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.: 23-03-02-A

Public Notice Issued On: March 30, 2023

Comment Period Ends: April 28, 2023

Permit No.: MN-0067938-4 (REISSUANCE)

Application No.: MN-0067938-4

Name and Address of Applicant:

Shakopee Mdewakanton Sioux Community
2330 Sioux Trail NW
Prior Lake, Minnesota 55372

Name and Address of Facility Where Discharge Occurs:

SMSC Water Reclamation Facility
Shakopee Mdewakanton Sioux Indian Reservation
15364 Orion Road
Prior Lake, Minnesota
Scott County

Receiving Water: Unnamed Wetland Complex to the Prior Lake, Spring Lake Outlet Channel

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 facility and discharge are located within lands held in trust for the Shakopee Mdewakanton Sioux Community (SMSC). The permit will be issued by the U.S. Environmental Protection Agency. The Supreme Court has held in a variety of contexts that tribal trust lands are reservations whether or not they are part of a formally established reservation. Oklahoma Tax Comm'n v. Citizen Band Potawatomi Indian Tribe of Oklahoma, 498 U.S. 505, 511(1991); United States v. John, 437 U.S. 634, 649 ((1978) (finding no apparent reason" why lands held in trust should not be considered reservations under §1151(a)). This interpretation has been upheld recently in the environmental context in Arizona Pub. Service Co. v. U.S. Environmental Protection Agency, 211 F.3d 1280 (D.C. Cir. 2000) where the court upheld EPA's regulations governing the authority of Indian tribes to carry out certain provisions of the Clean Air Act.

The applicant owns and operates a wastewater treatment facility. Preliminary treatment removes grit and other large objects from the waste stream by screening and grit removal, while primary treatment, consisting of parallel plate clarifiers, removes a significant portion of the solids, phosphorus and CBOD from the waste stream. During secondary treatment, the wastewater is treated by a Biologically Aerated Filter (BAF) process. These filters use bacteria to remove

oxygen-demanding wastes and particulates from the wastewater. The BAF is located in a single completely self-contained structure. The BAF uses a combination of pre-screening, aeration and filter media for a complete biological treatment system. The construction uses multiple cells to allow a small and flexible footprint. Tertiary treatment consists of membrane filtration followed by ultraviolet disinfection. The average dry weather design flow is 0.96 million gallons per day with a design average wet weather design flow of 1.50 million gallons per day. The facility discharges an average Daily Max flow of 0.72 million gallons per day. The effluent discharges through Outfall 001 to a wetland complex (Latitude: 44°43'27.356" N, Longitude: 93°28'17.184" W). From late spring to early fall, a portion of the treated effluent (4,800 gallons per day) that would normally be discharged through Outfall 001 can be pumped to a small fountain/waterfall (Outfall 002) located on the treatment plant grounds for aesthetics. Outfall 002 discharges to the same wetland complex but in a different location (Latitude: 44°43'39.625" N, Longitude: 93°27'55.176" W). Water from the wetland travels northeastward through a chain of wetlands surrounded by farmland and residential housing until it meets with the Prior Lake, Spring Lake Outlet Channel under MN18. This combined effluent then travels to Dean's Lake before ultimately discharging to Blue Lake and the Minnesota River. The tribe has noted that for effluent to discharge from the wetland complex through the chain of unnamed wetlands to Dean's Lake, both seasonal flows and weather dependent flows (i.e., rapid snow melt or unusually high volumes of precipitation) must occur. There is approximately 1.4 miles of seasonal flow and 1.8 miles of weather dependent flow required before the discharge meets with the Prior Lake, Spring Lake Outlet Channel. Additional information can be found in the Administrative Record.

Sewage sludge generated throughout the treatment process is dewatered using belt filter presses, then heat dried. The treated product (biosolids) is sent to the SMSC Organics Recycling Facility to be blended with other materials to make compost or taken to a municipal solids waste landfill for disposal. The SMSC Organics Recycling Facility is not operated by the Public Works Department.

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

Parameter	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration			
	30-Day	7-Day	Daily	Units	30-Day	7-Day	Daily	Units
Flow	Report	---	Report	MGD	---	---	---	---
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)								
	91	145	---	kgs/day	16	26	---	mg/L
Total Suspended Solids (TSS)								
	109	163	---	kgs/day	19	29	---	mg/L
Total Phosphorus (as P)								
	3.6	---	7.2	kgs/day	0.63	---	1.3	mg/L
E. coli	---	---	---	---	126	---	235	E. coli/100 ml
					Minimum Daily		Maximum Daily	
pH	---	---	---	---	6.5	---	9.0	S.U.
Dissolved Oxygen	---	---	---	---	5.0	---	---	mg/l

Loading limits in the permit were calculated using the following formula based on the average wet weather flow:

1.50 mgd x limit (mg/L) x 3.78 = 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 within the Shakopee Mdewakanton Sioux Indian Reservation and will be unless and until the Tribe is approved for Treatment as a State (TAS) for CWA 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 SMSC and Minnesota Pollution Control Agency (MPCA).

Basis for Permit Requirements

The limits developed for this permit have been developed to ensure compliance with 40 CFR § 131 and 133, EPA's water quality criteria and protection of Minnesota's water quality criteria when applicable. Limits were also developed to ensure compliance with the Lake Pepin and Minnesota River TMDL. Limits and reasonable potential were made and analyzed against Minnesota's Class 2D, 2B and 2B(g), 3, 4A, 4B, 5, and 6 standards.

pH

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

5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

The load limits for $CBOD_5$ in the original permit for this facility were based on the plant flow capacity at that time and secondary treatment requirements pursuant to 40 CFR Part 133. Since the plant flow capacity was increased during the previous permit term and to avoid degradation of the receiving stream, the load limits from the original permit were carried over into the previous permit and more stringent concentration limits were included in the permit based on the increased capacity. A 7-day average limit of 26 mg/L and a 30-day average limit of 16 mg/L were included in the permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. The limits from the previous permit are carried over into this permit. Monitoring indicates the permittee is in substantial compliance with the limits.

Total Suspended Solids (TSS)

The load limits for TSS in the original permit for this facility were based on the plant flow capacity at that time and secondary treatment requirements pursuant to 40 CFR Part 133. Since the plant flow capacity was increased during the previous permit term and to avoid degradation of the receiving stream, the load limits from the original permit were carried over into the previous permit and more stringent concentration limits were included in the permit based on the increased capacity. A 7-day average limit of 29 mg/L and a 30-day average limit of 19 mg/L were included in the permit; these are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. The limits from the previous permit are carried over into this permit. Monitoring indicates the permittee is in substantial compliance with the limits.

E. coli

The limits for E. coli are based on EPA's 1986 water quality criteria which were in effect when the original permit was drafted. 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. 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). The statistical threshold value of 410 E. coli per 100 ml is set as the daily maximum. Since the permittee has been in substantial compliance with the original permit limits, in accordance with 40 CFR 122.44(l) (anti-backsliding), the limits from the original permit have been carried over into the draft permit.

Phosphorus

The receiving water is not impaired for nutrients at the point of discharge or at the reservation boundary. To protect the receiving stream against nuisance plant growth problems and ensure that Minnesota's Water Quality Standards are met at the reservation boundary and in accordance with the state's Phosphorus Strategy, the original permit contained a 30-day average limit for total phosphorus of 1.0 mg/L and a daily maximum limit of 2.0 mg/L and corresponding load limits based on the plant flow capacity at the time. Since the plant flow capacity was increased during the previous permit term and to avoid degradation of the receiving stream, the load limits from the original permit were carried over into the previous permit and more stringent concentration limits were included in the permit based on the increased capacity. These limits are 0.63 mg/L as a 30-day average and 1.3 mg/L as a daily maximum. The limits from the previous permit are carried over into this permit. Considering the infrequent discharge of effluent to Dean's Lake and the Minnesota River, EPA finds that these limits are protective of downstream standards for Minnesota. Monitoring indicates the permittee is in substantial compliance with the limits.

Dissolved Oxygen

A minimum dissolved oxygen discharge limit of 5.0 mg/L is included in the permit based on water quality concerns. The limit has been carried over from the previous permit. This limit is consistent EPA's criteria and protection of Minnesota's water quality criteria downstream of the reservation boundaries.

Mercury

The permit includes monitoring for mercury that has been carried over from the previous permit. Though past data indicates no reasonable potential to cause or contribute to a violation of a water quality standard, monitoring is being required to be consistent with Minnesota's state-wide Mercury TMDL plan.

Nitrogen

In accordance with 40 CFR 122.21(j), the previous permit included monitoring for Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Ammonia Nitrogen and Total Dissolved Solids. These monitoring requirements have been carried over to this permit. Monitoring of these parameters will provide the data necessary to develop a better understanding of the total nitrogen concentrations and loadings that are currently being received and discharged from municipal wastewater treatment plants. It is also consistent with Minnesota's state-wide nutrient reduction strategy.

Salty Discharges

The permit includes monitoring of the effluent for chloride, calcium and magnesium hardness as CaCO3, specific conductance, total dissolved solids (salts), sulfates as SO4, bicarbonates (HCO3), sodium, calcium, magnesium, and potassium. Facilities with salty waste streams from concentrating treatment technologies (e.g., reverse osmosis, ion exchange, membrane filtration, etc.) or accept wastewater from these facilities may be discharging these pollutants at concentration above water quality standards. The data will be used for future permitting. Monitoring of these parameters is also consistent with Minnesota's NPDES Permitting Strategy for Salty Discharges.

Additional Monitoring

In accordance with 40 CFR § 122.21(j)(4)(iv)(C), EPA is requiring the permittee to monitor for the parameters found in Table 2 of Appendix J to 40 CFR Part 122 one time during the permit term with the data to be submitted with the next permit renewal application. The data will be used to determine if additional limits may be needed in the next permit. Also, in accordance with 40 CFR § 122.21(j)(5), whole effluent toxicity testing is required.

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 developed water quality criteria or effluent guidelines for any PFAS chemicals. We looked at the need for PFAS sampling at this facility. There is an industrial laundry discharging to the facility. However, 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 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 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 requires monitoring for the additional pollutants found in 40 CFR 122 Appendix J, Table 2 and requires whole effluent toxicity testing.
- 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) (Part III of the permit). Part III was developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503.
- The permit requires the permittee to notify EPA if its sewage sludge is disposed of using a method other than taking it to a landfill or taking it to the SMSC Organics Recycling Facility.
- The permit contains reopener clauses for impaired waters and Per- and Polyfluoroalkyl Substances (PFAS)

Significant Changes from the Last Permit

The draft permit contains the following changes from the last issued permit:

1. Changes to EPA Region 5 mailing addresses have been made throughout the permit.

2. The ‘Facility Description’ has been updated. (Page I-2)

3. ‘Summary of Regular Reporting’ has been updated. (Page I-2)

4. The “Reporting” requirements for electronic submittal of DMRs has been updated. (Part I.B.2)

5. The “Operation and Maintenance Plan” requirements have been updated. (Part I.B.3)

6. The “Industrial Waste Pretreatment Program” requirements have been updated. (Part I.B.4.d)

7. The “Standard Conditions” have been revised. (Part II)

8. Reporting of bypasses and sanitary sewer overflows is required electronically. (Part II.B.3.c) (Part II.D.8)

The permit is based on an application dated October 14, 2022 (determined complete November 9, 2022) 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.

Written By: John Colletti
U.S. EPA, Region 5, WP-16J
77 West Jackson Blvd.
Chicago, IL 60604
(312) 886-6106

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