STATEMENT OF BASIS

FOR THE REISSUANCE OF
A NPDES PERMIT

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

Public Notice No.: 16-07-01-A

Public Notice Issued On: July 27, 2016 **Comment Period Ends: August 26, 2016**

Permit No.: WI-0073041-2 (REISSUANCE) **Application No.: WI-0073041-2**

Name and Address of Applicant:

Lac Courte Oreilles Band of Lake Superior
Chippewa Indians
LCO Public Works Department
9796 N County Highway K
Hayward, Wisconsin 54843

Name and Address of Facility Where Discharge Occurs:

LCO Reserve Lagoon
6894 N County Highway E
Lac Courte Oreilles Indian Reservation
Reserve, Wisconsin
Sawyer County
(Sec 9, T39N, R8W)

Receiving Water: Unnamed wetland within the Reservation

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 exterior boundaries of the Lac Courte Oreilles Indian Reservation. The permit will be issued by the U.S. Environmental Protection Agency.

The treatment facility consists of a 2-cell lagoon. The primary cell is approximately 1.6 acres and the secondary cell is 2.34 acres in area (4 foot level). The system serves the Reserve Community (population: 120). At this time there is no additional housing proposed. The estimated average influent flow is 2500 gallons per day from domestic sources only. The discharge is controlled, usually occurring during the spring and fall to an unnamed wetland within the Reservation.

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

Proposed Effluent Limitations:

Outfall 001- the permittee is authorized to discharge treated municipal wastewater from Outfall 001. Outfall 001 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 (TSS)	All Year	60 mg/L	90 mg/L	---	---	STS
Ammonia Nitrogen, Total (as N) (mg/L)	All Year	Report	---	---	---	WQC
Dissolved Oxygen (mg/L)	All Year	---	---	---	Report	PWJ
E.coli	May 1 – September 30	126 E. coli/100 ml (geometric mean)	---	410 E. coli/100 ml	---	WQS
Phosphorus, Total (mg/L)	All Year	Report	---	---	---	WQC
pH	All Year	---	---	9.0 S.U.	6.0 S.U.	STS
Outfall Observation	All Year	Report	---	---	---	PWJ

Discharge flow was calculated as follows:

2.34 acres x 0.5 feet/day (6 inches/day) x 325,900 gallons per acre-ft ≈ 0.38 mgd

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

0.38 mgd x limit (mg/L) x 8.34 = Loading (lb/d).

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

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 Lac Courte Oreilles Band of Lake Superior Chippewa Indians as neither has federally approved water quality standards applicable to the receiving water at the point of discharge, however, EPA believes the effluent limitations included in the draft permit meet state water quality standards at the reservation boundary.

ESA and NHPA Compliance

EPA has satisfied its requirements under the Endangered Species Act and the National Historical Preservation Act. This is an existing facility with no planned expansion or construction within the permit term. Therefore, it is believed that the reissuance of the permit and the continued

operation of the facility and associated discharge will have no effect on endangered or threatened species or their critical habitat and will have no impact on 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 human health and EPA's water quality criteria, and protection of Wisconsin's WQS where they are applicable. In this regard, the draft permit has been shared with the Wisconsin Department of Natural Resources (WDNR). The limits in this draft permit are the same as the previous permit as EPA believes they are still applicable. The permittee has generally been in compliance with the limits.

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.

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 90 mg/L and a monthly average limit of 60 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.

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.

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 May through September. 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 Wisconsin'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 pervious permit required monitoring for phosphorus during discharge. Based on the results of that monitoring, the discharge averages less than 150 lbs per month of phosphorus. In accordance with Wisconsin NR 217, no phosphorus limit would be required. Also, Wisconsin phosphorus water quality standards do not apply to discharges to wetlands. Based on existing effluent data, low discharge flow and receiving water, EPA does not believe there is a reasonable potential that the discharge will cause or contribute to a violation of Wisconsin's water quality standards at the reservation boundary and therefore no limits are included. Monitoring is still required as the information will be used with the Phosphorus Management Plan required below.

The permittee is also required to implement its existing Phosphorus Management Plan (PMP). While the PMP does not require specific reductions at this time, the EPA strongly encourages the permittee to continually identify and eliminate/reduce sources of phosphorus to, and improve phosphorus management within, your wastewater treatment facility. Though it may be difficult to find "sources of high phosphorus loading" as the wastewater is mainly from domestic sources, optimizing treatment plant performance for phosphorus removal should be a more successful means for achieving phosphorus reductions at the facility. Therefore, the permit includes new language regarding optimization.

Ammonia

Ammonia is a pollutant that can negatively impact the quality of Wisconsin's water resources, including water used for drinking. Studies have shown that ammonia in lakes and streams has a toxic effect on aquatic life such as fish. To gain a better understanding of the current ammonia concentrations discharged from the facility ammonia monitoring is included in the permit.

Temperature

This permit requires temperature monitoring for calculating future ammonia limits and to obtain data to determine if the discharge has a reasonable potential to cause or contribute to a violation of Wisconsin's water quality standards. As the state's water quality standards are not applicable at the point of discharge, however, we do not believe the temperature standards would be violated at the reservation boundary. We do recognize that aquatic life do not discern boundaries and will include effluent temperature monitoring in the permit with a reopener to possibly modify the permit to include temperature limits at a later time.

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 development and 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.

- Dikes must be maintained and vegetation cut.

- Submittal of a Phosphorus Management Plan at least 180 days prior to permit expiration.

- 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), though no sludge is expected to be used or disposed of during the permit term.

Significant Changes from the Previous Permit

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

1. Added ‘Summary of Regular Reporting’.

2. A daily maximum limit for E. coli has been added to be consistent with 40 CFR § 122.45(d) and EPA 2012 Recreational Water Quality Criteria.

3. Monitoring for temperature has been added. A reopener clause related to temperature has also been added (Part I.E.9)

4. The permit requires weekly observations of the outfall to look for unusual characteristics

of the discharge and install and maintain protection measures to prevent erosion.

5. The Stabilization Pond requirements have been updated (Part I.D).

6. The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.E.2).

7. Requirements related to Asset Management have been added (Part I.E.5).

8. Requirement to submit a Phosphorus Management Plan (Part I.E.6).

9. The Industrial Waste Pretreatment Program language has been updated (Part I.E.7).

10. The 'Sludge Disposal Requirements' have been updated (Part I.E.8).

11. The "Standard Conditions" have been revised (Part II).

The permit is based on an NPDES application dated June 26, 2015 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 2016
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