STATEMENT OF BASIS

FOR THE REISSUANCE OF
A NPDES PERMIT

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

Public Notice No.: 20-07-01-A

Public Notice Issued On: July 9, 2020

Comment Period Ends: August 10, 2020

Permit No.: MN-0049794-5 (REISSUANCE)

Application No.: MN-0049794-5

Name and Address of Applicant:

City of Ogema
P.O. Box 158
Ogema, Minnesota 56569

Name and Address of Facility Where Discharge Occurs:

City of Ogema WWTF
311 N Perrault St
Ogema, Minnesota 56569
White Earth Township, Becker County
(NW ¼ of Section 20, T142N, R41W)

Receiving Water: Unnamed wetland that leads to Spring Creek and then to the South Branch of the Wild Rice River.

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 is located within the boundaries of the White Earth Indian Reservation. The U.S. Environmental Protection Agency has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within Indian Country. The permit will be issued by the EPA under the authorities of the Clean Water Act.

The application and plans indicate that the existing wastewater treatment system consists of a municipal collection system, two lift stations, force main, and a two-cell stabilization pond system and an outfall pipe. Lift Station #1 collects wastewater from the north side of the town and pumps it to Lift Station #2. Lift Station #2 collects wastewater from the rest of the town and pumps it to a 2.8 acre primary pond. It is then released to a 1.27 acre secondary pond. The discharge is seasonal.

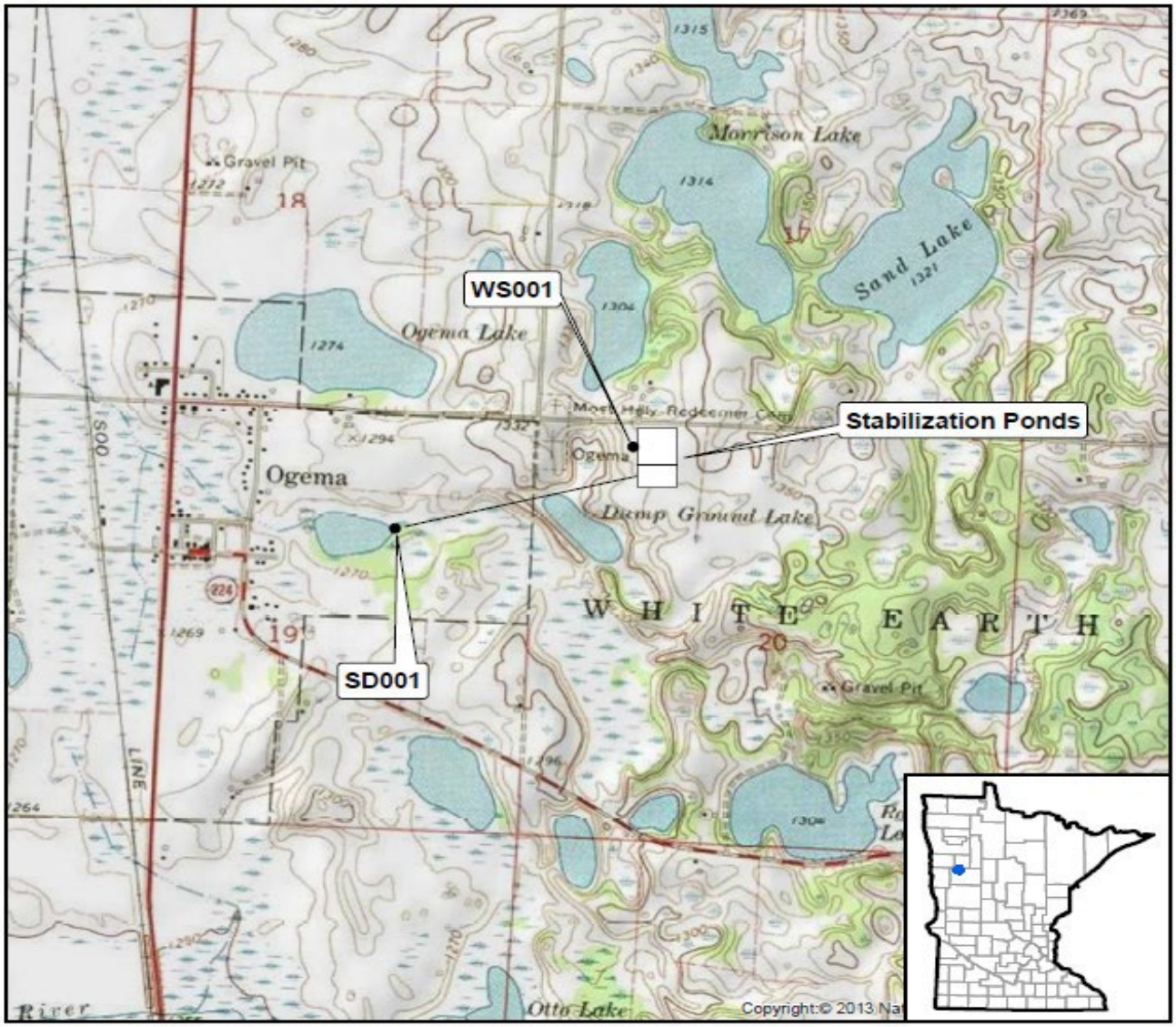
The facility has controlled discharge (Discharge 010) to an unnamed wetland that leads to Spring Creek and then to the South Branch of the Wild Rice River. The facility is designed to treat an average influent flow of 25,300 gallons per day (gpd) with a five-day biochemical oxygen

demand (BOD_5) of 271 milligrams per liter (mg/l) and removal of 85%.

The primary and secondary cells are each 8 feet deep with 2 feet of sludge storage and 2 feet of freeboard, giving each cell a 4 foot operating depth. The facility provides a total detention time of 210 days at design flow. Wastewater is from domestic sources only.

The permittee does not plan to remove any solids from the pond during the permit term.

Topographic Map of Permitted Facility
MNT049794: Ogema Wastewater Treatment Facility
T142N, R41W, Section 20
White Earth Township, Becker County, Minnesota



Map produced by: MPCA Staff, 10/13/2014
Source: USGS Quad, Ogema WWTF
Scale: 1:20,000

0 0.2 0.4 0.8 Miles

N

Proposed Effluent Limitations:

Outfall 010- the permittee is authorized to discharge treated municipal wastewater from Outfall 010. Outfall 010 discharges to an unnamed wetland.

Parameter	Date	Monthly average	Weekly Average	Daily Maximum	Daily Minimum	Comments
Flow	All year	Report	Report	---	---	PWJ
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	All Year	25 mg/L	40 mg/L	---	---	STS
Total Suspended Solids	All Year	45 mg/L	65 mg/L	---	---	STS
Ammonia Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Nitrite Plus Nitrate, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Nitrogen, Kjeldahl, Total (mg/L)	All Year	Report	---	---	---	WQC
Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Dissolved Oxygen	All Year	---	---	---	Report	PWJ
E.coli	April 1 – October 31	126 E. coli/100 ml (geometric mean)	---	410 E. coli/100 ml	---	WQS
Total Phosphorus	All Year	Report	---	---	---	WQC
pH	All Year	---	---	9.0 S.U.	6.0 S.U.	STS

*Geometric Mean

Loading limits in the permit were calculated using the following formula based on the design flow:

1.27 acres * ($3.259 * 10^5$ gallons/acre/foot) * 0.5ft/d = 0.207 mgd

0.207 mgd x limit (mg/l) x 3.78 = Loading (kg/d).

Comment Key
WQS – Water Quality Standards
WQC – Water Quality Concern
STS – Secondary Treatment Standards (40 CFR part 133)
PWJ – Permit Writer's Judgment

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133 and protection of human health and EPA's water quality criteria, and protection of Minnesota's WQS where they are applicable. Though not applicable at the point of discharge, the receiving water (unnamed wetland) would be classified by the state as Class 2D, 3D, 4C, 5, and 6 Water. It

should be noted that the Minnesota Pollution Control Agency will be issuing a State Disposal System permit to this facility. It is EPA's intent that the draft permit be consistent with the MPCA permit. EPA is working with MPCA in this regard.

pH

The limits for pH are based on secondary treatment standards pursuant 40 CFR 133. Monitoring indicates the permittee is in substantial compliance with the limits.

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

The limits for $CBOD_5$ are based on secondary treatment requirements pursuant to 40 CFR Part 133. A weekly average limit of 40 mg/L and a monthly average limit of 25 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The weekly average and the monthly average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively. We believe the limits are protective of Minnesota's dissolved oxygen standard at the boundary of the reservation.

Total Suspended Solids (TSS)

The limits for TSS are based on secondary treatment requirements pursuant to 40 CFR Part 133. A weekly average limit of 65 mg/L and a monthly average limit of 45 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The weekly average and the monthly average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

Lower Wild Rice River Turbidity Total Maximum Daily Load (TMDL) Study: To address water quality impairments, a TMDL study of the Wild Rice River Watershed was conducted. The Facility was assigned a wasteload allocation (WLA) of 77.0 pounds per day for Total Suspended Solids (TSS). The existing Facility's permit includes a mass loading limit for TSS of 35 kilograms per day which is essentially equivalent to the WLA. Information related to the study can be found at http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/red-river-basin-tmdl/project-lower-wild-rice-river-turbidity.html .

Dissolve Oxygen (DO)

Monitoring for dissolved oxygen is carried over from the previous permit as we believe it is still appropriate. There are no water quality criteria applicable at the point of discharge and the other limits in the permit are protective of Minnesota's dissolved oxygen standard at the boundary of the reservation.

E. coli

The limits for E. coli are based on the 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. The limits are applicable April through October. Monitoring indicates the permittee is in substantial compliance with the limits.

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.

In the development of the State SDS permit, MPCA did a phosphorus review to determine the need for limits in the SDS permit (Total phosphorus effluent limit review: Wild Rice River Watershed; Liz Kaufenberg, Effluent Limits Unit, Environmental Analysis and Outcomes Division; 7/1/2015). It was determined that the River Eutrophication Standards are not being violated and that there is no reasonable potential that the discharge will cause or contribute to a violation. EPA agrees with the analysis and no limits have been included in the permit. Also, a recent load duration curve (Ogema and Bejou_2003-2020) indicates that under low flow conditions when point sources are dominant, the Eutrophication Standard should be met under current conditions. Monitoring is required as we believe it is still appropriate.

The permittee is also required to implement and update as necessary its Phosphorus Management Plan (PMP). While the PMP does not require specific reductions at this time, the EPA strongly encourages you to identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, your wastewater treatment facility.

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 a Statewide Nutrient Reduction Strategy (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 influent and effluent nitrogen monitoring was added to the previous permit. The previous permit included influent and effluent monitoring for Ammonia Nitrogen, Nitrite plus Nitrate-Nitrogen, Total Kjeldahl Nitrogen, and Total Nitrogen at a frequency of twice per year. These monitoring requirements are carried over to the draft permit as Minnesota is continuing to collect information on these parameters.

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 minimize or prevent a discharge in violation 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 (at least Minnesota Class D) 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.
- Dikes must be maintained and vegetation cut.
- Implement and update a Phosphorus Management Plan.
- 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 Previous 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 'Summary of Regular Reporting' has been updated. (Page 2)
3. The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.E.2)

4. Additional requirements related to Asset Management have been added. (Part I.E.5)
5. Updated Phosphorus Management Plan requirements. (Part I.E.6)
6. The "Standard Conditions" have been revised (Part II).

The permit is based on NPDES applications received on February 28, 2020 and additional application information dated March 26, 2020 (complete application) and additional documents found in the administrative record.

This permit will be effective for approximately five years from the date of issuance as allowed by regulation.

Written By: John Colletti July 2020
U.S. EPA, Region 5, WP-16J
77 West Jackson Blvd.
Chicago, IL 60604
(312) 886-6106