND 58701-5006

Telephone Number: 701.857.4768

Proposed Permit Expiration Date: 3/31/2030

Facility Description

The North Dakota Department of Environmental Quality proposes to reissue NDPDES permit #ND0022896 for the waste water treatment facility servicing the City of Minot, ND. Treated wastewater is discharged to the Souris River, a Class IA stream, via a modified waterway. Permitted Outfall 001 is located in the NE ¼ of Section 1, Township 154 North, Range 82 West.

Tentative Determinations

Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCAA will be protected.

Information Requests and Public Comments

Copies of the application, draft permit, and related documents are available for review. For further information on making public comments/public comment tips please visit: https://deq.nd.gov/PublicCommentTips.aspx. Comments or requests should be directed to the ND Dept of Env Quality, Div of Water Quality, 4201 Normandy Street, Bismarck ND 58503-1324 or by calling 701.328.5210.

All comments received by March 16, 2025 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

The NDDEQ will consider every request for reasonable accommodation to provide an accessible meeting facility or other accommodation for people with disabilities, language interpretation for people with limited English proficiency (LEP), and translations of written material necessary to access programs and information. Language assistance services are available free of charge to you. To request accommodations, contact the NDDEQ Non-discrimination Coordinator at 701-328-5210 or deqEJ@nd.gov. TTY users may use Relay North Dakota at 711 or 1-800-366-6888.

FACT SHEET FOR NDPDES PERMIT ND0022896

PERMIT REISSUANCE

MINOT PUBLICLY OWNED TREATMENT WORKS MINOT, ND

DATE OF THIS FACT SHEET - NOVEMBER 2024

INTRODUCTION

The Federal Clean Water Act (CWA, 1972, and later amendments in 1977, 1981, and 1987, etc.) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES), which the US Environmental Protection Agency (EPA) oversees. In 1975, the State of North Dakota was delegated primacy of the NPDES program by EPA. The North Dakota Department of Environmental Quality, hereafter referred to as "department", has been designated the state water pollution control agency for all purposes of the Federal Water Pollution Control Act, as amended [33 U.S.C. 1251, et seq.], and is authorized to take all action necessary or appropriate to secure to this state the benefits of the act and similar federal acts. The department's authority and obligations for the wastewater discharge permit program is in the North Dakota Administrative Code (NDAC) 33.1-16 which was adopted under North Dakota Century Code (NDCC) chapter 61-28. In North Dakota, these permits are referred to as North Dakota Pollutant Discharge Elimination System (NDPDES) permits.

The following rules or regulations apply to NDPDES permits:

- Procedures the department follows for issuing NDPDES permits (NDAC chapter 33.1-16-01),
- Standards of Quality for Waters of the State (NDAC chapter 33.1-16-02.1).

These rules require any treatment facility operator to obtain an NDPDES permit before discharging wastewater to state waters. They also define the basis for limits on each discharge and for other requirements imposed by the permit.

According to NDAC section 33.1-16-01-08, the department must prepare a draft permit and accompanying fact sheet and make it available for public review. The department must also publish an announcement (public notice) during a period of thirty days, informing the public where a draft permit may be obtained and where comments regarding the draft permit may be sent (NDAC section 33.1-16-01-07). For more information regarding preparing and submitting comments about the fact sheet and permit, please see Appendix A - Public Involvement. Following the public comment period, the department may make changes to the draft NDPDES permit. The department will summarize the responses to comments and changes to the permit in Appendix D - Response to Comments.

TABLE OF CONTENTS

BACKGROUND INFORMATION

Table 1 – General Facility Information

Permittee:	The City of Minot
Facility Name and Address:	Minot Publicly Owned Treatment Works (POTW) 7125 20th Ave SE, Minot, ND 58702
Permit Number:	ND0022896
Permit Type:	Major Municipal Permit Reissuance
Type of Treatment	Wastewater Stabilization Ponds - Secondary Treatment
SIC Code:	4952 – Sewerage Systems
NAICS Code:	221320 – Sewage Treatment Facilities
Discharge Location(s):	Outfall 001: Souris River, Class IA stream Latitude: 48.196810°Longitude: -101.145095°
Hydrologic Code:	09010008 – Moose Mountain Creek – Souris River
Population:	47,373 – U.S. Census Estimate as of 2023

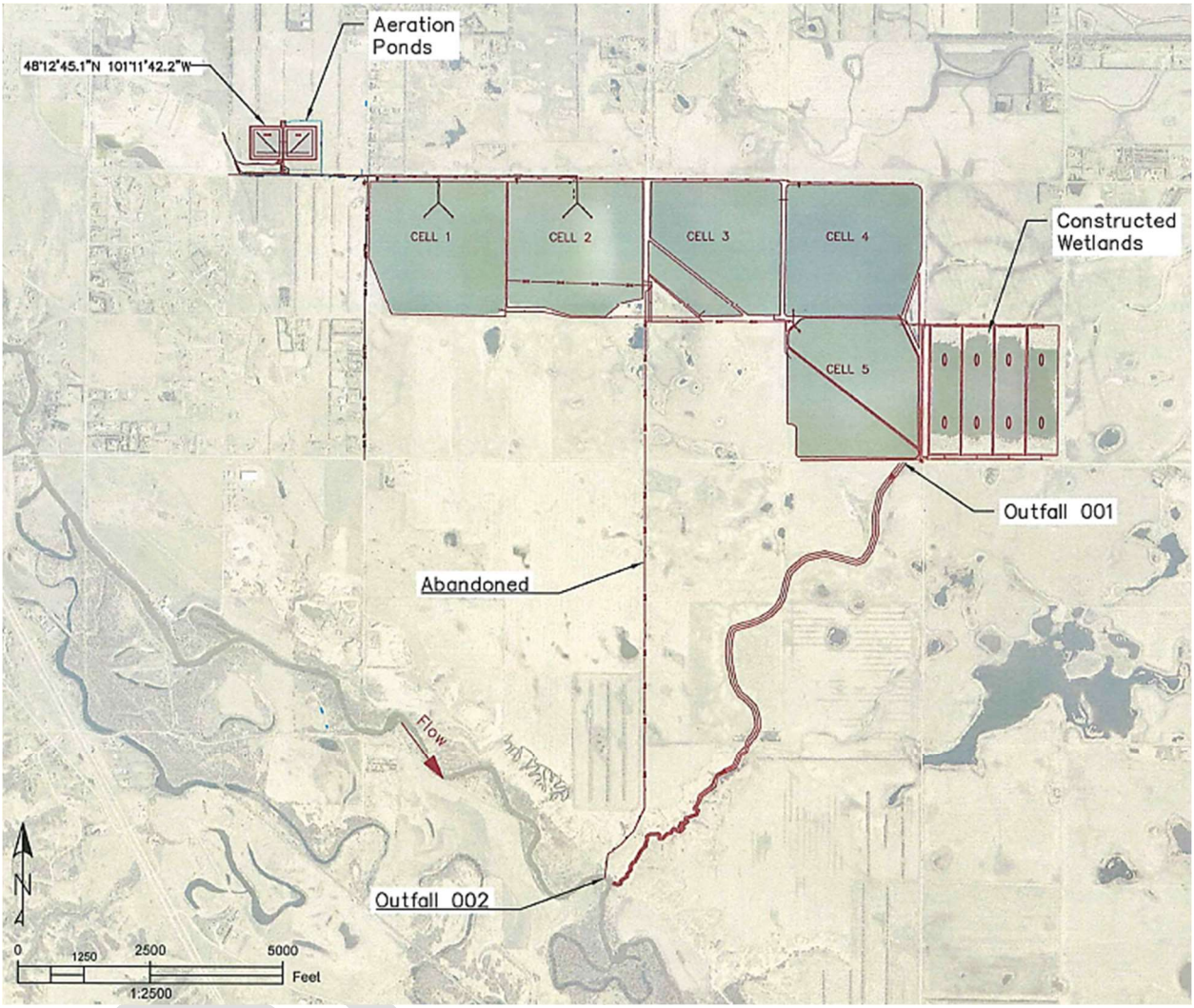


Figure 1 – Aerial Photograph of the City of Minot POTW
(image supplied by permittee on 10/17/2024)

FACILITY DESCRIPTION

The Minot POTW includes two aeration ponds, followed by a 5-cell waste stabilization pond lagoon system, and then finishes in an artificial wetlands treatment system. The aeration ponds are located in the SE ¼ of Section 27, Township 155 North, Range 82 West. The lagoons are located in the N ½ of Sections 35 and 36, and the SE ¼ of Section 36, Township 155 North, Range 82 West. The wetland system is in the SW ¼ of Section 31, Township 155 North, Range 81 West. All system elements are located in Ward County. The wastewater treatment system presently services a population of approximately 47,373 people in the City of Minot and receives an average daily influent flow of 5,503,000 gallons per day (gpd).

History

The Minot POTW was first built in 1960, with updates completed in 1973, 1983, and 1991 (See **Table 2**) which included additional lagoon cells and the constructed wetlands.

The Souris River periodically experiences extended periods of low flow. This presented limited opportunities for the city to discharge during low flow periods. In order to provide the city more flexibility, several advanced wastewater treatment options were examined, and the constructed wetlands system was the alternative treatment system selected by the city. In August 1991, the newly constructed artificial wetlands system went online at the City of Minot's wastewater treatment facility.

Table 2 – Treatment Cells Surface Areas

Cell	Surface Area* (in acres)	Year Built
Aeration Ponds (2)	8 (each)	-
1	140	1960
2	140	1960
3	140	1973
4	140	1983
5	140	1983
Wetlands	140	1991
Modified Drainage	NA	1991

*As per Figure 2 and previous statement of basis information.

The city once had the capability to discharge directly from lagoon Cell 5 to the Souris River (Outfall 002). However, with the need to process the wastewater through the constructed wetlands to have more opportunities to discharge during low flow periods, Outfall 002 fell into disuse. This discharge point has not been used in approximately 30 years and the pumphouse has been removed which enabled this point to discharge. The facility submitted a formal request on December 11, 2024 to remove Outfall 002 from active status.

Treatment System

Forty-seven (47) lift stations across the City of Minot direct all wastewater into the facility's two aeration ponds. From there, wastewater is gravity flowed into the 5-cell waste stabilization lagoon system and then to the constructed wetland for finishing treatment (**Figure 2**). More specifically, the wastewater from the aeration ponds enters the stabilization cell system in the northwest corner of Cell 2 which has a connecting pipe with Cell 1. Wastewater then exits from Cell 1 and enters Cell 3 for further retention and biological treatment. Cell 3 wastewater is then moved to either Cell 4 or Cell 5. These cells alternate filling with wastewater from Cell 3. Once released through the flow control vault from either Cell 4 or Cell 5, the wastewater enters the

constructed wetland at its northwest corner. It flows to a sand filter and pipe system along the wetland's southern edge before being discharged from Outfall 001 near the southwest corner of the constructed wetland. It takes approximately three days for water to filter through the wetland to the discharge point located in the ditch in the southwest corner of the intersection of 37th Avenue Southeast and 97th Street Southeast. There is no valve between the wetland and the discharge point. The discharge enters the modified drainage way, which was enhanced as a part of the wetland's Construction Grants project to provide additional treatment of the wastewater, and travels approximately two miles before entering the Souris River, a Class IA stream. The average timeframe for treating wastewater within the system as per the last inspection (August 2024) was approximately 4-6 weeks.

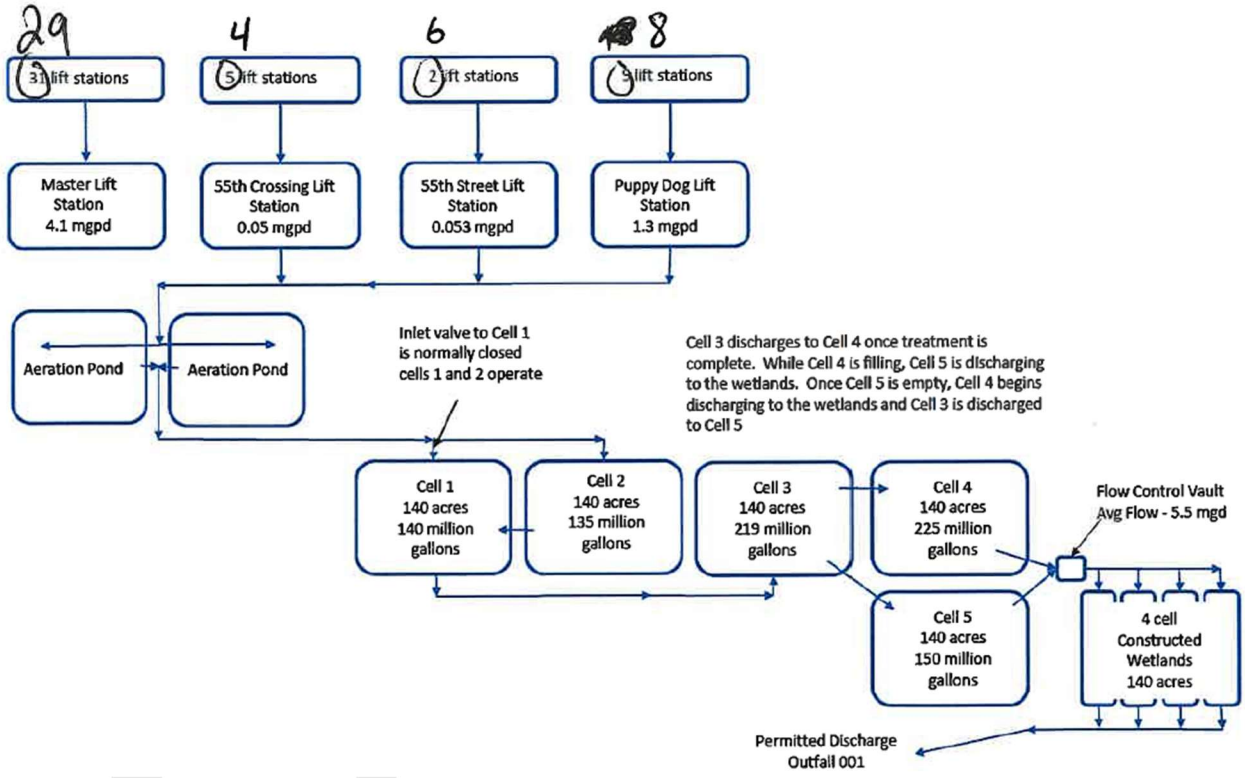


Figure 2 – City of Minot Wastewater Process Flow Diagram
(image supplied by permittee on 12/05/2024)

A specific sampling sequence is currently utilized to retrieve samples of the system in its current configuration. Pre-discharge sampling is taken from the cell to be released (Cell 4 or Cell 5) to the constructed wetlands. The quarterly WET testing is taken from the same location (Cell 4 or Cell 5) on the day when the valve is opened into the wetlands. The recurring conventional and non-conventional parameter sampling is then taken at the discharge point three days after the valve is opened.

Because of filtration through the wetland, the discharge timeline begins three days after the valve for Cell 4 or Cell 5 is opened. Discharge Monitoring Reports (DMRs) have historically shown a three-day discrepancy between the quarterly WET discharge timeline and actual discharge form the wetland.

The proposed permit has clarified a pre-discharge sample from the applicable cell and all monitoring samples to be taken at the discharge point after the wetland treatment to rectify the discrepancy. Discharge therefore begins when the effluent leaves the wetland treatment at Outfall 001.

Planned Updates

Each year the facility has a standing project to address riprap repair areas around the cells.

Outfall Descriptions

There is one active discharge outfall associated with the facility: Outfall 001. Outfall 002 was decommissioned when the constructed wetlands became operable. Outfall 002 was made inactive and removed from the proposed permit. Descriptions of the active and inactive outfalls are provided below.

According to 40 CFR 122.2 Definitions, continuous discharge means a “discharge” which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities. The description for Outfall 001 therefore has been updated accordingly as they typically begin discharging in April and finish discharging in December each year.

Active Outfall(s)

Outfall 001. Active. Final.

Latitude: 48.196810°	Longitude: -101.145095°	County: Ward	
Township: 154N	Range: 82W	Section: 1	QQ: AAA
Receiving Stream: Souris River		Classification: Class IA Stream	
Outfall Description: Discharges from the artificial wetland treatment system into a modified drainage way which flows approximately 2.5 miles before entering the Souris River.			

Inactive Outfall(s)

Outfall 002. Inactive

Latitude: 48.1752°	Longitude: -101.1691°	County: Ward	
Township: 154N	Range: 82W	Section: 11	QQ: ADC
Receiving Stream: Souris River		Classification: Class IA Stream	
Outfall Description: Was a controlled discharge deemed to be non-continuous. An abandoned pipe leading from Cell 5 that could discharge directly into the Souris River.			

PERMIT STATUS

The department issued the current permit for this facility on April 1, 2020. The permit has effluent limitations and monitoring requirements for:

- Biochemical Oxygen Demand (BOD_5)
- Total Suspended Solids (TSS)
- pH
- Ammonia as Nitrogen
- *Escherichia coli (E. coli)*
- Oil and Grease
- Temperature
- Whole Effluent Toxicity (WET)
- Nitrogen, Total
- Phosphorus, Total as P
- Effluent Flow, MGD
- Total Drain, mgal

Trace Elements: Other Toxic Pollutants (Metals and Cyanide) and Total Phenols (40 CFR 122 - App D; Table III)

- Antimony, Total
- Arsenic, Total
- Beryllium, Total
- Cadmium, Total
- Chromium, Total
- Copper, Total
- Lead, Total
- Mercury, Total
- Nickel, Total
- Selenium, Total
- Silver, Total
- Thallium, Total
- Zinc, Total
- Cyanide, Total
- Phenols, Total

There are additional requirements for upstream monitoring of pH, temperature, hardness, ammonia as N, and flow as well as monitoring the influent for BOD_5, TSS, and Trace Elements.

The permit will expire March 31, 2025.

The department was in contact with the Minot POTW to obtain information to reissue the permit. The department received EPA application Form 2A on October 17, 2024. Additional information was requested to complete the application and the application was accepted by the department on December 5, 2024. Effluent sample data has been provided to the department through discharge monitoring reports.

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT

The department's Division of Water Quality and Division of Municipal Facilities conduct yearly inspections of the facility. Six inspections were conducted since the start of the current permit cycle (April 2020). Department staff last conducted a non-sampling compliance inspection on August 22, 2024. The department's compliance assessment is based on review of the facility's Discharge Monitoring Report (DMR) forms, records, and facility operation.

Bypasses

There has been one reported bypass during the current permit cycle (April 2020 – October 2024). On April 8, 2021, a bypass occurred at the Master Lift Station due to equipment failure.

Past Discharge Data

The concentration of pollutants upstream in the Souris River, in the influent, and the effluent were reported in DMR forms. The data, submitted by DMR April 2020 – September 2024, is summarized in the tables below:

Table 3 – Upstream Souris River

Parameter	Units	Range	Average
pH	SU	7.31 – 8.8	NA
Ammonia as N	mg/l	0.2 – 0.64	0.21
Flow	ft^3/sec	0.250 – 1350	115.47
Temperature	°C	1 – 27	13.1

Table 4 – Influent Wastewater Data

Parameter	Units	Range	Average
BOD_5	mg/l	107.2 – 279.6	176.4
TSS	mg/l	72 – 320	179.4
Antimony**	ug/l	1 ‡	1 ‡
Arsenic**	ug/l	2 ‡	2 ‡
Beryllium**	ug/l	0.5 ‡	0.5 ‡
Cadmium**	ug/l	0.1 ‡– 0.2	0.125
Chromium**	ug/l	5 - 12	8
Copper**	ug/l	20 - 32	26
Lead**	ug/l	0.7 – 1.2	0.93
Mercury**	ug/l	0.2 ‡	0.2 ‡
Nickel**	ug/l	2 - 18	7.25
Selenium**	ug/l	5‡ - 10	6.25
Silver**	ug/l	0.5 ‡– 1.2	0.675
Thallium**	ug/l	0.1 ‡	0.1 ‡
Zinc**	ug/l	60 – 110	85
Cyanide**	mg/l	0.007 ‡	0.007 ‡
Phenols	mg/l	0.015‡ – 0.152	69.5

Notes:
* These data are the daily maximums for the discharge events.
** These data fall under the testing requirements for Other Toxic Pollutants (Metals and Cyanide) and Total Phenols (40 CFR Part 122, Appendix D Table III).
‡ These parameter testing results were below detection and are reported at the detection level

Table 5 – City of Minot Effluent Data for Outfall 001

Parameter	Units	Range	Average	Permit Limit	Number of Exceedances
BOD_5	mg/l	6 ‡ – 20.9	7.69	45	0
TSS	mg/l	5 ‡ – 38	8.1	45	0
pH	SU	7.87 – 8.93	NA	7 – 9	0
Ammonia as N (Monthly Avg.)	mg/l	0.24 – 17.1	2.08	Calculated	2
*Escherichia coli (*E. coli)	#/100ml	4.1 – 2419.6	303.1	409	100
Oil & Grease, Visual	NA	No Visual Sheen	No Visual Sheen	No Visual Sheen	NA
Oil & Grease	mg/l	Conditional	Conditional	10	0
Nitrogen, Total	mg/l	5 ‡ - 20.9	6.89	NA	NA
Phosphorus, Total	mg/l	0.3 – 68	2.05	NA	NA
Antimony**	ug/l	1 ‡	1 ‡	NA	0
Arsenic**	ug/l	3 - 5	3.75	NA	0
Beryllium**	ug/l	0.5 ‡	0.5 ‡	NA	0
†Cadmium**	ug/l	0.1 ‡	0.1 ‡	NA	0
†Chromium**	ug/l	2 ‡	2 ‡	NA	0
†Copper**	ug/l	2 ‡	2 ‡	NA	0
†Lead**	ug/l	0.5 ‡	0.5 ‡	NA	0
Mercury**	ug/l	0.2 ‡- 4	0.25	NA	0
†Nickel**	ug/l	4 - 5	4.5	NA	0
Selenium**	ug/l	5 ‡	5 ‡	NA	0
†Silver**	ug/l	0.5 ‡	0.5 ‡	NA	0
Thallium**	ug/l	0.1 ‡	0.1 ‡	NA	0
†Zinc**	ug/l	50 ‡	50 ‡	NA	0
Cyanide**	mg/l	0.007 ‡	0.007 ‡	NA	0
Phenols	mg/l	0.015 ‡	0.015 ‡	NA	0
Hardness**	mg/l	377 – 530	463	NA	0
Ceriodaphnia dubia (Acute WET)	TU_a	< 1	< 1	< 1	0
Fathead Minnow (Acute WET)	TU_a	< 1	< 1	< 1	0
Ceriodaphnia dubia	NA	Pass	Pass	Pass/Fail	0
Fathead Minnow	NA	Pass	Pass	Pass/Fail	0
Effluent Flow*	MGD	0.53 – 12.5	4.36	NA	NA
Total Drain	mgal	16.5 – 770.3	139.5	NA	NA
Discharge Duration	Days	243 – 268	253	NA	NA

Notes:
* These data are the daily maximums for the discharge events.
** These data fall under the testing requirements for Other Toxic Pollutants (Metals and Cyanide) and Total Phenols (40 CFR Part 122, Appendix D Table III).
† These values have a hardness dependent water quality standard.
‡ These parameter testing results were below detection and are reported at the detection level

Summary of DMR Data Excursions

The following table is a summary of all limit exceedances reported in the last permit cycle from April 2020 – September 2024:

Table 6 – Summary of DMR reported limit excursions from outfall 001

Parameter	Date	Excursions
E. coli	June 2020	5
E. coli	July 2020	5
E. coli	August 2020	2
E. coli	June 2021	2
E. coli	July 2021	1
E. coli	August 2021	8
E. coli	September 2021	6
E. coli	October 2021	9
E. coli	June 2022	5
E. coli	July 2022	7
E. coli	August 2022	2
E. coli	May 2023	1
E. coli	June 2023	4
E. coli	July 2023	5
E. coli	August 2023	10
E. coli	September 2023	1
E. coli	April 2024	1
E. coli	June 2024	4
E. coli	July 2024	11
E. coli	August 2024	9
E. coli	September 2024	2
Ammonia as N	April 2022	2

PROPOSED PERMIT LIMITS

Secondary Treatment Effluent Limits

Federal and state regulations define secondary treatment limitations for municipal wastewater treatment facilities. These effluent limits are given in 40 CFR part 133 and in NDAC Section 33.1-16-01-30. These regulations describe the minimum level of effluent quality attainable by secondary treatment of municipal wastewater in terms of BOD_5, TSS and pH. NDAC Section 33.1-16-01-30 incorporates by reference 40 CFR 133 which list the following technology-based limits for BOD_5, TSS, and pH:

Table 7 – Secondary Treatment Limits

Parameter	30-Day Average	7-Day Average
BOD_5	30 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l
pH	Remain between 6.0 – 9.0 S.U.	NA
Percent Removal	85% BOD_5 and TSS	NA

NDAC section 33.1-16-01-14(3)(c)(1) allows for adjustment of the secondary treatment criteria to reflect site specific considerations. A five-day biochemical oxygen demand limit of twenty-five milligrams per liter (consecutive thirty-day average) may be applied in instances in which limits expressed in terms of secondary treatment standards would be impractical or deemed inappropriate to protect receiving waters. The department has determined that a 25 mg/l consecutive 30-day average foe BOD5 is appropriate for this facility. Similar facilities with waste stabilization ponds have the same limit.

Effluent Limitations

As stated above, the discharge of wastewater generated by the POTW is regulated by secondary treatment limitations as well as state rules. Limitations may be generated using Best Professional Judgment (BPJ) in the absence of a federal standard to ensure reasonable control technologies are used to prevent potential harmful effects of the discharge. In addition, the department must consider and include limitations necessary to protect water quality standards applicable to the receiving waters.

Limitations based on numeric nutrient criteria are not being included in the proposed permit. Numeric nutrient criteria have not been developed for the state of North Dakota. Currently, the water quality standards (WQS) contain a narrative standard stating that surface waters must be free from nutrients in concentration loadings that cause objectionable growth of vegetation, algae, or other impairments.

The pH water quality standard of 7.0 S.U. was based on the Standards of Quality for Waters of the State in place at the time the 2020 permit took effect. In July 2021, the lower pH water quality standard for Class IA streams changed from 7.0 S.U. to 6.5 S.U. (NDAC chapter 33.1-16-02.1). Based on the change to the water quality standards, the department will update the pH limitation to 6.5 – 9.0 S.U. in the proposed permit.

The department proposes the following effluent limitations for Outfall 001:

Table 8 – Permit Effluent Limits – Outfall 001

Effluent Parameter	30- Day Average	7-Day Average	Daily Maximum	Basis [a]
BOD_5, mg/l [b]	25	45	NA	40 CFR 133.102(a)(2); NDAC 33.1-16-01-14(3)(c)(1); Previous Permit
BOD_5 Percent Removal	Shall not be less than 85%	NA	NA	40 CFR 133.102(a)(3)
TSS, mg/l [c]	30	45	NA	40 CFR 133.1.102(b); Previous Permit
TSS Percent Removal	Shall not be less than 85%	NA	NA	40 CFR 133.102(b)(3)
pH, SU [d]	Shall remain between 6.5 to 9.0			40 CFR 133.102(c); WQS
Ammonia as N, mg/l [e]	Refer to the Ammonia Table below (Table 10)			WQS
E. coli, cfu/100ml [f]	126	NA	409	WQS; Previous Permit
Oil and Grease, Visual [g]	NA	NA	NA	WQS; Previous Permit
Oil and Grease, mg/l [g]	NA	NA	10	BPJ; Previous Permit
Whole Effluent Toxicity (WET), TU_a	< 1.0			40 CFR 122.44(d)(1)(iv), (v); WQS
The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce sheen on the surface of the receiving water. The discharge must be free from materials that produce a color, odor or other condition to such a degree as to create a nuisance.				WQS; Previous Permit

Notes:

NA	Not Applicable
a.	The basis of the effluent limitations is given below: "BPJ" refers to best professional judgment. "Previous Permit" refers to limitations in the previous permit. The NPDES regulations **40 CFR Part 122.44(l)(1) Reissued permits** require that when a permit is renewed or reissued, interim limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit was issued have materially and substantially changed since the previous permit was issued and would constitute cause for permit modification or revocation and reissuance under **40 CFR Part 122.62.** "WQS" refers to effluent limitations based on North Dakota's "Standards of Quality for Waters of the State", NDAC Chapter 33.1-16-02.1.

Table 8 – Permit Effluent Limits – Outfall 001

b.	The limits for BOD_5 are based on 40 CFR 133.102(a)(2) "Secondary Treatment Standards", and NDAC section 33.1.1-16-01-14(3)(c)(1).
c.	The limits for TSS are based on 40 CFR 133.102(b), "Secondary Treatment Standards".
d.	The limits for pH are based on the WQS for a Class IA Stream.
e.	A discharge ammonia limitation will be dependent on river flow, discharge rate, river pH and temperature, and the effluent concentration. This determination shall be in accordance with the formula specified in the latest revision of the state water quality standards. Permittee will use Souris River parameters to calculate the real-time water quality standard for ammonia. This calculated limit will be compared to facility effluent data on ammonia, and if the effluent value is greater than the calculated limit, the permittee will report an exceedance.
f.	The limit for *E. coli* shall apply only during the recreational season – April 1 to October 31. Monitoring for *E. coli* shall be in effect only during the recreational season. Averages for *E. coli* shall be determined as a geometric mean.
g.	There shall be no floating oil or visible sheen present in the discharge. If floating oil or a visible sheen is detected in the discharge, the department shall be contacted, and a grab sample analyzed to ensure compliance with the concentration limitation. Any single analysis and/or measurement beyond this limitation shall be considered a violation of the conditions of the permit.

SELF-MONITORING REQUIREMENTS

The sampling frequency and sample type for all required monitored parameters is specified below (**Table 9**):

Table 9 – Monitoring Frequency Requirements

Effluent Monitoring Frequency Requirements for Outfall 001		
Parameter	**Sample Frequency**	**Sample Type [a]**
Biochemical Oxygen Demand (BOD_5) [b]	2/week	Composite
BOD_5 Removal Efficiency	1/month	Calculated
Total Suspended Solids (TSS) [b]	2/week	Composite
TSS Removal Efficiency	1/month	Calculated
pH [b]	1/day	Instantaneous
Ammonia as N [b, c]	3/week	Composite
Escherichia coli (*E. coli*) [b, d]	2/week or Conditional	Grab
Oil & Grease, Visual [e]	1/day	Visual
Oil & Grease, mg/l [e]	Conditional/Daily	Grab
Temperature (°C) [b]	2/week	Instantaneous
Nitrogen, Total (as N) [f]	1/month	Composite
Nitrogen, Total (as N) lbs/day [f]	1/month	Calculated
Phosphorus, Total (as P) mg/l	1/month	Composite
Phosphorus, Total (as P) lbs/day	1/month	Calculated
Effluent Flow, MGD	1/day	Instantaneous
Total Flow, mgal	1/month	Calculated
Whole Effluent Toxicity (WET)	1/quarter	Grab
Trace Elements (40 CFR 122 - App D; Table III) [g]	1/year	Composite [h]
Influent Monitoring Requirements		
Parameter	**Sample Frequency**	**Sample Type**
Biochemical Oxygen Demand (BOD_5)	2/month	Composite
Total Suspended Solids (TSS)	2/month	Composite
Trace Elements (40 CFR 122 - App D; Table III)	1/year	Composite [h]
Souris River Upstream Monitoring Requirements		
Parameter	**Sample Frequency**	**Sample Type**
pH (s.u.) [i]	3/week	Instantaneous
Ammonia as N (mg/l) [i]	3/week	Grab
Temperature (°C) [i]	3/week	Instantaneous
Hardness as $CaCO_3$ [g]	1/year	Grab
Flow (cfs) [c, i]	3/week	Usable Data Source

Table 9 – Monitoring Frequency Requirements

Notes:	
a.	Refer to Appendix B for definitions.
b.	A pre-discharge sample shall be taken prior to the start of any discharge from Outfall 001 and this analysis is reported to the department. The pre-discharge sample shall be taken from either Cell 4 or Cell 5 (whichever is to be released first to the constructed wetland). A pre-discharge sample shall be tested for BOD_5, TSS, pH, Ammonia as N, *E. coli*., and Temperature. An additional sample of the actual discharge shall be taken and analyzed at a frequency as specified in this table above for the duration of the discharge.
c.	When there is stream flow, the permittee will use in-stream parameters to calculate the real-time water quality standard for Ammonia as N. This calculated limit will be compared to facility effluent data on ammonia, and if the effluent value is greater than the calculated limit, the permittee will report an Ammonia as N exceedance. River flow shall be recorded from a representative location upstream of the mixing point with the Souris River. If there is no Souris River flow, ammonia as N must meet the state water quality standard at end-of-pipe.
d.	*E. coli* shall not exceed 126 organisms per 100 ml as a geometric mean of representative samples collected during any 30-day consecutive period, nor shall samples collected during any 30-day consecutive period individually exceed 409 organisms per 100 ml for any one day. The limit for E. coli shall only apply during the recreational season, April 1 through October 31. Averages for E. coli shall be determined as a geometric mean.
e.	If a visible sheen or floating oil is observed at the discharge point, an oil & grease sample shall be collected to determine compliance with the 10 milligrams per liter (mg/) concentration limit.
f.	Total Nitrogen is a combination of Nitrite, Nitrate, and Total Kjeldahl Nitrogen (TKN).
g.	A total hardness of the receiving stream needs to be determined every time Trace Elements are sampled and analyzed. The hardness is used to calculate parameter criteria according to the state water quality standards. This sample shall be collected upstream of the final discharge site.
h.	Parameters Cyanide, Total and Phenols, Total shall be collected as grab samples. All other parameters are composite.
i.	Sample must be collected/recorded the same day as the ammonia sample for Outfall 001.

Table 9 – Monitoring Frequency Requirements

Stipulations:
Effluent samples taken in compliance with the monitoring requirements specified in this permit shall be taken after treatment and prior to leaving city property or entering the receiving stream.
The discharge shall not contain, in sufficient amounts to be unsightly or deleterious, any floating debris, oil, scum, and other floating materials attributable to municipal wastewater operations.
The trace elements sampling events shall be flow proportioned and follow the definition as stated in this permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS

The North Dakota Standards of Quality for Waters of the State (NDAC Chapter 33.1-16-02.1), or Water Quality Standards (WQS), are designed to protect existing water quality and preserve the beneficial uses of North Dakota's surface waters. Wastewater discharge permits must include conditions that ensure the discharge will meet the surface water quality standards. Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load (TMDL) study. TMDLs result from a scientific study of the water body and are developed in order to reduce pollution from all sources.

The Souris River is listed as a Class IA stream in the Standards of Quality for Waters of the State. Class IA streams must be suitable for resident fish and other aquatic life, as well as recreation use. The quality of water in Class IA streams also must be suitable for irrigation, stock watering and wildlife. The quality must be able to meet the bacteriological, physical, and chemical requirements for municipal or domestic use.

The segment (ND-09010008-004-S_00) of the Souris River that includes the permitted outfall site is not listed as impaired in the *North Dakota 2020 – 2022 Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Waters Needing Total Maximum Daily Loads*. This segment of the Souris River does not require a TMDL allocation.

Numerical Criteria for the Protection of Aquatic Life and Recreation

Numerical water quality criteria are listed in the water quality standards for surface waters (NDAC Chapter 33.1-16-02.1). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. The department uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

The U.S. EPA has published numeric water quality criteria for the protection of human health that are applicable to dischargers. These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The Water Quality Standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative Criteria

Narrative water quality criteria (NDAC section 33.1-16-02.1-08) limit concentrations of pollutants from exceeding applicable standards of the receiving waters. The department adopted a narrative biological goal solely to provide an additional assessment method that can be used to identify impaired surface waters.

Antidegradation

The purpose of North Dakota's Antidegradation Policy (NDAC Chapter 33.1-16-02.1 (Appendix IV)) is to:

- Provide all waters of the state one of three levels of antidegradation protection.
- Determine whether authorizing the proposed regulated activity is consistent with antidegradation requirements.

The department's fact sheet demonstrates that existing and designated uses of the receiving water will be protected under the conditions of the proposed permit.

Mixing Zones

North Dakota's WQS contain a Mixing Zone and Dilution Policy and Implementation Procedure, NDAC Chapter 33.1-16-02.1 (Appendix III). This policy addresses how mixing and dilution of point source discharges with receiving waters will be addressed in developing chemical-specific and whole effluent toxicity discharge limitations for point source discharges. Depending upon site-specific mixing patterns and environmental concerns, some pollutants/criteria may be allowed a mixing zone or dilution while others may not. In all cases, mixing zone and dilution allowances shall be limited, as necessary, to protect the integrity of the receiving water's ecosystem and designated uses.

EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA

Water quality-based limitations are derived to ensure the water quality standards for the water body are maintained. Regarding water quality standards, the first step is to review water characteristics of the water body receiving the discharge. The Souris River is identified as a Class IA stream in the State's standard of water quality.

Biological Oxygen Demand (BOD_5)

The department has reviewed the BOD_5 data and the sampling frequency. No excursions occurred for this parameter. A determination was made to continue with the 25 mg/l (30-day arithmetic average) for BOD_5 and a 45 mg/l (average weekly limit) with a sampling frequency of two times per week based on the 40 CFR 133.102(a)(2), NDAC 33.1-16-01-14(3)(c)(1), and the previous permit.

BOD_5 Percent Removal

The department proposes to add BOD_5 percent removal as outlined in 40 CFR 133.102(a)(3). The facility is already monitoring BOD_5 influent. The department proposes no less than 85% removal as outlined in 40 CFR 133.102(a)(3) with a calculation frequency of monthly.

Total Suspended Solids (TSS)

The department has reviewed the TSS data and the sampling frequency. No excursions occurred for this parameter. A determination was made to continue with the 30 mg/l (30-day arithmetic average) and 45 mg/l (average weekly limit) with a sampling frequency of two times per week based on the 40 CFR 133.102(b) and the previous permit.

TSS Percent Removal

The department proposes to add TSS percent removal as outlined in 40 CFR 133.102(b)(3). The facility is already monitoring TSS influent. The department proposes no less than 85% removal as outlined in 40 CFR 133.102(b)(3) with a calculation frequency of monthly.

pH

In the current permit, the lower pH effluent limitation was set at 7.0 standard units (S.U.). The pH water quality standard of 7.0 S.U. was based on the Standards of Quality for Waters of the State in place at the time the 2020 permit took effect. In July 2021, the lower pH water quality standard for Class IA streams changed from 7.0 S.U. to 6.5 S.U. (NDAC chapter 33.1-16-02.1). Based on the change to the water quality standards, the department will limit pH from 6.5 S.U. to 9.0 S.U. in the proposed permit.

***Escherichia coli* (*E. coli*)**

Based on the WQS, the department has determined that an *E. coli* limitation of 126 organisms per 100 ml as a monthly geometric mean and 409 organisms per 100 ml as a daily maximum limitation is appropriate for this type of facility. The standard only applies during the recreation season from May 1 through September 30. The limitation in the permit is extended to cover the period one month before and one month after the recreation season (April 1 through October 31) to account for seasonal changes.

The department reviewed the *E. coli* data and sampling frequency. There were one hundred (100) exceedances of the daily maximum effluent limitation for this parameter from April 2020 –

October 2024. The exceedances typically occurred from June through September each year with recorded exceedances in April, May, and October. As described in the Facility Description section, the facility includes a constructed wetland for additional treatment after the lagoon cell system. As a wetland habitat, the exceedances are hypothesized to be attributed to wildlife.

A Facility Plan for the City of Minot's Wastewater Treatment Facility dated September 2014 was provided to the department. The plan's purpose was to evaluate the city wastewater treatment facility, analyze future conditions at the plant, and develop a schedule for improvements to increase capacity when needed. Historical *E. coli* sampling data was illustrated along with a brief discussion on the challenges of *E. coli* removal via ultraviolet light due to vegetation growth in the constructed wetlands. While there was a statement indicating how *E. coli* levels are likely exacerbated by wildlife, there was no data confirming the *E. coli* source(s).

The department proposes to continue with a limit of 126 organisms per 100 ml as a monthly geometric mean and 409 organisms per 100 ml as a daily maximum limitation with a sampling frequency of twice per week as per the previous permit. This is based on NDAC 33.1-16-02.1.

Due to the number of exceedances, the department is proposing a compliance schedule to complete a study to determine the actual source(s) of the of *E. coli* in the treatment system and provide any possible options for addressing *E. coli* at the facility.

Ammonia as N

In the current permit, the ammonia effluent limitation was based on the acute and chronic ammonia water quality standards in place at the time the permit was issued. Since the issuance of the current permit, the ammonia water quality standards changed. As a result, the department updated the acute and chronic ammonia effluent limitations based on the current water quality standards.

The department reviewed Ammonia as N data and sampling frequency. There were two (2) exceedances of the daily maximum effluent limitation for this parameter. Both occurred in April 2022. A determination was made to continue with a sampling frequency of three times per week based on the WQS.

The department conducted a Reasonable Potential (RP) analysis to determine whether effluent limits for ammonia would be required in this permit, using procedures given in "Technical Support Document (TSD) For Water Quality based Toxics Control"; EPA/505/2-90-001; March 1991. The department found reasonable potential (Appendix C) for the POTW to cause a violation of the state WQS for ammonia.

The department has determined to continue with the ammonia effluent limitations using the updated WQS for ammonia as N with a sampling frequency of three times per week.

Table 10: Ammonia Effluent Limitations and Monitoring Requirements Outfall 001

	Effluent Limitations		
Parameter	**Avg. Monthly Limit**	**Avg. Weekly Limit**	**Daily Maximum Limit**
Ammonia [1]	†	NA	‡
Stream flow upstream, cfs [2]	NA	NA	NA
Temperature upstream, ° C [2]	NA	NA	NA
pH upstream, S.U. [2]	NA	NA	NA

1 Calculations must be performed for each discharge sample. If an exceedance is detected on any single sample, the exceedance must be reported on the DMR.

2 Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the United States Geological Survey (USGS) gauging station 05117500 at Minot, North Dakota or can be sampled by the permittee. If the permittee cannot feasibly sample flow, temperature, and pH, effluent information shall be used when calculating ammonia and no mixing will be allowed.

† Chronic Standard (Average Monthly Limit)
The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed the numerical value given by the following formula:

$$0.8876 \times \left(\frac{0.0278}{1+10^{7.688-}}+\frac{1.1994}{1+10^{pH-7.688}}\right)\times\left(2.126\times 10^{0.028\times(20-M\quad(T,7))}\right)$$

Receiving stream pH and Temperature is used for the calculation.

‡ Acute Standard (Daily Maximum Limit)
The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed the numerical value given by the following formula:

$$0.7249\ \times\left(\frac{0.0114}{1+10^{7.204-p}}+\frac{1.6181}{1+10^{pH-7.204}}\right)\times\ MIN\left(51.93,23.12\times 10^{0.036\times(20-T)}\right)$$

where *Oncorhynchus* are absent.

Receiving stream pH and Temperature is used for the calculation.

Stipulations

NA means Not Applicable

The maximum mixing factor is 10.0%.

Oil & Grease, Visual

The department reviewed the Oil and Grease, visual data and sampling frequency. No excursions occurred for this parameter. The department proposes to continue visual checks for sheen with a sampling frequency of daily. This is based on other similar permits and NDAC 33.1-16-02.1.

Oil & Grease, mg/l

The department reviewed the Oil and Grease data and sampling frequency. No excursions occurred for this parameter from either permitted outfall. The department proposes to continue with a 10 mg/l (daily maximum) limitation when a sheen is present with a sampling frequency of conditional daily. This is based on other similar permits and NDAC 33.1-16-02.1.

Total Phosphorus and Total Nitrogen (Nutrients)

Nutrient monitoring is being continued to the proposed permit to coincide with the state's finalized "North Dakota Nutrient Reduction Strategy for Surface Waters". Total Nitrogen is a combination of Nitrite, Nitrate, and Total Kjeldahl Nitrogen (TKN).

Phosphorus loading was included within the current permit. The addition of Nitrogen loading is proposed for the 2025-2029 permit cycle to coincide with the "North Dakota Nutrient Reduction Strategy for Surface Waters" and align with other similar permits. The department proposes monthly sampling for both Phosphorus and Nitrogen.

Trace Elements

The department reviewed the data and sample frequency for trace elements and performed a trace elements analysis (Appendix C) to compare the effluent results to the limits listed in the WQS. This analysis evaluates a single sample to the WQS. The maximum result during the previous permit cycle was used. The analysis showed the following:

- Mercury: Mercury exceeded the Human Health Criteria for Class I, IA, II, and III streams. All results were below the method detection level (0.0002 mg/l), except for one (0.0004 mg/l). The WQS is 0.050 ug/l (0.000050 mg/l).

- Cyanide: Cyanide exceeded the Human Health Criteria for Class I, IA, and II streams and the chronic aquatic life criteria. All results were below the method detection level (0.007 mg/l) but were not sufficiently sensitive to be below the WQS. The WQS is 4 ug/l (0.004 mg/l).

All samples for cyanide were below the method detect level. All but one sample for mercury were below the method detect level. The facility participates in a Mercury Pollutant Minimization Plan. All other trace elements included in the trace elements analysis met the limits in the WQS. Therefore, the department proposes to continue monitoring influent and effluent trace elements with an annual sampling frequency.

Phenols

The current permit cycle (2020-2024) increased the total phenol sample frequency from annually to quarterly as two (2) sample results in the previous permit cycle (2015-2019) exceeded the water quality and human health standards. All available sample results (April 2020 – October 2024) in the current permit cycle were below the method detection level and met the limits in the WQS. The department has evaluated the sample results frequency and made a determination to return monitoring frequency for total phenols to annually for the 2025-2029 permit cycle.

Whole Effluent Toxicity (WET)

The permittee must conduct *Ceriodaphnia dubia* (Water Flea) and *Pimephales promelas* (Fathead Minnow) WET tests. Acute toxicity testing shall occur once each calendar quarter. Acute test failure (LC50) is defined as lethality of 50 percent or more of each test organism at any effluent concentration. If toxicity is found in an acute test, an additional test must be initiated within fourteen days of the initial toxicity findings. If toxicity is found in the additional test, the department will determine whether a Toxicity Reduction Evaluation (TRE) is necessary.

The department is proposing to continue with TUa of less than 1 (<1) in order to meet the requirements of NDAC 33.1-16-02.1-08(a)(4), which states that "[a]ll waters of the state shall be: Free from substances attributable to municipal, industrial, or other discharges or agricultural practices in concentrations or combinations which are toxic or harmful to humans, animals, plants, or resident aquatic biota. For surface water, this standard will be enforced in part through appropriate whole effluent toxicity requirements in North Dakota pollutant discharge elimination system permits." This limit will need to be met at the end-of-pipe with no allowance for a zone of initial dilution (ZID), in accordance with NDAC 33.1-16-02.1, Appendix III, which states: "Acute whole effluent toxicity (WET) limits shall be achieved at the end-of-pipe with no allowance for a ZID."

Table 11: Acute WET Requirements – Outfall 001

<table>
<tr><td colspan="7">WET tests shall be performed on the first discharge made each calendar year, unless specifically waived by the department. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.

Toxicity is defined as:

Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or ≥1.0 TUa for Ceriodaphnia dubia 48-hour and fathead minnow 96-hour test. The 48-hour and 96-hour effluent value must be <1.0 TUa to indicate a passing test. Any 48-hour or 96-hour effluent value of ≥1.0 TUa will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.</td></tr>
<tr><td>Implementation</td><td colspan="6">Limitations Imposed</td></tr>
<tr><td>Effluent Dilution</td><td>0%(Control)</td><td>12.5%</td><td>25%</td><td>50%</td><td>75%</td><td>100%</td></tr>
<tr><td>Dilution Water</td><td colspan="6">Souris River</td></tr>
</table>

Species and Test Type	*Ceriodaphnia dubia* - 48 Hour Acute - Static Renewal - 20°C
	Fathead minnow - 96 Hour Acute - Static Renewal - 20°C
Endpoint	Mortality LC_{50} reported as TU_a
Compliance Point	**End-of-pipe**
Sampling Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.
Sample Type	Grab
Maximum Daily Limit (MDL)	<1 TUa
Average Monthly Limit (AML)	<1 TUa

The use of alternate testing procedures or methods shall be approved in advance by the department (including, but not limited to the use of EDTA, CO_2 overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.).

If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.

The permittee shall report the following results of each toxicity test on the DMR for that reporting period:

***Pimephales promelas* (Fathead Minnow)**
a. Report the highest TUa for Fathead minnow, Parameter No. TSN6C.

***Ceriodaphnia dubia* (Water Flea)**
a. Report the highest TUa for *Ceriodaphnia dubia*, Parameter No. TSM3B.

When dangerous conditions exist for personnel (i.e., thin ice, melting ice, flooding, etc.) the permittee may utilize moderately hard reconstituted water upon request and approval by the department.

Human Health

North Dakota's water quality standards include numeric human health-based criteria that the department must consider when writing NDPDES permits. These criteria were established in 1992 by the U.S. EPA in its National Toxics Rule (40 CFR 131.36). The National Toxics Rule allows states to use mixing zones to evaluate whether discharges comply with human health criteria. The department determined the applicant's discharge is unlikely to contain chemicals

regulated to protect human health. The department will re-evaluate this discharge for impacts to human health at the next permit reissuance.

MONITORING REQUIREMENTS

Discharge Monitoring Report (DMR) Requirements

The proposed permit requires the permittee to monitor discharges and submit discharge monitoring reports (DMRs) to the department. DMRs summarize monitoring results obtained during specified monitoring periods. If no discharge occurs during a monitoring period, "no discharge" must be reported.

The proposed permit includes specified intervals for submitting monthly, quarterly, and yearly DMRs (Table 12). DMRs must be submitted electronically to the department in accordance with 40 CFR 127 unless otherwise waived and in compliance with 40 CFR 3. The requirement to submit the 'A' reports monthly, 'W' reports quarterly, and 'Y' reports yearly is similar to other major Publicly Owned Treatment Works.

Table 12: DMR Submittal Requirements

Outfall	Report Designator	Report Type	Report Interval
001	A	Conventional and Non-Conventional Pollutants, Flow and Volume Information	1/month
001	W	Whole Effluent Toxicity Results	1/quarter
001	Y	Trace Elements	1/year

Biosolids

Currently the department does not have the authority to regulate biosolids. Therefore, the permittee is required under the Direct Enforceability provision of 40 CFR 503.3(b) to meet the applicable requirements of the regulation.

Test Procedures

The collection and transportation of all samples shall conform to EPA preservation techniques and holding times found in 40 CFR 136. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

OTHER PERMIT CONDITIONS

Mercury Pollutant Minimization Plan

The current permit requires the permittee to implement a Mercury Pollutant Minimization Plan (MMP). The MMP is a best management practice (40 CFR 122.44(k)(4)) intended to minimize the amount of mercury that enters the POTW, consequently minimizing the amount of mercury that discharges from the POTW. The MMP is meant to control sources of mercury in the collection system as an alternative to analyzing mercury samples at Outfall 001 using EPA Method 1631, Revision E to a sufficiently sensitive report/detection level below the mercury water quality standard. The acute and chronic aquatic life water quality standards for mercury are 1.7 and 0.012 micrograms/liter, respectively. The human health water quality standard for a Class IA stream is 0.050 micrograms/liter.

Sanitary Sewer Overflows (SSOs)

To assure proper implementation relating to SSOs, POTWs may be required to implement special conditions in their NDPDES permit (see 40 CFR 122.41). These conditions apply to portions of the collection system for which the permittee has ownership or has operational control. Standard permit conditions that have particular application to SSOs and municipal sanitary sewer collection systems are discussed below.

Reporting and Record Keeping for Sanitary Sewer Overflows.

1. Immediate Reporting

   A. The permittee shall report to the department any sanitary sewer overflow or any unauthorized sanitary sewer overflow that the permittee owns and/or operates. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. At a minimum, the report shall identify:

      i. The location of the overflow;

      ii. The receiving water (if there is one);

      iii. The duration of the overflow; and

      iv. The estimated volume of the overflow.

   B. An overflow is any spill, release, or diversion of municipal sewage, including:

      i. An overflow that results in a discharge to water of the state; and

      ii. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately-

owned sewer or building lateral), even if that overflow does not reach waters of the state.

2. Written Reports

A. The permittee shall also provide a written report to the department for any overflow identified under paragraph 1 of this section within five (5) days from the time the permittee becomes aware of the circumstances. The written report shall contain a description of:

i. The location of the overflow;

ii. The receiving water (if there is one);

iii. An estimate of the overflow volume;

iv. A description of the sewer-system component that caused the release (e.g. manhole, constructed overflow pipe, pipe break, etc.);

v. The estimated date and time when the overflow began and stopped or will be stopped;

vi. A description of the overflow and the cause or suspected cause of the overflow;

vii. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;

viii. Types of human health and environmental impacts of the sewer overflow event;

ix. Steps taken or planned to mitigate the impact(s) from the overflow and a schedule of major milestones for those steps.

x. Whether the sewer overflow was related to wet weather;

B. The department may waive the written report on a case-by-case basis for reports under paragraph A. of this section if the verbal report required under Part II paragraph 1 has been received within twenty-four (24) hours.

3. Record Keeping

A. The permittee shall maintain all records in accordance with Part II(F) of the permit including:

i. Any report submitted under paragraph 2 of the special conditions above, and

ii. Any report, including work orders that are associated with the investigation of system problems related to an overflow that describes the steps taken or

planned to reduce, eliminate, or prevent reoccurrence of the overflow, or documents system performance.

Discharge Monitoring Report – Quality Assurance (DMR-QA) Study Participation

The permit contains language requiring the permittee to participate in the DMR-QA Study. Participation is a requirement of Section 308 of the Clean Water Act (CWA). The addition of this language does not significantly affect the permittee as they are already required to participate in the DMR-QA Study.

Industrial Waste Management

The proposed permit contains general pretreatment language and requirements. The general requirements include protection from any source of non-domestic wastewater which causes Pass Through or Interference; creates a fire or explosion hazard; causes corrosive structural damage; causes obstruction; interferes with the treatment process; includes excessive heat; contains petroleum oil and other products which causes Interference or Pass Through; results in the presence of toxic gases, vapors or fumes in the facility; and is any trucked or hauled pollutant except at designated discharge points.

In addition to the general limitations and requirements, the facility must sample and analyze the influent and effluent from discharge point 001 for those parameters listed in 40 CFR 122, Appendix D, Table III (See **Table 13** below). Samples must be collected annually, generally from the first discharge of the year. Sample analyses must be conducted in compliance with a method/report detection level less than the applicable water quality standard where reasonable.

Table 13 – Parameters from 40 CFR 122, Appendix D, Table III

Antimony, Total	Lead, Total	Zinc, Total
Arsenic, Total	Mercury, Total	Cyanide, Total
Beryllium, Total	Nickel, Total	Phenols, Total
Cadmium, Total	Selenium, Total	* Hardness as $CaCO_3$
Chromium, Total	Silver, Total	
Copper, Total	Thallium, Total	
Note:		
Parameters Cyanide, Total and Phenols, Total shall be collected as grab samples. All other parameters are composite.		
* A total hardness of the receiving stream must be determined every time trace elements are sampled and analyzed. The hardness is used to calculate parameter criteria according to the state water quality standards. This sample shall be collected upstream of the final discharge sites.		

Compliance Schedule

Permittees must take steps to achieve compliance for any discharge which does not meet applicable effluent standards and limitations, water quality standards, or other requirements found in NDAC 33.1-16-01-13. A permit may contain a compliance schedule that allows a reasonable opportunity to achieve compliance if the period of time to achieve compliance will be longer than three years. Requirements for compliance schedules may be found in NDAC 33.1-16-01-15.

The department is proposing the compliance schedule in Table 14 to complete a study to determine the source(s) of the facility's *E. coli* exceedances and provide options to address the exceedances upon the effective date of the permit, the schedule will become part of the permit. The schedule may be revised or modified in accordance with NDAC 33.1-16-01-25. It should be noted that minor modifications (NDAC 33.1-16-01-25.4) do not require a draft permit and public notice.

Table 14 – Compliance Schedule

Milestone (Long Term Improvements)	Date
Submit detailed draft study plan scope of work to the department for review and comment	September 30, 2025
Submit finalized study plan scope of work to the department	March 31, 2026
Submit progress report	December 31, 2026
Submit progress report	October 31, 2027
Submit progress report	June 30, 2028
Submit finalized study with options to address the *E. coli* exceedances to department	March 31, 2029
Submit decision document of city's planned actions to address the *E. coli* exceedances based off of study results and other related documentation.	June 30, 2029

PERMIT ISSUANCE PROCEDURES

Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to the WQS, the development and approval of waste load allocation plans, the development or revision to water quality management plans, changes in sewage sludge practices, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Proposed Permit Issuance

This proposed permit meets all statutory requirements for the department to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the State of North Dakota. The department proposes to issue this permit for a term of five (5) years.

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

The department proposes to reissue a permit to the **City of Minot POTW**. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and the department's reasons for requiring permit conditions.

The department will place a Public Notice of Draft on **February 13, 2025** in the **Minot Daily News** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet. The facility will be provided a copy of the public notice and draft permit at the beginning of the public comment period.

The Notice –

- Indicates where copies of the draft Permit and Fact Sheet are available for public evaluation.
- Offers to provide assistance to accommodate special needs.
- Urges individuals to submit their comments before the end of the comment period.
- Informs the public that if there is significant interest, a public hearing will be scheduled.

You may obtain further information from the department by calling 701.328.5210, or by writing to the address listed below.

North Dakota Department of Environmental Quality
Division of Water Quality – NDPDES Program
4201 Normandy Street – 3rd Floor
Bismarck, ND 58503-1324

The primary author of this permit and fact sheet is A.J. Delzer.

North Dakota Department of Environmental Quality Public Notice
Reissue of an NDPDES Permit

Public Notice Date: 2/13/2025 Public Notice Number: ND-2025-009

Purpose of Public Notice
The Department intends to reissue the following North Dakota Pollutant Discharge Elimination System (NDPDES) Discharge Permit under the authority of Section 61-28-04 of the North Dakota Century Code.

Permit Information
Application Date: 10/17/2024 Application Number: ND0022896

Applicant Name: Minot City Of
Mailing Address: 1025 31st St SE, Minot, ND 58701-5006
Telephone Number: 701.857.4768

Proposed Permit Expiration Date: 3/31/2030

Facility Description
The North Dakota Department of Environmental Quality proposes to reissue NDPDES permit #ND0022896 for the waste water treatment facility servicing the City of Minot, ND. Treated wastewater is discharged to the Souris River, a Class IA stream, via a modified waterway. Permitted Outfall 001 is located in the NE ¼ of Section 1, Township 154 North, Range 82 West.

Tentative Determinations
Proposed effluent limitations and other permit conditions have been made by the Department. They assure that State Water Quality Standards and applicable provisions of the FWPCAA will be protected.

Information Requests and Public Comments
Copies of the application, draft permit, and related documents are available for review. For further information on making public comments/public comment tips please visit: https://deq.nd.gov/PublicCommentTips.aspx. Comments or requests should be directed to the ND Dept of Env Quality, Div of Water Quality, 4201 Normandy Street, Bismarck ND 58503-1324 or by calling 701.328.5210.

All comments received by March 16, 2025 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

The NDDEQ will consider every request for reasonable accommodation to provide an accessible meeting facility or other accommodation for people with disabilities, language interpretation for people with limited English proficiency (LEP), and translations of written material necessary to access programs and information. Language assistance services are available free of charge to you. To request accommodations, contact the NDDEQ Non-discrimination Coordinator at 701-328-5210 or deqEJ@nd.gov. TTY users may use Relay North Dakota at 711 or 1-800-366-6888.

APPENDIX B – DEFINITIONS

DEFINITIONS Standard Permit BP 2019.05.29

1. "**Act**" means the Clean Water Act.

2. "**Average monthly discharge limitation**" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

3. "**Average weekly discharge limitation**" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

4. "**Best management practices**" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.

5. "**Bypass**" means the intentional diversion of waste streams from any portion of a treatment facility.

6. "**Composite**" sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

7. "**Daily discharge**" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

8. "**Department**" means the North Dakota Department of Environmental Quality, Division of Water Quality.

9. "**DMR**" means discharge monitoring report.

10. "**EPA**" means the United States Environmental Protection Agency.

11. "**Geometric mean**" means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

12. "**Grab**" for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.

13. "**Instantaneous**" for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.

14. "**Maximum daily discharge limitation**" means the highest allowable "daily discharge."

15. "**Salmonid**" means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.

16. "**Sanitary Sewer Overflows (SSO)**" means untreated or partially treated sewage overflows from a sanitary sewer collection system.

17. "**Severe property damage**" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

18. "**Total drain**" means the total volume of effluent discharged.

19. "**Upset**" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06

20. "**Acute toxic unit**" ("TUa") is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e., 100/"LC50").

21. "**Chronic toxic unit**" ("TUc") is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/"IC25").

22. "**Inhibition concentration**", ("IC"), is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).

23. "**LC50**" means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.

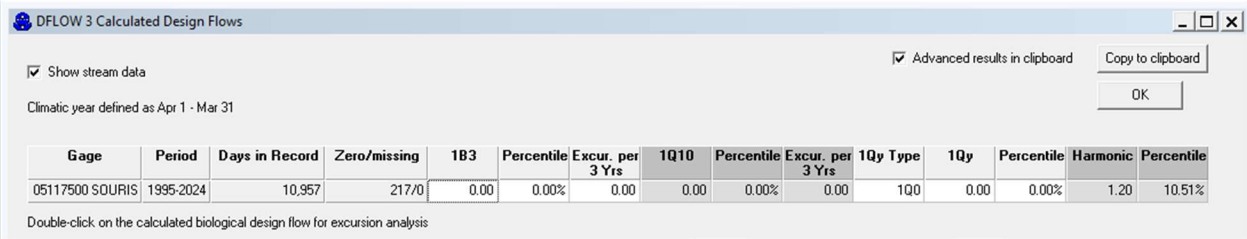
24. "**No observed effect concentration**", ("NOEC"), is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

APPENDIX C – DATA AND TECHNICAL CALCULATIONS

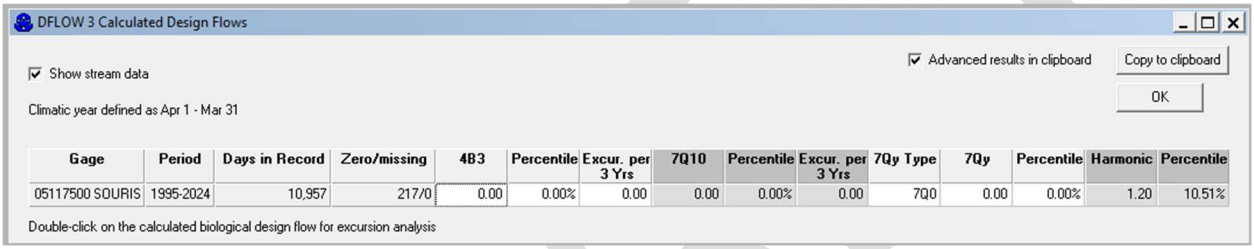
CRITICAL LOW FLOWS

The department obtained stream flow data from USGS site 05117500 from April 1, 1994 to September 30, 2024. Below are the critical low flows calculated by DFlow.

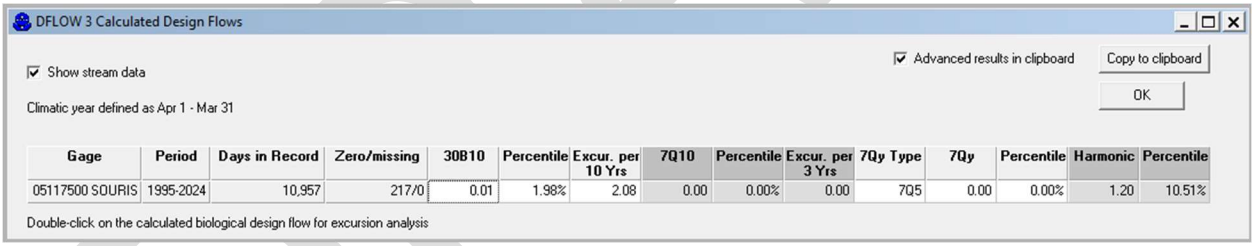
1B3 and 1Q10



4B3 and 7Q10



30B10



TRACE ELEMENTS ANALYSIS

The department conducted a trace elements analysis utilizing the maximum concentration for the identified trace elements and compared them to the WQS. Parameters which were below method detection level were entered at the detection limit value.

The NDDEQ has developed the following tool to evaluate a single sample result to the North Dakota Standards of Quality for Waters of the State. A detailed explanation of the calculations and limits for the parameters listed can be found in ch 33.1-16-02.1-9, Table 1.

Parameters indicated as "HD-Hardness Dependent" are less toxic as the calcium carbonate hardness of the receiving stream increases. The calcium carbonate hardness of the effluent or the receiving stream is entered above. A hardness value in grains per gallon can also be entered.

Items in bold italic and underline indicate a parameter that needs further evaluation. Parameters listed above must be analyzed using an EPA approved method (40 CFR 136) that has a detection limit at or below the limits listed in 40 CFR 136 or the current version of the North Dakota Standards of Quality for Waters of the State ch33.1-16-02.

Facility Name			Minot POTW			Print Date:	12/23/2024		
Location			Outfall 001			Below are the current or calculated acute, chronic and human health standards based on the data entered.			
Enter Grains/Gallon or					0				
Hardness - Total (CaCO3) mg/l					530				
Safety Factor(multiplier):									
Enter Concentration Values						µg/l	µg/l	µg/l	µg/l
Parameter		Detect	MDL/DL/RL	mg/l	µg/l	µg/l	Acute	Chronic	Human Health Class I ,IA,II	Human Health Class III
Antimony		<		0.001		**1**			5.6	640
Arsenic				0.0056		**5.6**	340	150	10	
Beryllium		<		0.0005		**0.5**			4	
Cadmium	HD	<		0.0001		**0.1**	9.7	2.99	5.00	
Chromium - Total		<		0.002		**2**			100	
Chromium (III)	HD					0	7066	338		
Chromium (VI)						0	16	11		
Copper	HD	<		0.002		**2**	67	38.8	1000.0	
Lead	HD	<		0.0005		**0.5**	682	26.6	15.0	
Mercury				0.0004		0.4	1.7	0.88	**0.05**	***0.051***
Molybdenum - Total						0				
Nickel	HD			0.0052		**5.2**	1923	213.8	100.0	4200
Selenium		<		0.005		**5**	20	**5**	50	
Silver	HD	<		0.0005		**0.5**	67			
Thallium		<		0.0001		**0.1**			0.24	0.47
Zinc	HD	<		0.05		**50**	492	492.3	7400.0	26000
Cyanide - Total		<		0.007		**7**	22	**5.2**	**4**	400
Phenols		<		0.015		**15**		300	4000	300000

Comments:
The maximum values reported for each parameter from the five discharges that occurred from April 2020 - September 2024 were used. Non-detects were entered at the detection limit value.

Mercury: All but one samples were below the method detection level. No further analysis was conducted.
Selenium: All samples were below the method detection level. No further analysis was conducted.
Cyanide: All samples were below the method detection level. No further analysis was conducted.

REASONABLE POTENTIAL ANALYSIS

Ammonia as N:

The department used the following to determine the acute and chronic ammonia criterion for the reasonable potential analysis. Stream flow values for the Souris River upstream of Minot, ND were acquired from USGS site 05117500 from April 1, 1994 to September 30, 2024. The Acute WQS criterion for ammonia was determined to be 3.46 mg/l and the 30-day chronic WQS criterion was determined to be 0.65 mg/l for summer months (April – September). The Acute WQS criterion for ammonia was determined to be 8.61 mg/l and the 30-day chronic WQS criterion was determined to be 1.32 mg/l for winter months (October – March).

The reasonable potential determination for ammonia is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variation used was 10.84. It was determined that there is reasonable potential for exceedance of the above calculated ammonia WQS.

Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination

Technical Support Document (TSD) For Water Quality-based Toxics Control
EPA/505/2-90-001; March 1991

Facility Name:	Minot POTW	Receiving Stream:	Souris River	
NDPDES Permit:	ND0022896	1Q10 Acute	0	cfs
Daily Maximum Flow (mgd):	12.50	1B3 Acute	0	cfs
Daily Average Flow (mgd):	4.36	7Q10 Chronic	0	cfs
Stream Design Mixing:	10.0%	4B3 Chronic	0	cfs
Statistical Multiplier:	6.8			
Upstream Concentration:	0.6400	mg/l	**Parameter:**	
Effluent Concetration (max):	17.1000	mg/l	**Ammonia - Summer**	

$$RWC = \frac{(StatQeCe)+(Cs(pmf)Qs)}{Qe+(pmf)Qs}$$

Outfall: 001

RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)
Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)
Qe = Effluent Design Flow
Ce = Highest effluent concentration reported.
pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.
Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)
Cs = Background concentration of the receiving water.

Qe - Acute	12.50	mgd	Qs - 1Q10	0.00	mgd
Qe - Chronic	4.36	mgd	Qs - 1B3	0.00	mgd
Ce	17.1000	mg/l	Qs - 7Q10	0.00	mgd
Cs	0.6400	mg/l	Qs - 4B3	0.00	mgd
Stat	6.80				
pmf	10.0%				

Acute RP			Chronic RP		
RWC - 1Q10	116.2800	mg/l	RWC - 7Q10	116.2800	mg/l
RWC - 1B3	116.2800	mg/l	RWC - 4B3	116.2800	mg/l

Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	3.46	mg/l	Chronic Criterion	0.6500	mg/l

If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.

CMC RP Present:		**CCC RP Present:**	
1Q10 Acute OR	**YES**	**7Q10 Chronic OR**	**YES**
1B3 Acute	**YES**	**4B3 Chronic**	**YES**

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.

Receiving Water Concentration (RWC) Reasonable Potential (RP) Determination

Technical Support Document (TSD) For Water Quality-based Toxics Control
EPA/505/2-90-001; March 1991

Facility Name:	Minot POTW	Receiving Stream:	Souris River	
NDPDES Permit:	ND0022896	1Q10 Acute	0	cfs
Daily Maximum Flow (mgd):	12.50	1B3 Acute	0	cfs
Daily Average Flow (mgd):	4.36	7Q10 Chronic	0	cfs
Stream Design Mixing:	10.0%	4B3 Chronic	0	cfs
Statistical Multiplier:	6.8			
Upstream Concentration:	0.6400	mg/l	**Parameter:**	
Effluent Concetration (max):	17.1000	mg/l	**Ammonia - Winter**	

$$RWC = \frac{(StatQeCe)+(Cs(pmf)Qs)}{Qe+(pmf)Qs}$$

Outfall: 001

RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)
Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)
Qe = Effluent Design Flow
Ce = Highest effluent concentration reported.
pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.
Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)
Cs = Background concentration of the receiving water.

Qe - Acute	12.50	mgd	Qs - 1Q10	0.00	mgd
Qe - Chronic	4.36	mgd	Qs - 1B3	0.00	mgd
Ce	17.1000	mg/l	Qs - 7Q10	0.00	mgd
Cs	0.6400	mg/l	Qs - 4B3	0.00	mgd
Stat	6.80				
pmf	10.0%				

Acute RP			Chronic RP		
RWC - 1Q10	116.2800	mg/l	RWC - 7Q10	116.2800	mg/l
RWC - 1B3	116.2800	mg/l	RWC - 4B3	116.2800	mg/l

Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	8.61	mg/l	Chronic Criterion	1.3200	mg/l

If the calculated RWC is greater than its respective criterion then there is RP and if RWC is less than the criterion then there is no RP.

CMC RP Present:		**CCC RP Present:**	
1Q10 Acute OR	**YES**	**7Q10 Chronic OR**	**YES**
1B3 Acute	**YES**	**4B3 Chronic**	**YES**

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design and harmonic mean flows to determine Water Quality Based Effluent Limits (WQBELs) and Whole Effluent Toxicity (WET) limits.

APPENDIX D – RESPONSE TO COMMENTS

Comments received during the public comment period will be addressed and placed here.

Permit No: ND0022896
Effective Date: April 1, 2025
Expiration Date: March 31, 2030

AUTHORIZATION TO DISCHARGE UNDER THE

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with Chapter 33.1-16-01 of the North Dakota Department of Environmental Quality rules as promulgated under Chapter 61-28 (North Dakota Water Pollution Control Act) of the North Dakota Century Code,

City of Minot
Minot Publicly Owned Treatment Works (POTW)

is authorized to discharge from Outfall 001

to the Souris River a Class IA stream via a modified drainage way

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,

March 31, 2030.

Signed this _____ day of _____, _____.

Marty Haroldson
Director
Division of Water Quality

BP 2025.02.05

This page is intentionally left blank

Table of Contents

DEFINITIONS Standard Permit BP 2019.05.29

1. "**Act**" means the Clean Water Act.

2. "**Average monthly discharge limitation**" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

3. "**Average weekly discharge limitation**" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

4. "**Best management practices**" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.

5. "**Bypass**" means the intentional diversion of waste streams from any portion of a treatment facility.

6. "**Composite**" sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24 hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

7. "**Daily discharge**" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

8. "**Department**" means the North Dakota Department of Environmental Quality, Division of Water Quality.

9. "**DMR**" means discharge monitoring report.

10. "**EPA**" means the United States Environmental Protection Agency.

11. "**Geometric mean**" means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

12. "**Grab**" for monitoring requirements, means a single "dip and take" sample collected at a representative point in the discharge stream.

13. "**Instantaneous**" for monitoring requirements, means a single reading, observation, or measurement. If more than one sample is taken during any calendar day, each result obtained shall be considered.

14. "**Maximum daily discharge limitation**" means the highest allowable "daily discharge."

15. "**Salmonid**" means of, belonging to, or characteristic of the family Salmonidae, which includes the salmon, trout, and whitefish.

16. "**Sanitary Sewer Overflows (SSO)**" means untreated or partially treated sewage overflows from a sanitary sewer collection system.

17. "**Severe property damage**" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

18. "**Total drain**" means the total volume of effluent discharged.

19. "**Upset**" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06

20. "**Acute toxic unit**" ("TUa") is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e., 100/"LC50").

21. "**Chronic toxic unit**" ("TUc") is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/"IC25").

22. "**Inhibition concentration**", ("IC"), is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).

23. "**LC50**" means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.

24. "**No observed effect concentration**", ("NOEC"), is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

OUTFALL DESCRIPTION

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations.

Outfall 001. Active. Final.

Latitude: 48.196810°	Longitude: -101.145095°	County: Ward	
Township: 154N	Range: 82W	Section: 1	QQ: AAA
Receiving Stream: Souris River		Classification: Class IA Stream	
Outfall Description: Discharges from the artificial wetland treatment system into a modified drainage way which flows approximately 2.5 miles before entering the Souris River.			

PERMIT SUBMITTALS SUMMARY

Coverage Point	Submittal	Monitoring Period	Submittal Frequency	First Submittal Date
001A	Discharge Monitoring Report	Monthly	Monthly	May 31, 2025
001W	Discharge Monitoring Report	Quarterly	Quarterly	July 31, 2025
001Y	Discharge Monitoring Report	Yearly	Yearly	April 30, 2026
Mercury Management	Mercury Pollutant Minimization Plan	Not Applicable	1/permit cycle	October 31, 2025
Application Renewal	NPDES Application Renewal	Not Applicable	1/permit cycle	October 1, 2029
Notes:				
Report Designator “A”	Conventional and Non-Conventional Pollutants, Flow and Volume Information			
Report Designator “W”	Whole Effluent Toxicity Results			
Report Designator “Y”	Trace Element Results			

SPECIAL CONDITIONS

Mercury Pollutant Minimization Plan

The permittee is required to complete and submit a Mercury Pollutant Minimization Plan (MMP) to the North Dakota Department of Environmental Quality (department) as detailed in this section. If the permittee has previously submitted a MMP, the permittee must update and submit the MMP to the department. The purpose of the MMP is to evaluate collection and treatment systems to determine possible sources of mercury as well as potential mercury reduction options. Guidelines for developing a MMP are detailed in this section.

The permittee shall submit the MMP to the department by **October 31, 2025**. At a minimum, the MMP must include the following:

A. A summary of mercury influent and effluent concentrations and biosolids monitoring data using the most recent five years of monitoring data, if available.

B. Identification of existing and potential sources of mercury concentrations and/or loading to the Publicly Owned Treatment Works (POTW). Residential, institutional, municipal, and commercial sources – such as dental clinics, hospitals, medical clinics, nursing homes, schools, and industries – that have the potential to contribute mercury to the POTW should be considered. Other influent sources of mercury, such as stormwater inputs, ground water inflow and infiltration (I/I), and waste streams and sewer tributaries to the POTW also should be considered.

C. An evaluation of past and present POTW operations that maximize mercury removal.

D. A summary of mercury reduction activities implemented during the last five years.

E. A plan to implement mercury management and reduction measures during the next five years.

The permittee shall sample effluent for dissolved mercury throughout the life of this permit in addition to the sampling required by this permit. Effluent samples shall be collected annually from Outfall 001. Effluent must be sampled prior to discharging from the POTW and before entering waters of the state. The sampling method shall be a concurrent grab sample. Dissolved mercury shall be analyzed using an EPA approved mercury analysis method. Samples may be taken at any time during the calendar year. A trip blank shall be collected and analyzed for each sampling event. Sample results shall be reported on a custom supplemental form provided by the department. The custom supplemental form must be submitted with the DMR for the month in which the sample was collected.

Sanitary Sewer Overflows (SSOs)

These conditions apply to portions of the collection system for which the permittee has ownership or has operational control. SSOs that occur must be reported to the department in accordance with 40 CFR 122.41(6), Part III(G) of the permit, and as specified in under the Reporting and Record Keeping for Sanitary Serwer Overflow Section outlined below:

Reporting and Record Keeping for Sanitary Sewer Overflows.

1. Immediate Reporting

A. The permittee shall report to the department any sanitary sewer overflow or any unauthorized sanitary sewer overflow that the permittee owns and/or operates. Any information shall be provided orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. At a minimum, the report shall identify:

   i. The location of the overflow;

   ii. The receiving water (if there is one);

   iii. The duration of the overflow; and

   iv. The estimated volume of the overflow.

B. An overflow is any spill, release, or diversion of municipal sewage, including:

   i. An overflow that results in a discharge to water of the state; and

   ii. An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately-owned sewer or building lateral), even if that overflow does not reach waters of the state.

2. Written Reports

A. The permittee shall also provide a written report to the department for any overflow identified under paragraph 1 of this section within five (5) days from the time the permittee becomes aware of the circumstances. The written report shall contain a description of:

   i. The location of the overflow;

   ii. The receiving water (if there is one);

   iii. An estimate of the overflow volume;

   iv. A description of the sewer-system component that caused the release (e.g. manhole, constructed overflow pipe, pipe break, etc.);

   v. The estimated date and time when the overflow began and stopped or will be stopped;

   vi. A description of the overflow and the cause or suspected cause of the overflow;

   vii. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;

   viii. Types of human health and environmental impacts of the sewer overflow event;

   ix. Steps taken or planned to mitigate the impact(s) from the overflow and a schedule of major milestones for those steps.

   x. Whether the sewer overflow was related to wet weather;

B. The department may waive the written report on a case-by-case basis for reports under paragraph A. of this section if the verbal report required under Part II paragraph 1 has been received within twenty-four (24) hours.

3. Record Keeping

A. The permittee shall maintain all records in accordance with Part II(F) of the permit including:

i. Any report submitted under paragraph 2 of the special conditions above, and

ii. Any report, including work orders that are associated with the investigation of system problems related to an overflow that describes the steps taken or planned to reduce, eliminate, or prevent reoccurrence of the overflow, or documents system performance.

Discharge Monitoring Report – Quality Assurance (DMR-QA) Study

This facility has been selected to take part in the annual Discharge Monitoring Report – Quality Assurance (DMR-QA) Study. This participation is a requirement as outlined in Section 308 of the Clean Water Act (CWA). EPA will mail you a copy of the annual DMR-QA Study notification letter. Additional information may be found by visiting the following website: https://www.epa.gov/compliance/discharge-monitoring-report-quality-assurance-study-program#about Discontinuation from the DMR-QA Study may take place upon a written letter from the State DMR-QA Coordinator.

Compliance Schedule

Permittees must take steps to achieve compliance for any discharge which does not meet applicable effluent standards and limitations, water quality standards, or other requirements found in NDAC 33.1-16-01-13. A permit may contain a compliance schedule that allows a reasonable opportunity to achieve compliance if the period of time to achieve compliance will be longer than three years. Requirements for compliance schedules may be found in NDAC 33.1-16-01-15.

The department is proposing the compliance schedule in Table 14 to complete a study to determine the source(s) of the facility's *E. coli* exceedances and provide options to address the exceedances upon the effective date of the permit, the schedule will become part of the permit. The schedule may be revised or modified in accordance with NDAC 33.1-16-01-25. It should be noted that minor modifications (NDAC 33.1-16-01-25.4) do not require a draft permit and public notice.

Table 14 – Compliance Schedule

Milestone (Long Term Improvements)	Date
Submit detailed draft study plan scope of work to the department for review and comment	September 30, 2025
Submit finalized study plan scope of work to the department	March 31, 2026
Submit progress report	December 31, 2026
Submit progress report	October 31, 2027
Submit progress report	June 30, 2028
Submit finalized study with options to address the *E. coli* exceedances to department	March 31, 2029
Submit decision document of city's planned actions to address the *E. coli* exceedances based off of study results and other related documentation.	June 30, 2029

I. LIMITATIONS AND MONITORING REQUIREMENTS

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls as specified to the following: **Souris River** (a Class IA stream) **via a modified drainage way**.

No discharge shall occur from the lagoons until all pre-discharge parameters have been reviewed by the department. After the review process has been completed the permittee shall comply with the limitations of this permit.

This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

B. Effluent Limitations and Monitoring

1. The permittee must limit and monitor all discharges as specified below:

Table 1 – Effluent Limits and Monitoring Frequency Requirements for Outfalls 001

Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Biochemical Oxygen Demand (BOD_5) [a]	25 mg/l	45 mg/l	NA	2/week	Composite
BOD_5 Removal Efficiency	Shall not be less than 85%	NA	NA	1/month	Calculated
Total Suspended Solids (TSS) [a]	30 mg/l	45 mg/l	NA	2/week	Composite
TSS Removal Efficiency	Shall not be less than 85%	NA	NA	1/month	Calculated
pH [a]	Shall remain between 6.5 to 9.0 s.u.			1/day	Instantaneous
Ammonia as N [a, b]	Refer to the Ammonia Table below (Table 2)			3/week	Composite
Escherichia coli (E. coli) [a, c]	126/100 ml	NA	409/100 ml	2/week or Conditional	Grab
Oil & Grease, Visual [d]	NA	NA	NA	1/day	Visual
Oil & Grease, mg/l [d]	NA	NA	10 mg/l	Conditional /Daily	Grab
Temperature (°C) [a]	NA	NA	Report	2/week	Instantaneous
Nitrogen, Total (as N) [e]	Average for the month	NA	Monitor only (mg/l)	1/month	Composite
Nitrogen, Total (as N) [e]	Average for the month	NA	Monitor only (lbs/day)	1/month	Calculated
Phosphorus, Total (as P)	Average for the month	NA	Monitor only (mg/l)	1/month	Composite
Phosphorus, Total (as P)	Average for the month	NA	Monitor only (lbs/day)	1/month	Calculated
Effluent Flow, MGD	Report	NA	Report Max Daily Values	1/day	Instantaneous
Total Flow, mgal	NA	NA	Report Monthly Total	1/month	Calculated
Whole Effluent Toxicity (WET)	Part I.C in Permit			1/quarter	Grab
Trace Elements (40 CFR 122 - App D; Table III) [f]	Report			1/year	Composite [g]

Influent Monitoring Frequency Requirements			
Parameter	**Effluent Limitations**	**Sample Frequency**	**Sample Type**
Biochemical Oxygen Demand (BOD_5)	Report	2/month	Composite
Total Suspended Solids (TSS)	Report	2/month	Composite
Trace Elements (40 CFR 122 - App D; Table III)	Report	1/year	Composite [g]
Souris River Monitoring Frequency Requirements			
Parameter	**Effluent Limitations**	**Sample Frequency**	**Sample Type**
pH (s.u.) [h]	Report	3/week	Instantaneous
Ammonia as N (mg/l) [h]	Report	3/week	Grab
Temperature (°C) [h]	Report	3/week	Instantaneous
Hardness as $CaCO_3$ [f]	Report	1/year	Grab
Flow (cfs) [b, h]	Report	3/week	Usable Data Source

Notes:

NA Not Applicable

a. A pre-discharge sample shall be taken prior to the start of any discharge from Outfall 001 and this analysis is reported to the department. The pre-discharge sample shall be taken from either Cell 4 or Cell 5 (whichever is to be released first to the constructed wetland). A pre-discharge sample shall be tested for BOD_5, TSS, pH, Ammonia as N, *E. coli*., and Temperature. An additional sample of the actual discharge shall be taken and analyzed at a frequency as specified in this table above for the duration of the discharge.

b. When there is stream flow, the permittee will use in-stream parameters to calculate the real-time water quality standard for Ammonia as N. This calculated limit will be compared to facility effluent data on ammonia, and if the effluent value is greater than the calculated limit, the permittee will report an Ammonia as N exceedance.

River flow shall be recorded from a representative location upstream of the mixing point with the Souris River. If there is no Souris River flow, ammonia as N must meet the state water quality standard at end-of-pipe.

c. *E. coli* shall not exceed 126 organisms per 100 ml as a geometric mean of representative samples collected during any 30-day consecutive period, nor shall samples collected during any 30-day consecutive period individually exceed 409 organisms per 100 ml for any one day.

The limit for E. coli shall only apply during the recreational season, April 1 through October 31. Averages for E. coli shall be determined as a geometric mean.

d.	If a visible sheen or floating oil is observed at the discharge point, an oil & grease sample shall be collected to determine compliance with the 10 milligrams per liter (mg/) concentration limit.
e.	Total Nitrogen is a combination of Nitrite, Nitrate, and Total Kjeldahl Nitrogen (TKN).
f.	A total hardness of the receiving stream needs to be determined every time Trace Elements are sampled and analyzed. The hardness is used to calculate parameter criteria according to the state water quality standards. This sample shall be collected upstream of the final discharge site.
g.	Parameters Cyanide, Total and Phenols, Total shall be collected as grab samples. All other parameters are composite.
h.	Sample must be collected/recorded the same day as the ammonia sample for Outfall 001.
Stipulations:	
Effluent samples taken in compliance with the monitoring requirements specified in this permit shall be taken after treatment and prior to leaving city property or entering the receiving stream.	
The discharge shall not contain, in sufficient amounts to be unsightly or deleterious, any floating debris, oil, scum, and other floating materials attributable to municipal wastewater operations.	
The trace elements sampling events shall be flow proportioned and follow the definition as stated in this permit.	

Table 2: Ammonia Effluent Limitations and Monitoring Requirements Outfalls 001

	Effluent Limitations		
Parameter	**Avg. Monthly Limit**	**Avg. Weekly Limit**	**Daily Maximum Limit**
Ammonia [1]	†	NA	‡
Stream flow upstream, cfs [2]	NA	NA	NA
Temperature upstream, ° C [2]	NA	NA	NA
pH upstream, S.U. [2]	NA	NA	NA

1 Calculations must be performed for each discharge sample. If an exceedance is detected on any single sample, the exceedance must be reported on the DMR.

2 Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the United States Geological Survey (USGS) gauging station 05117500 at Minot, North Dakota or can be sampled by the permittee. If the permittee cannot feasibly sample flow, temperature, and pH, effluent information shall be used when calculating ammonia and no mixing will be allowed.

† Chronic Standard (Average Monthly Limit)
The 30-day average concentration of total ammonia (expressed as N in mg/L) does not exceed the numerical value given by the following formula:

$$0.8876 \times \left(\frac{0.0278}{1+10^{7.688-pH}} + \frac{1.1994}{1+10^{pH-7.688}}\right) \times \left(2.126 \times 10^{0.028\times(20-MAX(T,7))}\right)$$

Receiving stream pH and Temperature is used for the calculation.

‡ Acute Standard (Daily Maximum Limit)
The one-hour average concentration of total ammonia (expressed as N in mg/l) does not exceed the numerical value given by the following formula:

$$0.7249 \times \left(\frac{0.0114}{1+10^{7.204-p}} + \frac{1.6181}{1+10^{pH-7.204}}\right) \times MIN\left(51.93, 23.12 \times 10^{0.036\times(20-T)}\right)$$

where *Oncorhynchus* are absent.

Receiving stream pH and Temperature is used for the calculation.

Stipulations

NA means Not Applicable

The maximum mixing factor is 10.0%.

C. Whole Effluent Toxicity (WET) Requirements BP 2024.11.04

1. Acute Toxicity Testing

Acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *"Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*," EPA-821-R-02-012 (Fifth Ed., October 2002). The permittee shall conduct an acute 48-

hour static renewal toxicity test using freshwater fleas, *Ceriodaphnia dubia* and an acute 96-hour static renewal toxicity test using fathead minnows, *Pimephales promelas*.

Table 3: Acute WET Requirements

WET tests shall be performed on the first discharge made each calendar year, unless specifically waived by the department. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.

Toxicity is defined as:

Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or ≥1.0 TUa for *Ceriodaphnia dubia* 48-hour and fathead minnow 96-hour test. The 48-hour and 96-hour effluent value must be **<1.0 TUa** to indicate a passing test. Any 48-hour or 96-hour effluent value of **≥1.0 TUa** will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.

Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	**Souris River**					
Species and Test Type	*Ceriodaphnia dubia* - 48 Hour Acute - Static Renewal - 20°C					
	Fathead minnow - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	Mortality LC_{50} reported as TU_a					
Compliance Point	**End-of-pipe**					
Sampling Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit (AML)	<1 TUa					

The use of alternate testing procedures or methods shall be approved in advance by the department (including, but not limited to the use of EDTA, CO_2 overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.).

If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.

The permittee shall report the following results of each toxicity test on the DMR for that reporting period:

***Pimephales promelas* (Fathead Minnow)**
a. Report the highest TUa for Fathead minnow, Parameter No. TSN6C.

***Ceriodaphnia dubia* (Water Flea)**
a. Report the highest TUa for *Ceriodaphnia dubia*, Parameter No. TSM3B.

When dangerous conditions exist for personnel (i.e., thin ice, melting ice, flooding, etc.) the permittee may utilize moderately hard reconstituted water upon request and approval by the department.

2. Chronic Toxicity Testing

No chronic toxicity limits are imposed on this permit. Therefore, the permittee is not required to monitor or test for chronic toxicity.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of "*Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,*" EPA-821-R-02-013 (Fourth Ed., October 2002). Test species shall consist of freshwater fleas, *Ceriodaphnia dubia* and fathead minnows, *Pimephales promelas*.

3. Reduced Monitoring for Toxicity Testing

a. Alternating Species
If the results of a minimum of four consecutive samples taken over at least a 12 month period indicate no toxicity, the permittee may request the Department for a test reduction. This reduction would only be testing one species per sampling frequency. If fathead minnows are used first then the next test would be *C. dubia* or vice versa and continue alternating. The department may approve or deny the request, based on the biomonitoring results and other available information. If the request is approved, the test procedures are to be the same as outlined in 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing.

This provision restarts at the time of permit reissuance/renewal. Permittees may request alternating species after the conditions of this section are met under the reissued permit.

If toxicity occurs in any single species test the provision for alternating species shall be immediately revoked and 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing shall be followed in whole.

b. Monthly Testing
If the results of 5. Toxicity Reduction Evaluation (TRE) have been accepted by the department or a period of time has indicated no toxicity, the permittee may request the department to allow a reduction from monthly to quarterly toxicity testing for both species. The department may approve or deny the request, based on the bio-monitoring results and other available information. If the request is approved, the test procedures are to be the same as outlined in 1. Acute Toxicity Testing and/or 2. Chronic Toxicity Testing.

4. Reporting Requirements
Test results shall be submitted with the Discharge Monitoring Report (DMR) form for each reporting period. The format for the report shall be consistent with the above reference manual(s) as outlined in the section "Report Preparation and Test Review." Each lab generated report shall document the findings for each species reference toxicity testing chart.

5. Toxicity Reduction Evaluation (TRE)
If toxicity is detected, and it is determined by the department that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. A TRE shall reference the latest revision of "*Technical Support Document for Water Quality-based Toxics Control,*" EPA/505/2-90-001 – PB91-127415 (March 1991). The purpose of the TRE will be to establish the cause of the toxicity,

locate the source(s) of the toxicity, and control or provide treatment for the toxicity.

If the TRE establishes that the toxicity cannot be eliminated by the current treatment system, the permittee shall submit a proposed compliance plan to the department. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the department, this permit may be reopened and modified.

If the TRE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations or proper discharge management as approved by the department, the permittee may:

a. Submit an alternative control program for compliance with the numerical requirements; or

b. If necessary, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

If acceptable to the department, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the department, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the department, shall in no way relieve the permittee from maintaining compliance with the whole effluent toxicity requirements of this permit.

II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2021.09.09

A. Representative Sampling (Routine and Non-Routine Discharges)

All samples and measurements taken shall be representative of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited under **Part I Effluent Limitations and Monitoring** requirements of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with B. Test Procedures. The permittee must report all additional monitoring in accordance with D. Additional Monitoring.

B. Test Procedures

The collection and transportation of all samples shall conform with EPA preservation techniques and holding times found in 40 CFR 136. All laboratory tests shall be performed by a North Dakota certified laboratory in conformance with test procedures pursuant to 40 CFR 136, unless other test procedures have been specified in this permit or approved by EPA as an alternate test procedure under 40 CFR 136.5. The method of determining the total amount of water discharged shall provide results within 10 percent of the actual amount.

C. Recording of Results

Records of monitoring information shall include:

1. the date, exact place and time of sampling or measurements;

2. the name(s) of the individual(s) who performed the sampling or measurements;

3. the name of the laboratory;

4. the date(s) and time(s) analyses were performed;

5. the name(s) of the individual(s) who performed the analyses;

6. the analytical techniques or methods used; and

7. the results of such analyses.

D. Additional Monitoring

If the discharge is monitored more frequently than this permit requires, all additional results, if in compliance with B. Test Procedures, shall be included in the summary on the Discharge Monitoring Report.

E. Reporting of Monitoring Results

1. Monitoring results shall be summarized and reported to the department using Discharge Monitoring Reports (DMRs). If no discharge occurs during a reporting period, "No Discharge" shall be reported. The permittee must submit DMRs electronically using the electronic information reporting system unless requirements in subsection 3 are met.

2. Prior to December 21, 2025, the permittee may elect to electronically submit the following compliance monitoring data and reports instead of mailing paper forms. Beginning December 21, 2025, the permittee must report the following using the electronic reporting system:

   a. General permit reports [e.g., notices of intent (NOI); notices of termination (NOT); no exposure certifications (NOE)];

   b. Municipal separate storm sewer system program reports;

   c. Pretreatment program reports;

   d. Sewer overflow/bypass event reports; and

   e. Clean Water Act 316(b) annual reports

3. The permittee may seek a waiver from electronic reporting. To obtain a waiver, the permittee must complete and submit an Application for Temporary Electronic Reporting Waiver form (SFN 60992) to the department. The department will have 120 days to approve or deny the waiver request. Once the waiver is approved, the permittee may submit paper versions of monitoring data and reports to the department.

   a. One of the following criteria must be met in order to obtain a waiver. The department reserves the right to deny any waiver request, even if they meet one of the criteria below.

      1. No internet access,

2. No computer access,

3. Annual DMRs (upon approval of the department),

4. Employee turnover (3-month periods only), or

5. Short duration permits (upon approval of the department)

All reports must be postmarked by the last day of the month following the end of each reporting period. All original documents and reports required herein shall be signed and submitted to the department at the following address:

ND Department of Environmental Quality
Division of Water Quality
4201 Normandy Street
Bismarck ND 58503-1324

F. Records Retention

All records and information (including calibration and maintenance) required by this permit shall be kept for at least three years or longer if requested by the department or EPA.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

B. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. If necessary to achieve compliance with the conditions of this permit, this shall include the operation and maintenance of backup or auxiliary systems.

C. Planned Changes

The department shall be given advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance. Any anticipated facility expansions, production increase, or process modifications which might result in new, different, or increased discharges of pollutants shall be reported to the department as soon as possible. Changes which may result in a facility being designated a "new source" as determined in 40 CFR 122.29(b) shall also be reported.

D. Duty to Provide Information

The permittee shall furnish to the department, within a reasonable time, any information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit. When a permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or any report, it shall promptly submit such facts or information.

E. Signatory Requirements

All applications, reports, or information submitted to the department shall be signed and certified.

All permit applications shall be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

All reports required by the permit and other information requested by the department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

The authorization is made in writing by a person described above and submitted to the department; and

The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If an authorization under E. Signatory Requirements is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the department prior to or together with any reports, information, or applications to be signed by an authorized representative.

Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

F. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:

   a. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under G. Bypass of Treatment Facilities;

   b. Any upset which exceeds any effluent limitation in the permit under H. Upset Conditions; or

   c. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.

2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected; and

   d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

Reports shall be submitted to the address in **Part II.E. Reporting of Monitoring Results**. The department may waive the written report on a case by case basis if the oral report has been received within 24 hours by the department at 701.328.5210 as identified above.

All other instances of noncompliance shall be reported no later than at the time of the next Discharge Monitoring Report submittal. The report shall include the four items listed in this subsection.

G. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.

2. Bypass exceeding limitations-notification requirements.

   a. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.

   b. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under F. Twenty-four Hour Notice of Noncompliance Reporting.

3. Prohibition of Bypass. Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

   c. The permittee submitted notices as required under the 1. Anticipated Bypass subsection of this section.

   The department may approve an anticipated bypass, after considering its adverse effects, if the department determines that it will meet the three (3) conditions listed above.

H. Upset Conditions

An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of the following paragraph are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and the permittee can identify its cause(s);

2. The permitted facility was, at the time being, properly operated;

3. The permittee submitted notice of the upset as required under F. Twenty-four Hour Notice of Noncompliance Reporting and

4. The permittee complied with any remedial measures required under I. Duty to Mitigate.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee, at the department's request, shall provide accelerated or additional monitoring as necessary to determine the nature and impact of any discharge.

J. Removed Materials

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not be directly blended with or enter either the final plant discharge and/or waters of the state. The permit issuing authority shall be contacted prior to the disposal of any sewage sludges. At that time, concentration limitations and/or self-monitoring requirements may be established.

K. Duty to Reapply

Any request to have this permit renewed should be made six months prior to its expiration date.

IV. GENERAL PROVISIONS

A. Inspection and Entry

The permittee shall allow department and EPA representatives, at reasonable times and upon the presentation of credentials if requested, to enter the permittee's premises to inspect the wastewater treatment facilities and monitoring equipment, to sample any discharges, and to have access to and copy any records required to be kept by this permit.

B. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the department and EPA. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

C. Transfers

This permit is not transferable except upon the filing of a Statement of Acceptance by the new party and subsequent department approval. The current permit holder should inform the new controller, operator, or owner of the existence of this permit and also notify the department of the possible change.

D. New Limitations or Prohibitions

The permittee shall comply with any effluent standards or prohibitions established under Section 306(a), Section 307(a), or Section 405 of the Act for any pollutant (toxic or conventional) present in the discharge or removed substances within the time identified in the regulations even if the permit has not yet been modified to incorporate the requirements.

E. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. This includes the establishment of limitations or prohibitions based on changes to Water Quality Standards, the development and approval of waste load allocation plans, the development or revision to water quality management plans, changes in sewage sludge practices, or the establishment of prohibitions or more stringent limitations for toxic or conventional pollutants and/or sewage sludges. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

F. Need to Halt or Reduce Activity Not a Defense
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

G. State Laws
Nothing in this permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation preserved under Section 510 of the Act.

H. Oil and Hazardous Substance Liability
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

I. Property Rights
The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

J. Severability
The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

V. INDUSTRIAL WASTE MANAGEMENT BP 2021.09.28
Major POTWs - Non-Approved Pretreatment Program Requirements

A. General Responsibilities
The permittee has the responsibility to protect the Publicly Owned Treatment Works (POTW) from pollutants which would inhibit, interfere, or otherwise be incompatible with operation of the treatment works including interference with the use or disposal of municipal sludge.

B. Pollutant Restrictions
Pretreatment Standards (40 CFR Section 403.5) developed pursuant to Section 307 of the Federal Clean Water Act (the Act) require that the permittee shall not allow, under any circumstances, the introduction of the following pollutants to the POTW from any source of nondomestic discharge:

1. Any other pollutant which may cause Pass Through or Interference;

2. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than sixty (60) degrees Centigrade (140 degrees Fahrenheit) using the test methods specified in 40 CFR Section 261.21;

3. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with a pH of lower than 5.0 s.u., unless the treatment facilities are specifically designed to accommodate such discharges;

4. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, or other interference with the operation of the POTW;

5. Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with any treatment process at the POTW;

6. Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds forty (40) degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;

7. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through at the POTW;

8. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

9. Any trucked or hauled pollutants, except at discharge points designated by the POTW; and

10. Any specific pollutant which exceeds a local limitation established by the permittee in accordance with the requirements of 40 CFR Section 403.5 (c) and (d).

C. Approval Authority

North Dakota was delegated the Industrial Pretreatment Program in September of 2005. The North Dakota Department of Environmental Quality, Division of Water Quality shall be the Approval Authority and the mailing address for all reporting and notifications to the Approval Authority shall be:

ND Department of Environmental Quality
Division of Water Quality
4201 Normandy Street
Bismarck ND 58503-1324

D. Industrial Categories

In addition to the general limitations expressed above, more specific Pretreatment Standards have been and will be promulgated for specific industrial categories under Section 307 of the Act (40 CFR Part 405 et. Seq.).

E. Notification Requirements

The permittee must notify the Approval Authority, of any new introductions by new or existing industrial users or any substantial change in pollutants from any industrial user within sixty (60) days following the introduction or change. Such notice must identify:

1. Any new introduction of pollutants into the POTW from an industrial user which would be subject to Sections, 301, 306, and 307 of the Act if it were directly discharging those pollutants; or

2. Any substantial change in the volume or character of pollutants being introduced into the POTW by any industrial user;

3. For the purposes of this section, adequate notice shall include information on:

   a. The identity of the industrial user;

   b. The nature and concentration of pollutants in the discharge and the average and maximum flow of the discharge to be introduced into the POTW; and

   c. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from or biosolids produced at such POTW.

4. For the purposes of this section, a significant industrial user shall include:

   a. Any discharger subject to Categorical Pretreatment Standards under Section 307 of the Act and 40 CFR chapter I, subchapter N;

   b. Any discharger which has a process wastewater flow of 25,000 gallons or more per day;

   c. Any discharger contributing five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;

   d. Any discharger who is designated by the Approval Authority as having a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standards or requirements.

F. Sampling and Reporting Requirements

The permittee shall sample and analyze the effluent for the following pollutants:

40 CFR 122 Appendix D Table III				
Antimony, Total	Arsenic, Total	Beryllium, Total	Cadmium, Total	Chromium, Total
Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Selenium, Total
Silver, Total	Thallium, Total	Zinc, Total	Cyanide, Total	Phenols, Total
Hardness, Total [a]				

Notes:

a. A total hardness of the receiving stream needs to be determined every time the above parameters are tested. The hardness is used to calculate parameter criterion(s) according to the North Dakota State Water Quality Standards.

The sampling shall commence within thirty (30) days of the effective date of this permit and continue at a frequency of once per year.

Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR Part 136. Where sampling methods are not specified the effluent samples collected shall be composite samples consisting of at least twelve (12) aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Where a flow proportioned composite sample is not practical, the permittee shall collect at least three (3) grab samples, taken at equal intervals over a representative 24 hour period. Lagoon treatment systems may collect a single effluent grab sample.

The results of all analyses shall be attached to, and reported along with the Discharge Monitoring Report (DMR) submitted for the end of that reporting period.

G. Approval Authority Options

At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Approval Authority may, as appropriate:

1. Amend the permittee's North Dakota Pollutant Discharge Elimination System (NDPDES) discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable Pretreatment Standards;

2. Require the permittee to specify, by ordinance, order, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's POTW for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the General Pretreatment Regulations at 40 CFR Part 403; and/or,

3. Require the permittee to monitor its discharge for any pollutant which may likely be discharged from the permittee's POTW, should the industrial user fail to properly pre-treat its waste.

H. Enforcement Authority

The Approval Authority retains, at all times, the right to take legal action against any source of nondomestic discharge, whether directly or indirectly controlled by the permittee, for violations of a permit, order or similar enforceable mechanism issued by the permittee, violations of any Pretreatment Standard or requirement, or for failure to discharge at an acceptable level under national standards issued by EPA under 40 CFR, chapter I, subchapter N. In those cases where a North Dakota Pollutant Discharge Elimination System (NDPDES) permit violation has occurred because of requirements as necessary to protect the POTW, the North Dakota Department of Environmental Quality and/or Approval Authority shall hold the permittee and/or industrial user responsible and may take legal action against the permittee as well as the industrial user(s) contributing to the permit violation.