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

Public Notice Date: 2/5/2025 Public Notice Number: ND-2025-006

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: 9/26/2024 Application Number: ND0000094

Applicant Name: American Crystal Sugar Drayton

Mailing Address: 121 Hwy 81 NE, Hillsboro, ND 58045-9219

Telephone Number: 701.436.3111

Proposed Permit Expiration Date: 3/31/2030

Facility Description

The reapplication is for a sugar beet processing plant which produces sugar, beet molasses, and dried beet pulp. The discharge points are located in the NE1/4, Section 13, Township 159 N, Range 51 W, and in the SE1/4, Section 12, Township 159 N, Range 51 W. Any discharge, which would consist of beet processing water, cooling water, and stormwater, would be to the Red River of the North, a Class I 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 FWPCAA will be protected.

Information Requests and Public Comments

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

All comments received by March 09, 2025 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

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

FACT SHEET FOR NDPDES PERMIT ND0000094

AMERICAN CRYSTAL SUGAR COMPANY DRAYTON, ND

DATE OF THIS FACT SHEET – December 2024

INTRODUCTION

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

The following rules or regulations apply to NDPDES permits:

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

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

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

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BACKGROUND INFORMATION

Table 1 – General Facility Information

Applicant:	American Crystal Sugar Company
Facility Name and Address:	American Crystal Sugar Company Drayton Factory 8152 Old Highway 44 Drayton, ND 58225
Permit Number:	ND0000094
Permit Type:	Major Industrial Non-POTW, Renewal
Type of Treatment:	Waste Stabilization Pond
SIC Code:	2063 – Sugar and Confectionery Products
NAICS Code:	311313 – Beet Sugar (Manufacturing)
Discharge Location:	Red River of the North, Class I stream Outfall 001: Latitude: 48.595119 Longitude: -97.154589 Outfall 002 Latitude: 48.607294 Longitude: -97.152281
Hydrologic Code:	09020311 – Middle Red River

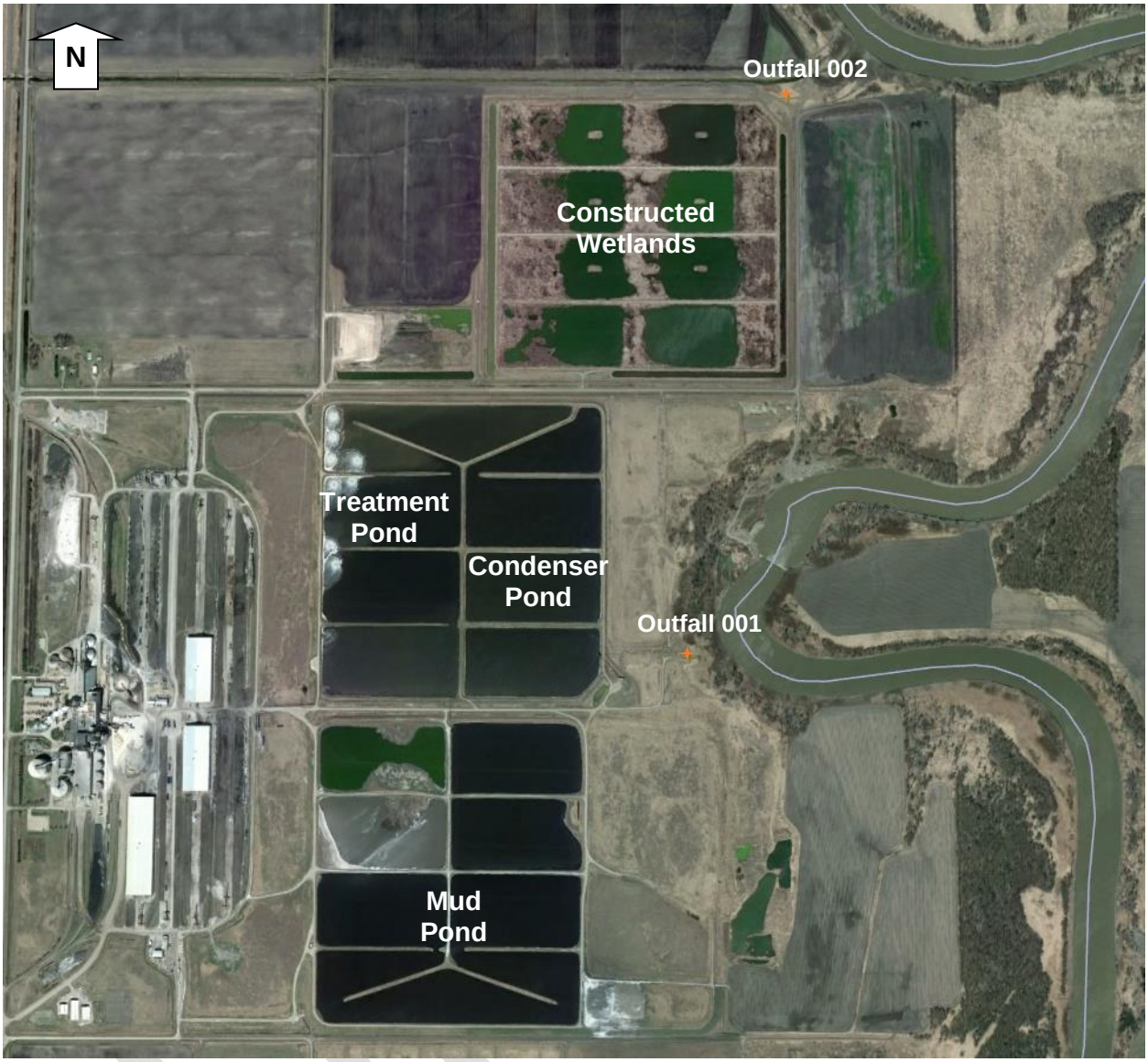

Figure 1 – Aerial Photograph of American Crystal Sugar Company – Drayton Factory (Google Earth 4/29/2016)

FACILITY DESCRIPTION

History

American Crystal Sugar Company – Drayton factory produces sugar, molasses, and beet pulp pellets from the processing of sugar beets. This facility has the capacity to process approximately 7800 tons of beets per day during campaign with an annual beet slice of 2,100,000 tons. Annual sugar production is 6,300,000 c.w.t with a campaign of approximately 270 days.

The plant was first permitted in 1965. At that time, wastewater treatment consisted of a lime pond and a large anaerobic lagoon containing partial finger dikes. A condenser pond also provided some treatment. Normal practice was to contain all wastewater until the spring high flow period and then discharge as much as possible through Outfall 001. A four-cell constructed

wetland was built to provide additional treatment, and Outfall 002 from that system was activated in 1994. Since that time, regular discharges have been made from the constructed wetland, usually beginning in the spring and lasting through autumn.

Discharge quality from the constructed wetland system has generally been good, except that this facility has experienced some difficulty meeting the fecal coliform limitation which is a categorical limit of 400 cfu/100 ml as found in 40 CFR 409.12. The permittee maintains that all domestic wastewater is discharged to the city of Drayton's sanitary sewer system and that fecal coliforms are primarily of wildlife origin. A request to delete the fecal coliform limitation and monitoring requirements has been made by the permittee. The department has requested the permittee supply supporting evidence before taking the request under consideration. A study was done in 1997 at the ACS plant at Hillsboro, but the department determined that the information was inconclusive to remove the fecal coliform parameter.

On November 13, 2005, American Crystal Sugar (ACS - Drayton) experienced a riverbank slump of the Red River of the North. This event impacted 300 to 500 feet of the riverbank and the bed of the river was disturbed. The intake pump house was unsalvageable and the pipe from the pump house to the condenser pond cracked and spilled an estimated 80,000 gallons of wastewater to the Red River of the North. A new pump house was constructed 900 feet from the river and is now located by the condenser ponds. A dike was breached in the northeast corner of the spent lime landfill while the ash landfill appeared to be unaffected.

A monitoring program was implemented by ACS. This program provided for short-term and long-term goals and objectives. Short-term goals that have already been completed include the construction of a new pump house with a setback of 900 feet (of which 300 feet was impacted from the slump) from the river, river shore stabilization of 300 – 500 feet using rip rap, and installation of monitoring devices. Ongoing assessment of ground stability is accomplished by the installation and monitoring of inclinometers and finding survey benchmarks for comparison.

In July of 2009, ACS had electrical service installed to the northwest corner of the condenser pond. This electrical service is used to power aerators to help with the treatment of wastewater in the condenser pond.

In 2014, ACS upgraded its stormwater collection system. A groundwater interceptor trench, which consists of drain tiles, has been installed, as well as 4 lift stations. There are 2 interior lift stations that collect beet piler and mud piler stormwater runoff. There are also 2 main lift stations which collect surface and stormwater from the majority of the yard. The collected water can be diverted to the mud pond, condenser pond, the constructed wetlands, or the pond on the city owned golf course depending on the quality of water collected.

In June of 2018, a fine bubbler diffuser system was added to the condenser pond. The bubblers are approximately 8 feet down in the pond which is around 17 feet deep and consist of 160 arrays with 16 diffusers on each array. The cooling pond diffuser area was reinforced with bars and the diffuser was rotated so its holes face downward to prevent more water coming out of the diffuser from being blown as much and contributing to erosion. More rip rap was added to protect the condenser pond from erosion. A new underground pipe was installed between the mud ponds and the treatment pond. The previous overhead pipe bridged between the pond dikes was hit by a truck that was hauling equipment and thus removed.

Treatment Processes

Wastewater is treated through a series of ponds (Mud Ponds, Treatment Ponds with aerators, and Condenser Ponds) and finally a constructed wetland system before being discharged. Effluent treatment begins in the southern series of cells (Mud Ponds). Process water from the clarifier is sent to one of the two mud pond cells. This allows for mud solids to settle out, be dewatered, and eventually land applied. Effluent travels counterclockwise through the southern cells until it reaches the northeast cell in the series. The “mid-pond pump” pumping structure can then transfer back to the plant or to the central series of cells (Treatment ponds with aerators) for further treatment. The process water that is sent back to the plant is utilized for the flue which floats the beets into the plant.

The central series of cells is divided to address two different process water types. Water from the condensers is transferred through a diffuser to the east side cells. A pump is available to transfer to the west-side treatment cells. The west side cells and northern most cell continue treatment of the clarifier process water. Six lateral fine bubble diffuse aerators and eight splash aerators are utilized. A pump on the north side of the cell series transfers treated water to the constructed wetland inlet ditch.

Tertiary treatment occurs in constructed wetlands. The inlet ditch is located on the west side of the constructed wetlands which are divided into four cells. An outlet ditch is located on the east side. Two cross pipes per cell feed the constructed wetlands by gravity flow which eventually feeds the eastern ditch with the discharge structure weir.

The following flow chart of the wastewater treatment system was provided with the permit application:

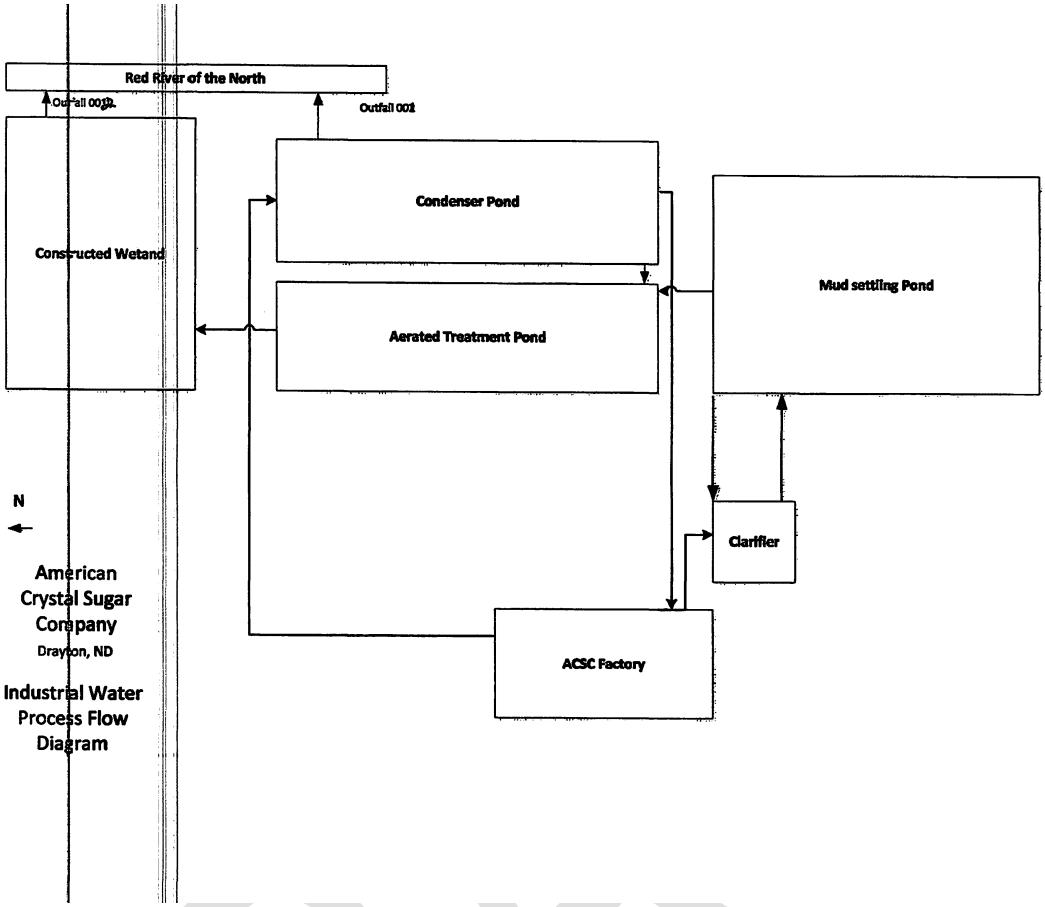

Figure 2 – Flow chart of wastewater for ACS – Drayton.

Outfall Description

Outfall 001. Active. Final Outfall. Condenser Pond Effluent.			
Latitude: 48.595119	Longitude: -97.154589	County: Pembina	
Township: 159	Range: 51	Section: 13	QQ: BA
Receiving Stream: Red River of the North		Classification: Class I Stream	
Outfall Description: Outfall 001 flows from the condenser pond over land for roughly 0.2 miles before entering the Red River. This system utilizes a discharge termed "Continuous Seasonal Discharge" and is deemed to be continuous.			

Outfall 002. Active. Final Outfall. Wetland System Effluent.			
Latitude: 48.607092	Longitude: -97.152153	County: Pembina	
Township: 159	Range: 51	Section: 12	QQ: DAA
Receiving Stream: Red River of the North		Classification: Class I Stream	
Outfall Description: Outfall 002 is the primary discharge and takes place from the constructed wetland system. The effluent is directly piped to a county drain which drains 0.58 miles into the Red River. This system utilizes a discharge termed "Continuous Seasonal Discharge" and is deemed to be continuous.			

PREVIOUS PERMIT STATUS

The department issued the previous permit for this facility on April 1, 2020. The previous permit placed effluent limits for: Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), pH, Ammonia as N, Fecal Coliform, and Whole Effluent Toxicity (WET).

The department has been in contact with ACS – Drayton to obtain information to reissue their permit. The department received EPA application Form 1 and Form 2C on September 26, 2024. The application was accepted by the department on October 23, 2024. Effluent sample data has been provided to the department through official laboratory reports, discharge monitoring reports, and the permit application Form 2C.

SUMMARY OF COMPLIANCE WITH PREVIOUS PERMIT ISSUED

Five (5) inspections of the facility have been conducted from April 1, 2020 to January 1, 2025. Department staff last conducted a non-sampling compliance inspection on August 28, 2024. The facility was found to be in non-compliance due to effluent limitation exceedances (Table 2). The department's assessment of the compliance is based on review of the facility's Discharge Monitoring Report (DMR) forms and inspections conducted by department staff.

Bypasses

According to department records, no bypass occurred during the current permit cycle.

Past Discharge Data

The concentration of pollutants in the discharge was reported in discharge monitoring report forms. The effluent is characterized as shown in Table 2.

Table 2 – DMR Data Summary (April 1, 2020 to November 21, 2024) – Outfall 002

Parameter	Range	Average	Permit Limit	Number of Exceedances
BOD_5 (mg/l)	78 – 128	18.47	25 Monthly avg 45 Weekly avg	9
Dissolved Oxygen (DO) (mg/l)	0.4 – 8.1	4.75	N/A	N/A
TSS (mg/l)	6.1 – 79	19.71	30 Monthly avg 45 Weekly avg	13
Fecal Coliform (#/100 ml)	35 – 7270	2067.87	400	32
pH (s.u.)	8.2 – 9.1	NA	7.0 to 9.0	3
Ammonia as N (mg/l)	0.02 – 15.6	4.62	WQS	0
COD (mg/l)	85.2 – 411	193.47	N/A	N/A
Ceriodaphnia dubia (acute) (TUa)	0 – 3.58	1.43	<1	5
Fathead Minnow (acute) (TUa)	0 – 1.62	0.99	<1	3

Ceriodaphnia dubia (chronic) (TUc)	0 – 1.95	1.05	N/A	N/A
Fathead Minnow (chronic) (TUc)	0 – 1.92	1.11	N/A	N/A
Effluent Flow (MGD)	0.12 – 12.81	2.32	N/A	N/A
pH – Upstream (s.u.)	7.8 – 8.8	NA	N/A	N/A
Temperature – Upstream (°C)	9.5 – 27.8	22.03	N/A	N/A
Stream Flow, cfs – Upstream (cfs)	375 – 69300	8442	N/A	N/A
Notes:				
ACS discharged from Outfall 002 for a total of 341 days between April 1, 2020 and October 31, 2024. ACS usually starts a seasonal continuous discharge in May and ends before river freeze up.				

PROPOSED PERMIT LIMITS AND SELF MONITORING REQUIREMENTS

The discharge of wastewater generated in the beet sugar process is regulated under 40 CFR 409, Subpart A. Upon review, the department has determined that the facility is subject to the Best Practicable Control Technology (BPT) currently available guidelines (40 CFR 409.12(b)). The department also reviewed the Best Available Technology (BAT) and Best Conventional Pollutant Control Technology (BCT) which both referenced back to 40 CFR 409.12; therefore, it was determined that 40 CFR 409.12(b) was applicable to this facility. The BPT guidelines provide production-based limitations for BOD_5, TSS, pH, Fecal Coliform, and Temperature. The BPT effluent guidelines are summarized in the table below:

Table 3 – Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

Parameter	**40 CFR 409.12(b)**	
	30 Day Average	**Daily Maximum**
	(lb./1,000 lb. of product)	
BOD5	3.3	3.3
TSS	2.2	2.2
pH	Within the range 6.0 to 9.0	
Fecal Coliform	Not to exceed 400/100 ml at any time	
Temperature	Not to exceed 90 ºF	

Previous permits have not included limitations for BOD_5 and TSS based on river flow and amount of sugar produced as set forth in 40 CFR 409 – Beet Sugar Processing Subcategory: Subpart A. The department had determined that loading and river flow-based limits are not as protective as concentration limitations, so the department removed loading and river flow-based limitations and added concentration limitations. The department will continue to use concentration limitations for BOD_5 and TSS for this permit reissuance.

EFFLUENT LIMITATIONS

The proposed effluent limitations shall take effect once the permit becomes active. The basis for the proposed effluent limitations are provided in the table below:

Table 4 – Basis of Effluent Limits for Outfall 001 and Outfall 002

Effluent Parameter	**Avg. Monthly Limit**	**Avg. Weekly Limit**	**Daily Maximum Limit**	**Basis** [a]
	Concentration			
BOD_5, mg/l	25	45	*	Previous Permit NDAC 33.1-16-01-14(3)(c)(1) 40 CFR 133.102(a)(2)
Total Suspended Solids (TSS), mg/l	30	45	*	Previous Permit 40 CFR 133.102(b)(1)&(2)
Fecal Coliforms cfu/ 100 ml	*	*	400	Previous Permit 40 CFR 409.12
Ammonia as N, mg/l	Refer to Ammonia Table (Table **5**)			Previous Permit WQS
pH, SU [b]	Shall remain between 6.5 to 9.0			WQS
Whole Effluent Toxicity, TUa	*	*	<1.0	40 CFR 122.21(j)(5) 40 CFR 122.44(d)(1)(iv) & (v)
Whole Effluent Toxicity, TUc	*	*	*	40 CFR 122.44(d)(1)(iv) & (v)
Total Phosphorus, mg/l	*	*	*	WQS
Total Nitrogen, mg/l	*	*	*	WQS

Notes:

*.	This parameter is not limited. However, the department may impose limitations based on sample history and to protect receiving waters.
a.	The basis of the effluent limitations is given below: "Previous Permit" refers to limitations in the previous permit. The NPDES regulations **40 CFR Part 122.44(l)(1) Reissued permits** require that when a permit is renewed or reissued, interim limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit was issued have materially and substantially changed since the previous permit was issued and would constitute cause for permit modification or revocation and reissuance under **40 CFR Part 122.62**. "WQS" refers to effluent limitations based on the State of North Dakota's "Standards of

Effluent Parameter		Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Basis [a]
		Concentration			
	Quality for Waters of the State", NDAC Chapter 33.1-16-02.1.				
b.	The pH, an instantaneous limitation, shall be between 6.5 s.u. and 9.0 s.u. Any single analysis and/or measurement outside of this limitation shall be considered a violation of the conditions of this permit.				
Stipulations:					
Best Management Practices (BMPs) are to be utilized so that there shall be no discharge of floating debris, oil, scum, and other floating materials in sufficient amounts to be unsightly or deleterious, or oil wastes that produce a visible sheen on the surface of the receiving water.					

Table 5 – Ammonia Effluent Limitations for Outfall 001 and Outfall 002

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

Notes:

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. This calculation is based on the formula specified in the latest revision of the state WQS.
b.	Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging stations 05082500 and 05092000.
c.	If the upstream values are not collected then following minimum values base on the 90th percentile upstream STORET and USGS data are to be used: pH: 8.5 S.U., Temperature 23.9 ° C, and ammonia 0.01 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 144 cfs shall be used. The maximum mixing factor is 10.0%.

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

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

Receiving stream pH and Temperature is used for the calculation

	Effluent Limitations		
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit

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

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

where *Oncorhynchus* are absent; or

Stipulations

Receiving stream pH is used for the calculation.

For all above calculations, permittee receives ten percent of stream flow for dilution at time of discharge based on the flow of the Red River of the North. In-stream concentration will be calculated on a mass balance basis using the following formula:

In-stream concentration= $(Q_u * C_u + Q_e * C_e)/(Q_u + Q_e)$ where
Q_u = 10% of the Red River of the North flow parameter
C_u = Red River of the North ammonia parameter
Q_e = Effluent flow parameter
C_e = Ammonia as N parameter

The maximum mixing factor is 10.0%.

SELF-MONITORING REQUIREMENTS

All effluent is sampled at a point leaving Outfall 001 or Outfall 002 but prior to entering waters of the state.

Table 6 – Self-Monitoring Requirements

Effluent Parameter	Frequency	Sample Type [a]
BOD_5, mg/l	2/Week	Grab
DO, mg/l	2/Week	Grab
COD, mg/l	2/Week	Grab
TSS, mg/l	2/Week	Grab
Fecal Coliform, cfu/100 ml	Weekly	Grab
Ammonia as N, mg/l [b]	2/Week	Grab
Total Phosphorus, mg/l	Monthly	Grab

Effluent Parameter	Frequency	Sample Type [a]
Total Nitrogen, mg/l	Monthly	Grab
pH, SU	2/Week	Instantaneous
WET, TUa	[c]	Grab
WET, TUc	[c]	Composite
Flow, MGD	Daily	Instantaneous
Total Drain, MG	Monthly	Calculated
Red River of the North Parameters		
pH, s.u. – Upstream [d]	2/week	USGS gage 05082500
Temperature, ºC – Upstream [d]	2/week	USGS gage 05082500
Stream flow, cfs – Upstream	Daily	USGS gage 05092000

Notes:	
a.	Refer to Appendix B for definitions.
b.	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.
c.	WET Testing shall be performed on the first discharge made each calendar year. Thereafter, tests shall be performed at least once every ninety (90) days in which there is a discharge.
d.	Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Grand Forks, North Dakota.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITS

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

Currently, the stream reach of the Red River of the North (ND-09020311-001-S_00, ND-09020311-003-S_00) that the facility discharges into is listed as impaired under Section 303(d) for not supporting fish consumption due to Methylmercury in the North Dakota 2020-2022 Section 303(d) List of Waters Needing Total Maximum Daily Loads. The stream is listed as a low priority for TMDL development. Mercury is believed absent from the facility's discharge, according to the facility's completed application. Upon review of the treatment system inputs

and processes, the department concurs with this conclusion. Due to this, the department proposes not to include a mercury limitation.

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 § 33.1-16-02.1-08) limit amount 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

Outfall 001: This outfall did not have any discharges occur during the previous permit cycle. Therefore, there is no current data to evaluate. The department proposes to continue with the limits listed in the previous permit.

Outfall 002:

BOD_5

The department has reviewed the BOD_5 data and sampling frequency. Nine (9) exceedances occurred for this parameter, two for the monthly average and seven for the weekly average. Two discharge events exceeded the technical review criteria (TRC) for both the monthly and weekly averages. The TRC values for BOD_5 were determined by the following equation:

TRC 1.4 * BOD_5 25 mg/l = BOD_5 35 mg/l monthly avg.
TRC 1.4 * BOD_5 45 mg/l = BOD_5 63 mg/l weekly avg.

The department proposes to continue with BOD_5 limits of 25 mg/l (monthly average) and 45 mg/l (weekly average) with a sampling frequency of twice per week.

TSS

The department has reviewed the TSS data and sampling frequency. Thirteen (13) exceedances occurred for this parameter, five for the monthly average and eight for the weekly average. One discharge event exceeded the TRC value for both the monthly and weekly averages, while two other discharge events exceeded the weekly TRC value. The TRC values for TSS were determined by the following equation:

TRC 1.4 * TSS 30 mg/l = TSS 42 mg/l monthly avg.
TRC 1.4 * TSS 45 mg/l = TSS 63 mg/l weekly avg.

The department proposes to continue with TSS limits of 30 mg/l (monthly average) and 45 mg/l (weekly average) with a sampling frequency of twice per week.

pH

The department has reviewed the pH data and sampling frequency. Three (3) exceedances occurred for this parameter.

The department proposes a pH limitation of between 6.5 s.u. and 9.0 s.u. with a sampling frequency of twice per week. This change is based on the WQS for Class I and IA streams which was amended and effective July 1, 2021. This was updated from the previous permit of a pH limitation of between 7.0 s.u. and 9.0 s.u. to reflect the update in the WQS.

Ammonia as Nitrogen

The department has reviewed the Ammonia as Nitrogen data and sampling frequency. No exceedances occurred for this parameter.

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 during a previous permitting cycle 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 ACS – Drayton to cause a violation of the state WQS for ammonia.

North Dakota's aquatic life standards for ammonia are dependent upon the pH, Ammonia as N, and the temperature of the receiving water body. To determine the applicable WQS ACS – Drayton will use pH and temperature data from the Red River of the North (USGS gage station 05082500) in its calculation found in Table 5.

Fecal Coliform

The department reviewed the fecal coliform data and sampling frequency. Thirty-two (32) exceedances occurred for this parameter. The limitation for fecal coliform comes from 40 CFR 409.12. The geometric mean of fecal coliform shall not individually exceed 400 organisms per 100 ml during any 30-day consecutive period. Ten discharge events exceeded the TRC value. The TRC values for Fecal Coliform were determined by the follow equation:

TRC 1.4 * Fecal Coliform 400 cfu/100 ml = 560 cfu/100 ml Fecal Coliform

Total Sulfide

Total sulfide was removed during the 2010 reissuance of this permit. Total sulfide is not listed in the WQS or in Subpart A of 40 CFR 409 and appears to pose no environmental risk at this facility.

Temperature

Effluent temperature sampling was removed during the 2010 reissuance of this permit. The department's analysis of the treatment system determined an unlikely violation of the water quality standard or 40 CFR 409; Subpart A.

WHOLE EFFLUENT TOXICITY

The permittee is currently conducting a Toxicity Reduction Evaluation (TRE) in accordance with the current permit. Permit WET requirements will be in addition to TRE sampling performed by the permittee.

Acute Toxicity Testing

The department is proposing the following for acute WET testing:

Table 7 - Acute WET Requirements for Outfall 001 and Outfall 002

Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	**Red River of the North** [a]					
Species and Test Type	*Ceriodaphnia dubia* - 48 Hour Acute - Static Renewal - 20°C					
	Fathead minnow - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	Mortality LC_{50} reported as TU_a					
Compliance Point	**End-of-pipe**					
Sampling Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit (AML)	<1 TUa					
Test Failure	**Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or ≥1.0 TUa for *Ceriodaphnia dubia* 48-hour and fathead minnow 96-hour test.** The 48-hour and 96-hour effluent value must be **<1.0 TUa** to indicate a passing test. Any 48-hour or 96-hour effluent value of **≥1.0 TUa** will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.					
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: ***Pimephales promelas* (Fathead Minnow)** Report the highest TUa for Fathead minnow, Parameter No. TSN6C. ***Ceriodaphnia dubia* (Water Flea)** Report the highest TUa for *Ceriodaphnia dubia*, Parameter No. TSM3B.					

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

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

Notes:

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

Stipulations:

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).

Chronic Toxicity Testing

The department has conducted a reasonable potential analysis for whole effluent toxicity (WET). Based on this analysis, it was determined that there is reasonable potential to exceed the chronic standard of 1.0 Toxic Units (TU_c). See **Appendix C** for a detailed explanation on the criteria used to determine reasonable potential for this outfall.

The data set consisted of 18 tests (9 *Pimephales promelas* and 9 *Ceriodaphnia dubia*) and indicated no toxicity failures occurred to the fathead minnows, while 3 occurrences of toxicity failures to the *Ceriodaphnia dubia*.

The department is proposing the following for chronic WET testing:

Table 8 - Chronic WET Requirements for Outfall 001 and Outfall 002

Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	**Red River of the North** [a]					
Testing Type	Chronic Toxicity					
Species and Test Type	*Ceriodaphnia dubia* 7 Day Chronic Static Renewal 25ºC					
	Pimephales promelas 7 Day Chronic Static Renewal 25ºC					
Endpoint	Survival and Reproduction IC25 reported as TU_c					
Compliance Point	**End-of-pipe**					

Sample Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.
Sample Type	Composite consisting of 4 aliquots from the pond.
Maximum Daily Limit (MDL)	5.07 TU_c
Average Monthly Limit (AML)	5.07 TU_c
Test Failure	The effluent value must be ≤ 5.07 TU_c to indicate a passing test. Any effluent value >5.07 TU_c will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated. Test acceptability for daphnia chronic must have 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions and 60% of surviving control females must produce three broods. If this condition is not satisfied the test must be repeated.
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TU_c for *Ceriodaphnia dubia*, Parameter No. TPP3B. Report the highest TU_c for *Pimephales promelas*, Parameter No. TTP6C.

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

If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a 5.Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit.

Notes:

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

Stipulations:

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

HUMAN HEALTH

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

MONITORING REQUIREMENTS

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

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.

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 and quarterly DMRs. 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 and 'W' reports quarterly is similar to other major Non-POTWs.

Outfall	Report Designator	Report Type	Report Interval
001	A	Conventional and Non-Conventional Pollutants, Flow, and Volume Information	Monthly
001	W	Whole Effluent Toxicity Information	Quarterly
002	A	Conventional and Non-Conventional Pollutants, Flow, and Volume Information	Monthly
002	W	Whole Effluent Toxicity Information	Quarterly

OTHER PERMIT CONDITIONS

STORMWATER

All stormwater from the facility site shall be collected and routed to the wastewater treatment system. Implement Best Management Practices (BMPs) where necessary to lessen the impact on the wastewater treatment facility.

DMR QA Study

The permittee participates in the Discharge Monitoring Report – Quality Assurance (DMR-QA) Study as a requirement outlined in Section 308 of the CWA. Language was added to the proposed permit reiterating the permittees requirement to participate in and discontinue the DMR-QA Study.

PERMIT ISSUANCE PROCEDURES

PERMIT ACTIONS

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

PROPOSED PERMIT ISSUANCE

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

APPENDIX A – PUBLIC INVOLVEMENT INFORMATION

The department proposes to reissue a permit to American Crystal Sugar Company located by Drayton, North Dakota. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and the department's reasons for requiring permit conditions.

The department will place a Public Notice of Draft on **February 5, 2025** in the **Cavalier Chronicle** to inform the public and to invite comment on the proposed draft North Dakota Pollutant Discharge Elimination System permit and fact sheet.

The Notice –

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

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

North Dakota Department of Environmental Quality
Division of Water Quality
4201 Normandy Street, 3rd Floor
Bismarck, ND 58503

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

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

Public Notice Date: 2/5/2025 Public Notice Number: ND-2025-006

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: 9/26/2024 Application Number: ND0000094

Applicant Name: American Crystal Sugar Drayton

Mailing Address: 121 Hwy 81 NE, Hillsboro, ND 58045-9219

Telephone Number: 701.436.3111

Proposed Permit Expiration Date: 3/31/2030

Facility Description

The reapplication is for a sugar beet processing plant which produces sugar, beet molasses, and dried beet pulp. The discharge points are located in the NE1/4, Section 13, Township 159 N, Range 51 W, and in the SE1/4, Section 12, Township 159 N, Range 51 W. Any discharge, which would consist of beet processing water, cooling water, and stormwater, would be to the Red River of the North, a Class I 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 FWPCAA will be protected.

Information Requests and Public Comments

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

All comments received by March 09, 2025 will be considered prior to finalizing the permit. If there is significant interest, a public hearing will be scheduled. Otherwise, the Department will issue the final permit within sixty (60) days of this notice.

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

APPENDIX B – DEFINITIONS

DEFINITIONS Standard Permit BP 2019.05.29

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DEFINITIONS Whole Effluent Toxicity (WET) BP 2017.04.06

1. "**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").

2. "**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").

3. "**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).

4. "**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.

5. "**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

DFLOW

USGS gage station 05092000 on the Red River of the North was used to determine critical low flows using the DFLOW (3.1b) program. The season defined was 2005 to 2024.

DFLOW 1B3 (ACUTE)	505	CFS	DFLOW 1Q10 (ACUTE)	481	CFS
DFLOW 4B3 (CHRONIC)	534	CFS	DFLOW 7Q10 (CHRONIC)	522	CFS
DFLOW 30B10 (AMMONIA)	455	CFS			

WET

The reasonable potential and limit determination for TUc is provided below. The determination is conducted utilizing the Technical Support Document for the Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991 (TSD; March 1991). The coefficient of variation used was 0.6 with an n = 1.

Based upon the biologically based limitations, the TU_c was determined to be 5.07 TU_c (MDL), 5.07 TU_c (AML).

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:	ACS-Drayton	Receiving Stream:	Red River of the North	
NDPDES Permit:	ND0000094	1Q10 Acute	481	cfs
Effluent Flow (mgd):	12.810	1B3 Acute	505	cfs
Stream Design Mixing:	10.0%	7Q10 Chronic	522	cfs
WET TUc (max):	1.95	4B3 Chronic	534	cfs
ACR:	10.00			
Statistical Multiplier:	2.3			

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

Outfall: Outfall 002

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	12.810	mgd	Qs - Acute	310.726	mgd
Ce	1.95	TU	Qs - Acute 1B3	326.230	mgd
pmf	10.0%		Qs - Chronic	337.212	mgd
Stat	2.3		Qs - Chronic 4B3	344.964	mgd
ACR	10.00				

Acute RP			Chronic RP		
RWC - 1Q10	0.1	TU	RWC - 7Q10	1.2	TU
RWC - 1B3	0.1	TU	RWC - 4B3	1.2	TU

Criterion Maximum Concentration (CMC)			Criterion Continuous Concentration (CCC)		
Acute Criterion	0.3	TUa	Chronic Criterion	1.0	TUc

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

CMC RP Present:		**CCC RP Present:**	
1Q10 Acute OR	**NO**	**7Q10 Chronic OR**	**YES**
1B3 Acute	**NO**	**4B3 Chronic**	**YES**

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.

Wasteload Allocation (WLA) Determination

Wasteload Allocation (WLA) is the portion of a receiving water's TMDL that is allocated to one of its existing or future point sources of pollution.

WLA = Cd = [Cr(Qd+%Qs)] - [(Cs)(%Qs)]/Qd

Qd = waste discharge flow
Cd = waste discharge pollutant concetration in TUs for WET (TUa or TUc).
Qs = background in-stream flow above point of discharge.
Cs = background in-stream pollutant concentration in Tus for WET (TUa or TUc); setting Cs = 0 is recommended for WET
%Qs = percent of upstream flow allowed by mixing zone standard, if applicable
Qr = resultant in-stream flow after discharge: %Qs + Qd
Cr = applicable toxicity criterion = resultant in-stream pollutant concentration in TUs for WET (TUa or TUc), in the stream reach (after complete mixing)

WLA = Cd - Acute			WLA = Cd - Chronic		
1Q10	1.03	TU	7Q10	3.63	TU
1B3	1.06	TU	4B3	3.69	TU
Qd	12.810	mgd			
Qs					
1Q10	310.726	mgd	7Q10	337.212	mgd
1B3	326.230	mgd	4B3	344.964	mgd
Cs	0	TU			
%Qs	10.0%				
Qr - Acute			Qr - Chronic		
1Q10	43.883	mgd	7Q10	46.531	mgd
1B3	45.433	mgd	4B3	47.306	mgd
Cr - Acute	0.3	TU	Cr - Chronic	1.0	TU

Acute to Chronic Ration (ACR). (see TSD, Section 1.3.4, page 17)
ACR = Use 10 if there is no data available.

WLAa,c (TUc) = WLAa (TUa) x ACR

ACR	10.00	
WLAa,c		
1Q10	10.28	TUc
1B3	10.64	TUc

Calculate the standard deviation or coefficient of variance (CV) (CV = 0.6 as a default, see TSD, page 107)

CV = Standard Deviation / Mean

Data set > or = to 10, (see TSD, Appendix E)
Data set < 10, the conservative value of 0.6 is recommended (see TSD, Appendix E, page E-3) to estimate the CV, from which the variance is then calculated using formulas in Box 5-2 of the TSD (page 100). Numerical values for the case when CV = 0.6 are provided in the TSD (Tables 5-1 and 5-2, pages 102-103).
Data set = 0, the LTA equals the WLA (see TSD, page 105)

Long Term Average (LTA) Determination

Long Term Average (LTA), calculate acute and chronic numbers. (see TSD, Table 5-1, page 102)

LTAa,c = WLAa,c x e^[0.5q2 -zq]
LTAc = WLAc x e^[0.5q42 - zq]

Acute Multiplier	0.468
Chronic Multiplier	0.644

LTAa,c		
1Q10	4.81	TUc
1B3	4.98	TUc

LTAc		
7Q10	2.34	TUc
4B3	2.38	TUc

Maximum Daily Limit (MDL) Determination

Maximum Daily Limit (MDL) - EPA recommends using the 99th percentile (see TSD, Table 5-2, page 103)

MDL = LTA x e^[zq-0.5q2]

z	2.13

MDL		
1Q10	10.24 TUc	9.76 LC50 or %Effluent
1B3	10.61 TUc	9.43 LC50 or %Effluent
7Q10	4.98 TUc	20.07 IC25 or %Effluent
4B3	5.07 TUc	19.74 IC25 or %Effluent

Average Monthly Limit (AML) Determination

Average Monthly Limit (AML) - EPA recommends using the 95th percentile (see TSD, Table 5-2, page 103)

AML = LTA x e^[zqn-0.5qn2]

z	2.13

AML		
1Q10	10.24 TUc	9.76 LC50 or %Effluent
1B3	10.61 TUc	9.43 LC50 or %Effluent
7Q10	4.98 TUc	20.07 IC25 or %Effluent
4B3	5.07 TUc	19.74 IC25 or %Effluent

Following these procedures, the maximum daily limit and average monthly limit may then be incorporated into the permit as justifiable WQBELs.

BIOLOGICALLY BASED LIMITS					
WQBELs	CMC - Acute Limit			CCC - Chronic Limit	
	MDL	AML		MDL	AML
TUc	10.61	10.61	TUc	5.07	5.07
LC50 or %Effluent	9.43	9.43	IC25 or %Effluent	19.74	19.74

HYDROLOGICALLY BASED LIMITS					
WQBELs	CMC - Acute Limit			CCC - Chronic Limit	
	MDL	AML		MDL	AML
TUc	10.24	10.24	TUc	4.98	4.98
LC50 or %Effluent	9.76	9.76	IC25 or %Effluent	20.07	20.07

APPENDIX D – RESPONSE TO COMMENTS

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

Permit No: ND0000094
Effective Date: April 1, 2025
Expiration Date: March 31, 2030

AUTHORIZATION TO DISCHARGE UNDER THE

NORTH DAKOTA POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

American Crystal Sugar Company

is authorized to discharge from its sugar beet processing facility in Drayton, North Dakota

to the Red River of the North, a Class I Stream

provided all the conditions of this permit are met.

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

March 31, 2030.

Signed this _____ day of _____, _____.

_____

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

BP 2019.05.29

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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. Condenser Pond Effluent.			
Latitude: 48.595119	Longitude: -97.154589	County: Pembina	
Township: 159	Range: 51	Section: 13	QQ: BA
Receiving Stream: Red River of the North		Classification: Class I Stream	
Outfall Description: Outfall 001 flows from the condenser pond over land for roughly a mile before entering the Red River. This system utilizes a discharge termed “Continuous Seasonal Discharge” and is deemed to be continuous.			

Outfall 002. Active. Final Outfall. Wetland System Effluent.			
Latitude: 48.607092	Longitude: -97.152153	County: Pembina	
Township: 159	Range: 51	Section: 12	QQ: DAA
Receiving Stream: Red River of the North		Classification: Class I Stream	
Outfall Description: Outfall 002 is the primary discharge and takes place from the constructed wetland system. The effluent is directly piped to a county drain which drains 0.39 miles into the Red River. This system utilizes a discharge termed “Continuous Seasonal Discharge” and is deemed to be continuous.			

PERMIT SUBMITTALS SUMMARY

Coverage Point	Submittal	Frequency	First Submittal Date
001A	Discharge Monitoring Report	Monthly	May 31, 2025
002A	Discharge Monitoring Report	Monthly	May 31, 2025
001W	Discharge Monitoring Report	Quarterly	July 31, 2025
002W	Discharge Monitoring Report	Quarterly	July 31, 2025
Application Renewal	NPDES Application Renewal	1/permit cycle	September 30, 2029
Notes:			
“A” refers to conventional and non-conventional pollutants, flow and volume Information “W” refers to whole effluent toxicity			

SPECIAL CONDITIONS

Stormwater

All stormwater from the facility shall be collected and routed to the wastewater treatment system. Implement Best Management Practices (BMPs) where necessary to lessen the impact on the wastewater treatment facility.

DMR-QA Study

This facility has been selected to take part in the annual Discharge Monitoring Report – Quality Assurance (DMR-QA) Study. This participation is a requirement as outlined in Section 308 of the Clean Water Act (CWA). EPA will mail you a copy of the annual DMR-QA Study notification letter. Additional information may

be found by visiting the following website: https://www.epa.gov/compliance/discharge-monitoring-report-quality-assurance-study-program#about. Discontinuation from the DMR-QA Study may take place upon a written letter from the state DMR-QA Coordinator.

I. LIMITATIONS AND MONITORING REQUIREMENTS

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls as specified to the following: **Red River of the North**, a Class I stream.

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

B. Effluent Limitations and Monitoring

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

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001 and Outfall 002					
Parameter	Effluent Limitations			Monitoring Requirements	
	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
Biochemical Oxygen Demand (BOD_5)	25 mg/l	45 mg/l	*	2/week	Grab
Total Suspended Solids (TSS)	30 mg/l	45 mg/l	*	2/week	Grab
pH [a]	Shall remain between 6.5 to 9.0 s.u.			2/week	Instantaneous
Total Ammonia as N, (mg/l) [b]	Refer to Ammonia Table (**Table 2**)			2/week	Grab
Fecal Coliforms	*	*	400/100 ml	Weekly	Grab
Chemical Oxygen Demand (COD), (mg/l)	Report	*	Report	2/week	Grab
Dissolved Oxygen (DO), (mg/l)	Report daily minimum and average monthly value.			2/week	Grab
Phosphorus, Total (mg/l)	*	*	*	Monthly	Grab
Nitrogen, Total (mg/l) [c]	*	*	*	Monthly	Grab
Effluent Flow, mgd	Report	*	Report Max. Daily Value	Daily	Instantaneous
Total Drain, mgal	*	*	Report Monthly Total	Monthly	Calculated
Whole Effluent Toxicity (WET), (TUa) [d]	Refer to Part I.C			1/90 days	Grab
Whole Effluent Toxicity (WET), (TUc) [d]	Refer to Part I.C			1/90 days	Composite
Red River of the North Parameters					
pH, s.u. – Upstream [e]	*	*	*	2/week	USGS gage 05082500
Temperature, ºC – Upstream [e]	*	*	*	2/week	USGS gage 05082500
Stream Flow, cfs	*	*	*	Daily	USGS gage 05092000

Notes:

*	This parameter is not limited. However, the department may impose limitations bases on sample history and to protect the receiving waters.
a.	The pH, an instantaneous limitation, shall be between 6.5 (s.u.) and 9.0 (s.u.). Any single analysis or a measurement beyond this limitation shall be considered a violation of the conditions of this permit.

Table 1: Effluent Limitations and Monitoring Requirements Outfall 001 and Outfall 002						
Parameter		Effluent Limitations			Monitoring Requirements	
		Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	Sample Frequency	Sample Type
b.	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.					
c.	Total nitrogen is a combination of nitrate, nitrite, and Total Kjeldahl Nitrogen (TKN).					
d.	Acute and Chronic WET testing shall be performed on the first discharge made each calendar year. Thereafter, tests shall be performed at least once every ninety (90) days in which there is a discharge.					
e.	Samples must be collected/recorded the same day as the ammonia a N sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging station at Grand Forks, North Dakota.					
Stipulations:						
Best Management Practices (BMPs) are to utilized so that there is no discharge of floating debris, oil, scum, and other floating materials in sufficient amounts to be unsightly or deleterious, or oil wastes that produce a visible sheen on the surface of the receiving water. Dates of discharge and number of exceedances shall be included on the Discharge Monitoring Reports (DMRs). Samples taken in compliance with the monitoring requirements specified in this permit shall be taken prior to leaving company property or entering the receiving stream.						

Table 2: Ammonia Effluent Limitations for Outfall 001 and Outfall 002				
	Effluent Limitations			
Parameter	Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit	
Ammonia [a]	†	*	‡	
Red River of the North Parameters				
Stream flow upstream, cfs [b, c]	*	*	*	
Temperature upstream,° C [b, c]	*	*	*	
pH upstream, S.U. [b, c]	*	*	*	
Notes:				
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. This calculation is based on the formula specified in the latest revision of the state WQS.			
b.	Sample must be collected/recorded the same day as the ammonia sample. The upstream flow, temperature, and pH may be obtained from the USGS gauging stations 05082500 and 05092000.			

Table 2: Ammonia Effluent Limitations for Outfall 001 and Outfall 002				
		Effluent Limitations		
Parameter		Avg. Monthly Limit	Avg. Weekly Limit	Daily Maximum Limit
c.	If the upstream values are not collected then following minimum values base on the 90th percentile upstream STORET and USGS data are to be used: pH: 8.5 S.U., Temperature 23.9 ° C, and ammonia 0.01 mg/l. If the upstream flow is not available then, the 30B10 critical low flow of 144 cfs shall be used. The maximum mixing factor is 10.0%.			

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

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

Receiving stream pH and Temperature is used for the calculation

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

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

where *Oncorhynchus* are absent; or

Stipulations

Receiving stream pH is used for the calculation.

For all above calculations, permittee receives ten percent of stream flow for dilution at time of discharge based on the flow of the Red River of the North. In-stream concentration will be calculated on a mass balance basis using the following formula:

In-stream concentration= $(Q_u * C_u + Q_e * C_e)/(Q_u + Q_e)$ where
Q_u = 10% of the Red River of the North flow parameter
C_u = Red River of the North ammonia parameter
Q_e = Effluent flow parameter
C_e = Ammonia as N parameter

The maximum mixing factor is 10.0%.

C. Whole Effluent Toxicity (WET) Requirements BP 2024.11.04

1. Acute Toxicity Testing

Acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *"Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms,"* EPA-821-R-02-012 (Fifth Ed., October 2002). The permittee shall conduct an acute 48-hour static renewal toxicity test using freshwater fleas, *Ceriodaphnia dubia* and an acute 96-hour static renewal toxicity test using fathead minnows, *Pimephales promelas*.

Table 3: Acute WET Requirements for Outfall 001 and Outfall 002						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	12.5%	25%	50%	75%	100%
Dilution Water	**Red River of the North** [a]					
Species and Test Type	*Ceriodaphnia dubia* - 48 Hour Acute - Static Renewal - 20°C					
	Fathead minnow - 96 Hour Acute - Static Renewal - 20°C					
Endpoint	Mortality LC_{50} reported as TU_a					
Compliance Point	**End-of-pipe**					
Sampling Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.					
Sample Type	Grab					
Maximum Daily Limit (MDL)	<1 TUa					
Average Monthly Limit (AML)	<1 TUa					
Test Failure	**Acute test failure is defined as lethality to 50% or more of the test organisms exposed to 100% effluent or ≥1.0 TUa for *Ceriodaphnia dubia* 48-hour and fathead minnow 96-hour test.** The 48-hour and 96-hour effluent value must be **<1.0 TUa** to indicate a passing test. Any 48-hour or 96-hour effluent value of **≥1.0 TUa** will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated.					
Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: ***Pimephales promelas* (Fathead Minnow)** Report the highest TUa for Fathead minnow, Parameter No. TSN6C. ***Ceriodaphnia dubia* (Water Flea)** Report the highest TUa for *Ceriodaphnia dubia*, Parameter No. TSM3B.					
The use of alternate testing procedures or methods shall be approved in advance by the department (including, but not limited to the use of EDTA, CO_2 overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.). If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge.						

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

2. Chronic Toxicity Testing

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

Table 4: Chronic WET Requirements for Outfall 001 and Outfall 002						
Implementation	Limitations Imposed					
Effluent Dilution	0%(Control)	6.25%	12.5%	25%	50%	100%
Dilution Water	**Red River of the North** [a]					
Testing Type	Chronic Toxicity					
Species and Test Type	*Ceriodaphnia dubia* 7 Day Chronic Static Renewal 25ºC					
	Pimephales promelas 7 Day Chronic Static Renewal 25ºC					
Endpoint	Survival and Reproduction IC25 reported as TU_c					
Compliance Point	**End-of-pipe**					
Sample Frequency	Quarterly. Samples from the discharge shall be collected during the first week of discharge each calendar year and at least once every 90 days thereafter. The sampling frequency does not need to coincide with calendar quarters.					
Sample Type	Composite consisting of 4 aliquots from the pond.					
Maximum Daily Limit (MDL)	5.07 TU_c					
Average Monthly Limit (AML)	5.07 TU_c					
Test Failure	The effluent value must be ≤ 5.07 TU_c to indicate a passing test. Any effluent value >5.07 TU_c will constitute a failure. Tests in which the control survival is less than 90% are invalid and must be repeated. Test acceptability for daphnia chronic must have 80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions and 60% of surviving control females must produce three broods. If this condition is not satisfied the test must be repeated.					

Reporting Requirements	The permittee shall report the following results of each toxicity test on the DMR for that reporting period: Report the highest TU_c for *Ceriodaphnia dubia*, Parameter No. TPP3B. Report the highest TU_c for *Pimephales promelas*, Parameter No. TTP6C.
The use of alternate testing procedures or methods shall be approved in advance by the department (including, but not limited to the use of EDTA, CO_2 overlay, chlorine removal from the effluent sample if the effluent is chlorinated, etc.). If toxicity occurs in a routine test, an additional test shall be initiated within 14 days from the date of the initial toxicity findings. Should there be no discharge during a specified sampling time frame; sampling shall be performed as soon as there is a discharge. Should toxicity occur in the second test, testing shall be conducted at a frequency of once a month and the implementation of a 5.Toxicity Reduction Evaluation (TRE) shall be determined by the department. If no toxicity is found in the second test, testing shall occur as outlined in the permit.	
Notes:	
a.	When dangerous conditions exist for personnel (i.e. thin ice, melting ice, flooding, etc.) the permittee may utilize moderately hard reconstituted water upon request and approval by the department.

3. Reduced Monitoring for Toxicity Testing

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

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

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

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

4. Reporting Requirements
Test results shall be submitted with the Discharge Monitoring Report (DMR) form for each

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

5. Toxicity Reduction Evaluation (TRE)

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

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

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

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

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:

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

2. 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.