

# STATEMENT OF BASIS

## FOR THE ISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency  
Region 5, Permits Branch - WP-16J  
77 West Jackson Boulevard  
Chicago, Illinois 60604  
(312) 886-6106

**Public Notice No.: 23-11-02-A**

**Public Notice Issued On: November 22, 2023**

**Comment Period Ends: December 22, 2023**

**Permit No.: MN-0064173-5 (REISSUANCE)**

**Application No.: MN-0064173-5**

**Name and Address of Applicant:**

**Name and Address of Facility  
Where Discharge Occurs:**

White Earth Department of Public Works  
White Earth Nation  
P.O. Box 418  
White Earth, Minnesota 56591

White Earth Wastewater  
Stabilization Lagoon No. 2  
White Earth Indian Reservation  
White Earth, Minnesota  
Becker County  
(Sec. 27, T142N, R41W)

**Receiving Water:** unnamed slough, eventually flowing to Rat Farm Lake

### **DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE**

The above facility is located within the exterior boundaries of the White Earth Indian Reservation. The EPA has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within the exterior boundaries of Indian Reservations. The EPA is issuing this NPDES permit under the authorities of the Clean Water Act.

The application and plans indicate that the wastewater treatment consists of a 4-cell wastewater stabilization pond. Influent is provided to two primary cells that can be operated in series or in parallel. Effluent from either primary cell is discharged to an intermediate secondary cell. Effluent is further discharged to a polishing cell. Primary cell 1 is 2.9 acres in area, primary cell 2 is 5.1 acres in area, the intermediate secondary cell is 3.4 acres in area, and the polishing cell is 1.5 acres in area. The facility has a controlled discharge (Discharge 001) to an unnamed slough that eventually will flow to Rat Farm Lake and is designed to treat an average influent flow of 85,000 gallons per day.

The draft permit requires the applicant to meet the following effluent limitations:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>			
	Concentration (Specified Units)			
Parameter	Daily Minimum	Monthly Average	Weekly Average	Daily Maximum
Flow (MG)	-	Report calendar month total	-	-
Flow (mgd)	-	Report	-	Report
Dissolved Oxygen (mg/L)	Report	-	-	-
pH (SU)	6.0	-	-	9.0
Total Suspended Solids (TSS) (mg/L)	-	45	65	-
Carbonaceous Biochemical Oxygen Demand (CBOD <sub>5</sub> ) (mg/L)	-	25	40	-
E. coli (#/100ml) (April 1 – October 31)	-	126 (geometric mean)	-	235
Phosphorus, Total (mg/L)	-	Report	-	-
Ammonia Nitrogen, Total (as N) (mg/L)	-	Report	-	-
Nitrite Plus Nitrate, Total (as N) (mg/L)	-	Report	-	-
Nitrogen, Kjeldahl, Total	-	Report	-	-
Nitrogen, Total (as N) (mg/L)	-	Report	-	-
CBOD <sub>5</sub> percent removal (%)	≥85	-	-	-
TSS percent removal (%)	≥65	-	-	-
Outfall observation (yes/no)	-	-	-	-

Discharge is limited to a maximum 6 inches per day. Discharge flow was calculated as follows:

$$1.5 \text{ acres} \times 0.5 \text{ feet/day (6 inches/day)} \times 325,900 \text{ gallons per acre-ft} \approx 0.24 \text{ million gallons/day}$$

Loading limits in the permit were calculated using the following formula:

$$(0.24 \text{ mgd} \times \text{limit (mg/L)} \times 3.785) = \text{Loading (kg/d)}.$$

**Section 401 Water Quality Certification**

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the CWA within the White Earth Indian Reservation and will be unless and until the White Earth Nation is approved for Treatment as a State (TAS) for CWA Sections 303 and 401. EPA is in the process of certifying pursuant to Section 401. EPA believes the effluent limitations included in the draft permit meet tribal and state water quality requirements where they are applicable. The draft certification is available for review. We have discussed our reissuance of the permit with the White Earth Nation, the Minnesota Pollution Control Agency (MPCA) and the permittee.

**Basis for Permit Requirements**

The limits were developed to ensure compliance with 40 C.F.R. Parts 131 and 133, EPA's water quality criteria and protection of Minnesota's water quality standards where they are applicable. The permittee's past performance has shown that it is in substantial compliance with the existing limits.

**pH**

The limits for pH are based on secondary treatment requirements pursuant to 40 C.F.R. Part 133.

**5-day Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>)**

The limits for CBOD<sub>5</sub> are based on secondary treatment requirements pursuant to 40 C.F.R. Part 133. A 7-day average limit of 40 mg/L and a 30-day average limit of 25 mg/L are carried from the previous permit. The 7-day average and the 30-day average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

**Total Suspended Solids (TSS)**

The limits for TSS are based on equivalent to secondary treatment requirements pursuant to 40 C.F.R. Part 133. A 7-day average limit of 65 mg/L and a 30-day average limit of 45 mg/L are carried from the previous permit. The 7-day average and the 30-day average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

**E. coli**

The limits for E. coli are based on the EPA's water quality criteria in existence prior to the publication of EPA's 2012 Recreational Water Quality Criteria and were used in the previous permit because the permittee was in substantial compliance with the old criteria. In accordance with 40 C.F.R. § 122.44(l) (anti-backsliding), the 2012 criteria could not be used. Therefore, the limits from the previous permit are being carried over to the draft permit. The geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml). Any single sample shall not exceed 235 E. coli per 100 ml. The limits would be consistent with the Wild Rice River Watershed TMDL (June 2022) if applicable within the reservation boundaries.

### **Phosphorus**

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

The White Earth WWSL No. 2 does not have "reasonable potential" to cause or contribute to a River Eutrophication Standard (RES) impairment in the Wild Rice Watershed, under permitted effluent conditions. 40 C.F.R. § 122.44(d). As such, existing monitoring is sufficient for the immediate receiving waters.

The permit requires the permittee to implement a Phosphorus Management Plan (PMP). While the PMP does not require specific reductions at this time, EPA strongly encourages the permittee to identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, the wastewater treatment facility. Please review these permit requirements carefully.

Guidance for considering phosphorus in wastewater treatment systems can be found on the web at: <https://www.pca.state.mn.us/business-with-us/phosphorus-management-plans> or <http://www.mntap.umn.edu/greenbusiness/water/phosphorus.htm>.

### **Nitrogen**

Nitrogen is a pollutant that can negatively impact the quality of Minnesota's water resources, including water used for drinking. Studies have shown that nitrogen in lakes and streams has a toxic effect on aquatic life such as fish. Like phosphorus, nitrogen is a nutrient that promotes algae and aquatic plant growth often resulting in decreased water clarity and oxygen levels. The MPCA's Statewide Nutrient Reduction Strategy (<https://www.pca.state.mn.us/air-water-land-climate/reducing-nutrients-in-waters>) identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources within Minnesota.

Based on the data collected during the previous permit term, there is no reasonable potential for the effluent to exceed nitrogen water quality standards. No limits are proposed for the upcoming permit. The draft permit continues to include requirements to monitor for ammonia (as N), Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen and Total Nitrogen at a frequency of one time per half year for the five-year term of the permit. This monitoring requirement has been maintained in the permit in accordance with Section 308 of the Clean Water Act.

This monitoring will provide the data necessary to develop a better understanding of the total nitrogen concentrations and loadings that is currently being received and discharged from municipal and industrial wastewater treatment plants within Minnesota and Indian Country. Once a more extensive total nitrogen data set is established nitrogen reduction work can begin to achieve the necessary reductions to meet Minnesota's goal of a 10-20% reduction in total

nitrogen loads from point source dischargers by 2025. The changes and/or increases in total nitrogen monitoring in wastewater permits as a result of the Statewide Nutrient Reduction Strategy is outlined in the Minnesota NPDES Wastewater Permit Nitrogen Monitoring Implementation Plan available on the MPCA's website at <https://www.pca.state.mn.us/business-with-us/wastewater-permit-additional-guidance-and-information>. It is our hope that the Minnesota Tribes will participate in this reduction effort.

### **Total Sulfates**

Monitoring was required in the previous permit to provide information related to sulfate levels being discharged from wastewater treatment ponds and the possible impacts to wild rice waters. A 2023 inventory of all Minnesota waters identified no downstream wild rice waters. With no impact to Minnesota water quality standards, total sulfate monitoring is removed in the permit.

### **Dissolved Oxygen**

The existing permit required effluent monitoring for dissolved oxygen. Based on this data, we did not find a reasonable potential to cause or contribute to a violation of the state's WQS at the reservation boundary, so no limits are required. Monitoring is still required in the draft permit.

### **Per- and Polyfluoroalkyl Substances (PFAS)**

PFAS are widely used, long lasting chemicals, components of which break down very slowly over time. Because of their widespread use and their persistence in the environment, many PFAS are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. PFAS are found in water, air, fish, and soil at locations across the nation and the globe. Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals.

At this time, EPA has not finalized water quality criteria or effluent guidelines for any PFAS chemicals. We looked at the need for PFAS sampling at this facility. Wastewater is from domestic sources with no industrial users. This type of discharge has not been identified as a significant source of PFAS by EPA or MPCA and therefore, no sampling is required. A reopener clause has been added if additional information becomes available indicating sampling or limits is needed.

### **Asset Management – Operation & Maintenance Plan**

Regulations regarding proper operation and maintenance are found at 40 C.F.R. § 122.41(e). These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and the collection system are included in the definition of "facilities and systems of treatment and control" and are, therefore, subject to the proper operation and maintenance requirements of 40 C.F.R. § 122.41(e).

Similarly, a permittee has a “duty to mitigate” pursuant to 40 C.F.R. §122.41(d), which requires the permittee to “take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment.”

The draft permit requirements are the first steps of an asset management program which contains goals of effective performance, adequate funding, adequate operator staffing and training. Asset management is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary, and typically includes five core elements which identify: 1) the current state of the asset; 2) the desired level of service (e.g., per the permit, or for the customer); 3) the most critical asset(s) to sustain performance; 4) the best life cycle cost; and 5) the long term funding strategy to sustain service and performance.

EPA believes that requiring a certified wastewater operator and adequate staffing is also essential to ensure that the treatment facilities will be properly operated and maintained. Mapping the collection system with the service area will help the operator better identify the assets that he/she is responsible for and consider the resources needed to properly operate and maintain them. This will help in the development of a budget and a user rate structure that is necessary to sustain the operation. The development and implementation of a proactive preventive maintenance program is one reasonable step that the permittee can take to demonstrate that it is at all times, operating and maintaining all the equipment necessary to meet the effluent limitations of the permit.

### **Special Conditions**

- The permit requires electronic reporting.
- Dikes must be maintained and vegetation cut.
- The permit requires the continued implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator to oversee the facility, having adequate staff to help ensure compliance with the permit, mapping the treatment system, developing a preventive maintenance program, reporting and other items.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 C.F.R. Parts 122 and 403.
- Compliance with 40 C.F.R. Part 503 (sludge use and disposal regulations) if sludge is used or disposed within the Reservation. EPA is to be contacted prior to sewage sludge being removed from the pond system.
- The permit requires that if sewage sludge is to be land applied, the permittee must submit the following information to EPA prior to application:
  - i. certification that the application contractor has received all necessary information to comply with applicable provisions of 40 C.F.R. Part 503;
  - ii. site location by latitude and longitude, and code number to identify field or field portion.

- 1) Plat map showing location of the site relative to local landmarks.
  - 2) Proximity to surface waters of the United States.
  - 3) Potential presence of endangered species.
  - 4) Soil fertility test with fertilizer recommendations.
  - 5) Previous crop and future crop with yield goal.
  - 6) Participation Agreement signed by the landowner or operator, if different, of the site to receive sludge.
  - 7) Determination whether the site has previously been used for sewage applications.
  - 8) If previously used, determination of cumulative pollutant loading rate since July 19, 1993;
- iii. certification that the local township supervisor has been notified that a site has been identified and is intended for use;
- iv. certification that the County Health Department has been notified that hauling is scheduled to take place; and
- v. certification that notice has been provided to landowners and occupants adjacent to, or abutting the proposed land application site. Such notice shall be accomplished by one of the following: written notice through the regular mail; public notice in the local newspaper; public reading of notice at open public meeting.
- The permit contains a reopener clause to include additional requirements resulting from TMDL studies.
  - The permit requires the development and implementation of an Enhanced Phosphorus Management Plan.

#### **Significant Changes From The Last Permit**

Following are the significant changes in the draft permit:

- Change to EPA Region 5 mailing addresses have been made throughout the permit.
- Facility description has been updated. (Pages I-2)
- 'Summary of Regular Reporting' has been updated. (Pages I-2)
- The 'Stabilization Pond' requirements have been updated. (Part I.D)
- 'Reporting' requirements for electronic submittal of DMRs has been updated. (Part I.E.2)
- 'Operation and Maintenance Plan' requirements have been updated. (Part I.E.5)
- 'Industrial Waste Pretreatment Program' requirements have been updated. (Part I.E.6)
- 'Sludge Disposal Requirements' have been updated. (Part I.E.7)
- 'Phosphorus Management Plan' requirements have been updated. (Part I.E.9)
- Reopener clause to include additional requirements for PFAS. (Part I.E.10)
- The 'Standard Conditions' have been revised. (Part II)
- Sulfate monitoring requirements have been removed.

The permit is based on an application submitted on March 17, 2023 (determined complete May 17, 2023) and additional supporting documents found in the administrative record.

The permit will be effective for approximately five years from the date of reissuance as allowed by 40 C.F.R. § 122.46.

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November 2023

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