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

Public Notice Date: 11/15/2023 Public Notice Number: ND-2023-022

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: 6/29/2023 Application Number: ND0022888

Applicant Name: Grand Forks City Of

Mailing Address: PO Box 5200, Grand Forks, ND 58206-5200

Telephone Number: 701.787.9131

Proposed Permit Expiration Date: 12/31/2028

Facility Description

The reapplication is for a domestic, major municipal, mechanical treatment plant and a six-cell facultative lagoon wastewater treatment system. The treatment system is located in Sections 23 and 26, Township 152 N, Range 51 W, in Grand Forks County. Permitted outfall 009 discharges to the Red River of the North, a Class I stream. The location of this outfall point is latitude 47.976667, longitude -97.058333.

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 December 16, 2023 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 ND0022888

GRAND FORKS WASTEWATER TREATEMNT FACILITY CITY OF GRAND FORKS, NORTH DAKOTA

DATE OF THIS FACT SHEET – September 2023

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) has oversight authority. 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 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 uses 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 the 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 period (NDAC chapter 33-16-01-07). 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 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 Information**. Following the public comment period, the department may make changes to the draft NDPDES permit. The department will summarize the responses to comments and any changes to the permit in **Appendix D – Response to Comments**.

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BACKGROUND INFORMATION

Table 1 - General Facility Description

Applicant:	City of Grand Forks
Facility Name and Address:	City of Grand Forks 3251 North 69th Street Grand Forks, ND 58203
Permit Number:	ND0022888
Permit Type:	Major Municipality – Renewal, Mechanical Plant with Facultative/Polishing Lagoon Wastewater Treatment System
Type of Treatment:	Mechanical Treatment
SIC Code:	4952 – Sewerage Systems
Discharge Location:	Outfall 009: Red River of the North, Class I Stream Latitude: 47.976667 Longitude: -97.058333
Hydrologic Code:	09020301 – Sandhill-Wilson
Population:	68,100 (provided on application) - 59,000 – City of Grand Forks, ND - 9,100 – City of East Grand Forks, MN

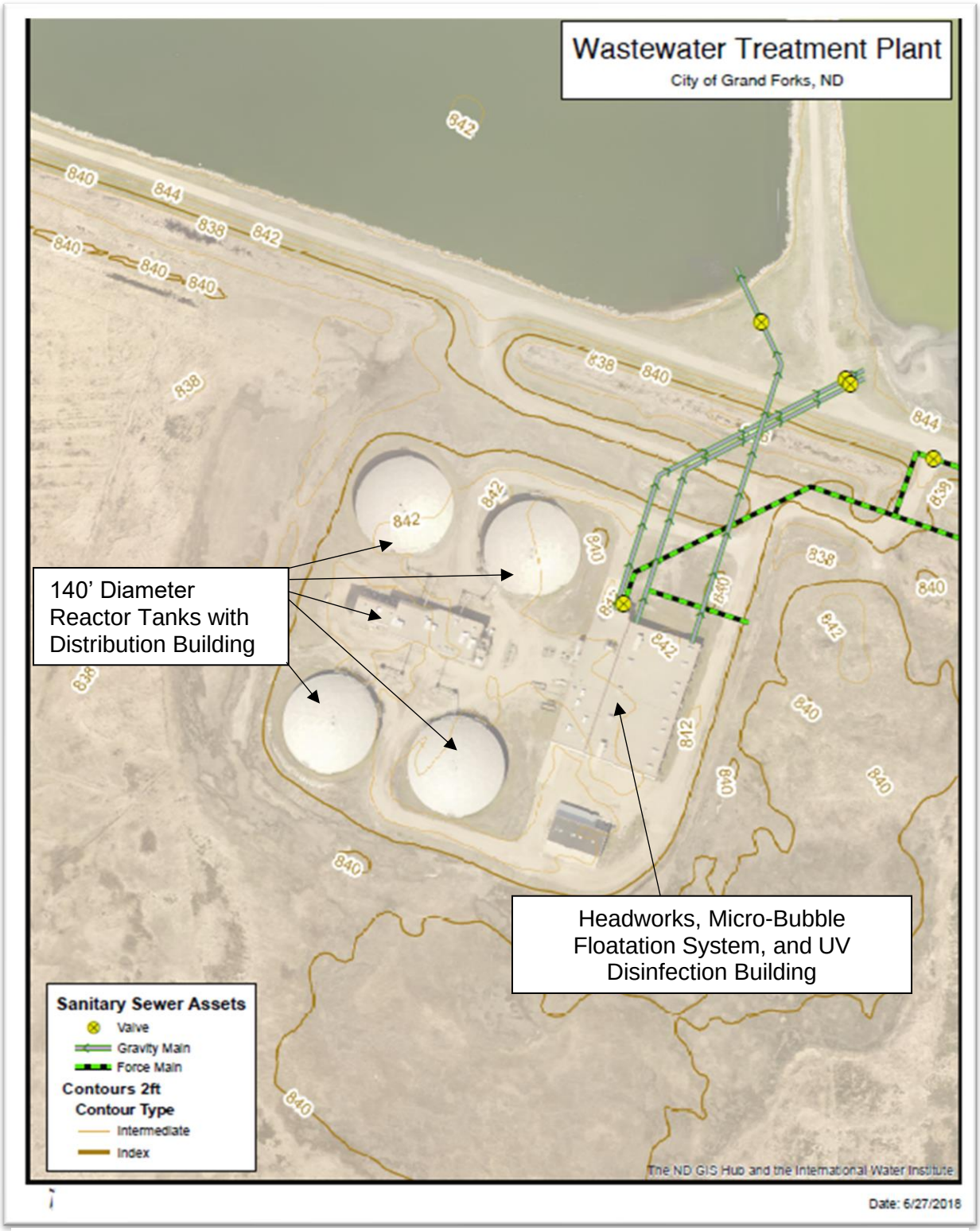

Figure 1 - Grand Forks Wastewater Treatment Plant Overview

Figure 2 - Wastewater Treatment Plant and Waste Stabilization Ponds

Figure 3 - Outfall 009

FACILITY DESCRIPTION

History

Prior to 2002, the City of Grand Forks (city) operated a two (2) aeration basin and six (6) cell waste stabilization pond system. The waste stabilization pond system was upgraded to a mechanical treatment system in 2002. After completion of the mechanical treatment plant, the city would direct effluent to the waste stabilization ponds and was intermittently discharging.

In 2011, the city submitted a request to discharge the lagoons continuously during the winter months. Advanced Engineering (AE2S) proposed an interim operation plan dated September 12, 2011, and submitted it to the department for approval. Three (3) key drivers were identified as reasons to evaluate the potential for a continuous discharge during the winter months.

1. Lagoon decommissioning requirements – the lagoon system is relatively close to the city airport. The Federal Aviation Administration (FAA) was concerned with the bird strike potential created by the lagoon system. The FAA expressed a desire to have the two (2) western-most secondary cells decommissioned to reduce the bird strike potential.

2. Operational expense savings – Rising water and ice during the winter months cause damage to the rip-rap in the lagoon cells.

3. Discharge flow stabilization – A continuous discharge would minimize impacts on the receiving water during large spring and fall discharge events.

The city initiated continuous discharge from the waste stabilization pond system in the winter of 2011.

An ultraviolet disinfection system and new control structure were then constructed which allows the city to continuously discharge year-round.

Treatment System

The mechanical treatment plant is a high-level activated sludge plant using micro-bubble floatation (MBF) and is designed for 10 million gallons per day with a biochemical oxygen demand (BOD_5) loading of 50,000 lbs/day. Influent enters the facility through the headworks and goes through two screens to a vortex grit chamber. The wastewater is treated with sodium hydroxide to increase alkalinity and a polymer to increase flocculation while in headworks. The water then flows to the distribution building which routes the water to the four (4) 140-foot diameter reactors. The reactors run in a series with the water going back to the distribution building after each reactor. After treatment in the reactors, the wastewater flows through micro bubble filtration (MBF) which skims the solids off the wastewater. The solids either get wasted into the second cell of the waste stabilization pond system or get recycled back to the headworks. After skimming, the water goes through UV disinfection and is discharged through Outfall 009. The facility also has a 6-cell waste stabilization pond system which is maintained and used when needed.

The six-cell waste stabilization pond system (1356 acres) consists of the following:

- Primary cell no. 1 - surface area of approximately 295 acres,
- Primary cell no. 2 - surface area of approximately 202 acres,
- Secondary cell no. 1 - surface area of approximately 236 acres,
- Secondary cell no. 2 - surface area of approximately 146 acres,
- Secondary cell no. 3 - surface area of approximately 225 acres,
- Secondary cell no. 4 - surface area of approximately 251 acres,

All pipes from the waste stabilization ponds converge into one outfall (Outfall 009).

Below is the wastewater treatment facility flow schematic provided to the department as part of the permit application:

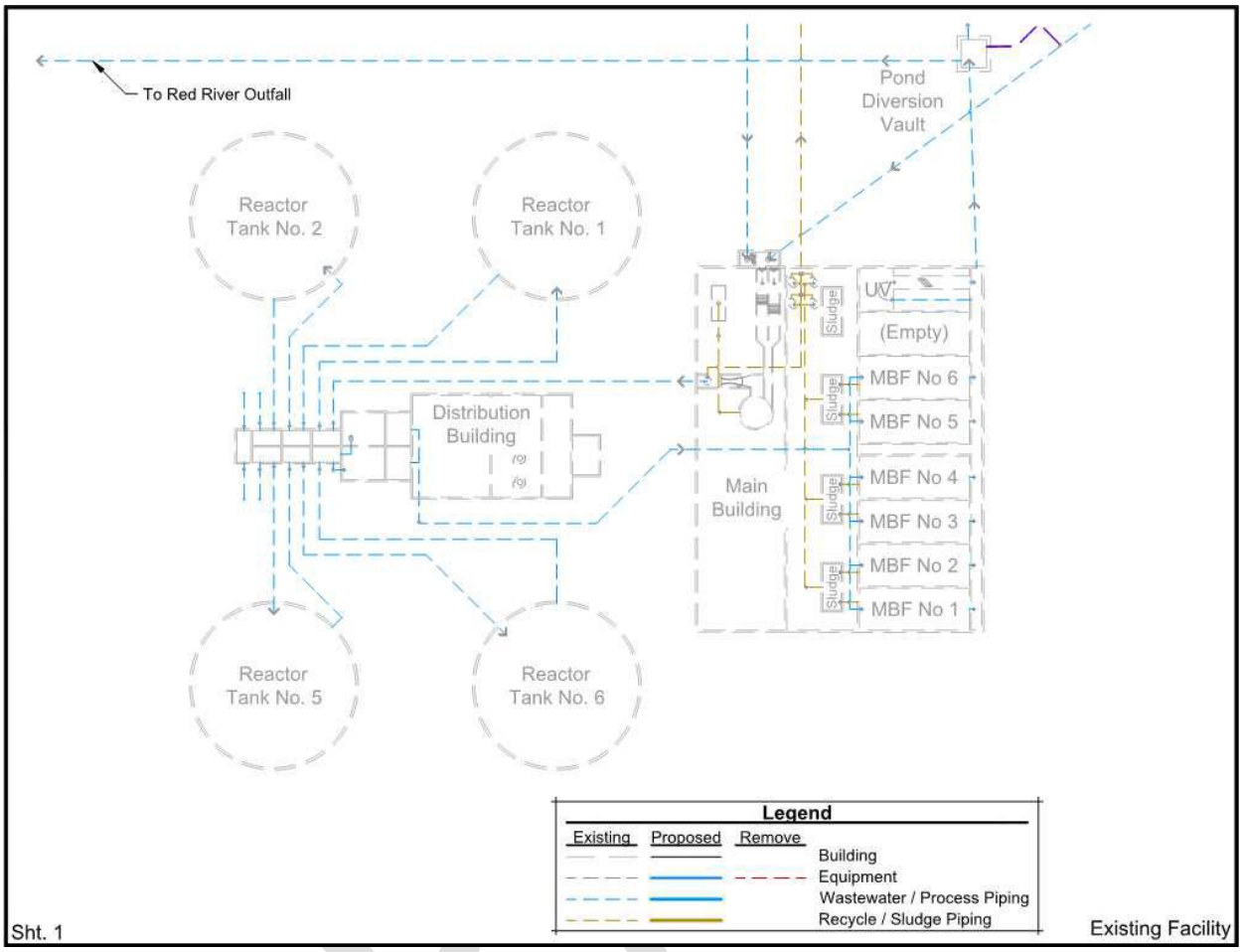

Figure 4 - Grand Forks Flow Diagram

The facility services the city of Grand Forks in North Dakota and East Grand Forks in Minnesota. The estimated total population served is approximately 68,100. Discharges from the facility would be to the Red River of the North, a Class I stream.

Inflow and Infiltration

The facility estimates approximately 2-million gallons per day flow into the treatment works from inflow and/or infiltration. The city described that ongoing replacement, maintenance, and rehabilitation projects are underway or planned to minimize the inflow and infiltration at the treatment plant.

Outfall Description

The authorization to discharge provided under this permit is limited to the outfall(s) specifically designated below. Discharges at any location not authorized under a NDPDES permit is a violation of the Clean Water Act (CWA) and could subject the person(s) responsible for such discharge to penalties under Section 309 of the CWA. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within the specified

timeframe outlined in the permit could subject such person(s) to criminal penalties as provided under the CWA.

Outfall 009 – Active – Final Outfall.			
Latitude: 47.976667	Longitude: -97.058333	County: Grand Forks	
Township: 152N	Range: 50W	Section: 22	QQ: BB
Receiving Stream: Red River of the North		Classification: Class I	
Outfall Description: Any discharge is conveyed via a 4.5-mile pipeline that has a diameter of sixty inches at the headworks then reduced to fifty-four inches by the time it reaches the outfall to the river. All discharge water is generated from the mechanical treatment plant and waste stabilization ponds.			

PERMIT STATUS

The department issued the previous permit for this facility on January 1, 2019. The previous permit placed limits on Biochemical Oxygen Demand (BOD_5), pH, Total Suspended Solids (TSS), *Escherichia coli* (*E. coli*), Ammonia as N, Oil and Grease, and Whole Effluent Toxicity (WET). A limit is placed on ammonia as N based on effluent and in-stream conditions.

The department has been in contact with the City of Grand Forks to obtain information to reissue its NDPDES permit. The department received EPA application Form 2A on June 29, 2023. The application was accepted by the department on September 11, 2023. Effluent sample data has been provided to the department through official laboratory reports, discharge monitoring reports, and the permit application.

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED

The department's assessment of compliance is based on review of the facility's Discharge Monitoring Report (DMR) forms and inspections conducted by the department. Nine (9) inspections of the facility were conducted from January 1, 2019, to September 1, 2023. The most recent compliance inspection was conducted on August 29, 2023. The facility was found to be in compliance.

Past Discharge Data

The concentration of pollutants from Outfall 009 were reported on DMRs. The data are characterized as shown in the below table:

Table 2 - DMR Data for Outfall 009 (January 2019 - September 2023)

Parameter	Range	Average	Permit Limit	Number of Exceedances
BOD_5 (mg/l) – Influent	11.8 – 1650	273.04	N/A	N/A
BOD5 (mg/l) - Internal	1.3 – 34	6.15	N/A	N/A
BOD_5 (mg/l) – Effluent	1.3 – 38.3	6.51	25 Monthly Avg. 45 Weekly Avg.	0

Parameter	Range	Average	Permit Limit	Number of Exceedances
Temperature (°C)	0.7 – 24.8	17.83	N/A	N/A
pH (s.u.)	7 – 8.2	N/A	7.0 – 9.0	0
TSS (mg/l) – Influent	45 – 1600	363.42	N/A	N/A
TSS (mg/l) – Internal	2 – 55.3	9.47	N/A	N/A
TSS (mg/l) – Effluent	2 – 42.7	9.48	30 Monthly Avg. 45 Weekly Avg.	0
E. coli (#/100 ml)	1 – 345	10.63	126 Monthly Avg. 409 Daily Max	0
Oil and Grease	No Visible Sheen	No Visible Sheen	10 Daily Max	0
Ammonia as N (mg/l)	0.1 – 18	1.18	Calculated	1 TRC Exceedance: Yes
Total N (mg/l)	2.7 – 64.3	19.74	N/A	N/A
Total P (mg/l)	0.2 – 18	18	N/A	N/A
WET (TUa)	<1	<1	<1	0
WET (TUc)	1	1	N/A	0
Antimony Total (ug/l) – Influent	1	1	N/A	N/A
Antimony Total (ug/l) – Effluent	1	1	WQS	0
Arsenic Total (ug/l) – Influent	2 – 3.5	2.5	N/A	N/A
Arsenic Total (ug/l) – Effluent	2 – 2.2	2.05	WQS	0
Beryllium Total (ug/l) – Influent	0.5	0.5	N/A	N/A
Beryllium Total (ug/l) – Effluent	0.5	0.5	WQS	0
Cadmium Total (ug/l) – Influent	0.1 – 0.8	0.29	N/A	N/A
Cadmium Total (ug/l) – Effluent	0.1 – 0.5	0.2	WQS	0
Chromium Total (ug/l) – Influent	2 – 11.5	7.43	N/A	N/A
Chromium Total (ug/l) – Effluent	2	2	WQS	0
Copper Total (ug/l) – Influent	18 – 40.2	31.45	N/A	N/A
Copper Total (ug/l) – Effluent	2 – 6.5	2.55	WQS	0
Cyanide (mg/l) – Influent	0.007 – 0.009	0.008	N/A	N/A

Parameter	Range	Average	Permit Limit	Number of Exceedances
Cyanide (mg/l) – Effluent	0.007 – 0.009	0.008	WQS	0
Hardness as CaCO3 (mg/l)	164 – 359	235.25	N/A	N/A
Lead Total (ug/l) – Influent	0.7 – 5.2	2.875	N/A	N/A
Lead Total (ug/l) – Effluent	0.5 – 1	0.55	WQS	0
Mercury Total (ug/l) – Influent	0.2	0.2	N/A	N/A
Mercury Total (ug/l) – Effluent	0.2	0.2	WQS	0
Nickel Total (ug/l) – Influent	6.7 – 12.5	9.725	N/A	N/A
Nickel Total (ug/l) – Effluent	2.9 – 6.5	5.2	WQS	0
Phenols Total (mg/l) – Influent	0.01 – 0.132	0.102	N/A	N/A
Phenols Total (mg/l) – Effluent	0.01 – 0.015	0.014	WQS	0
Selenium Total (ug/l) – Influent	5	5	N/A	N/A
Selenium Total (ug/l) – Effluent	5	5	WQS	0
Silver (ug/l) – Influent	0.5 – 2	0.525	N/A	N/A
Silver (ug/l) – Effluent	0.5 – 2	0.525	WQS	0
Thallium Total (ug/l) – Influent	0.1	0.1	N/A	N/A
Thallium Total (ug/l) – Effluent	0.1	0.1	WQS	0
Zinc Total (ug/l) – Influent	50 – 160	105	N/A	N/A
Zinc Total (ug/l) – Effluent	50	50	WQS	0
Temperature ($^{\circ}$C) – Upstream	0.6 – 26.2	12.27	N/A	N/A
Ammonia as N (mg/l) – Upstream	0.1 – 1.12	0.67	N/A	N/A
pH (s.u.) – Upstream	6.54 – 8.52	N/A	N/A	N/A
Flow (cfs) – Receiving Stream	292 – 72800	1766	N/A	N/A
Effluent Flow (MGD)	1.16 – 40.59	10.21	N/A	N/A
Total Drain (MGAL)	34.86 – 893.36	298.34	N/A	N/A
Notes:				

Parameter	Range	Average	Permit Limit	Number of Exceedances
The City of Grand Forks discharged from Outfall 009 for a total of 1463 days between January 2019 and September 2023. The facility averaged 96.6% BOD removal and 96.7% TSS removal.				

Sanitary Sewer Overflows (SSOs)

Overflows of untreated or partially treated sewage from a sanitary sewer collection system have been termed Sanitary Sewer Overflows (SSOs) by the EPA. According to department records, there were five (5) SSOs from January 1, 2019, through September 30, 2023. These SSOs are listed below:

Table 3 - Summary of Bypasses/SSOs for the City of Grand Forks from January 1, 2019, to September 30, 2023

Event	Location	Start Date	End Date
ByPass	730 N 3rd St. 1435 Belmont Rd, 100 8th Ave S	9/21/2019	9/22/2019
ByPass	2401 N. Columbia Road	9/21/2019	9/22/2019
ByPass	110 Demers Avenue	9/14/2020	9/14/2020
ByPass	Lift Stations 1, 4, and 8	4/23/2022	4/24/2022
ByPass	Secondary Cell 2	5/13/2022	5/13/2022

PROPOSED PERMIT LIMITS AND SELF MONITORING REQUIREMENTS

The City of Grand Forks is subject to secondary treatment standards. Federal and state regulations define technology-based effluent limits for municipal wastewater treatment plants. These effluent limits are given in 40 CFR 133 and NDAC Chapter 33.1-16-01-30. These regulations are performance standards that constitute all known, available, and reasonable methods of prevention, control, and treatment for municipal wastewater.

Table 4 - 40 CFR 133 Technology-Based Effluent Limitations

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 to 9.0	
Percent Removal	85% BOD_5 and TSS	

NDAC Chapter 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.

Effluent Limitations

The department proposes the following effluent limitations for outfall 009:

Table 5 - Effluent Limitations for Outfall 009

Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Basis [a]
BOD_5, mg/l	25	45	*	NDAC 33.1-16-01-14(3)(1); 40 CFR 133.102(a)(2); Previous Permit
BOD_5, percent removal	≥ 85%	*	*	40 CFR 133.102(a)(3)
TSS, mg/l	30	45	*	40 CFR 133.102(b) NDAC 33.1-16-01-14(3) Previous Permit
TSS, percent removal	≥ 85%	*	*	40 CFR 133.102(b)(3)
pH, S.U. [b]	Shall remain between 6.5 and 9.0			NDAC 33.1-16-02.1 Previous Permit
Escherichia coli (*E. coli*), #/100ml [c]	126	*	409	NDAC 33.1-16-02.1 Previous Permit
Ammonia as N, mg/l	Refer to Ammonia Table (**Table 6**)			NDAC 33.1-16-02.1 Previous Permit
Oil and Grease Visual [d]	*	*	*	NDAC 33.1-16-02.1 Previous Permit
Oil & Grease, mg/l [d]	*	*	10	Previous Permit BPJ
Whole Effluent Toxicity (WET), TU	Refer to Whole Effluent Toxicity (WET) Requirements			40 CFR 122.44(d)(1)(iv-v) NDAC 33.1-16-02.1 Previous Permit

Notes:

*	This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.
a.	The basis for the effluent limitations is given below: "Previous Permit" refers to limitations in the previous permit. The NDPDES regulations **40 CFR Part 122.44(1)(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 the State of North Dakota's "Standards of Quality for Waters of the State", NDAC Chapter 33.1-16-02.1.

	"BPJ" refers to best professional judgment.
b.	The pH, an instantaneous limitation, shall be between 6.5 s.u. and 9.0 s.u. Any single analysis and/or measurement outside this limitation shall be considered a violation of the conditions of this permit.
c.	*E. coli* limits shall be effective from April 1 through October 31.
d.	A daily visual check shall be performed. There shall be no discharge of oily wastes that produce a visible sheen on the surface of the receiving water. If present, a grab sample shall be analyzed for oil and grease to ensure compliance with the concentration limitation.
Stipulations:	
Best Management Practices (BMPs) are to be utilized so that there shall be no discharge of floating debris, oil, scum, and other floating materials in sufficient amounts to be unsightly or deleterious, or oil wastes that produce a visible sheen on the surface of the receiving water.	

Table 6 - Ammonia Effluent Limitations and Monitoring Requirements **Outfall 009**

	Effluent Limitations		
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Ammonia [a]	†	*	‡
Red River of the North Parameters			
Stream flow upstream, cfs [b]	*	*	*
Temperature upstream, ° C [b, c]	*	*	*
pH upstream, S.U. [b, c]	*	*	*
Ammonia as N upstream, mg/l	*	*	*

a.	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.
b.	Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Grand Forks North Dakota (USGS gage station 05082500) or can be collected by the permittee.
c.	If the upstream values are not collected, the following minimum values based on the 90th percentile upstream USGS data and facility collected data are to be used: pH: 8.5, Temperature: 24.4, and ammonia: 1. If the upstream flow is not available, then the 30B10 critical low flow of 498 cfs shall be used. The maximum mixing factor is 10.0%.

† Chronic Standard (Average Monthly Limit (AML))
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 are used for the calculation.

‡ Acute Standard (Maximum Daily Limit (MDL))
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:

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

Receiving stream pH and temperature are used for the calculation.

Stipulations

For the MDL calculation, the permittee receives 10% of the stream flow for dilution at the time of discharge based on the flow of the Red River of the North. If the upstream flow is not available or collected, then the 30B10 critical low flow of 498 cfs shall be used. MDL

	Effluent Limitations		
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
concentration will be calculated on a mass balance basis using the following formula. The permittee is responsible for units matching in the equation. MDL Ammonia Effluent Limitation = $(Q_u * C_u + Q_e * C_e)/(Q_u + Q_e)$ where Q_u = 10% of the upstream flow parameter C_u = Upstream ammonia parameter Q_e = Effluent flow parameter C_e = Ammonia as N parameter The maximum mixing factor with receiving stream is 10.0%.			

SELF-MONITORING REQUIREMENTS

All effluent samples shall be collected at a point following the treatment system and prior to entering the Red River of the North.

Table 7 - Self-Monitoring Requirements for **Outfall 009**

Parameter	**Sample Frequency**	**Sample Type** [a]
BOD_5, mg/l, influent	Weekly	Composite
BOD_5, mg/l, internal [b]	Weekly	Composite
BOD_5, mg/l, effluent	3/week	Composite
BOD_5 percent removal, % [c]	Weekly	Calculated
TSS, mg/l, influent	Weekly	Composite
TSS, mg/l, internal [b]	Weekly	Composite
TSS, mg/l, effluent	3/week	Composite
TSS percent removal, % [c]	Weekly	Calculated
pH, s.u.	Daily	Grab
Escherichia coli (*E. coli*) geo mean, #/100ml [d]	3/week	Grab
Ammonia as N, mg/l, effluent	3/Week	Composite
Oil and Grease Visual [e]	Daily	Visual
Oil & Grease, mg/l, [e]	Conditional/Daily	Grab
Temperature, °C	3/Week	Grab
Total Nitrogen, mg/l [f]	Monthly	Grab
Total Phosphorus, mg/l	Monthly	Grab
Effluent Flow, MGD	Daily	Instantaneous
Total Drain, MG	Monthly	Calculated
Acute Whole Effluent Toxicity (WET), TU_a	Quarterly	Grab
Chronic Whole Effluent Toxicity (WET), TU_c	Yearly	Grab
Metals, µg/L (Influent and Effluent) [g]	Yearly	Composite

Table II – Priority Pollutants (Toxic Organics) [g]	1/2 Years	Composite
Red River of the North Parameters – collect same days as effluent Ammonia as N		
Flow, cfs	3/Week	Usable Data Source
pH, s.u. – Upstream	3/Week	Usable Data Source
Temperature, ºC – Upstream	3/Week	Usable Data Source
Ammonia as N, mg/l – Upstream	3/Week	Usable Data Source

Notes:	
a.	Refer to Appendix B for definitions.
b.	This parameter shall be sampled after all wastewater treatment plant processes prior to entering the lagoon system or being discharged.
c.	Calculation shall be determined by using influent and effluent samples collected on the same day.
d.	Monitoring for *E. coli* shall be in effect only during the recreational season (April 1 through October 31).
e.	The permittee must not discharge any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen or floating oil in the effluent or on the surface of the receiving water. The discharge shall be inspected for sheen or floating oil. If a visible sheen is observed in the discharge, a grab sample shall be collected.
f.	Total nitrogen is a combination of nitrate, nitrite, and Total Kjeldahl Nitrogen (TKN).
g.	Refer to **Part V(C)** Industrial Pretreatment Program, Sampling, and Reporting Requirements of the permit.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS

The North Dakota State Water Quality Standards (NDAC Chapter 33.1-16-02.1) 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 facility discharges into the Red River of the North, a Class I stream. Under NDAC 33.1-16-02.1-09(d), the quality of waters in this class shall be suitable for the propagation or protection, or both, of resident fish species and other aquatic biota and for swimming, boating, and other water recreation. The quality of the waters shall be suitable for irrigation, stock watering, and wildlife without injurious effects. After treatment consisting of coagulation, settling, filtration, and chlorination, or equivalent treatment processes, the water quality shall meet the bacteriological, physical, and chemical requirements of the department for municipal and domestic use.

Currently, the stream reach that the facility discharges into is listed 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. The assessment unit (ND-09020603-001-S_00) is an 8.8-mile-long stretch of the Red River of the North from its confluence with English Coulee, downstream to the confluence with Grand Marais Creek (MN). The assessment unit is listed as a low TMDL priority with the designated use of fish consumption not being met due to a methylmercury impairment.

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 Chapter 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(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 the existing and designated uses of the receiving water will be protected under the conditions of the proposed permit.

Mixing Zones

The department'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

BOD_5

The department reviewed the effluent data and sampling frequency for BOD_5. No exceedances occurred for this parameter. The department proposes to continue with the 25 mg/l (average monthly limit) and 45 mg/l (average weekly limit) limitations with a sampling frequency of three (3) times per week.

TSS

The department has reviewed the effluent data and sampling frequency for TSS. No exceedances occurred for this parameter. The department proposes to continue with the 30 mg/l (average monthly limit) and 45 mg/l (average weekly limit) limitations with a sampling frequency of three (3) times per week.

pH

The department has reviewed the effluent data and sampling frequency for pH. No exceedances occurred for this parameter. The department proposes a pH limitation of between 6.5 s.u. and 9.0 s.u. with a sampling frequency of daily. This limitation is based on the WQS for

Class I and IA streams which was amended and effective July 1, 2021. This was updated from the previous permit of a pH limitation of between 7.0 s.u. and 9.0 s.u. to reflect the update in the WQS.

Escherichia coli

The department has reviewed the effluent data and sampling frequency for *E. coli*. No exceedances occurred for this parameter. Based on the WQS, the department proposes to continue with the 126 organisms per 100mL (monthly geometric mean) and 409 organisms per 100 mL (daily maximum) limitations with a sampling frequency of three (3) times per week.

Ammonia as N

The department has conducted a reasonable potential analysis for ammonia as N. The reasonable potential analysis (**Appendix C**) was conducted using the procedures given in "Technical Support Document (TSD) for Water Quality based Toxics Control"; EPA/505/2-90-001; March 1991. Based upon this analysis it was determined that there was a reasonable potential to exceed the acute and chronic WQS for ammonia.

Numeric ammonia as N effluent limitations will not be established in the proposed permit. Instead, effluent limitations will be calculated based on the acute (*Oncorhynchus* absent) and chronic water quality standards to provide real-time effluent limitations. Receiving stream parameters (pH and temperature) will be tested three (3) times per week. Both the acute and chronic WQS are variable and dependent on pH levels and temperature of the receiving water. As temperatures rise or pH levels increase, ammonia toxicity increases. In 2021, the acute and chronic WQS was updated. As such, the acute and chronic WQS used in the previous permit are no longer valid. The department proposes to include effluent limitations for ammonia as N based upon the current calculations in the WQS with a sampling frequency of three (3) times per week.

Oil and Grease

The department has reviewed the effluent data and sampling frequency for oil and grease. No visible sheen was observed, therefore no oil and grease sampling occurred. The department proposes to continue with a daily visual check and a 10 mg/l (daily maximum) limitation when a sheen is present with a sampling frequency of conditional/daily.

Phosphorus and Nitrogen (Nutrients)

According to the North Dakota Nutrient Reduction Strategy for Surface Waters, the City of Grand Forks is classified as a Category I facility. The first step in implementing the nutrient reduction strategy for Category I facilities is to include effluent monitoring for Total Nitrogen and Total Phosphorus. The department proposes to continue effluent monitoring for Total Nitrogen and Total Phosphorus. Total Nitrogen is a combination of Nitrite, Nitrate, and Total Kjeldahl Nitrogen.

Metals

The department reviewed the data and sample frequency for metals and performed a metals 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.
>
> Selenium: Selenium exceeded the chronic aquatic life criteria. All results were below the method detection level.
>
> 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.

All samples for mercury, selenium, and cyanide were below the method detect level. All other metals included in the metals analysis met the limits in the WQS. Therefore, the department proposes to continue monitoring influent and effluent metals with an annual sampling frequency.

Whole Effluent Toxicity (WET)

The department has reviewed the WET testing data and sampling frequency for acute WET tests. The dataset consisted of 18 tests and indicated no occurrences of toxicity to *Ceriodaphnia dubia* (Water Flea) nor *Pimephales promelas* (Fathead Minnow).

Acute Toxicity Testing

The department is proposing to continue with a 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." The Grand Forks POTW must meet the WET limits at the end-of-pipe.

The department is proposing the following requirements for acute WET testing:

Table 8 - Acute WET Requirements for **Outfall 009**

Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	Red River of the North [a]					
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
Sample Type	Grab
Maximum Daily Limit (MDL)	<1 TUa
Average Monthly Limit	<1 TUa
Test Failure	**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.
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TUa for *Ceriodaphnia dubia,* Parameter No. TSM3B Report the highest TUa for *Pimephales promelas*, Parameter No. TSN6C
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 there be no discharge during a specified sampling time frame, sampling shall be performed as soon as there is a discharge. 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.	
a.	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.

Acute toxicity test requirements are set out in the latest revision of "*Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organism,*" EPA-821-R-02-012 (Fifth Ed., October 2002).

Chronic Toxicity Testing

The department has reviewed the chronic WET testing data and sampling frequency. The department conducted a reasonable potential analysis for WET. Based on this analysis, it was determined that there is no reasonable potential to exceed the chronic standard of 1.0 Toxic Units (TUc) (**Appendix C**).

The department is proposing to continue with monitoring for chronic toxicity with a sampling frequency of once (1) per year.

Below are the testing requirements for chronic whole effluent testing:
Table 9 - Chronic WET Requirements for **Outfall 009**

Implementation	Monitoring Only					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	Red River of the North [a]					
Species and Test Type	*Ceriodaphnia dubia* 7-Day Chronic-Static Renewal 25ºC					
	Pimephales promelas 7-Day Chronic-Static Renewal 25ºC					
Endpoint	Survival and Reproduction (*Ceriodaphnia dubia*) – IC25 reported as TUc Larval Growth and Survival (Fathead Minnow) – IC25 reported as TUc					
Compliance Point	End-of-Pipe					
Sample Frequency	Annually					
Test Acceptability	Test acceptability for *Ceriodaphnia dubia* chronic must have an 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions, and 60% of surviving control females must produce three broods. If this condition is not satisfied the test must be repeated. Test acceptability for *Pimephalas promelas* chronic must have an 80% or greater survival in controls and an average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. If this condition is not satisfied, the test must be repeated.					
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TUc for *Ceriodaphnia dubia*, Parameter No. TPP3B. Report the highest TUc for *Pimephales promelas*, Parameter No. TTP6C. The facility shall request their WET testing providers to report a TU_a for a 48-hour survival *Ceriodaphnia dubia* and for *Pimephales promelas* which can be derived from the chronic test. The reason for this is to develop a representative Acute-to-Chronic (ACR) which is used in determining reasonable potential and/or permit limitations.					
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.).						
a.	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.					

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*.

Biosolids

Currently, the department does not have authority to regulate biosolids. The facility is required under the Direct Enforceability provisions 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. 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.

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.

OTHER PERMIT CONDITIONS

Pretreatment

The department has been delegated authority to administer the Industrial Pretreatment Program in 2005. With the delegation of authority, the department issues wastewater discharge permits for significant industrial users to POTWs that have not been delegated authority to issue their own industrial wastewater discharge permits. The requirements for approved pretreatment programs are contained in 40 CFR 403.

Grand Forks' pretreatment program was approved by the EPA in 1986. With an approved pretreatment program, the permit shall contain general pretreatment language and requirements. In addition to the general limitations and requirements, the permittee shall sample and analyze the following:

Table 10 - Additional Sampling Requirements

	Minimum Frequency of Monitoring
Table II Priority Pollutants 40 CFR 122 Appendix D	1 every other year
Table III Metals 40 CFR 122 Appendix D	Yearly

Table 11 - Monitoring Requirements from 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 WQS.

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 and 122.42). 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, Record Keeping, and Public Notification for Unauthorized 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.);

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

v. The cause or suspected cause of the overflow;

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

vii. If possible, the number of persons who came into contact with wastewater from the overflow; and

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

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.

4. Public Notice

The department may require the permittee to notify specified parties of overflows that may endanger public health.

A. The permittee shall develop a plan describing how to notify, under various overflow (and unanticipated bypass and upset) scenarios, the public and other entities of overflows that may endanger health.

i. The plan shall identify all reportable overflows and the specific information reported to each entity receiving notification.

B. The permittee shall immediately notify the public, health agencies, and other affected entities (e.g. public water systems) of any sanitary sewer overflow that the permittee controls.

C. The permittee shall sample at the SSO location(s) and at any receiving water to identify and illustrate any potential impacts on the receiving stream. These data must be reported to any downstream users.

5. Proper Operation and Maintenance

A. The permittee shall implement proper operation and maintenance of the collection system. Upon request of the department, this may include the development and implementation of capacity, management, operation, and management (CMOM) programs.

BENEFICIAL REUSE

The proposed permit contains conditions for the beneficial reuse of wastewater for irrigation, construction, and oil and gas production. Wastewater that has met secondary treatment or tertiary treatment standards may be beneficially reused in lieu of discharging.

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 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.

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 **Grand Forks City of**. 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 **November 15, 2023,** in the **Grand Forks Herald** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet.

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 telephone, 701.328.5210, or by writing to the address listed below.

North Dakota Department of Environmental Quality
Division of Water Quality
4201 Normandy Street
Bismarck, ND 58503

The primary author of this permit and fact sheet is Sarah Waldron Feld.

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

Public Notice Date: 11/15/2023 Public Notice Number: ND-2023-022

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: 6/29/2023 Application Number: ND0022888

Applicant Name: Grand Forks City Of
Mailing Address: PO Box 5200, Grand Forks, ND 58206-5200
Telephone Number: 701.787.9131

Proposed Permit Expiration Date: 12/31/2028

Facility Description
The reapplication is for a domestic, major municipal, mechanical treatment plant and a six-cell facultative lagoon wastewater treatment system. The treatment system is located in Sections 23 and 26, Township 152 N, Range 51 W, in Grand Forks County. Permitted outfall 009 discharges to the Red River of the North, a Class I stream. The location of this outfall point is latitude 47.976667, longitude -97.058333.

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 December 16, 2023 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 2023.01.05

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 of 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).

25. **"Static Non-Renewal Test"**, the test organisms are exposed to the same test solution for the duration of the test.

26. **"Static-Renewal Test"**, the test organisms are exposed to a fresh solution of the same concentration of sample every 24 h or other prescribed interval, either by transferring the test organisms from one test chamber to another, or by replacing all or a portion of solution in the test chambers.

27. **"Toxicity Reduction Evaluation (TRE)"**, is a site-specific study conducted in a step-wise process to identify the causative agents of effluent toxicity, isolate the source of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity after the control measures are put in place.

APPENDIX C – DATA AND TECHNICAL CALCULATIONS

DFLOW

USGS gage station 05082500 on the Red River by Grand Forks, ND was used to determine critical low flows using the DFLOW (3.1b) program. Data used for these calculations ranged from January 2002 through September 2023.

DFLOW 1B3 (ACUTE)	337	CFS	DFLOW 1Q10 (ACUTE)	387	CFS
DFLOW 4B3 (CHRONIC)	368	CFS	DFLOW 7Q10 (CHRONIC)	435	CFS
DFLOW 30B10 (AMMONIA)	498	CFS			

REASONABLE POTENTIAL

Ammonia

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 was calculated to be 1.53.

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:	Grand Forks City of		Receiving Stream:	Red River of the North	
NDPDES Permit:	ND0022888		1Q10 Acute	387	cfs
Daily Maximum Flow (mgd):	40.59		1B3 Acute	337	cfs
Daily Average Flow (mgd):	10.21		7Q10 Chronic	435	cfs
Stream Design Mixing:	10.0%		4B3 Chronic	368	cfs
Statistical Multiplier:	5.2				
Upstream Concentration:	1.0000	mg/l		**Parameter:**	
Effluent Concetration (max):	18.0000	mg/l		**Ammonia as N**	
	RWC	(StatQeCe)+(Cs(pmf)Qs)		**Outfall:**	
		Qe+(pmf)Qs		**009**	

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	40.59	mgd	Qs - 1Q10	250.00	mgd
Qe - Chronic	10.21	mgd	Qs - 1B3	217.70	mgd
Ce	18.0000	mg/l	Qs - 7Q10	281.01	mgd
Cs	1.0000	mg/l	Qs - 4B3	237.73	mgd
Stat	5.20				
pmf	10.0%				
Acute RP			Chronic RP		
RWC - 1Q10	58.3048	mg/l	RWC - 7Q10	25.6782	mg/l
RWC - 1B3	61.2730	mg/l	RWC - 4B3	28.8213	mg/l

Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	1.76	mg/l	Chronic Criterion	0.4100	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.

The department used the following criteria to determine the acute and chronic ammonia criterion for the reasonable potential analysis.

Flow Variable Calculated Effluent Ammonia Concentrations in mg/l						Estimated	
Discharger:	Grand Forks City of			Enter the upstream ammonia in mg/l:		90th %	1.00
Stream:	Red River of the North			Enter the receiving stream pH:		90th %	8.27
Enter receiving stream flow (CFS):			1,766	Enter the receiving stream temperature in Deg C:	74 F	90th %	23.32
Mixing Zone Percentage/CFS:		10%	176.6	Enter the effluent drain rate (MGD):		90th %	21.11
Enter increments to calculate stream flow:			1.0	Enter increments to calculate drain rate:			10.0
						Mixing Zone Dilution Rate:	6.4
						Overall Dilution Rate:	55.1

Maximum allowable ammonia in mg/l					
Water Quality Standard:	1.7628	Water Quality Standard:	1.0317	Water Quality Standard:	0.4127
Intermittent 1hr Acute		Intermittent 4 Day Chronic		Continuous 30 Day Chronic	

Whole Effluent Toxicity (WET)

Acute:
The reasonable potential determination for WET 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 default coefficient of variation of 0.6 was used due to all results being below detection.

Whole Effluent Toxicity (WET)
Resonable Potential (RP)
Determination

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

Facility Name:	Grand Forks City of		Receiving Stream:	Red River of the North	
NDPDES Permit:	ND0022888		1Q10 Acute	387	cfs
Effluent Flow (mgd):		10.210	1B3 Acute	337	cfs
Stream Design Mixing:		10.0%	7Q10 Chronic	435	cfs
WET TUa (max):		1.00	4B3 Chronic	368	cfs
ACR:					
Statistical Multiplier:		1.4			

	RWC	StatQeCe / Qe+(pmf)Qs	**Outfall:** 009

RWC = Receiving water concentration, the resultant magnitude of toxicity in the receiving water after effluent discharge in TUs (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 Toxicity Unit (TU) reported. (Use 1 if no WET data is available.)
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)

Qe	10.210	mgd	Qs - Acute	250.002	mgd
Ce	1.00	TU	Qs - Acute 1B3	217.702	mgd
pmf	10.0%		Qs - Chronic	281.010	mgd
Stat	1.4		Qs - Chronic 4B3	237.728	mgd
ACR	0.00				
Acute RP			Chronic RP		
RWC - 1Q10	0.41	TUa	RWC - 7Q10	0.00	TUc
RWC - 1B3	0.45	TUa	RWC - 4B3	0.00	TUc
Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	0.3	TUa	Chronic Criterion	1.0	TUc

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**	**NO**
1B3 Acute	**YES**	**4B3 Chronic**	**NO**

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design flows to determine Whole Effluent Toxicity (WET) limits for acute and chronic endpoints.

Chronic:

The reasonable potential determination for WET is provided below. The determination is conducted utilizing the Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1997 (TSD; March 1991). The default coefficient of variation of 0.6 was due to less than 10 samples being taken.

Whole Effluent Toxicity (WET)
Reasonable Potential (RP)
Determination

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

Facility Name:	Grand Forks		Receiving Stream:	Red River of the North	
NDPDES Permit:	ND0022888		1Q10 Acute	387	cfs
Effluent Flow (mgd):		10.210	1B3 Acute	337	cfs
Stream Design Mixing:		10.0%	7Q10 Chronic	435	cfs
WET TUc (max):		1.00	4B3 Chronic	368	cfs
ACR:					
Statistical Multiplier:		1.4			

RWC	StatQeCe / Qe+(pmf)Qs	Outfall:
		9

RWC = Receiving water concentration, the resultant magnitude of toxicity in the receiving water after effluent discharge in TUs (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 Toxicity Unit (TU) reported. (Use 1 if no WET data is available.)
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)

Qe	10.210	mgd	Qs - Acute	250.002	mgd
Ce	1.00	TU	Qs - Acute 1B3	217.702	mgd
pmf	10.0%		Qs - Chronic	281.010	mgd
Stat	1.4		Qs - Chronic 4B3	237.728	mgd
ACR	0.00				
Acute RP			Chronic RP		
RWC - 1Q10	#DIV/0!	TU	RWC - 7Q10	0.4	TU
RWC - 1B3	#DIV/0!	TU	RWC - 4B3	0.4	TU
Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	0.3	TUa	Chronic Criterion	1.0	TUc

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	**#DIV/0!**	**7Q10 Chronic OR**	**NO**
1B3 Acute	**#DIV/0!**	**4B3 Chronic**	**NO**

The North Dakota State Water Quality Standards (WQS) Chapter 33-16-02.1 use biologically based design flows to determine Whole Effluent Toxicity (WET) limits for acute and chronic endpoints.

Metals Analysis

The department conducted a metals analysis utilizing the maximum concentration for the identified metals 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			Grand Forks City of				Print Date:	10/24/2023		
Location			Outfall 009M				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					253.3					
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		<			1	**1**			5.6	640
Arsenic					2.2	**2.2**	340	150	10	
Beryllium		<			0.5	**0.5**			4	
Cadmium	HD	<			0.5	**0.5**	4.7	1.66	5.00	
Chromium - Total		<			2	**2**			100	
Chromium (III)	HD					0	3859	184		
Chromium (VI)						0	16	11		
Copper	HD				6.5	**6.5**	34	20.6	1000.0	
Lead	HD	<			1	**1**	266	10.4	15.0	
Mercury		<			0.2	0.2	1.7	0.88	**0.05**	***0.051***
Molybdenum - Total						0				
Nickel	HD				6.5	**6.5**	1030	114.5	100.0	4200
Selenium		<			5	**5**	20	**5**	50	
Silver	HD				2	**2**	19			
Thallium		<			0.1	**0.1**			0.24	0.47
Zinc	HD	<			50	**50**	263	263.3	7400.0	26000
Cyanide - Total		<		0.008		**8**	22	**5.2**	**4**	400
Phenols		<		0.15		**150**		300	4000	300000

Comments:
The maximum values reported for each parameter from the four discharges that occurred from January 2019 - September 2023 were used. Non-detects were entered at the detection limit value.

Mercury: All sample results were below the method detection level. No further analysis was conducted.
Selenium: All sample results were below the method detection level. No further analysis was conducted.
Cyanide: All sample results were below the method detection level. No further analysis was conducted.

APPENDIX D – RESPONSE TO COMMENTS

Any comments received during the public comment period will be addressed here.

Permit No: ND0022888
Effective Date: January 1, 2024
Expiration Date: December 31, 2028

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,

the City of Grand Forks

is authorized to discharge from its wastewater treatment facility

to the Red River of the North

provided all the conditions of this permit are met.

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

December 31, 2028.

Signed this _____ day of _____, _____.

Karl H. Rockeman, P.E.
Director
Division of Water Quality

BP 2019.05.29

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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 2023.01.05

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 of 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).

25. **"Static Non-Renewal Test"**, the test organisms are exposed to the same test solution for the duration of the test.

26. **"Static-Renewal Test"**, the test organisms are exposed to a fresh solution of the same concentration of sample every 24 h or other prescribed interval, either by transferring the test organisms from one test chamber to another, or by replacing all or a portion of solution in the test chambers.

27. **"Toxicity Reduction Evaluation (TRE)"**, is a site-specific study conducted in a step-wise process to identify the causative agents of effluent toxicity, isolate the source of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity after the control measures are put in place.

OUTFALL DESCRIPTION

Outfall 009 – Active – Final Outfall.			
Latitude: 47.976667	Longitude: -97.058333	County: Grand Forks	
Township: 152N	Range: 50W	Section: 22	QQ: BB
Receiving Stream: Red River of the North		Classification: Class I	
Outfall Description: Any discharge is conveyed via a 4.5-mile pipeline that has a diameter of sixty inches at the headworks then reduced to fifty-four inches by the time it reaches the outfall to the river. All discharge water is generated from the mechanical treatment plant and waste stabilization ponds.			

PERMIT SUBMITTALS SUMMARY

Coverage Point	Submittal	Frequency	First Submittal Date
009A	Discharge Monitoring Report	Monthly	February 29, 2024
009W	Discharge Monitoring Report	Quarterly	April 30, 2024
009M	Discharge Monitoring Report	Yearly	January 31, 2025
Application Renewal	NPDES Application Renewal	1/permit cycle	July 1, 2028
Note:			
The A, M, and W are pollutant designators referring to: Conventional Pollutants (A), Whole Effluent Toxicity (W), and Metals (M).			

SPECIAL CONDITIONS

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, Record Keeping, and Public Notification for Unauthorized Sanitary Serwer Overflow Section outlined below:

Reporting, Record Keeping, and Public Notification for Unauthorized 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. 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. If possible, the number of persons who came into contact with wastewater from the overflow; and

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

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.

4. Public Notice

The department may require the permittee to notify specified parties of overflows that may endanger public health.

A. The permittee shall develop a plan describing how to notify, under various overflow (and unanticipated bypass and upset) scenarios, the public and other entities of overflows that may endanger health.

i. The plan shall identify all reportable overflows and the specific information reported to each entity receiving notification.

B. The permittee shall immediately notify the public, health agencies, and other affected entities (e.g. public water systems) of any sanitary sewer overflow that the permittee controls.

C. The permittee shall sample at the SSO location(s) and at any receiving water to identify and illustrate any potential impacts on the receiving stream. These data must be reported to any downstream users.

5. Proper Operation and Maintenance

A. The permittee shall implement proper operation and maintenance of the collection system in accordance with Part III(B) and (I) of this permit. Upon request of the department, this may include the development and implementation of capacity, management, operation, and management (CMOM) programs.

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: **Red River of the North – Class I Stream.**

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 Limitations and Monitoring Requirements **Outfall 009**							
Parameter	Effluent Limitations					Monitoring Requirements	
	Quantity		Concentration				
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Biochemical Oxygen Demand (BOD_5) – Influent (mg/l)	Report Weekly Max					Weekly	Composite
BOD_5 – Internal (mg/l) [a]	Report Weekly Max					Weekly	Composite
BOD_5 – Effluent (mg/l)	*	*	25	45	*	3/Week	Composite
BOD_5 – Percent Removal (%) [b]	Shall be $\geq$ 85%					Weekly	Calculated
Total Suspended Solids (TSS) – Influent (mg/l)	Report Weekly Max					Weekly	Composite
TSS – Internal (mg/l) [a]	Report Weekly Max					Weekly	Composite
TSS – Effluent (mg/l)	*	*	30	45	*	3/Week	Composite
TSS – Percent Removal (%) [b]	Shall be $\geq$ 85%					Weekly	Calculated
pH (s.u.) [c]	Shall remain between 6.5 to 9.0 s.u.					Daily	Grab
Escherichia coli (*E. coli*) (#/100 mL) [d]	*	*	126	*	409	3/Week	Grab
Ammonia as N, mg/l [e]	Refer to Ammonia Table (**Table 2**)					3/Week	Grab
Oil & Grease – Visual [f]	*	Report Yes or No	*	*	*	Daily	Visual
Oil & Grease (mg/l) [f]	*	*	*	*	10	Conditional /Daily	Grab
Temperature (°C)	*	*	*	*	Report	3/Week	Grab
Total Nitrogen (mg/l) [g]	*	*	Report	*	*	Monthly	Grab
Total Phosphorus (mg/l)	*	*	Report	*	*	Monthly	Grab

Table 1: Effluent Limitations and Monitoring Requirements **Outfall 009**							
Parameter	Effluent Limitations					Monitoring Requirements	
	Quantity		Concentration				
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Effluent Flow (MGD)	Report Avg. Monthly Value	Report Max Daily Value	*	*	*	Daily	Instantaneous
Total Drain (MG)	*	Report Monthly Total	*	*	*	Monthly	Calculated
Whole Effluent Toxicity (WET) – Acute (TUa)	Refer to Part I(C)(1) of this permit					Quarterly	Grab
WET – Chronic (TUc)	Refer to Part I(C)(2) of this permit					Yearly	Grab
Metals – Influent and Effluent (µg/l) [h]	Refer to Part V(C) of this permit					Yearly	Composite
Table II – Priority Pollutants (Toxic Organics)	Refer to Part V(C) of this permit					1/2 Years	Composite
Red River of the North Parameters – collect same days as effluent Ammonia as N							
Flow (cfs)	*	*	*	*	*	3/Week	Usable Data Source
pH – Upstream (s.u.)	*	*	*	*	*	3/Week	Usable Data Source
Temperature – Upstream (°C)	*	*	*	*	*	3/Week	Usable Data Source
Ammonia as N – Upstream (mg/l)	*	*	*	*	*	3/Week	Usable Data Source

Notes:

*	This parameter is not limited. However, the department may impose limitations based on sample history to protect the receiving waters.
a.	This parameter shall be sampled after all wastewater treatment plant processes prior to entering the lagoon system or being discharged.
b.	Calculation shall be determined by using influent and effluent samples collected on the same day.
c.	The pH, an instantaneous limitation, shall be between 6.5 s.u. and 9.0 s.u. Any single analysis and/or measurement outside this limitation shall be considered a violation of the conditions of this permit.

Table 1: Effluent Limitations and Monitoring Requirements **Outfall 009**								
Parameter	Effluent Limitations					Monitoring Requirements		
	Quantity		Concentration					
	Avg. Monthly Limit	Daily Maximum Limit	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type	
d.	The limitations for *E. coli* shall be in effect only during the recreational season (April 1 through October 31). Averages for *E. coli* shall be determined as a geometric mean.							
e.	Permittee will use Red River of the North parameters to calculate the real-time water quality standard for ammonia.							
f.	A daily visual check shall be performed. There shall be no discharge of oily wastes that produce a visible sheen on the surface of the receiving water. If present, a grab sample shall be analyzed for oil and grease to ensure compliance with the concentration limitation.							
g.	Total Nitrogen is a combination of nitrate, nitrite, and Total Kjeldahl Nitrogen (TKN).							
h.	Total hardness of the receiving stream needs to be determined every time metals are sampled and analyzed. The hardness is used to calculate parameter criterion(s) according to the WQS. This sample shall be collected upstream of the final discharge site.							
Stipulations:								
Best Management Practices (BMPs) are to be utilized so that there is no discharge of floating debris, oil, scum, and other floating materials in sufficient amounts to be unsightly or deleterious, or oil wastes that produce a visible sheen on the surface of the receiving water.								
Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving company property or entering the receiving stream.								

Table 2: Ammonia Effluent Limitations and Monitoring Requirements **Outfall 009**			
	Effluent Limitations		
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
Ammonia [a]	†	*	‡
Red River of the North Parameters			
Stream flow upstream, cfs [b]	*	*	*
Temperature upstream, ° C [b, c]	*	*	*
pH upstream, S.U. [b, c]	*	*	*
Ammonia as N upstream, mg/l	*	*	*
a.	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.		

Table 2: Ammonia Effluent Limitations and Monitoring Requirements **Outfall 009**				
		Effluent Limitations		
Parameter		Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
b.	Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Grand Forks North Dakota (USGS gage station 05082500) or can be collected by the permittee.			
c.	If the upstream values are not collected, the following minimum values based on the 90th percentile upstream USGS data and facility collected data are to be used: pH: 8.5, Temperature: 24.4, and ammonia: 1. If the upstream flow is not available, then the 30B10 critical low flow of 498 cfs shall be used. The maximum mixing factor is 10.0%.			

† Chronic Standard (Average Monthly Limit (AML))
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 are used for the calculation.

‡ Acute Standard (Maximum Daily Limit (MDL))
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:

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

Receiving stream pH and temperature are used for the calculation.

Stipulations

For the MDL calculation, the permittee receives 10% of the stream flow for dilution at the time of discharge based on the flow of the Red River of the North. If the upstream flow is not available or collected, then the 30B10 critical low flow of 498 cfs shall be used. MDL concentration will be calculated on a mass balance basis using the following formula. The permittee is responsible for units matching in the equation.

MDL Ammonia Effluent Limitation = $(Q_u * C_u + Q_e * C_e)/(Q_u + Q_e)$ where
Q_u = 10% of the upstream flow parameter
C_u = Upstream ammonia parameter
Q_e = Effluent flow parameter
C_e = Ammonia as N parameter

The maximum mixing factor with receiving stream is 10.0%.

C. Whole Effluent Toxicity (WET) Requirements BP 2023.10.16

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 **Outfall 009**						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	Red River of the North [a]					
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 TUa					
Compliance Point	End-of-pipe					
Sampling Frequency	Quarterly					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit	<1 TUa					
Test Failure	**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.					
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TUa for *Ceriodaphnia dubia,* Parameter No. TSM3B Report the highest TUa for *Pimephales promelas*, Parameter No. TSN6C					

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 there be no discharge during a specified sampling time frame, sampling shall be

performed as soon as there is a discharge. 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.	
a.	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

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*.

Table 4: Chronic WET Requirements **Outfall 009**						
Implementation	Monitoring Only					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	Red River of the North [a]					
Species and Test Type	*Ceriodaphnia dubia* 7-Day Chronic-Static Renewal 25ºC					
	Pimephales promelas 7-Day Chronic-Static Renewal 25ºC					
Endpoint	Survival and Reproduction (*Ceriodaphnia dubia*) – IC25 reported as TUc Larval Growth and Survival (Fathead Minnow) – IC25 reported as TUc					
Compliance Point	End-of-Pipe					
Sample Frequency	Annually					
Test Acceptability	Test acceptability for *Ceriodaphnia dubia* chronic must have an 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions, and 60% of surviving control females must produce three broods. If this condition is not satisfied the test must be repeated. Test acceptability for *Pimephalas promelas* chronic must have an 80% or greater survival in controls and an average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. If this condition is not satisfied, the test must be repeated.					

Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TUc for *Ceriodaphnia dubia*, Parameter No. TPP3B. Report the highest TUc for *Pimephales promelas*, Parameter No. TTP6C. The facility shall request their WET testing providers to report a TU_a for a 48-hour survival *Ceriodaphnia dubia* and for *Pimephales promelas* which can be derived from the chronic test. The reason for this is to develop a representative Acute-to-Chronic (ACR) which is used in determining reasonable potential and/or permit limitations.
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.).	
a.	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.

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:

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

2. 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 PRETREATMENT PROGRAM BP 2009.09.10
Contributing Industries and Pretreatment Program Requirements

A. Standard Requirements

Permittee shall operate an industrial pretreatment program in accordance with the following permit requirements developed pursuant to Section 402(b)(8) of the Clean Water Act, the General Pretreatment Regulations (40 CFR Part 403), and the approved pretreatment program submitted by the permittee. The approved pretreatment program, and any approved modifications thereto, is hereby incorporated by reference and shall be

implemented in a manner consistent with the following requirements:

1. Industrial user information shall be updated at a minimum of once per year or at that frequency necessary to ensure that all Industrial Users are properly permitted and/or controlled. The records shall be maintained and updated as necessary;

2. The permittee shall sample and inspect each Significant Industrial User (SIU) at least once per calendar year (40 CFR Section 403.8(f)(2)(v)). This is in addition to any industrial self-monitoring activities. If the permittee performs sampling for any SIU, then the permittee shall perform any repeat sampling and analysis within 30 days of becoming aware of the violation (40 CFR Section 403.12(g)(2));

3. The permittee shall evaluate whether each SIU needs a plan to control sludge. SIUs must be evaluated within 1 year of being designated an SIU. Where needed, the permittee shall require the SIU to prepare or update, and then implement the plan. Where a slug prevention plan is required, the permittee shall ensure that the plan contains at least the minimum elements required in 40 CFR Section 403.8(f)(2)(vi). If required, the permittee shall incorporate slug control requirements into the control mechanism for the SIU. (40 CFR, Section 403.8(f)(1)(iii)(B)(6)).;

4. The permittee shall investigate instances of non-compliance with Pretreatment Standards and requirements indicated in reports and notices required under 40 CFR 403.12, or indicated by analysis, inspection, and surveillance activities.

5. The permittee shall enforce all applicable Pretreatment Standards and requirements and obtain remedies for noncompliance by any industrial user.

6. The permittee shall control, through the legal authority in the approved pretreatment program, the contribution to the Publicly Owned Treatment Works (POTW) by each industrial user to ensure compliance with applicable Pretreatment Standards and requirements. In the case of industrial users identified as significant under 40 CFR Section 403.3(v), this control shall be achieved through permit, order, or similar means and shall contain, at a minimum, the following conditions:

    a. Statement of duration (in no case more than five (5) years);

    b. Statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

    c. Effluent limits based on applicable pretreatment standards, categorical pretreatment standards, local limits, and state and local law.

    d. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and sample type, based on the applicable general pretreatment standards in 40 CFR 403, categorical pretreatment standards, local limits, and state and local law.

e. Statement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond deadlines mandated by federal statute or regulation.

f. Requirements to control Slug Discharges, if determined by the POTW to be necessary.

7. The permittee shall provide adequate staff, equipment, and support capabilities to carry out all elements of the pretreatment program as required by 40 CFR Section 403.8(f)(3);

8. The approved program shall not be substantially modified by the permittee without the approval of the Approval Authority. Substantial and non-substantial modifications shall follow the procedures outlined in 40 CFR Section 403.18.

9. The permittee shall develop, implement, and maintain an enforcement response plan as required by 40 CFR Section 403.8(f)(5); and

10. The permittee shall notify all Industrial Users of the users' obligations to comply with applicable requirements under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA) as required by 40 CFR Section 403.8(f)(2)(iii).

B. Local Limits

The permittee shall establish and enforce specific local limits to implement the provisions of 40 CFR sections 403.5(a) and (b), as required by 40 CFR Section 403.5(c). The permittee shall continue to develop these limits as necessary and effectively enforce such limits.

In accordance with EPA policy and with the requirements of 40 CFR sections 403.8(f)(4) and 403.5(c), the permittee shall determine if technically based local limits are necessary to implement the general and specific prohibitions of 40 CFR sections 403.5(a) and (b).

This evaluation should be conducted in accordance with the latest revision of the *"EPA Region VIII Strategy for Developing Technically Based Local Limits"*, and after review of EPA's *"Local Limits Development Guidance"* **July 2004**. Where the permittee determines that revised or new local limits are necessary, the permittee shall submit the proposed local limits to the Approval Authority in an approvable form in accordance with 40 CFR Section 403.18.

C. Sampling and Reporting Requirements

The permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR Part 122 Appendix D (NPDES Application Testing Requirements) Table II and the toxic pollutants in Table III as follows:

	Minimum Frequency of Monitoring
Table II Priority Pollutants 40 CFR 122 Appendix D	**1 every other year**
Table III Metals 40 CFR 122 Appendix D	**1/Year**

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]				
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.**			

If, based upon information available to the permittee, there is reason to suspect the presence of any toxic or hazardous pollutant listed in Table V, or any other pollutant in a quantity or concentration known or suspected to adversely affect POTW operation, receiving water quality, or solids disposal procedures, analysis for those pollutants shall be performed on both the influent and the effluent as follows:

	Minimum Frequency of Monitoring
Table V Other Toxics	**Conditional as specified above**

1. Along with the permittee's pretreatment annual report, the permittee will submit a list of compounds included in Table V that are suspected or known to be present in its influent wastewater. This determination shall be based on a review of the permittee's pretreatment program records. The state permitting authority and/or Approval Authority may review and comment on the list and the list may be revised if, in the opinion of the state permitting authority and/or Approval Authority, the list is incomplete. The permittee will perform the analysis on the influent for the revised list of compounds for which there are acceptable testing procedures as follows:

	Minimum Frequency of Monitoring
Revised List of Compounds	**0/Year**

2. Where the pollutants monitored in accordance with this section are reported as being above the method detection limit, the results for these pollutants shall be reported in the permittee's pretreatment annual report, if required by EPA.

D. Sludge Sampling and Reporting Requirements

The permittee shall analyze the treatment facility sludge (biosolids) prior to disposal, for the presence of toxic pollutants listed in 40 CFR 122 Appendix D (NPDES Application Testing Requirements) Table III at least once per year. If the permittee does not dispose

of biosolids during the calendar year, the permittee shall certify to that in the Pretreatment Annual Report and the monitoring requirements in this paragraph shall be suspended for that calendar year.

1. The permittee shall review the pollutants in 40 CFR Part 122, Appendix D, tables II and V. If any of the pollutants in these tables were above detection in the influent samples during the previous 2 years or the last two analyses, whichever is greater, the permittee shall sample and analyze its sewage sludge for these pollutants. The permittee shall perform this evaluation and analysis at least once per year.

2. The permittee shall use sample collection and analysis procedures as approved for use under 40 CFR Part 503 or specified in the EPA Region 8 General Permit for biosolids.

3. The permittee shall report the results for these pollutants in the permittee's pretreatment annual report, if required by EPA.

E. Sample Analysis and Sampling Procedure

All analyses shall be in accordance with procedures established in 40 CFR Part 136. Where sampling methods are not specified, the influent and 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 automated composite sampling is inappropriate, at least four (4) grab samples shall be manually taken at equal intervals over a representative 24-hour period, and composited prior to analysis using approved methods; alternatively, the individual grab samples may be analyzed separately and the results from the respective grab samples mathematically combined based on flow (i.e., flow weighted) for the final result.

Additional Sampling Requirements

In addition, the following are identified as pollutants of concern by sampling and analysis of your influent, effluent and/or sludge during local limits development, other chemical monitoring, or through activities associated with or as a result of whole effluent toxicity testing. The following pollutants of concern shall be sampled and analyzed in the influent and effluent as follows:

Parameters	Minimum Frequency of Monitoring
No additional parameters have been identified at this time.	

F. Annual Reporting Requirements

The permittee shall prepare annually a list of industrial users, which during the preceding twelve (12) months have significantly violated Pretreatment Standards or requirements. This list is to be published annually in a newspaper of general circulation in the permittee's service area as required by 40 CFR Section 403.8(f)(2)(viii).

In addition, on or before March 28, the permittee shall submit a pretreatment program annual report to the Approval Authority and the state permitting authority that contains the information requested by EPA, or at a minimum the following information:

1. An updated list of all SIUs as defined at 40 CFR Section 403.3(v). For each SIU listed the following information shall be included:

   a. All applicable Standard Industrial Classification (SIC) codes and categorical determinations, as appropriate. In addition, a brief description of the industry and general activities;

   b. Permit status. Whether each SIU has an unexpired control mechanism and an explanation as to why any SIUs are operating without a current, unexpired control mechanism (e.g. permit);

   c. A summary of all monitoring activities performed within the previous twelve (12) months. The following information shall be reported.

      Total number of SIUs inspected; and
      Total number of SIUs sampled.

2. For all industrial users that were in Significant Non-Compliance during the previous twelve (12) months, provide the name of the violating industrial user; indicate the nature of the violations, the type and number of actions taken (administrative order, criminal or civil suit, fines or penalties collected, etc.) and current compliance status. Indicate if the company returned to compliance and the date compliance was attained. Determination of Significant Non-Compliance shall be performed as defined at 40 CFR Section 403.8(f)(2)(viii)(A-H).

3. A summary of all enforcement actions not covered by the paragraph above conducted in accordance with the approved Enforcement Response Plan, as required in 40 CFR Section 403.8(f)(5).

4. A list of all SIUs whose authorization to discharge was terminated or revoked during the preceding twelve (12) month period and the reason for termination;

5. A report on any Interference, Pass Through, upset or NPDES permit violations known or suspected to be caused by non-domestic discharges of pollutant and actions taken by the permittee in response;

6. Verification of publication of industrial users in Significant Non-Compliance;

7. Identification of the specific locations, if any, designated by the permittee for receipt (discharge) of trucked or hauled waste, if modified;

8. Information as required by the Approval Authority or state permitting authority on the discharge to the POTW from the following activities:

   a. Ground water clean-up from underground storage tanks;
   b. Trucked or hauled waste; and,
   c. Ground water clean-up from RCRA or Superfund sites.

9. A description of all changes made during the previous calendar year to the permittee's pretreatment program that were not submitted as substantial or non substantial modifications to EPA.

10. The permittee shall evaluate actual pollutants loadings against the approved Maximum Allowable Headworks Loadings (MAHLs). Where the actual loading exceeds the MAHL, the permittee shall immediately begin a program to either revise the existing local limit and/or undertake such other studies as necessary to evaluate the cause(s) of the excursion. The permittee shall provide a summary of its intended action.

11. Other information that may be deemed necessary by the Approval Authority.

G. Pollutant Restrictions

The permittee shall prohibit the introduction of the following pollutants into the POTW:

1. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limit to, wastestreams 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;

2. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;

3. 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;

4. 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 the POTW;

5. 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;

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

7. 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;

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

9. Any specific pollutant that exceeds a local limitation established by the POTW in

accordance with the requirements of 40 CFR Section 403.5(c) and (d).

10. Any other pollutant which may cause Pass Through or Interference.

H. Notification Requirements

The permittee shall provide the pretreatment Approval Authority with adequate notice of any substantial change in the volume or character of pollutants being introduced into the treatment works by any SIU introducing pollutants into the treatment works at the time of application for the discharge permit. For the purposes of this section, "substantial change" shall mean a level of change which has a reasonable probability of affecting the permittee's ability to comply with its permit conditions or to cause a violation of stream standards applied to the receiving water.

Adequate notice shall include information on: (1) the quality and quantity of effluent to be introduced into the treatment works, and (2) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

I. Enforcement Actions

Section 309(f) of the Act provides that EPA may issue a notice to the POTW stating that a determination has been made that appropriate enforcement action must be taken against an industrial user for noncompliance with any Pretreatment Standards and requirements. The notice provides the POTW with thirty (30) days to commence such action. The issuance of such permit notice shall not be construed to limit the authority of the permit issuing authority or Approval Authority.

J. Enforcement Authority

The state permitting authority and/or the EPA retains, at all times, the right to take legal action against the industrial contributor for violations of a permit 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 NPDES permit violation has occurred because of the failure of the permittee to properly develop and enforce Pretreatment Standards and requirements as necessary to protect the POTW, the state permitting authority and/or Approval Authority shall hold the permittee responsible and may take legal action against the permittee as well as the Indirect Discharger(s) contributing to the permit violation.

VI. BENEFICIAL REUSES BP 2015.09.03

A. Irrigation

Only wastewater that has received secondary or tertiary treatment may be used for irrigation provided soil and water compatibility testing confirms the water is suitable for irrigation. Wastewater used for irrigation shall be applied at a rate which would allow complete infiltration and not result in ponding or runoff from the irrigated area.

Agricultural land may be irrigated provided the crop is not used for human consumption. Forage crops used for livestock consumption or pastures irrigated with wastewater shall not be harvested or grazed within 30 days of a wastewater application.

Public properties such as golf courses or parks may be irrigated provided the treated wastewater meets the following quality criteria.

Table 5: Irrigation Beneficial Reuse Limitations and Monitoring Requirements			
Parameter	Limitations	Monitoring Requirements	
	Daily Max	Measurement Frequency	Sample Type
BOD_5	30 mg/l	1 per 14 days	Grab
TSS	45 mg/l	1 per 14 days	Grab
E. Coli	126/100 mL	Weekly	Grab

Whenever possible, irrigation shall take place during hours when the public does not have access to the area being irrigated. If the public has constant access to an area, signs must be posted in visible areas during irrigation and for two hours after irrigation is completed. The signs must advise people that the water could pose a health concern and to avoid the irrigated area.

Worker and public contact with treated wastewater should be minimized. Where frequent contact is likely, a higher level of disinfection should be provided such as achieving *E. coli* counts less than 14 colonies per 100 ml.

Avoid application within 100 feet of areas which have unlimited access (i.e., yards) or within 300 feet of potable water supply wells.

Runoff that occurs from irrigated areas shall be monitored at the frequencies and with the types of measurements described in **Part I(B)**.

The permittee shall maintain monitoring records indicating the location and usage (e.g., park or agricultural) of the land being irrigated, the dates irrigation occurred, the amount of wastewater used, and the total flow. In addition, monitoring records must include results from collected samples.

B. Construction

Treated domestic wastewater may be used for construction purposes such as soil compaction, dust suppression and washing aggregate, provided the following conditions are met.

The wastewater intended for use in construction, must at a minimum, receive secondary treatment.

Prior to using treated wastewater a sample from the prospective source must be tested and meet the criteria set below. In addition the test results for *E. coli* must be provided to the department prior to use. Results from samples up to two (2) weeks old will be considered valid. The water quality limitations and minimum sampling frequencies recommended for wastewater used in construction are provided in the following table.

Table 6: Construction Beneficial Reuse Limitations and Monitoring Requirements			
Parameter	Limitations (Maximum)	Monitoring Requirements	
	Daily Max	Measurement Frequency	Sample Type
BOD_5	30 mg/l	Monthly	Grab
TSS	100 mg/l	Monthly	Grab
E. Coli	126/100 mL	Weekly	Grab

While the conventional methods for treating domestic wastewater are generally effective in reducing infectious agents (bacteria, viruses, parasites) to acceptable levels, direct reuse of treated wastewater can pose a health concern. Additional precautions to consider are:

1. Worker and public contact with treated wastewater should be minimized.

2. Where frequent worker contact is likely a higher level of disinfection should be provided, such as achieving *E. coli* counts less than 14/100 ml.

3. Work closely with the treatment system operator to ensure treated wastewater quality is suitable when it is drawn for construction purposes.

4. Apply the treated wastewater in a manner that does not result in runoff or ponding.

Runoff that occurs from application areas shall be monitored at the frequencies and with the types of measurements described in Part I(B).

The permittee shall maintain monitoring records indicating the location and usage of the land where application occurs, the dates application occurred, the amount of wastewater used, and the total flow. In addition, monitoring records must include results from collected samples.

C. Oil and Gas Production (including Hydraulic Fracturing)

The specific user of the wastewater may determine the specific treatment requirements for receiving wastewater.

The permittee shall maintain monitoring records indicating the specific user, the amount of wastewater used, and the total flow. In addition, monitoring records must include results from collected samples.

D. Other Uses as Approved

The permittee must consult with the department before beneficially reusing wastewater for purposes not identified in this permit.