

STATEMENT OF BASIS

FOR THE ISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-15J
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Comment Period Ends: September 4, 2018

Permit No.: MN-0059447-5 (REISSUANCE)

Application No.: MN-0059447-5

Name and Address of Applicant:

Bois Forte Band of Chippewa
P.O. Box 16
Nett Lake, Minnesota 55772

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

Nett Lake Wastewater
Stabilization Lagoon
Bois Forte Indian Reservation
Nett Lake, Minnesota
St. Louis County
(S ½ of Section 18, T65N, R21W)

Receiving Water: wetland area that drains to Nett Lake

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The above-named applicant has applied for an NPDES Permit to discharge into the designated receiving water. The above facility is a tribal facility located on the Bois Forte Indian Reservation. The U. S. Environmental Protection Agency (EPA) has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within the boundaries of Indian Reservations. The permit will be issued by EPA under the authorities of the Clean Water Act (CWA).

The application and plans indicate that the treatment system consists of a 4-cell wastewater stabilization pond system. The three primary cells equal approximately 6.64 acres and the final cell is 5 acres at the average operating level. The facility has a controlled discharge {Outfall 001} to a wetland area which drains to Nett Lake. The pond system is designed to treat an average influent flow of 40,000 gallons per day (gpd). Wastewater is from domestic sources only.

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

<u>Limitations and Monitoring Requirements</u>		
<u>Parameter</u>	<u>30-Day Average</u>	<u>7-Day Average</u>
CBOD ₅	25 mg/L	40 mg/L
TSS	45 mg/L	65 mg/L
Phosphorus	1.0 mg/L	2.0 mg/L
Sulfates, 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	---
E. coli	126 E. coli/100ml	410 E. coli/100ml (daily maximum)
pH	6 S.U. (Minimum)	9 S.U.(Maximum)

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

$$5 \text{ acres} \times 0.5 \text{ feet/day (6 inches/day)} \times 325,900 \text{ gallons per acre-ft} \approx 0.81 \text{ million gallons/day}$$

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

$$(0.81 \text{ mgd} * \text{limit (mg/L)} * 3.785) = \text{Loading (kg/d)}.$$

Section 401 Water Quality Certification

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the Clean Water Act. Section 401 certification is not needed from the state or the Bois Forte Band of Chippewa as neither has federally approved water quality standards applicable to the receiving water at the point of discharge.

ESA and NHPA Compliance

EPA believes it has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. As this is an existing discharge, with no planned construction during the permit term, EPA believes that the issuance of the permit and the continued operation of the facility will have no effect on endangered or threatened species or their critical habitat and

will have no impact to historical, archeological, or cultural resources.

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133 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 CFR Part 133.

5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅)

The limits for CBOD₅ are based on secondary treatment requirements pursuant to 40 CFR 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 permittee has been in substantial compliance with these limits. 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 CFR 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 permittee has been in substantial compliance with these limits. 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. The previous permit had the following limits: the geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml) and any single sample shall not exceed 410 E. coli per 100 ml. New water quality criteria were published in 2012 (EPA's 2012 Recreational Water Quality Criteria). The geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml) and shall remain in the permit. The statistical threshold value of 410 E. coli per 100 ml is set as the daily maximum and shall replace the previous limit of 235 E. coli per 100 ml. This is consistent with 40 CFR 122.44(l) (anti-backsliding) as the permittee has not been able to consistently achieve compliance using its available technology.

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.

Due to these concerns, the existing phosphorus limits have been retained in this permit. The limits are technology based and are typical of what can be expected from a well-maintained

wastewater pond. Effluent monitoring data indicate that the facility is in substantial compliance with this limit.

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. In September 2014, the MPCA completed the final draft of the [Statewide Nutrient Reduction Strategy](http://www.pca.state.mn.us/zihy1146) (<http://www.pca.state.mn.us/zihy1146>) which identifies goals and milestones for nitrogen reductions for both point and non-point nitrogen sources within Minnesota. To gain a better understanding of the current nitrogen concentrations and loadings received by and discharged from the facility additional effluent nitrogen monitoring has been added to the permit. This monitoring has been added in accordance with Section 308 of the Clean Water Act.

The draft permit includes effluent monitoring 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. There is no nitrogen limit in the permit.

This additional 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 the goal of a 20% reduction in total nitrogen loads from point source dischargers by 2025 as outlined in the Statewide Nutrient Reduction Strategy. It is our hope that the Minnesota Tribes will participate in this reduction effort.

Total Sulfates

Nett Lake is a wild rice water of the Bois Forte Band. Monitoring is required to provide information related to sulfate levels being discharged from wastewater treatment ponds and the possible impacts to wild rice waters. If the Bois Forte Band decides to develop water quality standards to protect wild rice waters, the data can be used in the development of a sulfate standard. Sampling is required at a frequency of two times per year during periods of discharge. There is no sulfate limit in the permit. This monitoring has been added in accordance with Section 308 of the Clean Water Act.

Asset Management – Operation & Maintenance Plan

Regulations regarding proper operation and maintenance are found at 40 CFR § 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 CFR § 122.41(e).

Similarly, a permittee has a “duty to mitigate” pursuant to 40 CFR §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 and other items.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403. Compliance with 40 CFR Part 503 (sludge use and disposal regulations). These requirements were developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503. It is not expected that any sludge will be used or disposed of during this permit term. EPA is to be contacted if sewage sludge is to be removed from the pond system.

Significant Changes From The Last Permit

Following are the significant changes in the draft permit:

- The daily maximum E. coli limit has been revised. (Part I.B)
- The permit requires monitoring of the effluent and influent for various nitrogen compounds. (Part I.B and Part I.C)
- The ‘Reporting’ requirement has been changed to require electronic submittal of DMRs. (Part I.E.2)

- Additional requirements related to Asset Management have been added. (Part I.E.5)

The permit is based on an application dated November 21, 2017 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 CFR § 122.46.

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