

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

Public Notice Date: 5/1/2024

Public Notice Number: ND-2024-007

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: 12/11/2023

Application Number: ND0021202

Applicant Name: Grafton City Of

Mailing Address: PO Box 578, Grafton, ND 58237

Telephone Number: 701.352.1561

Proposed Permit Expiration Date: 6/30/2029

Facility Description

The reapplication is for four waste stabilization ponds which service the City of Grafton. The discharge facility is located in the N1/2, Section 20, Township 157N, Range 52W. Any discharge would be to the Park River, a Class II stream.

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 FWPCA 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 May 31, 2024 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
ND0021202**

PERMIT REISSUANCE

GRAFTON PUBLICLY OWNED TREATMENT WORKS

FACT SHEET DATE – April 2024

INTRODUCTION

The Federal Clean Water Act (CWA, 1972, and later amendments in 1977, 1981, and 1987, etc.) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES), which the U.S. Environmental Protection Agency (EPA) oversees. In 1975, the State of North Dakota was delegated primacy of the NPDES program by EPA. The North Dakota Department of Environmental Quality, hereafter referred to as “department”, has been designated the state water pollution control agency for all purposes of the Federal Water Pollution Control Act, as amended [33 U.S.C. 1251, et seq.], and 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) article 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. The department must also publish an announcement (public notice) during a period of thirty days, informing the public where a draft permit may be obtained and where comments regarding the draft permit may be sent (NDAC section 33.1-16-01-07). For more information regarding preparing and submitting comments about the fact sheet and permit, please see Appendix A – Public Involvement 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.

TABLE OF CONTENTS

INTRODUCTION 1

TABLE OF CONTENTS 2

BACKGROUND INFORMATION..... 4

FACILITY DESCRIPTION..... 5

HISTORY 5

COLLECTION SYSTEM STATUS..... 6

TREATMENT PROCESSES 6

OUTFALL DESCRIPTION..... 6

PREVIOUS PERMIT STATUS..... 7

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED 7

PAST DISCHARGE DATA..... 8

PROPOSED PERMIT LIMITS..... 9

EFFLUENT LIMITATIONS.....10

SELF-MONITORING REQUIREMENTS12

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS.....13

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE AND RECREATION14

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH.....14

NARRATIVE CRITERIA14

ANTIDegradation15

MIXING ZONES.....15

EVALUATION OF SURFACE WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA.....15

BOD₅.....15

TSS.....15

PH15

***ESCHERICHIA COLI (E. COLI)*.....16**

OIL AND GREASE, VISUAL16

AMMONIA AS NITROGEN16

WHOLE EFFLUENT TOXICITY (WET).....18

PHOSPHORUS AND NITROGEN (NUTRIENTS)19

BIOSOLIDS19

HUMAN HEALTH.....19

MONITORING REQUIREMENTS20

DISCHARGE MONITORING REPORT (DMR) REQUIREMENTS20

TEST PROCEDURES20

OTHER PERMIT CONDITIONS.....20

INDUSTRIAL WASTE MANAGEMENT20

BENEFICIAL REUSE.....21

PERMIT ISSUANCE PROCEDURES22

PERMIT ACTIONS22
PROPOSED PERMIT ISSUANCE23
APPENDIX A – PUBLIC INVOLVEMENT INFORMATION.....24
APPENDIX B – DEFINITIONS.....26
APPENDIX C – DATA AND TECHNICAL CALCULATIONS29
APPENDIX D – RESPONSE TO COMMENTS33

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BACKGROUND INFORMATION**Table 1 – General Facility Information**

Applicant:	City of Grafton
Facility Name and Address:	Grafton Publicly Owned Treatment Works 5 East 4 th St. Grafton, ND 58237
Permit Number:	ND0021202
Permit Type:	Major POTW – Renewal
Type of Treatment:	Waste Stabilization Pond System with Primary Cell Aeration
SIC Code:	4952 – Sewage Treatment Facility
NAICS Code:	221320 – Sewerage Systems
Discharge Location:	Outfall 001: 48.424167, -97.386111
Receiving Stream:	Park River, a Class II Stream
Hydrologic Code:	09020310 – Park River
Population:	4,350



Figure 1 – Grafton Wastewater Treatment Facility Overview (Google Earth 7/24/2020)

FACILITY DESCRIPTION

History

The city of Grafton's publicly owned treatment works (POTW) treats wastewater with a four (4) cell waste stabilization pond system. The first cell is an aeration cell, which utilizes six (6) mechanical aerators, with a surface area of two acres. The second and third cells have a surface area of 70 acres each, and the fourth cell has a surface area of 26 acres.

Prior to the 1992 upgrade, Outfall 001 discharged to an adjacent coulee which drains into the Park River. During the upgrade, a one mile long thirty (30) inch pipe was added to move the outfall to the riverbank. This outfall is not submerged and has no diffuser. This is the only active outfall.

In 1992, Grafton upgraded the POTW with the addition of the fourth cell. With this addition an irrigation system was installed to allow irrigation of the city's golf course. Only water from secondary or tertiary treatment can be used on the golf course. The treated water must be applied at a rate which will allow complete infiltration and not result in standing water. Whenever possible, irrigation takes place during hours when the public does not have access to the area being irrigated. Signs must be visibly posted during irrigation and two hours after completion of irrigation. The signs advise people that the water could pose a health concern and to avoid the irrigated area(s).

Grafton POTW submitted a request on February 25, 2009 to have outfall 002 deactivated. This outfall is located in Cell 3 and is silted in and has not been used since the upgrade in 1992. Outfall 002 was deactivated in 2009.

Collection System Status

Grafton has a gravity flow collection system which utilizes thirteen lift stations. The total population served is currently estimated to be 4,170 per the 2020 Census. Upcoming planned improvements include replacing pumps in the Monson and Master lift stations and cleaning the lagoon aeration cell (Cell 1) and replacing the docks. The projects are all currently in the preliminary planning stages. Construction completion of the lift station projects is slated for 2024 and the lagoon project in 2025.

Treatment Processes

Raw wastewater (sewage) is sent to Cell 1, an aeration basin to help facilitate the breakdown of organic matter. This aeration basin utilizes six surface aerators. All six aerators are utilized during the summer and four are utilized during the winter unless the temperature is warm enough to operate all six of them. From there the wastewater is transferred to a series of three facultative lagoon cells (Cell 2, Cell 3, and Cell 4), where detention time is used to continue the wastewater treatment process.

Outfall Description

Discharges at any location not authorized under a NDPDES permit is a violation of the 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 this permit could subject such person(s) to criminal penalties as provided under the CWA.

Outfall 001 – Active – Final Outfall

Latitude: 48.424167	Longitude: -97.386111	County: Walsh	
Township: 157 N	Range: 52 W	Section: 17	QQ: BB
Receiving Stream: Park River		Classification: Class II Stream	
Outfall Description: The discharge runs from Cell 4 through a 30-inch pipe for one mile to the bank of the Park River. The outfall is not submerged and has no diffuser. The type of discharge is called a "Controlled Discharge" and is deemed to be non-continuous.			

Outfall 002 – Non-Active – Final Outfall

Latitude: 48.4082300	Longitude: -97.3859614	County: Walsh	
Township: 157 N	Range: 52 W	Section: 20	QQ: BB
Receiving Stream: Park River		Classification: Class II	
Outfall Description: This outfall is located in Cell 3. Originally, discharge from Cell 3 ran into an adjacent coulee which drains to the Park River. This outfall is silted in and has not been used since the upgrade in 1992. Grafton POTW submitted a request on February 25, 2009 to have outfall 002 deactivated. Outfall 002 was deactivated in 2009.			

PREVIOUS PERMIT STATUS

The department issued the previous permit for this facility on July 1, 2019. The previous permit included monitoring requirements for biochemical oxygen demand (BOD₅), total suspended solids (TSS), pH, ammonia as nitrogen, *Escherichia coli* (*E. coli*), oil and grease, river flow, total nitrogen, total phosphorus, effluent flow, total amount drained, whole effluent toxicity (WET), and metals.

The department was in contact with the City of Grafton to obtain information to reissue the permit. The department received EPA application Form 2A on December 11, 2023. Additional information was requested to complete the application and the application was accepted by the department on February 15, 2024. Effluent sample data has been provided to the department through official laboratory reports and discharge monitoring reports.

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. The department's Division of Water Quality and Division of Municipal Facilities conduct yearly inspections at the facility. Ten inspections of the facility were conducted during the previous permit cycle. Department staff last conducted a non-sampling compliance inspection on June 22, 2023.

The DMRs for the monitoring period from July 1, 2019 to January 31, 2024 were reviewed. The facility discharged once during that period -- November 6, 2019 to November 12, 2019. Two DMRs related to the November 2019 discharge were updated and resubmitted as a result of the review. The DMRs were updated to state the discharge was not monitored for metals or total phosphorus, and an *E. coli* analysis was not required.

Past Discharge Data

The concentration of pollutants in the discharge was reported using discharge monitoring report forms. One discharge occurred between July 1, 2019 and January 31, 2024. The effluent is characterized as shown in Table 2.

Table 2 – DMR Data Summary for Outfall 001 (July 1, 2019 to January 31, 2024)

Parameter	Units	Range	Average	Permit Limit	Number of Exceedances
<i>Effluent</i>					
Biological Oxygen Demand (BOD ₅)	mg/l	3.34 – 4.34	3.84	25 – Avg 45 – Max	0
pH	SU	7.93 – 8.32	NA	6.0 to 9.0	0
Total Suspended Solids (TSS)	mg/l	11.6 – 22.4	17	30 – Avg 45 – Max	0
Ammonia as N	mg/l	0.604 – 1.52	1.062	WQS	0
<i>Escherichia coli</i> (<i>E. coli</i>)	Colonies per 100 ml	Conditional, NA	Conditional, NA	126 – Avg 409 – Max	0
Oil & Grease, Visual		No Visual Sheen	No Visual Sheen	No Visual Sheen	NA
Oil & Grease	mg/l	Conditional, NA	Conditional, NA	10 mg/l	NA
Nitrogen, Total	mg/l	10.40 – 10.6	10.5	NA	NA
Phosphorus, Total	mg/l	ANC	ANC	NA	NA
Effluent Flow	MGD	10.49	10.49	NA	NA
Total Drain	MGAL	73.4	73.4	NA	NA
Discharge Duration	Days	7	7	NA	NA
Whole Effluent Toxicity (WET)	TUa	< 1	< 1	< 1	0
Antimony, Total	mg/l	ANC	ANC	NA	NA
Arsenic, Total	mg/l	ANC	ANC	NA	NA
Beryllium, Total	mg/l	ANC	ANC	NA	NA
Cadmium, Total	mg/l	ANC	ANC	NA	NA
Chromium, Total	mg/l	ANC	ANC	NA	NA
Copper, Total	mg/l	ANC	ANC	NA	NA

Cyanide, Total	mg/l	ANC	ANC	NA	NA
Hardness, Total	mg/l	ANC	ANC	NA	NA
Lead, Total	mg/l	ANC	ANC	NA	NA
Mercury, Total	mg/l	ANC	ANC	NA	NA
Nickel, Total	mg/l	ANC	ANC	NA	NA
Phenols, Total	mg/l	ANC	ANC	NA	NA
Selenium, Total	mg/l	ANC	ANC	NA	NA
Silver, Total	mg/l	ANC	ANC	NA	NA
Thallium, Total	mg/l	ANC	ANC	NA	NA
Zinc, Total	mg/l	ANC	ANC	NA	NA
Notes:					
The Grafton POTW discharged one (1) time during the above time frame (November 2019).					
NA stands for Not Applicable.					
ANC stands for Analysis Not Conducted.					

PROPOSED PERMIT LIMITS

The City of Grafton 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 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 3: 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 33.1-16-01-14(3)(c)(1) allows for adjustment of the secondary treatment criteria to reflect site specific considerations. A five-day biochemical oxygen demand limit of twenty-five milligrams per liter (consecutive thirty-day average) may be applied in instances in which limits expressed in terms of secondary treatment standards would be impractical or deemed inappropriate to protect receiving waters. The department has determined that a 25 mg/l

consecutive 30-day average for BOD₅ is appropriate for this facility. Similar facilities with waste stabilization ponds have the same limit.

The department acknowledges that 40 CFR 133 requires an 85% removal for BOD₅ and TSS. The percent removal rate in 40 CFR 133 is dependent upon the influent and effluent samples being taken at approximately the same time. This facility utilizes waste stabilization ponds to treat wastewater. Due to the infeasibility of determining percent removal for waste stabilization ponds, the department has determined not to include the percent removal requirements for the facility. Influent and effluent samples would not be representative of the same wastewater. Therefore, the department has calculated an estimated percent removal for this facility. The average BOD concentration of domestic wastewater is 220 mg/l (Metcalf & Eddy, Inc., 2nd Edition, 1979). Facilities meeting a discharge limitation of 25 mg/l BOD theoretically would be achieving 88% removal efficiency. The department would then assume that this facility, meeting the permit limitation of 25 mg/l, would therefore be meeting the percent removal requirement. The average TSS concentration of domestic wastewater is 220 mg/l (Metcalf & Eddy, Inc., 2nd Edition, 1979). Facilities meeting the discharge limitation of 30 mg/l TSS theoretically would be achieving 86% removal efficiency. The department would then assume that this facility, meeting the permit limitation of 30 mg/l, would therefore be meeting the percent removal requirement.

Effluent Limitations

The effluent limitations become effective on the effective date of the permit. The proposed effluent limitations and the basis for the limitations are listed in Table 4 below:

Table 4: Proposed Effluent Limitations Basis – Outfall 001

Parameter	Effluent Limitations			Basis ^a
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	
BOD ₅ , mg/l ^b	25	45	NA	40 CFR 133.102(a)(2) NDAC 33.1-16-01-14(3)(c)(1) Previous Permit
pH, SU ^c	Shall remain between 6.0 to 9.0			40 CFR 133.102(c) WQS
TSS, mg/l ^b	30	45	NA	40 CFR 133.102(b)(1) & (2) NDAC 33.1-16-01-14(3) Previous Permit
Ammonia as N, mg/l	Refer to Ammonia Table below (Table 8)			WQS Previous Permit
<i>E. coli</i> , cfu/ 100 ml ^d	126	NA	409	WQS Previous Permit BPJ
Oil & Grease, mg/l ^e	NA	NA	10	WQS Previous Permit BPJ
Whole Effluent Toxicity (WET), TU _a ^f	< 1.0			40 CFR 122.44(d)(1)(iv-v) WQS Previous Permit

Parameter	Effluent Limitations			
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Basis ^a
Notes:				
*	This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.			
a.	<p>The basis of the effluent limitations is given below:</p> <p>“Previous Permit” refers to limitations in the previous permit. The NPDES 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.</p> <p>“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.</p> <p>“BPJ” refers to best professional judgement.</p>			
b.	The limitations for BOD ₅ and TSS are based on the average of all samples taken to monitor the discharge from a cell. If only one sample is collected, that one value shall be used as the average.			
c.	The pH, an instantaneous limitation, shall be between 6.0 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.			
d.	<p><i>E. coli</i> shall not exceed 126 organisms per 100 ml as a geometric mean of representative samples collected during any 30-day consecutive period, nor shall samples exceed 409 organisms per 100 ml for any one day.</p> <p>The limit for <i>E. coli</i> shall only apply during the recreational season, April 1 through October 31. Averages for <i>E. coli</i> shall be determined as a geometric mean.</p>			
e.	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.			
f.	The department’s analysis has determined that toxic effects caused by unidentified pollutants in the effluent are unlikely as no toxicity has been shown in the previous			

Parameter	Effluent Limitations			Basis ^a
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	
permit WET tests. An acute toxicity limit of < 1.0 TU is proposed for this permit renewal.				
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.				
All discharges shall be made in such a manner to minimize any possible adverse impacts on the receiving stream and downstream landowners.				

SELF-MONITORING REQUIREMENTS

All effluent is sampled at a point leaving Cell 4 but prior to entering waters of the state. A pre-discharge sample must be taken prior to the start of any discharge and reported to the department. The pre-discharge sample shall be tested for BOD₅, TSS, pH, *E. coli*, and Ammonia as N. This pre-discharge sample can represent the first week discharge sample. An additional sample of the actual discharge shall be taken and analyzed on a weekly basis for each additional week of the discharge.

Compliance samples meeting the monitoring requirements specified in this permit shall be taken prior to leaving the facility property or entering the receiving stream.

The department may require the permittee to provide additional sampling and monitoring as deemed necessary to assure adequate operation of the treatment system and the water quality standards are met during the discharge period.

Table 5: Self-Monitoring Requirements for Outfall 001

Effluent Parameter	Frequency	Sample Type ^a
BOD ₅ , mg/l ^{b, c}	Weekly	Grab
pH, SU ^{b, c}	Weekly	Grab
TSS, mg/l ^{b, c}	Weekly	Grab
Ammonia as N, mg/l ^{b, c}	Weekly	Grab
<i>E. coli</i> , cfu/100 ml ^{b, c, d}	Weekly	Grab
Oil & Grease, mg/l ^e	Daily	Visual ^c
Nitrogen, Total mg/l ^f	Monthly	Grab
Phosphorus, Total mg/l	Monthly	Grab
Effluent Flow, MGD	Daily	Instantaneous

Total Drain, MG	Monthly	Calculated
Park River, cfs ^g	Daily	USGS gage 05090000
WET, TU _a	Quarterly	Grab
Metals, mg/l ^h	Yearly	Grab
Notes:		
a.	Refer to Appendix B for definitions.	
b.	A pre-discharge sample must be analyzed prior to the start of any discharge. A pre-discharge grab sample shall be tested for BOD5, TSS, pH, <i>E. coli</i> , and Ammonia as N. This pre-discharge sample shall represent the first week discharge sample. An additional grab sample of the actual discharge shall be taken and analyzed on a weekly basis for the duration of the discharge.	
c.	At a minimum, one (1) grab sample shall be taken each week of the discharge and analyzed for BOD5, TSS, <i>E. coli</i> , pH, Ammonia as N, and all parameters associated with Ammonia as N (Table 6). The pre-discharge sample may be used for the sample required for the first week of the discharge. The start and end dates of the discharge shall also be recorded. The total amount of water discharged shall be determined either by using a flow-measuring device or by recording the water-level drop in the pond. All samples and measurements taken shall be representative of the discharge.	
d.	This parameter shall be monitored for discharges from April 1 through October 31.	
e.	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.	
f.	Total Nitrogen is a combination of Nitrate, Nitrite, and Total Kjeldahl Nitrogen (TKN).	
g.	River flow shall be recorded according to United States Geological Survey (USGS) gage station 05090000.	
h.	Refer to 40 CFR 122 Appendix D, Table III	

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS

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

The Park River is classified as a class II stream in the Standards of Quality for Waters of the State (NDAC 33.1-16-02.1). Class II streams must be suitable for the propagation or protection of resident fish species and other aquatic biota and for swimming, boating, and other water recreation. However, streams in this classification may be intermittent which makes them of limited value for beneficial uses such as municipal water, fish life, irrigation, bathing, or swimming. The quality of class II streams must be suitable for irrigation, stock watering, and wildlife without injurious effects. The quality also must meet bacteriological, physical, and chemical requirements for municipal or domestic use after treatment; however, additional treatment may be required to meet drinking water requirements.

The stream reach of the receiving water body that the facility discharges to, ND-0902310-013-S_00, is listed as impaired under 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 Report*. The stream reach is listed as fully supporting but threatened for the designated use of fish and other aquatic biota due to impairment by selenium. The TMDL priority for this stream reach is low. Metal monitoring requirements, which include selenium, will be maintained in the proposed permit to aid in any TMDL development for the Park River.

There are no categorical industrial users (CIU) that discharge to the POTW and thus no city pretreatment program is required. The city accepts hauled domestic waste or septage but does not accept hauled industrial waste. Inflow and infiltration from sources other than municipal waste (e.g., rainwater/groundwater infiltration) has not been identified as a significant contributor to influent loadings to the POTW.

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

BOD₅

The department reviewed the effluent data and sampling frequency for BOD₅. No exceedances occurred for this parameter. The department proposes to continue with the 25 mg/l (30-day arithmetic average) and 45 mg/l (average weekly limit) limitations with a sampling frequency of weekly.

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 (30-day arithmetic average) and 45 mg/l (average weekly limit) limitations with a sampling frequency of weekly.

pH

The department has reviewed the effluent data and sampling frequency for pH. No exceedances occurred for this parameter. The department proposes to continue with the limitation of remaining between 6.0 and 9.0 s.u. with a sampling frequency of weekly. Discharges to Class II streams shall have an instantaneous limitation between 6.0 and 9.0 s.u. as per NDAC 33.1-16-02.1-09 Table 1.

Escherichia coli (E. coli)

The department has reviewed the effluent data and sampling frequency for *E. coli*. The only discharge during the current permitting period occurred outside of the window requiring this parameter be tested. Based on the WQS, the department proposes to continue with a 126 organisms per 100 ml as a monthly geometric mean and 409 organisms per 100 ml as a daily maximum limitation with a sampling frequency of once per week. The WQS only applies during the recreation season from May 1 through September 30. The department shall extend the standard from April 1 to October 31. The department used BPJ to extend this period to ensure the recreation season is covered.

Oil and Grease, Visual

The department has reviewed the effluent data and sampling frequency for oil and grease. No visual detections occurred for this parameter; therefore, no oil and grease samples were taken. The department proposes to continue visual checks for sheen with a sampling frequency of daily. Should a sheen occur, the department proposes to continue with a 10 mg/l (daily maximum) limitation.

Ammonia as Nitrogen

Federal regulations (40 CFR 122.44) require the department to place limits in NDPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria.

Ammonia is a toxic pollutant present in the discharge. The department conducted a Reasonable Potential (RP) analysis (see Appendix C) to determine whether effluent limits for ammonia would be required in this permit, using procedures given in "Technical Support Document (TSD) For Water Quality-based Toxics Control"; EPA/505/2-90-001; March 1991.

The department found reasonable potential for the Grafton POTW to cause a violation of the state WQS for ammonia.

North Dakota's aquatic life standards for ammonia are dependent upon the pH and the temperature of the receiving water body.

A discharge ammonia criterion will be dependent on river flow, discharge rate, river pH and the effluent ammonia concentration. This determination shall be in accordance to the formula specified in the latest revision of the state WQS and shown below:

Table 6: Ammonia Effluent Limitations and Monitoring Requirements – Outfall 001

Parameter	Effluent Limitations	
	Avg. Monthly Limit	Daily Maximum Limit
Ammonia ^a	†	‡
Stream flow upstream, cfs ^{b, c}	NA	NA
Temperature upstream, ° C ^{b, c}	NA	NA
pH upstream, S.U. ^{b, c}	NA	NA
Ammonia as N upstream, mg/l ^c	NA	NA
NA stands for Not Applicable.		
<p>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.</p> <p>b. Sample must be collected/recorded the same day as the ammonia sample. The Park River upstream flow, temperature, and pH may be obtained from the USGS gauging station 05090000, or other usable data source, at Grafton, North Dakota or can be collected by the permittee.</p> <p>c. If the upstream values are not collected, the following minimum values base on the 75th percentile upstream STORET data are to be used: pH: 8.35 S.U., Temperature 11.5° C (November – May), Temperature 22.3° C (June – October), and Ammonia 0.11 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 0.078 cfs shall be used. The maximum mixing factor is 10.0%.</p> <p>† Chronic Standard (Average Monthly Limit (AML)) ¹ 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 and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:</p> $0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688 - \text{pH}}} + \frac{1.1994}{1 + 10^{\text{pH} - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$ <p>Receiving stream pH and Temperature is used for the calculation</p> <p>1. Since historic discharges are typically of short duration (~7 days), the 30-day average concentration limitation will be equivalent to the 4-day chronic standard.</p> <p>‡ Acute Standard (Maximum Daily Limit (MDL)) The concentration of total ammonia (expressed as N in mg/l) does not exceed the numerical value given by the following formula:</p> $0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204 - \text{pH}}} + \frac{1.6181}{1 + 10^{\text{pH} - 7.204}} \right) \times \text{MIN}(51.93, 23.12 \times 10^{0.036 \times (20 - T)})$ <p>where <i>Oncorhynchus</i> are absent</p>		

Whole Effluent Toxicity (WET)

Outfall 001: The department has reviewed the 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 reasonable potential to cause an excursion of the North Dakota Standards of Quality for Water of the State for toxicity (**Appendix C**).

The data set consisted of one acute test and indicated no occurrences of toxicity to *Pimephales promelas* (Fathead Minnow).

The department is proposing to continue quarterly sampling for acute toxicity based on BPJ, permit data, and other like permits. On the effective date of the proposed permit, the permittee must test for both *Ceriodaphnia dubia* and *Pimephales promelas* until the conditions for alternating species have been met. The permittee may then request reduced sampling/alternating species.

The department is proposing the following requirements for WET testing:

Table 7: Acute WET Requirements – Outfall 001

Acute WET Requirements						
WET tests shall be performed on the first discharge made each calendar year, unless specifically waived by the department. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.						
Toxicity is defined as:						
Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or >1.0 TUa for <i>Ceriodaphnia dubia</i> 48-hour and fathead minnow 96-hour test. The 48-hour and 96-hour effluent value must be <1.0 TUa to indicate a passing test. Any 48-hour or 96-hour effluent value of >1.0 TUa will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	Park River					
Species and Test Type	<i>Ceriodaphnia dubia</i> - 48 Hour Acute - Static Renewal - 20°C					
	<i>Pimephales promelas</i> - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	Mortality LC ₅₀ reported as TU _a					
Compliance Point	End-of-pipe					
Sampling Frequency	WET tests shall be performed on the first discharge made each calendar year. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					

Average Monthly Limit (AML)	<1 TUa
<p>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, CO₂ overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.).</p> <p>If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a <u>Toxicity Reduction Evaluation (TRE)</u> shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.</p> <p>The permittee shall report the following results of each toxicity test on the DMR for that reporting period:</p> <p><i>Pimephales promelas (Fathead Minnow)</i> a. Report the highest TUa for Fathead minnow, Parameter No. TSN6C.</p> <p><i>Ceriodaphnia dubia (Water Flea)</i> a. Report the highest TUa for <i>Ceriodaphnia dubia</i>, Parameter No. TSM3B.</p> <p>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.</p>	

Phosphorus and Nitrogen (Nutrients)

As part of the North Dakota Nutrient Reduction Strategy for Surface Waters, Grafton POTW is classified as a Category I facility and required to monitor effluent for Total Nitrogen and Total Phosphorus. The department proposes to continue monitoring for these parameters. Total Nitrogen is a combination of Nitrite, Nitrate, and Total Kjeldahl Nitrogen.

Biosolids

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

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 has not identified any chemicals in the applicants' discharge for regulation based on the human health criteria. The department will re-evaluate this discharge for impacts to human health at the next permit reissuance.

MONITORING REQUIREMENTS

The department requires monitoring, recording, and reporting (NDAC Chapter 33.1-16-01-(21-23) and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's limits.

Discharge Monitoring Report (DMR) Requirements

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

The proposed permit includes specified intervals for submitting monthly, quarterly, and yearly DMRs (Table 8). DMRs must be submitted electronically to the department in accordance with 40 CFR 127 unless otherwise waived and in compliance with 40 CFR 3. The requirement to submit the 'A' reports monthly, 'W' reports quarterly, and 'M' reports yearly is similar to other major POTWs.

Table 8: DMR Submittal Requirements

Outfall	Report Designator	Report Type	Report Interval
001	A	Conventional and Non-Conventional Pollutants, Flow and Volume Information	1/Month
001	W	Whole Effluent Toxicity Results	1/Quarter
001	M	Metals	1/Year

Test Procedures

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

OTHER PERMIT CONDITIONS

Industrial Waste Management

The proposed permit contains general pretreatment language and requirements. The general requirements include protection from any source of non-domestic waste water which causes Pass Through or Interference; creates a fire or explosion hazard; causes corrosive structural damage; causes obstruction; interferes with the treatment process; includes excessive heat;

contains petroleum oil and other products which causes Interference or Pass Through; results in the presence of toxic gases, vapors or fumes in the facility; and is any trucked or hauled pollutant except at designated discharge points.

In addition to the general limitations and requirements, the facility must sample and analyze the effluent from discharge point 001 for those parameters listed in 40 CFR 122, Appendix D, Table III (Table 9). Samples must be collected annually, generally from the first discharge of the year. Sample analyses must be conducted with a detection limit less than the applicable water quality standard where reasonable.

Table 9 - Parameters from 40 CFR 122, Appendix D, Table III

Antimony, Total	Lead, Total	Zinc, Total
Arsenic, Total	Mercury, Total	Cyanide, Total
Beryllium, Total	Nickel, Total	Phenols, Total
Cadmium, Total	Selenium, Total	Hardness as CaCO ₃
Chromium, Total	Silver, Total	
Copper, Total	Thallium, Total	

Beneficial Reuse

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

Irrigation

Treated effluent may be used for irrigation provided it has gone through secondary or tertiary treatment and is suitable for irrigation. The effluent must be applied in a manner that allows complete infiltration and does not result in ponding or a discharge to waters of the state. Crop used for human consumption cannot be irrigated. Forage crops and pastureland may be irrigated but cannot be harvested or grazed for thirty days following application of treated effluent.

Treated effluent may be used to irrigate public properties if it meets the treatment levels in Table 10. Irrigation must be done during times when the public does not have access to the irrigated area to minimize human contact. Signs must be posted if the public has constant access to the area to keep the public aware. A higher level of disinfection is recommended when frequent contact is likely. Irrigation should be avoided within 100 feet of areas that have unlimited access, such as a private residence to minimize human contact. Irrigation also should be avoided within 300 feet of drinking water wells to minimize impact to the water source.

Irrigation water must be tested in accordance with Table 10 at a minimum; the results of more frequent testing may be used. Runoff from irrigated areas must be tested the same as a direct discharge.

Table 10 - Parameters from 40 CFR 122, Appendix D, Table III

Parameter	Units	Secondary Treatment Level (Daily Maximum)	Monitoring Frequency	Sample Type	Basis
BOD ₅	mg/L	30	1 per 14 days	Grab	BPJ
TSS	mg/L	45	1 per 14 days	Grab	BPJ
<i>E. Coli</i>	#/100 mL	126	1/Week	Grab	BPJ

Construction

Treated effluent that has gone through secondary treatment may be used for construction purposes (e.g., soil compaction, dust suppression, aggregate washing). Treated effluent must be tested and meet the treatment levels in Table 10. The department considers sample results up to two weeks old to be valid. Runoff from construction areas must be tested the same as a direct discharge.

Table 11 - Parameters from 40 CFR 122, Appendix D, Table III

Parameter	Units	Secondary Treatment Level (Daily Maximum)	Monitoring Frequency	Sample Type	Basis
BOD ₅	mg/L	30	1/Month	Grab	BPJ
TSS	mg/L	100	1/Month	Grab	BPJ
<i>E. Coli</i>	#/100 mL	126	1/Week	Grab	BPJ

While 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 include:

- Minimize worker and public contact with treated wastewater.
- Provide a higher level of disinfection where frequent worker contact is likely such as achieving *E. coli* counts less than 14/100 mL.
- Ensure treated wastewater quality is suitable for construction purposes.
- Apply treated wastewater in a manner that does not result in runoff or ponding.

Other Uses as Approved

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

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 years.

DRAFT

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

The department proposes to reissue a permit to the **City of Grafton POTW**. The permit includes wastewater discharge limits and other compliance 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 **May 1, 2024** in the **Walsh County Record** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet. The facility will be provided a copy of the public notice and draft permit at the beginning of the public comment period.

The Notice –

- Indicates where copies of the draft Permit and Fact Sheet are available for public evaluation;
- Offers to provide assistance to accommodate special needs;
- Urges people 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.

Further information can be obtained from the department by calling – 701.328.5210 or by writing to the address below.

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

The primary permit and fact sheet writer is A.J. Delzer.

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

Public Notice Date: 5/1/2024

Public Notice Number: ND-2024-007

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: 12/11/2023

Application Number: ND0021202

Applicant Name: Grafton City Of

Mailing Address: PO Box 578, Grafton, ND 58237

Telephone Number: 701.352.1561

Proposed Permit Expiration Date: 6/30/2029

Facility Description

The reapplication is for four waste stabilization ponds which service the City of Grafton. The discharge facility is located in the N1/2, Section 20, Township 157N, Range 52W. Any discharge would be to the Park River, a Class II stream.

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 FWPCA 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 May 31, 2024 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

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

APPENDIX B – DEFINITIONS

DEFINITIONS Standard Permit BP 2019.05.29

1. **“Act”** means the Clean Water Act.
2. **“Average monthly discharge limitation”** means the highest allowable average of “daily discharges” over a calendar month, calculated as the sum of all “daily discharges” measured during a calendar month divided by the number of “daily discharges” measured during that month.
3. **“Average weekly discharge limitation”** means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
4. **“Best management practices”** (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
5. **“Bypass”** means the intentional diversion of waste streams from any portion of a treatment facility.
6. **“Composite”** sample means a combination of at least 4 discrete sample aliquots, collected over periodic intervals from the same location, during the operating hours of a facility not to exceed a 24-hour period. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.
7. **“Daily discharge”** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
8. **“Department”** means the North Dakota Department of Environmental Quality, Division of Water Quality.
9. **“DMR”** means discharge monitoring report.
10. **“EPA”** means the United States Environmental Protection Agency.
11. **“Geometric mean”** means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.

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

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

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

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

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

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

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

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

DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06

20. **“Acute toxic unit”** (“TUa”) is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e., $100/“LC50”$).
21. **“Chronic toxic unit”** (“TUc”) is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., $100/“IC25”$).
22. **“Inhibition concentration”**, (“IC”), is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
23. **“LC50”** means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.
24. **“No observed effect concentration”**, (“NOEC”), is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

APPENDIX C – DATA AND TECHNICAL CALCULATIONS

The North Dakota Department of Environmental Quality reviewed the NDPDES permit application, DMR information, applicable water quality standards for class II streams, and available stream data to determine the appropriate requirements to be placed in the permit.

CRITICAL LOW FLOW:

The department obtained stream flow data from USGS site 05090000 from April 1, 2002, to March 31, 2023. Below are the critical lo flows calculated using the USGS Hydrological Toolbox.

RESULTS: USGS 05090000 PARK RIVER AT GRAFTON, ND			
File Edit View Help			
All available data from Apr 1, 2003 through Mar 31, 2023 are included in analysis		Display Options: 05090000	Copy to Clipboard
Climatic year defined as Apr 1 - Mar 31.			
Seasonal Calculation?	No		
Season Or Year Start	1-Apr		
Season Or Year End	31-Mar		
Years Included in Calculations	2002~2023		
Start	2002		
End	2023		
Flow Statistic	Flow Value	Percentile	x-day avg. Excur. per 3 yr.
1B3	0	0.00%	0
4B3	0.24654	4.29%	0.85714
30B3	0.45562	5.33%	1
30B10	0.078033	1.64%	0.28571
Flow Statistic	Flow Value	Percentile	1-day Excur. per 3 yr.
1Q10	0.061462	1.54%	0.28571
7Q10	0.079048	1.64%	0.42857
Harmonic Mean	1.1186	9.07%	N/A
Harmonic Mean, Adjusted	1.1182	9.07%	N/A

Double-click on biological flow value (xBy column) to view excursion analysis result for a gage

REASONABLE POTENTIAL:

The reasonable potential determinations are provided below. The determinations were conducted utilizing the Technical Support Document For Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991).

Ammonia as Nitrogen:

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

An ammonia concentration of 0.11 mg/L was chosen to represent the ambient ammonia concentration for the reasonable potential analysis. Ambient ammonia concentrations were obtained from the Surface Water Quality Data for North Dakota Station ID: 380157 – Park River at Grafton in Grafton at Hwy 81 Bridge USGS Collocated. The ambient concentration of 0.11 mg/L represents the 75th-percentile of available data.

The acute and chronic ammonia water quality standards used in the reasonable potential analysis were calculated based on the 2021 revision to the North Dakota Standards of Quality for Waters of the State (NDAC Chapter 33.1-16-02.1). The “*Oncorhynchus* are absent” acute water quality standard was used in the analysis due to the unlikely presence of the *Oncorhynchus* genus of fish in the receiving water. The water quality standards are pH and temperature dependent.

A pH level of 8.35 s.u. was chosen to represent the ambient pH level for the reasonable potential analysis. The pH level was obtained from the Surface Water Quality Data for North Dakota Station ID: 380157 – Park River at Grafton in Grafton at Hwy 81 Bridge USGS Collocated. The ambient level of 8.35 s.u. represents the 75th-percentile of available data.

A temperature of 18.255 degrees Celsius was chosen to represent the ambient temperature for the reasonable potential analysis. The temperature was obtained from the Surface Water Quality Data for North Dakota Station ID: 380157 – Park River at Grafton in Grafton at Hwy 81 Bridge USGS Collocated and includes year-round data from July 12, 1994 to September 21, 2004. The ambient temperature of 18.255 degrees Celsius represents the 75th-percentile of available data.

Additional calculations were completed with the temperature data to reflect seasonal changes. An ambient temperature of 11.5 degrees Celsius represents the 75th-percentile of available data from November to May. An ambient temperature of 22.3 degrees Celsius represents the 75th-percentile of available data from June to October. November through May was chosen to represent potential ice-present conditions in the receiving stream. June through October represents ice-free conditions in the receiving stream.

**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:	City of Grafton	Receiving Stream:	Park River
NDPDES Permit:	ND0021202	1Q10 Acute	0.061462 cfs
Daily Maximum Flow (mgd):	13.23	1B3 Acute	0 cfs
Daily Average Flow (mgd):	11.67	7Q10 Chronic	0.079048 cfs
Stream Design Mixing:	10.0%	4B3 Chronic	0.24654 cfs
Statistical Multiplier:	6.2		
Upstream Concentration:	0.1100 mg/l		Parameter:
Effluent Concentration (max):	4.0400 mg/l		Ammonia
			Outfall:
			Outfall 001

RWC = Receiving water concentration, the resultant magnitude of concentration in the receiving water after effluent discharge concentration (also known as the in-stream waste concentration)

Stat = Statistical multiplier for effluent parameter (Table 3-1 and 3-2; page 57 of the TSD)

Qe = Effluent Design Flow

Ce = Highest effluent concentration reported.

pmf = Partial mix factor, percent of Qs allowed for mixing by State authority.

Qs = Receiving Water Flow (1Q10 or 1B3 for acute and 7Q10 or 4B3 for chronic)

Cs = Background concentration of the receiving water.

Qe - Acute	13.23	mgd	Qs - 1Q10	0.04	mgd
Qe - Chronic	11.67	mgd	Qs - 1B3	0.00	mgd
Ce	4.0400	mg/l	Qs - 7Q10	0.05	mgd
Cs	0.1100	mg/l	Qs - 4B3	0.16	mgd
Stat	6.20				
pmf	10.0%				

Acute RP			Chronic RP		
RWC - 1Q10	25.0405	mg/l	RWC - 7Q10	25.0371	mg/l
RWC - 1B3	25.0480	mg/l	RWC - 4B3	25.0140	mg/l

Criterion Maximum Concentration (CMC)		Criterion Continuous Concentration (CCC)	
Acute Criterion	2.3 mg/l	Chronic Criterion	1.2500 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.

Whole Effluent Toxicity (WET):

The department reviewed the WET DMRs and corresponding WET reports for Outfall 001. 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 coefficient of variation used was the default CV of 0.6. The number of samples was one during the effective dates of the permit and the resulting statistical multiplier was 6.2.

The reasonable potential analysis shows that there is a reasonable potential for the discharge to cause an excursion of the WQS.

**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:	City of Grafton	Receiving Stream:	Park River
NDPDES Permit:	ND0021202	1Q10 Acute	0.061462 cfs
Effluent Flow (mgd):	11.670	1B3 Acute	0 cfs
Stream Design Mixing:	10.0%	7Q10 Chronic	0.079048 cfs
WET TUa (max):	1.00	4B3 Chronic	0.24654 cfs
ACR:			
Statistical Multiplier:	6.2		

RWC	$\frac{StatQeCe}{Qe+(pmf)Qs}$	Outfall:	Outfall 1
-----	-------------------------------	----------	-----------

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	11.670	mgd	Qs - Acute	0.040	mgd
Ce	1.00	TU	Qs - Acute 1B3	0.000	mgd
pmf	10.0%		Qs - Chronic	0.051	mgd
Stat	6.2		Qs - Chronic 4B3	0.159	mgd
ACR	0.00				

Acute RP			Chronic RP		
RWC - 1Q10	6.20	TUa	RWC - 7Q10	0.00	TUc
RWC - 1B3	6.20	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.

APPENDIX D – RESPONSE TO COMMENTS

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

DRAFT

Permit No: ND0021202
Effective Date: July 01, 2024
Expiration Date: June 30, 2029

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 Grafton
Grafton Publicly Owned Treatment Works (POTW)
Grafton, ND

is authorized to discharge from its waste stabilization ponds

to the Park River, a Class II stream

provided all the conditions of this permit are met.

This permit and the authorization to discharge shall expire at midnight,
June 30, 2029.

Signed this _____ day of _____, _____.

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

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TABLE OF CONTENTS

DEFINITIONS Standard Permit BP 2019.05.295

DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.066

PERMIT SUBMITTALS SUMMARY7

I. LIMITATIONS AND MONITORING REQUIREMENTS7

A. Discharge Authorization7

B. Effluent Limitations and Monitoring8

C. Whole Effluent Toxicity (WET) Requirements BP 2023.10.16 10

II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2021.09.09 13

A. Representative Sampling (Routine and Non-Routine Discharges)..... 13

B. Test Procedures 13

C. Recording of Results 13

D. Additional Monitoring 14

E. Reporting of Monitoring Results 14

F. Records Retention 15

III. COMPLIANCE RESPONSIBILITIES 15

A. Duty to Comply 15

B. Proper Operation and Maintenance 15

C. Planned Changes 15

D. Duty to Provide Information 16

E. Signatory Requirements 16

F. Twenty-four Hour Notice of Noncompliance Reporting 16

G. Bypass of Treatment Facilities 17

H. Upset Conditions 18

I. Duty to Mitigate 18

J. Removed Materials 18

K. Duty to Reapply 18

IV. GENERAL PROVISIONS 18

A. Inspection and Entry 18

B. Availability of Reports 18

C. Transfers 18

D. New Limitations or Prohibitions 19

E. Permit Actions 19

F. Need to Halt or Reduce Activity Not a Defense 19

G. State Laws 19

H. Oil and Hazardous Substance Liability 19

I. Property Rights 19

J. Severability 19

V. INDUSTRIAL WASTE MANAGEMENT BP 2021.09.28 19

A. General Responsibilities 19

B. Pollutant Restrictions 19

C. Approval Authority 20

D. Industrial Categories 20

E. Notification Requirements 20

F. Sampling and Reporting Requirements 21

G. Approval Authority Options 22

H. Enforcement Authority 22

VI. BENEFICIAL REUSES.....22
A. Irrigation22
B. Construction.....23
C. Other Uses as Approved24

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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 2017.04.06

20. **“Acute toxic unit”** (“TUa”) is a measure of acute toxicity. TUa is the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end on the acute exposure period (i.e., $100/“LC50”$).
21. **“Chronic toxic unit”** (“TUc”) is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., $100/“IC25”$).
22. **“Inhibition concentration”**, (“IC”), is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
23. **“LC50”** means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the organisms exposed in the time period prescribed by the test.
24. **“No observed effect concentration”**, (“NOEC”), is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

OUTFALL DESCRIPTION

Outfall 001. Active. Final Outfall			
Latitude: 48. 424167	Longitude: -97. 386111	County: Walsh	
Township: 157 N	Range: 52 W	Section: 17	QQ: BB
Receiving Stream: Park River		Classification: Class II Stream	
Outfall Description: The discharge runs from Cell 4 through a 30-inch pipe for one mile to the bank of the Park River. The outfall is not submerged and has no diffuser. The type of discharge is called a "Controlled Discharge" and is deemed to be non-continuous.			

PERMIT SUBMITTALS SUMMARY

Coverage Point	Monitoring Period	Submittal	Submittal Frequency	First Submittal Date
001A	Monthly	Discharge Monitoring Report (DMR)	Monthly	August 31, 2024
001W	Quarterly	Discharge Monitoring Report (DMR)	Quarterly	October 31, 2024
001M	Yearly	Discharge Monitoring Report (DMR)	Yearly	July 31, 2025
Application Renewal	NA	NDPDES Application Renewal	1/Permit Cycle	January 1, 2029

SPECIAL CONDITIONS

No special conditions have been determined at this time.

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: **Park River**

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

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

B. Effluent Limitations and Monitoring

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

Table 1: Effluent Limitations and Monitoring Requirements – Outfall 001

Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Biological Oxygen Demand (BOD ₅) ^a	25 mg/l	45 mg/l	*	Weekly	Grab
pH ^b	Shall remain between 6.0 to 9.0 S.U. ^a			Weekly	Grab
Total Suspended Solids (TSS) ^a	30 mg/l	45 mg/l	*	Weekly	Grab
Ammonia as N, mg/l	Refer to Ammonia Table below (Table 2)			Weekly	Grab
<i>Escherichia coli</i> (<i>E. coli</i>) ^c	126/100 ml	*	409/100 ml	Conditional / Weekly	Grab
Oil & Grease, Visual ^d	*	*	*	Daily	Visual
Oil & Grease ^d	*	*	10 mg/l	Conditional / Daily	Grab
Nitrogen, Total mg/l ^e	Monitor Only			Monthly	Grab
Phosphorus, Total mg/l	Monitor Only			Monthly	Grab
Effluent Flow, MGD	Report Avg. Monthly Value	*	Report Max. Daily Value	Daily	Instantaneous
Total Drain, MGAL	*	*	Report Monthly Total	Monthly	Calculated
River Flow, cfs ^f	Report	*	Report Max Daily Value	Daily	Instantaneous
Whole Effluent Toxicity (WET) ^e	Refer to Part 1(C)(1) of this permit			Quarterly	Grab
Metals, Total	Refer to Part V(F) of this permit			Yearly	Grab
Notes:					
* This parameter is not limited. However, the department may impose limitations based on sample history and to protect the receiving waters.					

a. The limitations for BOD5, TSS, and <i>E. coli</i> are based on the average of all samples taken to monitor the discharge from a cell. If only one sample is collected, that one value shall be used as the average.
b. The pH, an instantaneous limitation, shall be between 6.0 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. <i>E. coli</i> shall not exceed 126 organisms per 100 ml as a geometric mean of representative samples collected during any 30-day consecutive period, nor shall samples exceed 409 organisms per 100 ml for any one day. The limit for <i>E. coli</i> shall only apply during the recreational season, April 1 through October 31. Averages for <i>E. coli</i> shall be determined as a geometric mean.
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.
e. Total Nitrogen is a combination of Nitrate, Nitrite, and Total Kjeldahl Nitrogen (TKN).
f. River flow shall be recorded according to United States Geological Survey (USGS) gage station 05090000.
g. The department's analysis has determined that toxic effects caused by unidentified pollutants in the effluent are unlikely as no toxicity has been shown in the previous permit WET tests. An acute toxicity limit of < 1.0 TU is proposed for this permit renewal.
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. All discharges shall be made in such a manner to minimize any possible adverse impacts on the receiving stream and downstream landowners.

Table 2: Ammonia Effluent Limitations and Monitoring Requirements – Outfall 001

Parameter	Effluent Limitations	
	Avg. Monthly Limit	Daily Maximum Limit
Ammonia ^a	†	‡
Stream flow upstream, cfs ^{b, c}	NA	NA
Temperature upstream, ° C ^{b, c}	NA	NA
pH upstream, S.U. ^{b, c}	NA	NA
Ammonia as N upstream, mg/l ^c	NA	NA
NA stands for Not Applicable.		

Parameter	Effluent Limitations	
	Avg. Monthly Limit	Daily Maximum Limit
<p>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.</p> <p>b. Sample must be collected/recorded the same day as the ammonia sample. The Park River upstream flow, temperature, and pH may be obtained from the USGS gauging station 05090000, or other usable data source, at Grafton, North Dakota or can be collected by the permittee.</p> <p>c. If the upstream values are not collected, the following minimum values base on the 75th percentile upstream STORET data are to be used: pH: 8.35 S.U., Temperature 11.5° C (November – May), Temperature 22.3° C (June – October), and Ammonia 0.11 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 0.078 cfs shall be used. The maximum mixing factor is 10.0%.</p> <p>† Chronic Standard (Average Monthly Limit (AML))¹ 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 and the highest 4-day average concentration of total ammonia within the 30-day averaging period does not exceed 2.5 times the numerical value given by the following formula:</p> $0.8876 \times \left(\frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - \text{MAX}(T, 7))})$ <p>Receiving stream pH and Temperature is used for the calculation</p> <p>1. Since historic discharges are typically of short duration (~7 days), the 30-day average concentration limitation will be equivalent to the 4-day chronic standard.</p> <p>‡ Acute Standard (Maximum Daily Limit (MDL)) The concentration of total ammonia (expressed as N in mg/l) does not exceed the numerical value given by the following formula:</p> $0.7249 \times \left(\frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) \times \text{MIN}(51.93, 23.12 \times 10^{0.036 \times (20 - T)})$ <p>where <i>Oncorhynchus</i> are absent</p>		

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 001

Acute WET Requirements						
<p>WET tests shall be performed on the first discharge made each calendar year, unless specifically waived by the department. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.</p> <p>Toxicity is defined as:</p> <p>Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or >1.0 TUa for <i>Ceriodaphnia dubia</i> 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.</p>						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	Park River					
Species and Test Type	<i>Ceriodaphnia dubia</i> - 48 Hour Acute - Static Renewal - 20°C					
	<i>Pimephales promelas</i> - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	Mortality LC ₅₀ reported as TU _a					
Compliance Point	End-of-pipe					
Sampling Frequency	WET tests shall be performed on the first discharge made each calendar year. Thereafter, tests shall be performed at least once every calendar quarter in which there is a discharge.					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit (AML)	<1 TUa					
<p>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, CO₂ overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.).</p> <p>If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a <u>Toxicity Reduction Evaluation (TRE)</u> shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.</p> <p>The permittee shall report the following results of each toxicity test on the DMR for that reporting period:</p> <p><i>Pimephales promelas</i> (Fathead Minnow)</p> <p>a. Report the highest TUa for Fathead minnow, Parameter No. TSN6C.</p> <p><i>Ceriodaphnia dubia</i> (Water Flea)</p>						

- a. Report the highest TUA for *Ceriodaphnia dubia*, Parameter No. TSM3B.

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

2. 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.

3. 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.

4. Toxicity Reduction Evaluation (TRE)

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

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

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

- a. Submit an alternative control program for compliance with the numerical requirements; or
- b. If necessary, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

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

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

II. MONITORING, RECORDING, AND REPORTING REQUIREMENTS BP 2021.09.09

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

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

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

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

B. Test Procedures

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

C. Recording of Results

Records of monitoring information shall include:

1. the date, exact place and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the name of the laboratory;
4. the date(s) and time(s) analyses were performed;

5. the name(s) of the individual(s) who performed the analyses;
6. the analytical techniques or methods used; and
7. the results of such analyses.

D. Additional Monitoring

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

E. Reporting of Monitoring Results

1. Monitoring results shall be summarized and reported to the department using Discharge Monitoring Reports (DMRs). If no discharge occurs during a reporting period, "No Discharge" shall be reported. The permittee must submit DMRs electronically using the electronic information reporting system unless requirements in subsection 3 are met.
2. Prior to December 21, 2025, the permittee may elect to electronically submit the following compliance monitoring data and reports instead of mailing paper forms. Beginning December 21, 2025, the permittee must report the following using the electronic reporting system:
 - a. General permit reports [e.g., notices of intent (NOI); notices of termination (NOT); no exposure certifications (NOE)];
 - b. Municipal separate storm sewer system program reports;
 - c. Pretreatment program reports;
 - d. Sewer overflow/bypass event reports; and
 - e. Clean Water Act 316(b) annual reports
3. The permittee may seek a waiver from electronic reporting. To obtain a waiver, the permittee must complete and submit an Application for Temporary Electronic Reporting Waiver form (SFN 60992) to the department. The department will have 120 days to approve or deny the waiver request. Once the waiver is approved, the permittee may submit paper versions of monitoring data and reports to the department.

- a. One of the following criteria must be met in order to obtain a waiver. The department reserves the right to deny any waiver request, even if they meet one of the criteria below.
 1. No internet access,
 2. No computer access,
 3. Annual DMRs (upon approval of the department),
 4. Employee turnover (3-month periods only), or
 5. Short duration permits (upon approval of the department)

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

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

F. Records Retention

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

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

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

B. Proper Operation and Maintenance

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

C. Planned Changes

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

D. Duty to Provide Information

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

E. Signatory Requirements

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

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

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

- a. The authorization is made in writing by a person described above and submitted to the department; and
- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

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

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

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

F. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The following occurrences of noncompliance shall be included in the oral report to the department at 701.328.5210:
 - a. Any lagoon cell overflow or any unanticipated bypass which exceeds any effluent limitation in the permit under G. Bypass of Treatment Facilities;
 - b. Any upset which exceeds any effluent limitation in the permit under H. Upset Conditions;
or

- c. Violation of any daily maximum effluent or instantaneous discharge limitation for any of the pollutants listed in the permit.
2. A written submission shall also be provided within five days of the time that the permittee became aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected; and
 - d. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

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

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

G. Bypass of Treatment Facilities

1. **Bypass not exceeding limitations.** The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to any of the following provisions in this section.
2. **Bypass exceeding limitations-notification requirements.**
 - a. Anticipated Bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of bypass.
 - b. Unanticipated Bypass. The permittee shall submit notice of an unanticipated bypass as required under **F. Twenty-four Hour Notice of Noncompliance Reporting**.
3. **Prohibition of Bypass.** Bypass is prohibited, and the department may take enforcement action against a permittee for bypass, unless:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - c. The permittee submitted notices as required under the **1. Anticipated Bypass** subsection of this section.

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

H. Upset Conditions

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

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

1. An upset occurred and the permittee can identify its cause(s);
2. The permitted facility was, at the time being, properly operated;
3. The permittee submitted notice of the upset as required under F. Twenty-four Hour Notice of Noncompliance Reporting and
4. The permittee complied with any remedial measures required under I. Duty to Mitigate.

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

I. Duty to Mitigate

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

J. Removed Materials

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

K. Duty to Reapply

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

IV. GENERAL PROVISIONS

A. Inspection and Entry

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

B. Availability of Reports

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

C. Transfers

This permit is not transferable except upon the filing of a Statement of Acceptance by the new party and subsequent department approval. The current permit holder should inform the new controller, operator,

or owner of the existence of this permit and also notify the department of the possible change.

D. New Limitations or Prohibitions

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

E. Permit Actions

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

F. Need to Halt or Reduce Activity Not a Defense

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

G. State Laws

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

H. Oil and Hazardous Substance Liability

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

I. Property Rights

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

J. Severability

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

V. INDUSTRIAL WASTE MANAGEMENT BP 2021.09.28

Major POTWs - Non-Approved Pretreatment Program Requirements

A. General Responsibilities

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

B. Pollutant Restrictions

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

1. Any other pollutant which may cause Pass Through or Interference;
2. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than sixty (60) degrees Centigrade (140 degrees Fahrenheit) using the test methods specified in 40 CFR Section 261.21;
3. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with a pH of lower than 5.0 S.U., unless the treatment facilities are specifically designed to accommodate such discharges;
4. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, or other interference with the operation of the POTW;
5. Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with any treatment process at the POTW;
6. Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds forty (40) degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;
7. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through at the POTW;
8. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;
9. Any trucked or hauled pollutants, except at discharge points designated by the POTW; and
10. Any specific pollutant which exceeds a local limitation established by the permittee in accordance with the requirements of 40 CFR Section 403.5 (c) and (d).

C. Approval Authority

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

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

D. Industrial Categories

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

E. Notification Requirements

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

1. Any new introduction of pollutants into the POTW from an industrial user which would be subject to Sections, 301, 306, and 307 of the Act if it were directly discharging those pollutants; or
2. Any substantial change in the volume or character of pollutants being introduced into the POTW by any industrial user;
3. For the purposes of this section, adequate notice shall include information on:
 - a. The identity of the industrial user;
 - b. The nature and concentration of pollutants in the discharge and the average and maximum flow of the discharge to be introduced into the POTW; and
 - c. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from or biosolids produced at such POTW.
4. For the purposes of this section, a significant industrial user shall include:
 - a. Any discharger subject to Categorical Pretreatment Standards under Section 307 of the Act and 40 CFR chapter I, subchapter N;
 - b. Any discharger which has a process wastewater flow of 25,000 gallons or more per day;
 - c. Any discharger contributing five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;
 - d. Any discharger who is designated by the Approval Authority as having a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standards or requirements.

F. Sampling and Reporting Requirements

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

Table 4: 40 CFR 122 Appendix D Table III

Antimony, Total	Arsenic, Total	Beryllium, Total	Cadmium, Total	Chromium, Total
Copper, Total	Lead, Total	Mercury, Total	Nickel, Total	Selenium, Total
Silver, Total	Thallium, Total	Zinc, Total	Cyanide, Total	Phenols, Total
Hardness, Total ^a				
Notes:				
a. A total hardness of the receiving stream needs to be determined every time the above parameters are tested. The hardness is used to calculate parameter criterion(s) according to the North Dakota State Water Quality Standards.				

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

Sampling and analytical procedures shall be in accordance with guidelines established in 40 CFR Part 136. Where sampling methods are not specified the effluent samples collected shall be composite samples consisting of at least twelve (12) aliquots collected at approximately equal intervals over a representative 24 hour period and composited according to flow. Where a flow proportioned composite

sample is not practical, the permittee shall collect at least three (3) grab samples, taken at equal intervals over a representative 24 hour period. Lagoon treatment systems may collect a single effluent grab sample.

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

G. Approval Authority Options

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

1. Amend the permittee's North Dakota Pollutant Discharge Elimination System (NDPDES) discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable Pretreatment Standards;
2. Require the permittee to specify, by ordinance, order, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's POTW for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the General Pretreatment Regulations at 40 CFR Part 403; and/or,
3. Require the permittee to monitor its discharge for any pollutant which may likely be discharged from the permittee's POTW, should the industrial user fail to properly pre-treat its waste.

H. Enforcement Authority

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

VI. BENEFICIAL REUSES

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 Parameters

Parameter	Discharge Limitations	Monitoring Frequency	
		Measurement Frequency	Sample Type
	Daily Max		
BOD ₅	30 mg/L	1 per 14 days	Grab
TSS	45 mg/L	1 per 14 days	Grab
<i>E. Coli</i>	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 Parameters

Parameter	Limitations (Maximum)	Measurement Frequency	Sample Type
BOD ₅	30 mg/L	1/Month	Grab
TSS	100 mg/L	1/Month	Grab
<i>E. Coli</i>	126/100 mL	1/Week	Grab

In some systems chlorination is available. Chlorination is particularly desirable when frequent worker contact with the treated wastewater is likely or when the public may have constant access to areas

where the wastewater is being used. Maintaining a chlorine residual of at least 0.1 mg/l is recommended.

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. Other Uses as Approved

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