

# STATEMENT OF BASIS

## FOR THE REISSUANCE OF A NPDES PERMIT

U.S. Environmental Protection Agency  
Region 5, Permits Branch - WP-15J  
77 West Jackson Boulevard  
Chicago, Illinois 60604  
(312) 886-6106

**Public Notice No.:** 19-12-01-A

**Public Notice Issued On:** December 20, 2019

**Comment Period Ends:** January 20, 2020

**Permit No.:** MI-0058661-3 (REISSUANCE)

**Application No.:** MI-0058661-3

**Name and Address of Applicant:**

Gun Lake Tribal Gaming Authority  
1123 129<sup>th</sup> Avenue  
Wayland, Michigan 49348

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

Gun Lake Tribal Gaming Authority  
Wastewater Treatment Facility  
1123 129<sup>th</sup> Avenue  
Wayland, Michigan 49348  
Allegan County  
NW ¼ of Section 19, T3N, R11W

**Receiving Water:** Buskirk Creek

### **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 permit will be issued by the U.S. Environmental Protection Agency since the discharge is located on land held in trust for the Gun Lake Tribe. 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 Gun Lake Tribal Gaming Authority operates a 0.20 mgd (with plans to ultimately expand to 0.350 mgd) wastewater treatment facility to serve the Gun Lake Indian Community in Allegan County, Michigan. The treatment works consists of an influent equalization basin with three influent pumps followed by flow metering and fine screening, located in the NW ¼ of Section 19 T 3N, R 11W.

Following screening, the wastewater enters the activated sludge process at the anoxic basin which provides additional flow equalization as needed. Chemical addition of alum for phosphorus removal and sodium hydroxide for pH adjustment occurs in the anoxic basin. Activated sludge is pumped from the anoxic basin to one or both pre-aeration basins which flow to one of both membrane bioreactor (MBR) for liquid/solids separation. Final effluent is pumped to ultra-violet light disinfection and post aeration prior to discharge to Buskirk Creek. The final effluent goes through ultraviolet disinfection then is discharged through Outfall 001 at approximately (N42635684, W85.652941), to discharge to Buskirk Creek.

Waste activated sludge (WAS) is removed from the MBR basins as needed via the WAS pump. WAS is typically thickened using a drum thickener with polymer addition then pumped to the aerobic digester. WAS may be pumped directly to the aerobic digester without thickening. WAS is aerated in the aerobic digester. Additional thickening occurs in the digester when the solids are allowed to settle for supernatant removal. A loading standpipe and wash down station are provided to allow tankers to be loaded for biosolids disposal.

**Proposed Effluent Limitations:**

**Outfall 001-** the permittee is authorized to discharge of treated municipal wastewater from Monitoring Point 0001A through Outfall 001, which discharges to an unnamed tributary to Buskirk Creek.

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
<b>Flow</b>	Report	---	Report	MGD	---	---	---	---
<b>Outfall observation</b>					---	Report	---	Yes/No
<b>Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>)</b>								
May 1- Sept 30	12	---	29	lbs/day	4	---	10	mg/L
Oct 1 – Nov 30	---	---	44	lbs/day	---	---	15	mg/L
Dec 1 – March 31	73	117	---	lbs/day	25	40	---	mg/L
April 1 - 30	---	---	61	lbs/day	---	---	21	mg/L
<b>Total Suspended Solids (TSS)</b>								
May 1 – Sept 30	58	88	---	lbs/day	20	30	---	mg/L
Oct 1 – April 30	88	131	---	lbs/day	30	45	---	mg/L
<b>Ammonia Nitrogen (as N)</b>								
May 1- Sept 30	1.4	---	5.8	lbs/day	0.5	---	2.0	mg/L
Oct 1 – Nov 30	---	---	15	lbs/day	---	---	5	mg/L
Dec 1 – March 31	---	---	---	lbs/day	Report	---	---	mg/L
April 1 – 30	20	---	38	lbs/day	7	---	13	mg/L
<b>Total Phosphorus (as P)</b>								
May 1 – Sept 30	0.29	0.58	---	lbs/day	0.1	---	---	mg/L
Oct 1 – April 30	2.9	5.8	---	lbs/day	1.0	2.0	---	mg/L
<b>E. coli</b>					126	---	410	E.coli/100 ml
<b>Mercury, Total</b>					---	---	Report	ng/L
<b>CBOD<sub>5</sub> Minimum % Removal</b>					Minimum 30-Day			
Dec 1 – March 31	---	---	---	---	≥85	---	---	%
<b>TSS Minimum % Removal</b>								

Oct 1 – April 30	---	---	---	---	≥85	---	---	%
					Minimum Daily		Maximum Daily	
<b>pH</b>	---	---	---	---	6.5	---	9.0	S.U.
<b>Dissolve Oxygen</b>								
May 1 – Sept 30	---	---	---	---	7	---	---	mg/L
Oct 1 – Nov 30	---	---	---	---	6	---	---	mg/L
Dec 1 – March 31	---	---	---	---	5	---	---	mg/L
April 1 – 30	---	---	---	---	6	---	---	mg/L

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

$$0.350 \text{ mgd} \times \text{limit (mg/L)} \times 8.34 = \text{Loading (lbs/d)}$$

**Basis for Permit Requirements**

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133, EPA’s water quality criteria and protection of Michigan’s water quality standards where they are applicable.

In this regard, the Michigan Department of the Environment, Great Lakes and Energy (EGLE), formally MDEQ developed limits for this facility for the previous permits that would be protective of state water quality standards. Though the State’s WQS are not applicable at the point of discharge, EPA believes the limits are appropriate and will use them to ensure compliance with the State’s WQS at the reservation boundary. Information from EGLE on the development of the limits can be found in the administrative record.

**pH**

The limits for pH are based on secondary treatment requirements pursuant to 40 CFR Part 133 and Michigan’s water quality standards (Part 4, Act 451 (R 323.1053)).

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

The limits in the previous permit are carried over to this permit as EPA believes they are still appropriate. For the previous permit, the limits were developed to be protective of Michigan’s dissolved oxygen standard and 40 CFR Part 133. Information related to the development of the limits can be found in the Administrative Record. The permittee requested a decrease in monitoring frequency from 2 x weekly to 1 x weekly to help reduce cost and due to the fact that their effluent quality is consistent. Monitoring data indicates this to be true and therefore the monitoring frequency has been reduced.

**Total Suspended Solids (TSS)**

The limits in the previous permit are carried over to this permit as EPA believes they are still appropriate. For the previous permit, the limits for October through April were based on 40 CFR Part 133. For May through September, the limits were set more stringent than secondary treatment (Part 133). Michigan requires the more stringent limits for new dischargers and EPA agreed that the limits were appropriate. The permittee requested a decrease in monitoring frequency from 2 x weekly to 1 x weekly to help reduce cost and due to the fact that their effluent quality is consistent. Monitoring data indicates this to be true and therefore the monitoring frequency has been reduced.

### **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 year-round. The permittee requested a decrease in monitoring frequency from 2 x weekly to 1 x weekly to help reduce cost and due to the fact that their effluent quality is consistent. Monitoring data indicates this to be true and therefore the monitoring frequency has been reduced.

### **Mercury**

During the last permit term, the permittee sampled its effluent for mercury using low level testing procedures annually. Based on the results, EPA believes the effluent does not have a reasonable potential to cause or contribute to a violation of Michigan's water quality standard where it is applicable. Because EPA still has concerns related to mercury discharges within the Great Lakes Basin, this permit will continue to require effluent monitoring for mercury. Though mercury discharges at this facility are not a concern at this time, the permit requires the continued implementation of a Mercury Minimization Plan to help identify potential new sources of mercury.

### **Phosphorus**

The limits in the previous permit are carried over to this permit as we believe they are still appropriate. The previous permit limits were developed to be protective of Michigan's water quality standards (Part 4, Act 451 (R 323.1060)). Information related to the development of the limits can be found in the Administrative Record. The permittee requested a decrease in monitoring frequency from 2 x weekly to 1 x weekly to help reduce cost and due to the fact that their effluent quality is consistent. Monitoring data indicates this to be true and therefore the monitoring frequency has been reduced.

### **Ammonia**

The limits in the previous permit are carried over to this permit as we believe they are still appropriate. The previous limits were developed to protect Michigan's dissolved oxygen water quality standards, chronic toxicity, new discharger criteria and permit writer's judgment. Information related to the development of the limits can be found in the Administrative Record. The permittee requested a decrease in monitoring frequency from 2 x weekly to 1 x weekly to help reduce cost and due to the fact that their effluent quality is consistent. Monitoring data indicates this to be true and therefore the monitoring frequency has been reduced.

### **Additional Monitoring**

Additional monitoring for Total Kjeldahl Nitrogen (TKN), Oil and Grease, Nitrate plus Nitrite Nitrogen and Total Dissolved Solids (TDS) is required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR § 122.21(j).

### **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.
- 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 the continued implementation of a Mercury Minimization Plan.
- Additional monitoring as required for discharges with a design flow greater than 0.1 MGD. This monitoring is an application requirement of 40 CFR 122.21(j).
- 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.
- In addition to Part III of the permit, the permittee is required to comply with the following:

The following land application sites have been identified as potential sites to receive sewage sludge during the permit term. It is not expected additional sites will be needed,

however, the permit requires notification both to EPA and locally if additional sites will be used. As new sites are identified, information on those sites will be available for inspection at the Regional Office.

Owner	Site ID#	Latitude	Longitude
Wayne and Sandra Larsen	02N11W13-WL01	N42: 38.895'	W85: 33.693'
George Warner	GW-01	N42: 34' 39"	W85: 35' 4"

**Significant Changes from the Last Permit**

Following are the significant changes in the draft permit:

- Changes to EPA Region 5 mailing addresses have been made throughout the permit.
- Reduced the monitoring frequency from twice to once per week for; Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Suspended Solids (TSS), Ammonia (NH<sub>3</sub>-N), Total Phosphorus (TP) and E. coli. (Part I.A)
- Influent Biochemical Oxygen Demand (BOD<sub>5</sub>) monitoring has been removed from the permit. (Part I.B)
- The Reporting requirement has been changed to require electronic submittal of DMRs. (Part I.C.2)
- Additional requirements related to Asset Management have been added. (Part I.C.3)
- A new land application site has been added. (Part I.C.6)
- The “Standard Conditions” have been revised (Part II).
- The “Sludge Conditions” have been revised (Part III)

The permit is based on an application dated June 6, 2019 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: Wilonda Quinn/John Colletti  
U.S. EPA, Region 5, WP-16J  
77 West Jackson Blvd.  
Chicago, IL 60604  
(312) 886-6106

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