

INSPECTION REPORT

Inspection Entry Date/Time	08/04/2023 08:18 AM (ET)	Announced: Yes	
Inspection Exit Date/Time	08/04/2023 11:30 AM (ET)	Access: Granted	
Weather	Day 1 – sunny and mild		
Media	Water		
Statute(s)/Program(s)	Clean Water Act, NPDES, WWTP		
Type of Inspection	Compliance Evaluation Inspection (CEI)		
Permittee Name	Grand Traverse Band of Ottawa and Chippewa Indians		
Facility or Site Name	Peshawbestown Wastewater Treatment Plant		
Facility/Site Physical Address	3499 E. Putnam Road		
City, State, Zip Code	Suttons Bay, MI 49682		
County/Borough/Parish	Leelanau County		
Facility GPS Coordinates	44.966019, -85.64954		
Mailing Address (If different)			
City, State, Zip Code			
FRS ID	110009900009		
Permit Number(s) (If Applicable)	MI0054640		
SIC and/or NAICS	4952 / 221320		
Regulatory Representatives Participating in Inspection:			
Title	Name	Organization	
Inspector	Jennifer Bush	EPA REGION 5	
Lead Inspector:			
Dean Maraldo	<i>[Signature]</i> DINO MARALDO Digitally signed by DINO MARALDO Date: 2023.08.18 09:15:52 -05'00'		
	EPA REGION 5	Maraldo.Dean@epa.gov	(312) 353-2098
Supervisor Review:			
Ryan Bahr	<i>[Signature]</i> RYAN BAHR Digitally signed by RYAN BAHR Date: 2023.08.18 17:59:28 -05'00'		
	EPA REGION 5	bahr.ryan@epa.gov	

SECTION I – INTRODUCTION**Site Entry and Inspection Objectives**

I, EPA REGION 5 Lead Inspector, Dean Maraldo, arrived at the Grand Traverse Band of Ottawa and Chippewa Indians' Peshawbestown Wastewater Treatment Plant ("Facility"), located at 3499 E. Putnam Road, Suttons Bay, Michigan, at 08:18 AM (ET) on 08/04/2023 for an announced inspection. I presented my inspector credentials to Joe Huhn and informed him that this was an EPA REGION 5 inspection to determine compliance as authorized by Clean Water Act (CWA) Section 308 and implementing regulations. EPA inspector Jennifer Bush joined me on the inspection and also presented inspector-in-training credentials to Mr. Huhn. This report is based on information supplied by Facility representatives, direct observations made by EPA inspectors, records and reports maintained by the permittee and other information including: photographs taken by EPA REGION 5 inspectors, physical evidence collected by EPA REGION 5 inspectors, measurements taken by EPA REGION 5 inspectors, verbal or written statements made by information supplied by Facility representatives during or subsequent to the on-site inspection, and materials, processes, data, photographs, or documents shown, demonstrated, or submitted to the EPA REGION 5 inspectors by Facility representatives during or subsequent to the on-site inspection. In addition, information gathered prior to or subsequent to the Inspection from a review of EPA and/or public records may be included in this report.

Attendees

Organization	Attendee Name	Title	Present in Opening Conf.	Present in Closing Conf.
EPA REGION 5	Dean Maraldo	Lead Inspector	Yes	Yes
EPA	Jennifer Bush	Inspector	Yes	Yes
Grand Traverse Band	Joe Huhn	Director of Public Works	Yes	Yes
Grand Traverse Band	Joe Burfield	West Bay Water Utility Director	Yes	Yes

Facility/Site Description

I began by reviewing the Facility description provided in the Facility's NPDES permit ("Permit") (excerpt below) and the Facility representatives either confirmed or corrected (in bold) the information as described below. Unless noted otherwise, Facility responses were provided by Mr. Huhn.

- *The application and plans indicate that the permittee operates a 0.12 MGD Sequencing Batch Reactor. **Average daily flow is currently about 40k gallons or less.***
- *(SBR) system with phosphorus removal followed by ultraviolet disinfection.*
- *Solids from the SBR unit are wasted to two (2) aerobic digesters and then stored in covered tanks.*
- *From the storage tanks, the sludge is land applied by injection by a private contractor to farmland.*
- *The discharge is continuous to West Grand Traverse Bay.*

Facility/Site Information

Next, I asked some background questions. Unless noted otherwise, Mr. Huhn provided the responses in the table below.

Have any bypasses or overflows happened at the plant or in the collection system in the last year?	No
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Backup electrical power source, and does it turn on automatically?	Generator at plant (installed ~2017), main LS has stationary generator, others portable
Type(s) of primary flow measuring device(s)?	Mag meter for influent, effluent has ultrasonic sensor
Industrial Users	Medical clinic with dental
Are there any plans for renovation or additional equipment to allow for increased wastewater flow?	Process of designing new lift station (one of the smaller systems) to replace the old station (there are eight lift stations in total, mostly small, with four main stations)
Is there currently any portion of the treatment train that is non-operational?	No
Do you accept waste from septage haulers? If so, what problems have you experienced?	Very infrequently, not open to the general public
Do you use in-house or contract out for laboratory analyses? (including metals or WET testing)	In house lab (for biochemical oxygen demand, phosphorus, ammonia, bacteria, total suspended solids, and pH), all but mercury and toxicity testing
Responsible official	Joe Huhn
WWTP Design Capacity & Average Daily Flow	40,000 gallons per day, very little inflow or infiltration (“I&I”)
WWTP Approx. # of residents served	130 residential connections and 20 commercial and governmental connections
Contributing (or shared) Jurisdictions	No
Outfalls:	Outfall #001 to West Grand Traverse Bay
Operation schedule:	M-F, 8-5pm, on call weekends, with auto dialers for alarms
What sort of failure alarm does the plant have?	Power loss, high level in lift stations, mixer failure, pump failures, SBR basins levels
Any Confidential Business Information concerns?	No

Inspection Focus Areas and Locations

Location/Area/Sub-area	Description
Interview	Facility Office
Reporting	
Self Monitoring	
Operations and Maintenance (“O&M”)	
Sanitary Sewer Overflows (“SSOs”)	
Flow Monitoring	
Discharge Monitoring Report (“DMR”) Review	
Records Review	
Physical Inspection	Facility Wastewater Treatment Building
Final Outfall #1	Shoreline of West Grand Traverse Bay (45.02934833, -85.60010666)

SECTION II – OBSERVATIONS

Location: Interview/Reporting (non-DMR)	
Observation #: DM1-OB-001	Date: 08/04/2023
Mr. Huhn confirmed that non-DMR reporting required under the Permit is up to date, including the Asset Management Report and the Pollutant Minimization Program Status report for Mercury, due by January 31 each year.	

Location: Interview/Self Monitoring	
Observation #: DM1-OB-002	Date: 08/04/2023
Facility responses regarding Self Monitoring were provided by Mr. Huhn, unless noted otherwise. I started by asking about the location of influent and effluent sampling locations. Influent samples are collected before the headworks and composite effluent samples (time proportioned) before ultraviolet ("UV") treatment. Effluent grab samples collected after UV treatment, per the Permit. Composite samples are cooled to <4°C to properly preserve them during the compositing period. During the last inspection, I recommended investing in NIST thermometers for refrigerators and autosamplers. Mr. Burfield confirmed that this was done. The Band recently submitted an NPDES Permit renewal application. I confirmed that the application was complete, including results of required additional monitoring. During the last inspection, I noted that sampling/lab forms were incomplete, lacking a place for date/time of sample collection and the name of person collecting sample. Mr. Burfield confirmed that the forms have not been updated to include this information.	

Location: Interview/O&M	
Observation #: DM1-OB-003	Date: 08/04/2023
Facility responses regarding O&M were provided by Mr. Huhn, unless noted otherwise. Are all treatment units operable? Yes During the last inspection, I observed that the digester decant process relied on a portable trash pump. The Band intended on installing a permanent decant system. Mr. Burfield confirmed that they still use the trash pump. Is sufficient sludge wasted from treatment system at proper time intervals to maintain process efficiency? Yes, and scheduled for sludge hauling this month. On a regular basis, do operators monitor the key operating parameters (<i>e.g.</i>, mixed liquor suspended solids MLSS, mixed liquor volatile suspended solids, and sludge age, and conducting the necessary adjustments to meet the limits of the permit? Yes, daily settleability, additional pH and DO.	

Any bypasses over the last year? No.

Are alarms sent to qualified personnel who can respond immediately to remedy the problem? Yes, Joe Burfield said automated alerts start with plant alarms, then staff cell phones.

Are routine and preventive maintenance scheduled performed and recorded? Yes, Joe Burfield said they tried different programs, but using paper tracking currently.

Is a logbook kept which documents all plant activities on a daily basis? Yes, Joe Burfield said they record Daily notes on a computer.

Does the facility maintain an inventory of spare parts, either at the facility or close by, sufficient to keep all of its treatment units operational? Yes, Joe Burfield said he thinks they have a written inventory.

Is the standby power regularly exercised under load? Yes, weekly exercise, and a semi-annual maintenance contract.

Mr. Huhn mentioned that the collection system map is maintained in the Band's GIS system.

I asked about the asset management requirements in the Permit. Mr. Huhn said they started an asset inventory for lift stations but not the wastewater plant. He also said that they have not started the asset risk evaluation, required under Permit Part I.C.3.a.G.(b). Mr. Huhn provided a copy of the 2022 Annual Asset Management Report due, January 31, 2023 (see Document Log, Appendix 2).

Next, I asked about the Facility's O&M record system, including:

Maintenance cost records: Mr. Burfield said he uses a spreadsheet for now.

Repair history: rely on written tracking.

Are Instruction files for operation and maintenance of each item of major equipment available? Yes

Operator certifications: Joe Huhn (Michigan Class B); Joe Burfield (Michigan Class A); Ricky Woods (operator, Michigan Class C); also, currently interviewing for an apprentice operator.

Location: Interview/SSOs

Observation #: DM1-OB-004

Date: 08/04/2023

I asked if there have there been any backups or overflows in the sanitary sewer collection system, including pump stations, manholes and piping since the last inspection. Mr. Huhn said there were no SSOs since the last inspection.

Location: Interview/Flow Monitoring

Observation #: DM1-OB-005

Date: 08/04/2023

I asked what type of influent and effluent flow meters are used. Mr. Burfield said they rely on a mag meter for influent flow, and an ultrasonic sensor over a flume for effluent flow. Flow measuring devices are professionally calibrated at least once per year.

Location: Interview/DMR Review	
Observation #: DM1-OB-006	Date: 08/04/2023
I provided a list of permit effluent limit exceedances (see Document Log, Appendix 2) to the Facility representatives and asked to describe the cause(s) if known. Mr. Huhn provided the information below. October/November 2021: Phosphorus, Total Suspended Solids, and pH effluent limit exceedances, including exceedances of daily maximum limits. Caused by accidental ferric chloride cycling into tanks, killing “bugs”, and resulting in low pH (2.7); returned to compliance the next month. April/May 2019: Phosphorus effluent limit exceedances, including exceedances of daily maximum limits. Due to organic overload from septage haulers. I asked if all noncompliance which may endanger health or the environment, including all violations of daily limits, have been orally reported within 24 hours and followed up with a letter to EPA within 5 days. Mr. Huhn said they have not reported all Permit effluent limit exceedances.	

Location: Physical Inspection		
Observation #: DM1-OB-007	Date: 08/04/2023	Weather: sunny mild
The physical inspection of the wastewater treatment plant began at 10:20 AM (ET) on August 4, 2023. Joe Huhn and Joe Burfield led the tour of the facility. Inspection observations were recorded in a field notebook and captured in the Photo Log (Appendix 1). The physical inspection of the wastewater treatment plant was completed at 11:10 AM (ET) on August 4, 2023.		
Photo(s) 1. GTBP0271.JPG 2. GTBP0279.JPG 3. GTBP0269.JPG 4. GTBP0270.JPG 5. GTBP0274.JPG 6. GTBP0273.JPG 7. GTBP0275.JPG 8. GTBP0276.JPG 9. GTBP0277.JPG 10. GTBP0278.JPG 11. GTBP0282.JPG 12. GTBP0280.JPG 13. GTBP0281.JPG 14. GTBP0283.JPG 15. GTBP0284.JPG		

SECTION III – RECORDS REVIEW

Record: DMR Reports		AOC: Yes
Ref #: DM1-RR-001	Reviewed By: Dean Maraldo	Reviewed Date: 08/04/2023
I reviewed the DMR and bench sheets for May 2023, and noted the following issues: Bench sheet: May 2023; form should include analysis time for pH, Dissolved Oxygen (“DO”), and any other parameters. The form should also include the sample analysis and collection time and operator/sampler name, and analyst name. See Appendix 2 for copy of the daily lab/bench sheet for 5/31/2023. I checked several days of bench sheets and compared against the DMR calculation sheet. No issues or errors were found.		

SECTION IV – SAMPLING ACTIVITIES AND ANALYTICAL RESULTS

No sampling was conducted.

SECTION V - AREA OF CONCERN

Areas of Concern may not be in sequential order.

The presentation of Areas of Concern does not constitute a formal compliance determination or violation.

AOC Reference #: DM1-OB-003	Location: Interview/O&M
Regulation and/or Permit Requirement	
Permit Part II.B.1. Proper operation and maintenance	
AOC: During the last inspection, I observed that the digester decant process relied on a portable trash pump. The Band intended on installing a permanent decant system. Mr. Burfield confirmed that they still use the trash pump.	

AOC Reference #: DM1-OB-003	Location: Interview/O&M
Regulation and/or Permit Requirement	
Permit Part I.C.3.a.G. Inventory and assessment of fixed assets	
AOC: Mr. Huhn said they started an asset inventory for lift stations but not for the wastewater plant. He also said that they have not started the asset risk evaluation, required pursuant to Permit Part I.C.3.a.G.(b).	

AOC Reference #: DM1-OB-006	Location: Interview/DMR Review
Regulation and/or Permit Requirement	
Permit Part I.A. Final Effluent Limitations and Monitoring Requirements	
AOC: Permit effluent limit exceedances. October/November 2021: Phosphorus, Total Suspended Solids, and pH effluent limit exceedances, and April/May 2019 Phosphorus effluent limit exceedances.	

AOC Reference #: DM1-OB-006	Location: Interview/DMR Review and Reporting
Regulation and/or Permit Requirement	
Permit Part II.A.D.8 Reporting Requirements	
AOC: I asked if all noncompliance which may endanger health or the environment, including all violations of daily limits, have been orally reported within 24 hours and followed up with a letter to EPA within 5 days. Mr. Huhn said they have not reported all Permit effluent limit exceedances.	

AOC Reference #: DM1-OB-003	Location: Interview/O&M
Regulation and/or Permit Requirement	
Permit Part I.C.3.a.G.(b). Inventory and assessment of fixed assets	
AOC: Mr. Huhn said they started an asset inventory for lift stations but not the wastewater plant. He also said that they have not started the asset risk evaluation, pursuant to Permit Part I.C.3.a.G.(b).	

AOC Reference #: DM1-RR-001	Records Review: DMR Reports
Regulation and/or Permit Requirement	
40 CFR Part 136, Permit Part II.C.3. Monitoring Procedures; Permit Part II.B.1. Proper Operation and Maintenance (proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures)	
AOC: Bench sheet/form for May 2023 should include analysis time for pH, DO, and any other parameters. The form should also include the sample analysis and collection time and operator/sampler name, and analyst name.	

AOC Reference #: DM1-OB-007	Location: Physical Inspection
Regulation and/or Permit Requirement	
Permit Part I, Treatment Facility Description	
AOC: The abandoned Aqua Disc tertiary filter is no longer in use and not included in process description in the current Permit but included in process flow diagram for the new proposed Permit. Mr. Huhn said he would contact the EPA permitting program to see if diagram can be corrected prior to issuance of the new Permit.	

SECTION VI – CLOSING CONFERENCE AND FOLLOW UP

Closing Conference

I held a closing conference with Facility personnel at 11:20 AM (ET) on 08/04/2023. During the closing conference, I discussed the observations, preliminary Areas of Concern, and follow up items identified during the inspection. Observations and preliminary Areas of Concern have not yet been evaluated for a formal compliance determination. Before concluding, I discussed the timeframe for completion of the inspection report. With no additional questions, I concluded the inspection at 11:30 AM (ET) on 08/04/2023.

Follow Up Questions

Of the follow up questions discussed during the inspection, only the item below is outstanding.

Location: Interview	Area: O&M	Sub-area: Asset Management
DM1-OB-003		
Facility representatives will confirm if the Facility maintains a written inventory of spare parts for the wastewater treatment system.		

Communication Log

No additional information received by EPA REGION 5 after exiting the Facility on 08/04/2023.

SECTION VII – LIST OF APPENDICES

- 1. Photo Log
- 2. Document Log

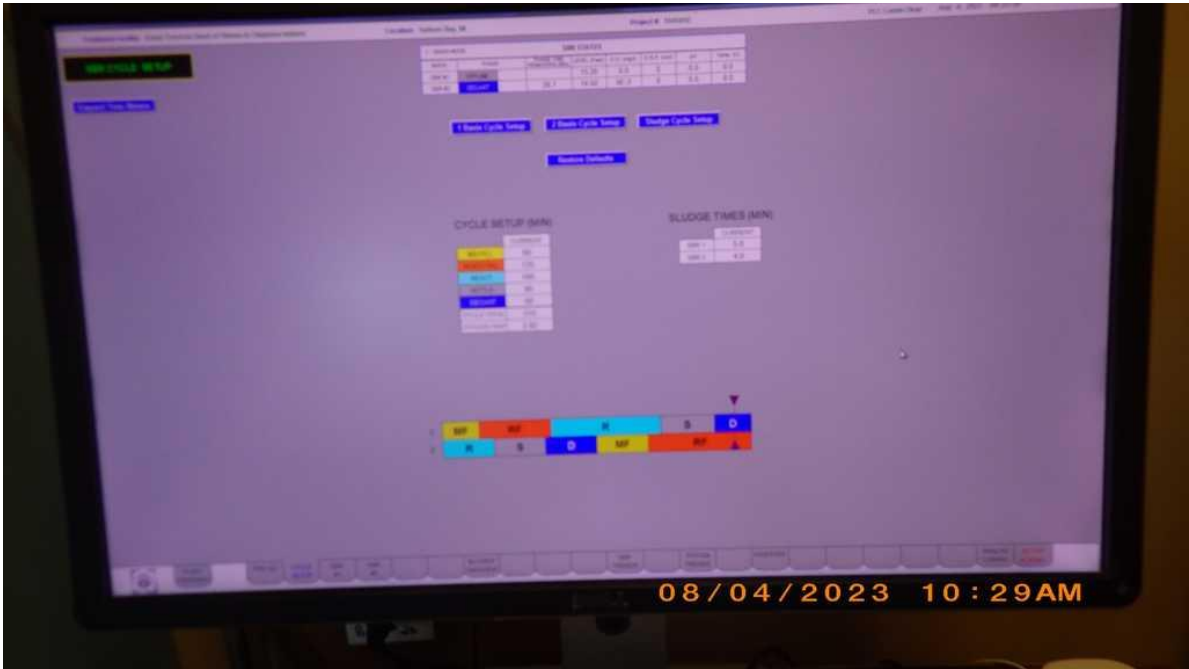
APPENDIX 1: PHOTO LOG



Influent flow meter and tap location			GTBP0269.JPG
08/04/2023 10:26 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Located in treatment building.			



Ferric room			GTBP0270.JPG
08/04/2023 10:28 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Location of Ferric tanks (2).			



SCADA Screen			GTBP0271.JPG
08/04/2023 10:29 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
SCADA screen located in laboratory/control room.			



Pre-EQ Basin			GTBP0273.JPG
08/04/2023 10:33 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
SBR Pre-EQ Basin, located in Tank Room.			



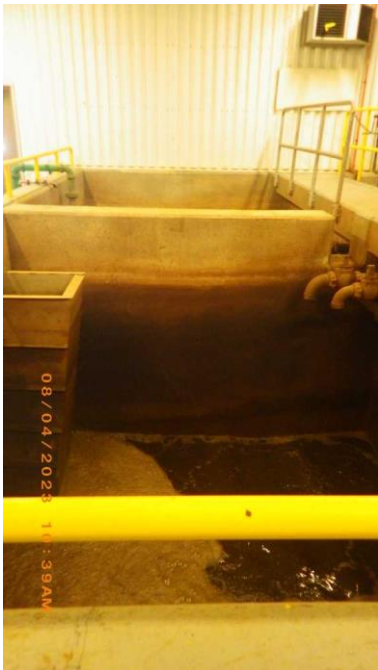
SBR Basin #1			GTBP0274.JPG
08/04/2023 10:34 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
SBR Basin #1 currently offline and used for additional storage as needed.			



SBR Basin #2			GTBP0275.JPG
08/04/2023 10:35 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
SBR Basin #2 currently in use.			



Influent Autosampler			GTBP0276.JPG
08/04/2023 10:37 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Located at Pre-EQ basin. Refrigerated unit with heat-sink thermometer.			



Digestors (2)			GTBP0277.JPG
08/04/2023 10:39 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Digestors (2)			



Digestors (2)			GTBP0278.JPG
08/04/2023 10:39 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Note trash pump used to decant to Basin 1 (storage), usually once per day.			



Ultraviolet (UV) Treatment			GTBP0279.JPG
08/04/2023 10:49 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
UV system contains four banks. Three banks operational, fourth is offline and used as needed.			



Effluent autosampler			GTBP0280.JPG
08/04/2023 10:51 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Effluent auto sampler before UV. Noted clean tubing.			



Effluent manhole			GTBP0281.JPG
08/04/2023 10:53 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Noted flow sensor in manhole above flume. From here flow travels about 1/2 mile to the bay.			



Aqua Disc System			GTBP0282.JPG
08/04/2023 10:56 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Abandoned Aqua Disc tertiary filter. No longer in use and not included in process description in the current Permit but included in process flow diagram for the new proposed Permit (See Appendix 2 for copy of the flow diagram). Mr. Huhn said he would contact the EPA permitting program to see if diagram can be corrected prior to issuance of the new Permit.			



Lift Station 4			GTBP0283.JPG
08/04/2023 11:08 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			
Lift station 4 wet well. Pumps sewage to Lift Station 3 (last station before plant).			



Outfall #001			GTBP0284.JPG
08/04/2023 11:11 AM (ET)	No CBI	No PII	Photographer: Dean Maraldo
Physical Inspection			Coordinates: 45.02934833, -85.60010666
Location of Outfall #001 (buried), which runs about 600 feet into West Grand Traverse Bay.			

APPENDIX 2: DOCUMENT LOG**Documents Received and Attached to Report Below**

Document Name	Contains CBI or PII	Date Received	Pages
Asset Management Report for 2022	No	8/4/2023	1
Effluent Limit Exceedance Report (8/2018-6/2023)	No	Provided by EPA	1
Laboratory Bench/Work Sheet for May 31, 2023	No	8/4/2023	1
Process Flow Diagram, including abandoned filtration system	No	8/4/2023	1

Documents Received and Not Attached to Report

Document Name	Contains CBI or PII	Date Received	Pages
NPDES Permit Application Forms, signed 2/21/2023	No	8/4/2023	107

SUMMARY OF ASSET MANAGEMENT ACTIVITIES FOR 2022

Below is an update regarding the asset management plan for the Peshawbestown MI., SBR plant for 2022. This plan is in the process of being developed and is partially implemented at this time. Additional work has continued on the development of the asset management plan thru 2022 and perhaps for several years beyond.

A – Staffing: Below are the staff that oversee the Peshawbestown SBR Plant and their level of certification.

- Norman Burfield – Michigan Class A wastewater certification
- Joseph Huhn – Michigan Class B wastewater certification
- CJ McGrath – not currently certified
- Richard Woods – Michigan Class C wastewater certification

B – Inspections:

- Manhole inspections
- Lift station inspections
- Grease removal
- Fire Extinguishers and Eye wash stations

C – Expenditures: Three main areas include the Lift stations, Collection System and SBR plant

- By-pass installed on station 1 and 2
- GIS mapping of collection system
- UV lighting

D – Summary of asset areas identified for action

- Lift station replacement at Med lodge
- Valve replacement
- Lift station by-pass for #3

E – Budget for capital improvement

- The Water Utilities program overseen by the Grand Traverse Band staff bill and collect revenue that equated to operating expenses and depreciation expenses. All assets over \$5,000 are depreciated over a specific life cycle. These funds are collected throughout the year by the program and set aside for future need. Our depreciation amount for FY2022 was \$171,259.

Additional information can be request by contacting Joe Huhn by phone at 231-499-4235 or email joe.huhn@gtbindians.com

Date: 1/19/2023

Joseph R. Huhn

Effluent Limit Exceedances Report

MI0054640: GRAND TRAVERSE BAND OF OTTAWA, SUTTONS BAY, MI 49682

Monitoring Period Date Range: 08/01/2018 to 06/30/2023

Exceedance Details

Monitoring Period Date	Parameter Description	Limit Type	DMR Value	Limit Value	Limit Value Qualifier	Limit Value Unit	% Exceedance
4/30/2019	Phosphorus, total (as P)	MAXIMUM	1.1	1	<=	mg/L	10
5/31/2019	Phosphorus, total (as P)	MO AVG	1	0.5	<=	mg/L	100
5/31/2019	Phosphorus, total (as P)	MAXIMUM	2.3	1	<=	mg/L	130
10/31/2021	pH	MINIMUM	2.7	6	>=	SU	
10/31/2021	Solids, total suspended	WKLY AVG	31	22.5	<=	mg/L	38
11/30/2021	Solids, total suspended	MO AVG	23	15	<=	mg/L	53
11/30/2021	Solids, total suspended	WKLY AVG	30	22.5	<=	mg/L	33
11/30/2021	Phosphorus, total (as P)	MO AVG	1.1	0.5	<=	mg/L	120
11/30/2021	Phosphorus, total (as P)	MAXIMUM	1.8	1	<=	mg/L	80

OPERATOR Joe Burfield

DATE: 5-31-23 Wednesday PESHAWBESTOWN SBR LAB WORK SHEET

CBOD	INFLUENT		EFFLUENT			
	Blank		% Spike	% Spike		
Bottle #	Blank	4	7	10	11	24
Sample Mls./Conc. %	100	7	10	240	240	240
Initial D.O.	10.15	10.10	10.01	9.41	9.02	9.54
End D.O.	10.08	7.23	5.62	4.55	3.53	7.69
Depletion	0.07	2.87	4.39	4.86	5.49	1.85
Depletion Avg.			1.99	1.37	1.37	
BOD mg/l		123	132	2.49	1.37	
5 DAY BOD Avg.	128			1.93		

PHOSPHORUS		INFLUENT	EFFLUENT
Bottle #		N	3
Sample Volume		20ml	25ml
Concentration		0.25	0.1
Phos mg/l		6.25	0.2
Bottle # =			
Standard mls =			
Reading =			

MIXED LIQUOR SS	
Reactor #	2
10 MIN.	780
30 MIN.	530
1 HR.	420
Sample mls.	50
Filter & Solids	0.5527
Filter	0.4221
MLSS mg/l	2.612
Filter & Solids	0.5527
Filter & Ash	0.4614
MLVSS mg/l	1.826

SOLIDS	INFLUENT		EFFLUENT		SLUDGE	pH	INFLUENT	EFFLUENT
	Crucible #							
Sample mls.	25		500			Concentration	7.54	7.06
Dish & Dry Weight gm	33.9162		33.0201			pH Slope : 95.3%		
Dish (Tare) Weight gm	33.9146		33.0189			E-COLI	COUNT	PER 100 ML
Dry Weight gm	6.0016		0.0012			Blank	OK	
Total SS mg/l	64		2.4			Seed	11	44
Dish & Dry Weight gm	33.9162		33.0201			MLs: 25	7	14
Ash Weight gm	33.9146		33.0190			MLs: 50		
Volatile Weight gm	0.0016		0.0011			Average =	29	
Volatile SS mg/l	64		2.2			Set Up Time =	315pm	

SDI =	0.49
SVI =	203
F/M Ratio =	0.02
CRT =	

Notes:

AMMONIA		INFLUENT	EFFLUENT
Volume mls.		100	100
mg/l Concentration		31.1	0.74
Ammonia Slope =		-56.6	

Grab Sample	
Effluent Temp =	14.5°C
Effluent D.O. =	7.2
Basin Temp =	
Basin Level ft. =	14.5

Sample - Temp	Time	Initials
INF: 22.5°C	1pm	JB
EFF: 30.2°C	110pm	JB

Flow Diagram

