pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0061671**
Facility Type	**Municipal**	APS ID	**473070**
Major / Minor	**Minor**	Authorization ID	**1247181**

Applicant and Facility Information

Applicant Name	**Greenfield Township Sewer Authority Lackawanna County**	Facility Name	**Greenfield Township Sewer Authority (GTSA) WWTP**
Applicant Address	PO Box 501	Facility Address	111 Lakeview Avenue
	Carbondale, PA 18407-0501		Greenfield Township, PA 18407-3738
Applicant Contact	Glenn Shifler (Chairman)	Facility Contact	Sarah Shifler (Office Manager)
Applicant Phone	(570) 222-4889	Facility Phone	(570-222-4889
Client ID	1096	Site ID	239909
Ch 94 Load Status	Not Overloaded	Municipality	Greenfield Township
Connection Status	-	County	Lackawanna
Date Application Received	October 1, 2018	EPA Waived?	Yes
Date Application Accepted	November 9, 2018	If No, Reason	-

Purpose of Application: RENEWAL OF EXISTING NPDES PERMIT.

Summary of Review

This is an NPDES Permit Renewal Application (replacing a withdrawn Application) for a 0.140 MGD POTW discharging to the Unnamed Tributary #29059 to Dundaff Creek River (WWF).

Background:

- **Current Authority Engineer/Operator: Environmental Engineering & Management Associates, Inc. (EEMA) is the current facility Engineer and Certified Operator working for the GTSA as of 2018.**
- Limited Valid Data: In separate communications and this application, the Authority and its engineer indicated previous site records cannot be relied upon. No Chapter 94 Annual Municipal Wasteload Report was submitted for 2017 due to unreliability of Authority data/records. See Compliance Section for details. The new NPDES Permit Renewal Application is using February 2, 2018 through August 31, 2018 data only.
- Existing Facility Condition: In this application, the Authority and its engineer has indicated the facility is in poor condition, needing substantial maintenance, replacement-in-kind, upgrades, etc. Listed site needs included:
  - Installation of new influent screen and splitter box
  - Replacement of aeration systems with fine bubble aeration diffusors (both basins)
  - Replacement of decanters. NOTE: The facility had to replace replacement decanter recently installed.
  - Replacement of (SBR basin) blowers with new positive displacement blowers with sound enclosures, VFDs and DO oxygen control system to provide energy conservation.
  - Replace aerobic digester with new positive displacement blowers with sound enclosures with VFD.
  - Replacement of aerobic sludge digester aeration system with fine bubble diffusors
  - Piping modifications including telescoping valves
  - Miscellaneous electrical system work (conduits, wires & disconnect switches)
  - Miscellaneous mechanical system work (access hatches, winches, ship ladders, platforms and unit-strut).

Approve	Deny	Signatures	Date
X		James D. Berger, P.E. / Environmental Engineer	February 27, 2019
X		Amy M. Bellanca, P.E. / Environmental Engineer Manager	

Summary of Review

- Update SBR control panel programming with appropriate instrumentation and controls to allow for meeting with NPDES permit requirements.
- Replace UV Disinfection System control panels to provide energy conservation.
- Replace control building roof with new 30-year roof.
- Previous UV disinfection unit was approved.

Part C Special Conditions: Changes from previous permit bolded:

- Parts C.I.A, B, & C: Standard conditions (stormwater prohibition; necessary property rights; proper management of residuals) per template.
- **Part C.I.D: Emergency Chlorine disinfection/minimization condition (updated TRC limits in Part A).The site was permitted to use UV Disinfection only, but fecal coliform issues have persisted. They have the option of emergency supplemental chlorination to supplement an ineffective UV Disinfection System or other emergency disinfection requirement or cleaning.**
- Part C.I.E: Updated dry stream condition due to limited dilution capacity of effluent-dominated stream.
- **Part C.I.F: New SBR discharge condition due to condition of intermittent discharge SBRs.**
- **Part C.I.G: Notification of Responsible Operator for POTW (including offsite Pump Station) condition including Operator License Number within thirty (30) days of PED with subsequent updating. Required due to site-specific history and potential changes in responsible licensed operator for entirety of POTW.**
- **Part C.I.H: New O&M Plan condition requiring submittal within ninety (90) days of PED due to site-specific conditions, ongoing noncompliance issues (see Compliance Section DMR information), and uncertainties about assorted WWTP repairs/upgrades (reportedly dependent on PENNVEST funding). The facility must be able to adequately operate and maintain the POTW (including collection system by definition) to meet NPDES Permit requirements.**
- **Part C.I.I: New High Flow Management Plan (HFMP) condition due to Authority blaming exceedances and overflows on high flow events in an Low Pressure Sewer (LPS) System.**
- **Part C.I.J: New Hauled-in Wastewater condition requiring Part A.III.C.2 notification and other requirements due to WWTP condition and potential future acceptance of hauled-in residual waste/IW wastewater.**
- Part C.I.K: Existing condition for changes in effluent or stream
- **Part C.I.L: New condition requiring Mechanical 24-hour flow-proportional composite sampler controlled by the PLC for flow-proportional sampling and recording date/time of sampling subevents. This is a site-specific condition due to DEP Inspector Request and site-specific monitoring/recordkeeping issues at this facility.**
- **Part C.II: Chesapeake Bay Nutrient Definitions included for informational purposes.**
- **Park C.III: New Standard Solids Management Conditions included.**
- **Part C.IV: New Copper Water Quality-Based Effluent Limitations for Toxic Pollutants**
- **Part C.V: New 1-Year Schedule of Compliance for Pump Stations SSOs and pattern of Permit Limits Exceedances: Chapter 92a.51 (Schedule of Compliance) allows for permit action during period of noncompliance if there is a schedule of compliance for the facility to come into compliance with existing permit limit (including SSO prohibition). See Compliance Section for description of POTW issues (including collection system). No CO&A has been negotiated to otherwise address ongoing non**
  - **1-Year Schedule of Compliance: This time-frame appears adequate:**
    - **Plant Issues: Because the facility is taking steps to correct existing plant problems (issued 2018 WQM Permit and separate PENNVEST application indicating estimated completion of construction by July 21, 2020), a one-year schedule appears appropriate for implementation of the permitted construction and perform any required maintenance and repairs. 2018 DMR data shows some improvement in attaining permit limits during 2018 (per Compliance History section below). The facility has already identified additional UV Disinfection System options if current corrective action does not resolve fecal coliform exceedances.**
    - **Collection System Issues: The POTW definition includes the collection system. The application and other information indicates Pump Station SSOs and apparent I&I from unknown sources. The Authority cannot defer addressing collection system issues until after it has solved the treatment plant issues (especially given lack of schedule commitment of implementation of 2018 WQM permit improvements and proposed PENNVEST projects said to be wholly dependent on PENNVEST Funding). No Act 537 Corrective Action Plan for Pump Station SSOs found in previous Chapter 94 Reports.**

Summary of Review
Public Participation DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.140
Latitude	41º 38' 21.76"	Longitude	-75º 33' 11.24"
Quad Name	Clifford	Quad Code	0541 (2.21.1)
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Dundaff Creek	Stream Code	29059
NHD Com ID	66399909	RMI	-
Drainage Area	1.07 square miles	Yield (cfs/mi^2)	0.0299
Q_{7-10} Flow (cfs)	0.0319	Q_{7-10} Basis	PAStreamstats using downstream point for Low Flow Yield calculation
Elevation (ft)	~1640	Slope (ft/ft)	-
Watershed No.	4-F	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s): **Recreational use evaluated in 2015; aquatic life evaluated in 1998. Due to Compliance issues, these evaluations are obsolete.**		
Cause(s) of Impairment	**-**		
Source(s) of Impairment	**-**		
TMDL Status	**-**	Name	**-**

Background/Ambient Data		Data Source
pH (SU)	6.62	7/24/2008 Newton Lake sample point closest to WWTP (Sample ID# 1344190, Sequence No. 551)
Temperature (°C)	25.03	See above
Total Phosphorus (mg/L)	0.012	See above
Total Nitrogen (mg/l):	0.31	See above
Nitrate-N (mg/l)	<0.04	See above
Nitrite-N (mg/l)	<0.01	See above

Nearest Downstream Public Water Supply Intake		Danville	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	~112

Changes Since Last Permit Issuance:

- **Stream reclassified as Warm Water Fishery (WWF) after prior NPDES Permitting.**
- **Outfall No. 001 coordinates updated in NPDES Permit Renewal Application. It is downstream of the "Newton Lake (Mud Pond)" discharge point. No dam shown on E-maps. Dams & Waterways confirmed that Newton Lake is a natural lake without a permitted Dam.**
- **Downstream Dundaff Creek (CWF; Stream Code# 29051) is a Natural Trout Reproduction stream. The UNT receives lake discharge (near headwaters) and is designated WWF.**
- **Current status of receiving stream is uncertain due to facility compliance issues which likely impacted receiving stream. See Compliance Section for details.**

Other Comments:

- **This is a Phase 5 non-significant Chesapeake Bay facility.**
- **This is a ~5:1 effluent-dominated stream**
- **Discharge point is directly downstream of Newton Lake discharge point, at headwaters for UNT. The UNT flows into Dundaff Creek (CWF) which flows to East Branch Tunkhannock Creek.**
- **LFY of 0.0299 CFS/square miles (downstream Dundaff Creek Q7-10 low flow of 0.199 CFS divided by 6.64 square mile drainage area, both derived by USGS PAStreamstats).**
- **It is recommended the DEP Biologist evaluate present stream conditions after corrective actions resolve the ongoing permit limit exceedances. The documented 2018 permit limit exceedances and prior permit limit exceedances (masked by false reporting and inaccurate flow measurements) have impacted the receiving stream to an unknown extent.**

Treatment Facility Summary

Treatment Facility Name: Greenfield Township Sewer Authority

WQM Permit No.	Issuance Date	Scope
3587417	3/9/1988	0.140 MGD (continuous flow) SBR STP construction with grinder pump/LPS collection system (with two booster pump stations where LPS collection system TDH exceeded 50 feet). Sludge to go to aerobic digester with 135 days winter storage capacity. Design Criteria: Pump Station No. 1: Two 80 GPM @ 105 Feet TDH Pump Station No. 2: Two 80 GPM @ 105 Feet TDH Internal Pump Station: Two 115 GPM @ 40 Feet TDH Aerobic Digester: One unit (100,650-gallon capacity) SBR Units: Two units (61,600-gallon capacity) Aeration Blowers: Three 300 CFM @ 7.0 PSI (identified as Rotary positive displacement blowers elsewhere) Chlorine Contact Tank: One unit, two cells (7,550-gallons each) Chlorinator: 50 ppd unit. Utility Pump: Two 20 GPM @ 40 Feet TDH Waste Sludge Pump: Two 5 GPM @ 23 Feet TDH Sodium Hydroxide System: Two 0 – 6 GPH units Emergency Generator: One (150 KW) Equipment Data Sheet – Waste Sludge Pumps: Two KSB Inc. KRTUF 65-200/4 Submersible Pumps (150 GPM @ 23 & 3 Feet TDH) Sampling Locations Per Drawings: Influent to Flow Equalization/SBR (a.k.a. influent distribution box) Treatment Tank sampling location (internal) Influent to Chlorine Contact Tank (internal) Effluent from Flow Sensor Chamber
3512404	5/23/2012	UV disinfection unit
3518405	12/14/2018	**New influent fine screen, new splitter box; conversion to fine bubble aeration in the two SBRs and aerobic digester; installation of DO control system (probe in each SBR and VFDs for each blower.**

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.140

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.140	280	Not Overloaded	Aerobic digestion/storage	Sewage shipped to offsite WWTPs.

Changes Since Last Permit Issuance:

- **Installation of flow-paced 24-hour composite effluent sampler with use starting on 4/23/2018.**
- **Effluent Flow-meter set-up modified in February 2018, with weir modified (lowered 3 inches) and flow-meter recalibrated on 11/12/2018.**
- **Other NPDES Application-Identifiable Changes:**

  - **Use of sodium bicarbonate for alkalinity (indicated as better alkalinity source that is safer to**
  - **Usage of chlorine (sodium hypochlorite and calcium chlorite) for back-up disinfection. The 11/6/2018 Submittal indicated permitted chlorine gas disinfection system was not operational, and no chemical feed pumps to allow for either chlorine disinfection (sodium hypochlorite) or dechlorination (sodium bisulfite). This is not an engineered chlorination/dechlorination system/**
- **<u>10/17/2017 Inspection Report</u>: Report noted facility installed new continuous pH meter, flow meter, and PLC unit. Inspection Report recommended notifying Department in writing before changing major equipment. Facility installed new decanter type without DEP Approval that evidently failed (with PENNVEST funding request to replace the failed new decanters). Unidentified equipment changes at Pump stations noted.**
- **<u>3/20/2018 EEMA Letter to GTSA</u>**:
  - Microscope delivered and in use.
  - The new sampler has been delivered and installed.
- **<u>3/30/2018 Authority Letter (regarding no 2017 Chapter 94 Report) received by DEP Cambria Office, signed by Edward L. Gillette, Jr., P.E, Principal Engineer) addressed to BR Patel, DEP Clean Water Program, Wilkes-Barre Address):</u>**
  - EEMA was appointed Engineer and Licensed Operator for the plant in mid-January 2018.
  - **Incorrect sampling was found and a meter calibrated for a 60 degree V notch with an 88.5 degree V notch installed. "This issue means the reported flow was slightly more than half the actual flow. In short, there is no accurate flow meter data prior to February 4, 2018 when the meter was corrected."**
  - **"Hydraulic issues around the unit cause part of the flow to bypass disinfection. We are working to correct this problem."**
  - "**The plant is a standard extended air sequencing batch reactor that was reporting virtually complete Nitrate (NO3) removal and full disinfection. Given the plant configuration and the effluent hydraulic problems, these effluent results are not possible."**
  - **"In short, there is no reliable flow or analytical data for inclusion and completion of a Chapter 94 report for the calendar year 2017. We will do a partial report for 2018. A full reports will have to be delayed until we can collect appropriate data**."

<u>Other Comments</u>:

<u>UV Disinfection System Issues</u>:

- **UV Disinfection sampling was scheduled after 11/12 – 16/2018 maintenance (including new UV lamps, sleves, O-rings).**
- **New influent screen and splitter box (WQM Permit Application) are assumed to prevent rags from impacting UV disinfection system (in addition to stopping rag collection in aeration reactors, clogging of waste sludge pumps).**
- **Two changes are proposed if fecal coliform exceedances persist. The decanting speed of SBR #1 decanters may be too fast for the UV system, resulting in turbulence and "not allowing a free fall discharge at the effluent finger weirs.**
  - **Program the decanter with a time delay, <u>or</u>;**
  - **Removal of effluent weir (which will reduce accuracy of flow data**
- **PennVest application indicated to include replacement UV disinfection control panel.**

<u>Backup/Supplemental Chlorine Disinfection</u>:

- **Permitted chlorine gas facilities are not operational, and there are no chemical feed pumps to feed sodium hypochlorite or sodium bisulfite (dechlorination).**
- **Repair or installation of back-up disinfection facilities proposed in PennVEST application.**
- **Other facilities have resorted to jury-rigged supplemental chlorination to address fecal coliform exceedances until a permanent solution is found.**

<u>Potential PENNVEST Projects</u>: **Separate PENNVEST Application in for assorted maintenance and limited upgrades (not requiring WQM permitting per DEP Management decision) <u>if funding is obtained</u> per Authority submittal:**

- Effluent Post-aeration.
- Replace existing SBR decanters (2)

- Replace existing waste sludge pumps (2)
- Installation of telescoping valve, supports and platform to decant the aerobic digester
- Miscellaneous electrical work (replace exterior mounted electrical trough and disconnect switches)
- Miscellaneous mechanical work (replace hatches, winches, ship ladders and platforms)
- Update SBR control panel programming with appropriate instrumentation and controls to consistently meet existing NPDES Permit Limits
- **Repair or install back-up disinfection facilities**
- **Install post-aeration in chlorine contact tank**
- Fix or replace area lighting at treatment tanks and chlorine contact tank
- Replace UV disinfection control plane to provide energy conservation
- Replace control building roof with new 30-year roof.
- GTSA is "investigating replacement of all existing residential grinder pumps and control panels as part of the PennVest Application". "The Authority is reviewing its charter to determine if residential grinders are Authority owned or owned by the resident."

- **Treatment Plant Design: Original 1988 Design Engineer Report indicated:**
  - Assumed 100-year Floodplain elevation: 1647.50 Feet.
  - ADF/Hydraulic Flow: 0.140 MGD
  - **Peak flow capacity (storm mode): 0.350 MGD**
  - **Design Influent Loadings:**

Constituent	Original WQM Design Load (mg/l)	2018 Application Influent Data (Average*)
BOD5	240 mg/l (280 lbs/d)	205 mg/l 118 lbs/day 19 samples
TSS	240 mg/l (280 lbs/d)	82 mg/l 48 lbs/day 19 samples
Ammonia-N	35 mg/l (40 lbs/d)	35 mg/l 20 lbs/day 19 samples
CaCO3	150 mg/l	236 mg/l 18 samples

*February 2, 2018 through August 31, 2018. Effluent flow is measured.

- Organic Loading: No organic overloading based on 2018 Application influent data.
- Hydraulic Loading: No hydraulic overloading based on 2018 Application data.
- **85% Reduction POTW Requirements: Application data does not show the facility is meeting these requirements.**
  - **The original WQM assumed an influent BOD% concentration of 240 mg/l and TSS of 240 mg/l. The required 85% reduction would be met by a 36 mg/l BOD5 (equivalent to <30 mg/l CBOD5 at 1.2:1 conversion rate allowed in absence of better data) and 36 mg/l TSS concentration.**
  - **2018 Application data: Due to apparent I&I problems, recommend facility go to 24-hour composite influent/effluent monitoring to demonstrate compliance with existing 85% reduction requirement.**
    - **Influent BOD5: 205 mg/l average of 19 samples**
    - **Effluent CBOD5: 39.8 mg/l average of 30 samples (equivalent to 47.76 mg/l at 1:1.2 conversion factor)**
    - **Estimated BOD5 Reduction: ~76% reduction over time-frame**
    - **Influent TSS: 82 mg/l average of 19 samples**
    - **Effluent TSS: 40.0 mg/l average of 30 samples**
    - **Estimated TSS Reduction: ~50%**
- **Collection System:**
  - **I&I Issues in Collection System: The 2013 Chapter 94 Report indicated that the WWTP is fed by a circa 1988-installation LPS sewer system, with each house having a grinder pump. Recent DMRs/Non-compliance Reports indicate a problem with high flows/rain surcharging indicating I&I (source not yet identified).**

  - **Potential Collection System problems: Application note collection system (includes Pump Stations subject to SSO events) issues exist "which will be addressed after the WWTP issues have been corrected". No further description except response noted two (2) SSOs in 2018. No proposed course of action identified.**
- **Sludge Disposal**: Disposed at Wyoming Valley Sanitary Authority and Greater Hazleton Joint Sewer Authority.
  - 2017: 168,000 gallons removed (1.5% solids, 10.5 dry tons)
  - 2018 during January – August 2018: 154,000 gallons (~9.6 dry tons)
- **As-built/As-operated STP per 2018 NPDES Permit Renewal Application**: Upgrades not shown on site plan or process flow diagram:
  - Collection System: 579 E-one Grinder pump stations with remote grinder pump station No. 1 directing flow to remote grinder pump station No. 2 which directs flow to WWTP.
  - Influent flows to: Influent Grinder Pump Station at WWTP. NOTE: 2018 WQM Permit Application drawings indicate flow comes into Manholes C, with two pipelines (one going through "duplex grinder pump" and other directly to splitter box).
  - Splitter Box: Location of alkalinity addition and influent sample collection point (time-paced)
  - Two (2) SBRs: Sludge pumps pump sludge to Aerobic Digester, decanter flow goes to Chlorine Contact Tank, supernatant goes to influent grinder pump station.
  - One (1) Chlorine Contact Tank (2 cells): chlorine back-up at influent and dechlorination before discharge to common subsection with "utility water pumps" (conflicting information elsewhere). Post-aeration mentioned in Part II WQM permit application.
  - One (1) Aerobic Digester: Receives sludge from SBRs and flows from Chlorine Contact Tank's utility pumps that direct flows to influent grinder pump station. Supernatant directed to Influent Grinder Pump Station.
  - One (1) UV Disinfection Unit:
  - Effluent sampler (flow paced)
  - Flow meter
  - Outfall
  - Emergency Back-up Generator.
  - Proposed Upgrades/Maintenance Work: See Table 2 below.
  - WQM Permit Application Data: Indicated presence of influent pump station
- Proposed Upgrades Benefits Identified:
  - New influent screen will remove solids/debris and allow for better flow splitting. Also expected to prevent rags from impacting SBR aeration (by accumulation); clogging for waste sludge pumps; and rags being caught on the UV Unit bulbs.
  - Conversion to SBR fine bubble aeration for improved treatment and energy conservation
  - Conversion of Aerobic Digester for better oxygen transfer and energy conservation

Hauled-in Wastes: "The GTSA has no records that the facility received Hauled-in Wastes within the past three years. However, the Authority cannot confirm that the previous operator who is under investigation accepted Hauled-in Waste." Previous withdrawn NPDES Permit Renewal Application indicated 250,000 gallons hauled-in wastes was received annually.

Compliance History	
Summary of DMRs:	**The facility is not yet using EDMR, but has applied for EDMR Registration.** **February 2018 – November 2018 paper DMRs indicated multiple permit violations (below). Noncompliance Report forms blamed problems on high flows, rain surcharging, problems with DO meters, need for new UV disinfection parts, and a general need for a new Influent Screen and Splitter box. Previous DMRs suspect due to issues discussed below.** DMR-Reported Violations include: **CBOD5**: February through June 2018 **TSS**: February through July 2018, November 2018 **Ammonia-N**: February through May 2018, October 2018 **Fecal Coliforms**: February through June 2018, August through October 2018. **DO**: March, April, August, and October 2018 **pH**: July through September 2018 (missing pH sampling in October) **Additional SSOs**: 5/17/2018 Overflow at Plant. 4/8/2018 SSO at Route 106 Pump Station (PS). Application contained 8/8/2018 SSO (Route 247 Pump Station) SSO report. Application effluent data also indicated noncompliance. See Table 1 below.
Summary of Inspections:	See below.

Comments:

Site Monitoring/Recordkeeping Issues: The NPDES Permit includes several Part C Special Conditions to ensure adequate future monitoring, reporting, and recordkeeping at this facility due to historic site-specific issues:

- **Per December 21, 2018 US District Attorney (Middle District of Pennsylvania) public statement (available via Internet), the original facility Design Engineer and Licensed Operator (Klepadlo) pled guilty to Clean Water Act violations at this facility including: failure to take required sampling/measurements, false reporting, and witness tampering involving this Publicly Owned Treatment Works (POTW) which includes offsite pump stations.**
- **Former Authority member plus employee (licensed operator) under Federal indictment for violations of the Clean Water Act per News Article (available over internet).**
- **Present Authority unable to find Authority records regarding hauled-in wastewater apparently received at offsite POTW pump stations and/or treatment plant. However, the (withdrawn) NPDES Permit Renewal Application previously indicated the facility previously accepted transported sewage from holding tanks at 250,000 gallons per year. Nature of hauled-in wastewater not known (might have included industrial wastewater such as from natural gas drilling).**
- **Not clear if POTW Offsite Pump Station contractor Koberline has a licensed operator or reporting to POTW licensed Operator completing DMR forms for GTSA per former DEP Inspector.**
- **The 2/13/2018 NOV Letter noted that the existing composite sampler was not flow proportional, that it was installed upstream of the UV disinfection unit (i.e. not representative of actual Outfall No. 001 discharge, not accurate for intermittent SBR discharges, and not likely to be representative sampling for entire 24-hour operating day) per requirements of the NPDES Permit Part A and B conditions.**
- **Per 3/30/2018 EEMA Letter (the Authority's present Engineer/licensed Operator), no 2017 Chapter 94 Report could be prepared and submitted per NPDES Permit requirement due to site-specific circumstances. Provided information included:**
    - **Incorrect sampling was found and a meter calibrated for a 60 degree V notch with an 88.5 degree V notch installed. "This issue means the reported flow was slightly more than half the actual flow. In short, there is no accurate flow meter data prior to February 4, 2018 when the meter was corrected."**
    - **"Hydraulic issues around the unit cause part of the flow to bypass disinfection. We are working to correct this problem."**

- **"The plant is a standard extended air sequencing batch reactor that was reporting virtually complete Nitrate (NO3) removal and full disinfection. Given the plant configuration and the effluent hydraulic problems, these effluent results are not possible."**
- **"In short, there is no reliable flow or analytical data for inclusion and completion of a Chapter 94 report for the calendar year 2017. We will do a partial report for 2018. A full reports will have to be delayed until we can collect appropriate data."**

NPDES Permit Application Compliance History Review Section:

- Identified permit violations for fecal coliform and DO. Application also contained 4/8/2018 SSO Report (Route 106 Pump Station) and 8/8/2018 SSO (Route 247 Pump Station).
- **The previous withdrawn NPDES Permit Application was a timely application, with an administratively extended permit term. It was withdrawn and replaced due to suspect data. The new NPDES Permit is being treated as a new stand-alone application for permitting purposes.**

Collection System Problems (included in POTW definition):

- **Proposed Delay in Addressing Collection System Issues: Application noted collection system (includes Pump Stations subject to SSO events) issues exist "which will be addressed after the WWTP issues have been corrected". NOTE: No schedule for resolution of issues proposed.**
- **Reported I&I Issues: Assorted February – August 2018 permit limit exceedances were blamed on high flows/rain surcharging per Noncompliance report. NOTE:** High flows in an LPS collection system would indicate I&I problems in collection/conveyance lines (if overall LPS system is still functioning as designed and built as permitted). Weaker than expected influent raw sewage from a LPS system to a WWTP with grinder pump station & no existing influent screen would also be an indicator of I&I.
- **Reported Pump Station Issues. Documented SSOs at the two Authority Pump Stations. Problems included:**
  - **Ongoing pattern of noncompliance (SSOs, lack of required notice of SSOs, failure to clean-up SSO event residues), and existing as-built condition allowing for overflows.**
  - **Pump station alarm/control system not properly maintained in past per DEP compliance file.**
  - **GTSA has apparently deferred permit responsibilities to third party (Koberline), not WWTP licensed operator (EEMA). 4/10/2018 Inspection Report indicated GIF Contact (Sarah Shifler) had indicated the Pump Stations alarm system/autodialer contacts "Koberline and they are in charge of the pumpstations".**
    - **The GTSA and its Certified Operators cannot defer permit responsibilities to a Third Party, they must ensure adequate oversight of all third party contractors.**
    - **Koberline has not provided documentation that it has a Certified Operator per DEP Inspector.**
  - **Compliance records indicate one of the Pump Station might have been used to accept Hauled-in wastes, but Authority indicates it has no records regarding hauled-in wastewater.**

Recent Notices of Violations (NOVs) and Field Order:

- **9/10/2015 NOV: Cited issues included: Evidence of recent SSOs at pump stations (not reported nor cleaned up); disconnected Pump Station phone lines and alarms; acceptance of hauled-in wastewater at Route 106 Pump Station. The NOV stated: "Both pump stations were designed and permitted with relief overflows. Therefore, as stated to you during the June 10, 2015 inspection, the acceptance of hauled in waste is prohibited at both pump stations. Mr. Evans stated he operates and maintains both pump stations for the Authority. Making process control decisions at the pump stations without being Board-certified with a valid certificate and the appropriate class and subclassification is a violation of the Department's Rules and Regulations."**
- **12/1/2015 "Second Notice of Violation": This NOV stated the 10/30/2015 GTSA Response to the 9/10/2015 NOV was deficient in the following areas:**
  - **Addressing future prevention of SSOs at the pump stations (quoting apparent GTSA statement about: "numerous power outages that are experienced in and throughout Greenfield Township")**
  - **Explanation of the reasons the SSOs at the pump stations were not reported and cleaned up**
  - **Missing Pump Station Alarm phone records previous requested.**
  - **Missing date of GTSA's first acceptance of hauled-in wastes to the referenced pump stations**
  - **Missing Hauled-In waste records and information**
  - **Missing certification number of Certified Operator who is performing operation and maintenance responsibilities for the subject pump stations.**

- **11/27/2017 NOV: Accumulated sewage solids and Sphaerotilus (sewage fungus) observed at Outfall discharge; accumulation of sewage solids in UV disinfection unit; floating layer of sewage solids on SBR unit (covering the entire surface); and failure to maintain the treatment control equipment.**
- **12/12/2017: Field Order issued due to discharge containing floating materials and solids resulting in deposition of solids below the outfall. (Chapter 92a.41(c))**
- **2/13/2018 NOV: One SBR out-of-service with new type of decanter being installed without WQM permitting or apparently other DEP notification (per NPDES Part A.III.C.1); single operating SBR with heavy layer of foam; sludge build-up in UV disinfection system; sewage covered diffusors/decanter arm in direct contact with ground' failure to properly maintain and operate equipment (NPDES permit Part B.D.2); visible solids build-up at Outfall discharge (NPDES Permit Part A.I Additional requirements); inspection grab sample effluent concentrations exceeded CBOD5, TSS, and Fecal Coliform IMAX limits; Composite sampler improperly located on upstream side of UV unit (impacting accuracy and representative sampling requirements)**
- **4/23/2018 NOV: Sewage trash/debris observed on ground and immediate vicinity of Route 106 Pump Station during 4/10/2018 Inspection. NOV noted issues indicated SSO that was not properly reported per Chapters 91.33(a) and 92a.41(b).**

Available 2018 SSO Reports:

- **SSOs at both "booster pump stations" (overall LPS collection system) in 2018.**
  - **Route 106 Pump Station: 4/8/2018. Blamed on power surge on VFDs. Report noted pump station only overflowed when a homeowner pump was turned on.**
  - **Route 247 Pump Station: 8/8/2018. Pump station overflowed when the other pump station pump turned on.**
- **5/17/2018 Overflow at WWTP Aerobic Digester.**

2/1/2019 WMS "Open Violations by Client Query":

Permit: PA0061671
Client ID: 473070
Client: All

Open Violations: 0

No data was found using the criteria entered. Please revise your choices and try again

10/5/2018 WMS "Open Violations by Client Query": Back in October 2018, there had been 13 open violations. Here is the information from that previous WMS query to provide background on site compliance history:

Permit: PA0061671
Client ID: 1096
Client: All

Open Violations: 13

FACILITY	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
GREENFIELD TWP SEW AUTH	543968	07/01/2008	303.1OPER	Operator(s) were either not certified or did not have the proper classification.
GREENFIELD TWP SEW AUTH	592957	03/10/2010	92.51CONVHI	Effluent limits for Conventional pollutant(s) were violated.
GREENFIELD TWP SEW AUTH	592958	03/18/2010	92.51CONVHI	Effluent limits for Conventional pollutant(s) were violated.
GREENFIELD TWP SEW AUTH	592959	04/21/2010	92.51CONVHI	Effluent limits for Conventional pollutant(s) were violated.
GREENFIELD TWP SEW AUTH	592977	05/12/2010	92.51CONVHI	Effluent limits for Conventional pollutant(s) were violated.
GREENFIELD TWP SEW AUTH	710477	06/19/2014	92A.44	NPDES - Violation of effluent limits in Part A of permit
GREENFIELD TWP SEW AUTH	774483	11/28/2016	92A.47(C)	NPDES - Illegal discharge to waters of the Commonwealth from a sanitary sewer overflow (SSO)
GREENFIELD TWP SEW AUTH	801667	10/17/2017	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance
GREENFIELD TWP SEW AUTH	801668	10/17/2017	92A.41(C)	NPDES - Discharge contained floating materials, scum, sheet, foam, oil, grease or substances that produced an observable change or resulted in deposits in receiving waters
GREENFIELD TWP SEW AUTH	805556	12/12/2017	91.21	CSL - Failure to apply for and/or obtain a WQM permit for the construction of sewage or industrial waste facilities
GREENFIELD TWP SEW AUTH	805557	12/12/2017	92A.44	NPDES - Violation of effluent limits in Part A of permit
GREENFIELD TWP SEW AUTH	805558	12/12/2017	92A.41(C)	NPDES - Discharge contained floating materials, scum, sheet, foam, oil, grease or substances that produced an observable change or resulted in deposits in receiving waters
GREENFIELD TWP SEW AUTH	805559	12/12/2017	92A.41(A)5	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance

10/5/2018 WMS Inspection Query (2012 – 12/31/2018):

FACILITY NAME	INSP ID	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	# OF VIOLATIONS
GREENFIELD TWP SEW AUTH	2075186	05/17/2012	Routine/Complete Inspection	**Violation(s) Noted**	**1**
GREENFIELD TWP SEW AUTH	2139786	06/18/2012	Administrative/File Review	**Violation(s) Noted**	**1**
GREENFIELD TWP SEW AUTH	2115147	10/11/2012	Routine/Complete Inspection	No Violations Noted	0
GREENFIELD TWP SEW AUTH	2266099	03/06/2014	Routine/Complete Inspection	No Violations Noted	0

GREENFIELD TWP SEW AUTH	2322464	06/19/2014	Routine/Complete Inspection	**Violation(s) Noted**	**1**
GREENFIELD TWP SEW AUTH	2338307	11/19/2014	Routine/Complete Inspection	No Violations Noted	0
GREENFIELD TWP SEW AUTH	2374998	06/02/2015	Administrative/File Review	**Violation(s) Noted**	**1**
GREENFIELD TWP SEW AUTH	2544992	11/28/2016	Complaint Inspection	**Violation(s) Noted**	**1**
GREENFIELD TWP SEW AUTH	**2659216**	**10/17/2017**	**Compliance Evaluation**	**Violation(s) Noted***	**2**
GREENFIELD TWP SEW AUTH	**2679680**	**12/12/2017**	**Routine/Partial Inspection**	**Violation(s) Noted****	**4**
GREENFIELD TWP SEW AUTH	**2687935**	**12/21/2017**	**Routine/Partial Inspection**	**No Violations Noted*****	0
GREENFIELD TWP SEW AUTH	**2822488**	**04/10/2018**	**Complaint Inspection**	**Violation(s) Noted********	**2**

*__10/17/2017__ Inspection report noted outfall was observed with Sphaerotilus (sewage fungus) and build-up of sludge, and recommended outfall & associated channel be cleaned. SBR 2 had a “heavy film of foam and floating solids” covering 100% of surface. SBR 1 settleability test was noted to have a result of 910, indicating high MLSS or a high level of filaments (or both).

**__12/12/2017__ Inspection Report results discussed in subsequent NOV and included issues discussed in 10/17/2017 Inspection Report.

***__12/21/2017__ Inspection Report noted no observable solids discharging from plant. NOTE: 12/21/2017 Inspection Report comments noted that Mr. Evans Jr. indicated they were trying to maintain a 30 minute settleability level between 220 – 280 during that inspection. NOTE: The 9/6/2017 GTSA Letter included a copy of Bruce R. Evans Jr.’s Certificate No. S20638 (August 17, 2017 – June 30, 2020).

****__4/8/2018__ Sewage Compliance Inspection Report noted SSO occurred at Route 106 Pump Station, which was not properly reported to the Department and the SSO was not properly cleaned-up. NOTE: The 11/28/2016 Sewage Compliance Inspection Report also indicated previous unreported SSO event at Route 106 Pump Station.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.140
Latitude 41º 38' 21" **Longitude** -75º 33' 12"
Wastewater Description: Sewage Effluent

Permit limits and monitoring Requirements: Changes from prior permit and relevant sampling data bolded).

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
CBOD5	29.2 lb/d 46.7 lb/d 25.0 40.0 (POTW) 50.0	Monthly Average Weekly Average Monthly Average Weekly Average IMAX	Existing Technology limit (Chapter 92a.47) supported by water quality modeling. Original **Application data indicated 126 mg/l max and 41 mg/l average (28 samples).**
TSS	35.0 lb/d 52.5 lb/d 30.0 45.0 (POTW) 60.0	Monthly Average Weekly Average Monthly Average Weekly Average IMAX	Existing Technology limit (Chapter 92a.47). **Application data indicated 128 mg/l max and 41.6 mg/l average (28 samples).**
pH	6.0 – 9.0 SU	Inst. Min - IMAX	Existing Technology limit (Chapter 92a.47). Application data ranged from 6.0 – 8.18 SU (184 samples).
Fecal Coliform (5/1 – 9/30)	200/100 ml 1,000/100 ml	Geo Mean IMAX	Existing Technology limit (Chapter 92a.47) **with IMAX added per reg**. **Application data indicated 920,800/100 ml max and 11,850/100 ml average (28 samples GEO Mean).**
Fecal Coliform (10/1 – 4/30)	2,000/100 ml 10,000 ml/100 ml	Geo Mean IMAX	See above
Total Residual Chlorine	**0.09** **0.04**	**IMAX** **Monthly Average**	**Facility has switched to UV disinfection. This new WQBEL limit will apply when the facility used chlorine for supplemental chlorination (while fixing UV Disinfection system problems), emergency disinfection or other chlorine usage. Application data indicated 0.03 mg/l max and 0.04 mg/l average (3 samples).**
UV Intensity	**Report mW/cm^2**	**Inst. Minimum**	**New Standard Monitoring requirement**
Ammonia-Nitrogen (May 1 - Oct 31)	2.9 lbs/d 2.5 **Report** 5.0	Monthly Average Monthly Average **Daily Max** IMAX	Existing permit limits supported by updated water quality modeling. **Adding daily max reporting requirements.**
Ammonia-Nitrogen (Nov 1 - Apr 30)	8.7 lbs/d 7.5 **Report** 25.0	Monthly Average Monthly Average **Daily Max** IMAX	**See above**
Dissolved Oxygen (DO)	6.0	**Inst.** Minimum	Existing WQBEL limit supported by Water Quality Modeling. **Original Application submittal indicated 3.5 mg/l minimum and 7.3 mg/l average (159 samples). Updated application information indicated minimum 5.2 with 7.4 mg/l average (131**

			samples). No explanation for discrepancy given.
Total Phosphorus	Report lbs/d Report **Report**	Monthly Average Monthly Average **Daily Max**	Existing monitoring requirement due to Sewage Effluent SOP (Chapter 92a.61) retained. **Application data indicated 5.6 mg/l max and 2.5 mg/l average (28 samples).**
Total Nitrogen	Report lbs/d Report **Report**	Monthly Average Monthly Average **Daily Max**	See above. **Application data indicated 70.5 mg/l max and 22.9 mg/l average (28 samples).**
TKN	Report lbs/d Report **Report**	Monthly Average **Monthly Average** **Daily Max**	See above (TKN required for TN monitoring). **Application data indicated 126 mg/l max and 39.8 mg/l average (30 samples). Updated application information indicated 44.9 mg/l max and 19.7 mg/l (28 samples). No explanation given for the discrepancy.**
Nitrate-Nitrite-N	Report lbs/d Report **Report**	Monthly Average Monthly Average **Daily Max**	See above (NNN required by TN monitoring). **Application data indicated 4.9 mg/l max and 2.2 mg/l average (28 samples).**
Copper First 3 years	**Report lbs/d Report Report**	**Monthly Average Monthly Average Daily Max**	**New WQBEL from water quality modeling and application effluent data requiring monitoring and permit limits. Application data indicated 0.0183 mg/l max and 0.011 mg/l average (3 samples).**
Copper Fourth Year to Expiration	**Report lbs/d 0.010 0.016 0.020**	**Monthly Average Monthly Average Daily Max IMAX**	**See above**
Lead	-	-	Not needed per updated Reasonable Potential Analysis. Application data indicated 0.00082 mg/l max and 0.000533 mg/l average (3 samples).
Zinc	-	**-**	Not needed per updated Reasonable Potential Analysis Application data indicated 0.0585 mg/l max and 0.044 mg/l average (3 samples).
TDS, Chlorides, Bromide, and Sulfates	-	**-**	Not needed per updated Reasonable Potential Analysis. Application data indicated 3 samples: TDS: 362 mg/l max; 287 mg/l avg. Chlorides: 109 mg/l max; 79.5 mg/l avg. Bromide: 0.2 mg/l (max and average) Sulfates: 26.2 mg/l max; 23.1 mg/l avg.
Oil & Grease	-	-	Not needed at this time, with narrative TBEL already in permit. Application data indicated 5.3 mg/l max and 4.4 mg/l avg. (3 samples).
Influent BOD5	**Report lbs/d Report Report**	**Monthly Average Monthly Average Daily Max**	**Reporting added in this permit cycle as POTW and due to evidence of noncompliance with 85% reduction requirement (below). Application data indicated 331 mg/l max and 205 mg/l average (19 samples).**
Influent TSS	**Report lbs/d Report Report**	**Monthly Average Monthly Average Daily Max**	**Reporting added in this permit cycle as POTW and due to evidence of noncompliance with 85% reduction requirement (below). Application data**

			indicated 246 mg/l max and 82 mg/l average (19 samples).
BOD5 Monthly Average Reduction	**85%**	**Monthly Average Minimum**	**Existing NPDES permit obligation added to Part A reporting. Facility is presently not meeting this requirement based on Application data.**
TSS Monthly Average Reduction	**85%**	**Monthly Average Minimum**	**See above**

Comments:

Additional Monitoring and Reporting Requirements: Due to site compliance history regarding false/inaccurate reporting; ongoing noncompliance with existing permit limits; non-continuous SBR discharges; lack of commitment regarding assorted Authority-identified site upgrades/unit rehabilitation (dependent on PENNVEST Funding per Authority); and uncertain status of stream (see Stream Section), this permit is requiring:

- **Flow-proportional 24-hour Composite effluent sampling (DMR-reported Effluent sampling after 4/23/2018 are flow-paced 24-hour composites per applicant)**
- **2/week effluent sampling (above previous 1/week sampling).**
- **1/month Chesapeake Bay monitoring and reporting.**

NOTE: The Department would reconsider monitoring frequencies after Authority-identified upgrades/repairs and facility comes into compliance with existing permit limits and/or next NPDES Permit Renewal.

pH, DO, UV, and TRC Monitoring & Reporting: Daily when discharging monitoring is standard requirement for pH, DO, and UV disinfection monitoring with daily TRC monitoring when chlorine is used for supplemental disinfection (when in usage for a UV disinfection facility) or other chlorine usage.

85% Minimum Monthly Average Reduction (BOD5 and TSS): These are existing permit/regulatory POTW requirements that are being explicitly incorporated into the Part A limits to allow for monitoring and reporting. Influent BOD5 and TSS monitoring and reporting is being required to allow for calculation of these limits.

Reasonable Potential Analysis: Only copper was determined to have reasonable potential analysis (see Toxic Screening Spreadsheet and updated PENTOXSD water quality modeling using updated Outfall location information and default data inputs for discharge/stream hardness). The maximum copper sample exceeded the calculated WQBEL. WQBELs for lead and zinc were calculated for informational purposes.

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.6

Facility: GTSA STP
Analysis Hardness (mg/L): 100
Stream Flow, Q_{7-10} (cfs): 0.0319
NPDES Permit No.: PA0061671
Discharge Flow (MGD): 0.14
Outfall: 001
Analysis pH (SU): 7

Parameter	Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids	362000	500000	No		
Chloride	109000	250000	No		
Bromide	200	N/A	No		
Sulfate	26200	250000	No		
1,4-Dioxane		N/A			
Total Copper	18.3		Yes	10.298	Establish Limits
Total Lead	0.82	3.18	No		
Total Zinc	58.5	119.8	No		

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
04F	29059	Trib 29059 to Dundaff Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
2.610	GTSA STP	PA0061671	0.140	CBOD5	25		
				NH3-N	2.5	5	
				Dissolved Oxygen			6

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
04F	29059	Trib 29059 to Dundaff Creek

RMI	Name	Permit Number	Disc Flow (mgd)
2.61	GTSA STP	PA0061671	0.1400

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
COPPER	10.298	AFC	16.067	10.298	AFC
LEAD	0.82	INPUT	1.279	3.652	CFC
ZINC	58.5	INPUT	91.269	88.142	AFC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9 — GTSA STP

0.0319	= Q stream (cfs)	0.5	= CV Daily
0.14	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.066	1.3.2.iii	WLA cfc = 0.057
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.025	5.1d	LTA_cfc = 0.033

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.042	AFC
		INST MAX LIMIT (mg/l) = 0.099	

Table 1 (Application Effluent Data and Apparent Permit Violations*)

Constituent	Application Data**	Existing Limit (permit or Chapter 92a)
Dissolved Oxygen (DO)	**3.5 mg/l minimum**	6.0 mg/l minimum
Fecal Coliform	**920,800/100 ml max** **11,007/100 ml avg**. (GEO Mean per application)	IMAX: "Not greater than 1000/100 ml in more than 10% of samples tested" per NPDES Permit Part A. Chapter 92a.47 included new IMAX limits (2,000/100 ml Summer; 10,000/100 ml Winter). Averages: 200/100 ml Summer avg. 2000/100 ml Winter avg.
CBOD5	**126 mg/l max** **39.8 mg/l avg**.	50.0 mg/l IMAX 25.0 mg/l monthly avg. 40.0 mg/l weekly avg.
TSS	**128 mg/l max** **40.0 mg/l avg.**	60.0 mg/l IMAX 30.0 mg/l monthly avg. 45.0 mg/l weekly avg.
Ammonia-N	**38.1 mg/l max** **14.4 mg/l avg.**	5.0 mg/l Summer IMAX) 15.0 mg/l Winter IMAX 2.5 mg/l Summer avg. 5.0 mg/l Winter avg.
TRC	No violations	Only three (3) samples. DMRs indicated "GG" which means not used, during months with fecal coliform IMAX exceedances.

*Paper DMRs indicated multiple permit violations during entire time-frame for CBOD5, TSS, Ammonia-N, and Fecal Coliforms.
**February 2 through August 31, 2018 Data. February 2018 was when the effluent flow meter was adjusted to correctly measure effluent flow.

Communication Log (this Application)

10/5/2018: Application incompleteness letter
11/9/2018: Receipt of 11/6/2018 Response to Incompleteness Letter
11/14/2018: Authority (consultant) E-mail regarding UV disinfection system maintenance