pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0060950**
Facility Type	**Non-Municipal**	APS ID	**546502**
Major / Minor	**Minor**	Authorization ID	**1319154**

Applicant and Facility Information

Applicant Name	**Lackawanna Trail School District**	Facility Name	**Lackawanna Trail High School Wastewater Treatment Facility**
Applicant Address	PO Box 85, 28 Tunnel Hill Road	Facility Address	28 Tunnel Hill Road
	Factoryville, PA 18419-0085		Factoryville, PA 18419-2307
Applicant Contact	Rick Kordish, Maintenance Supervisor	Facility Contact	Rick Kordish, Maintenance Supervisor
Applicant Phone	(570) 945-5510	Facility Phone	(570) 945-5510
Client ID	37370	Site ID	254120
Ch 94 Load Status	Not Overloaded	Municipality	Clinton Township
Connection Status	-	County	Wyoming
Date Application Received	July 2, 2020	EPA Waived?	Yes
Date Application Accepted	July 8, 2020	If No, Reason	-

Purpose of Application: Application for renewal of an NPDES permit for discharge of treated sewage.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.0138 MGD of treated sewage into an Unnamed Tributary to South Branch Tunkhannock Creek, a Cold-Water Fishery, Migratory Fish (CWF, MF) receiving stream in State Water Plan Basin 4-F (Tunkhannock Creek). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. This stream segment is not designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

Limitations for pH, $CBOD_5$, Total Suspended Solids (TSS), and Fecal Coliform are technology-based and carried over from the previous permit. Limitations for Ammonia-Nitrogen are water quality-based and carried over from the previous permit.

A BPJ-based limitation of 5.0 for Dissolved Oxygen (DO) has been added to the permit. This limit will come into effect three (3) years after the permit effective date. Monitoring/reporting will be required for DO before the limit comes into effect. This will allow the facility time to examine where their DO readings are at and make any necessary adjustments.

The Total Residual Chlorine (TRC) Calculation Spreadsheet and WQM 7.0 did not recommend stricter limitations than the previous permit.

Monitoring frequencies for all parameters with limitations have been updated to the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

The monitoring/reporting for Total Nitrogen (TN), Total Phosphorus (TP), Total Kjeldahl Nitrogen (TKN), and Nitrate-Nitrite as N has been maintained in this permit.

Approve	Deny	Signatures	Date
X		/s/ Allison Seyfried / Environmental Engineering Specialist	March 18, 2021
X		/s/ Amy M. Bellanca, P.E. / Environmental Engineer Manager	3-29-21

Summary of Review

The permit renewal application indicated that Outfall 001 was located at 41.586111, -75.805556. When these coordinates are entered into eMapPA there is no stream shown at that location (see Figure 1 below). USGS Streamstats does show a stream at the provided coordinates (see Figure 2 below). The previous permit's fact sheet indicated Outfall 001 was located at 41.5792, -75.806 (see Figure 3 below). This is a small change in location; however, WQM modeling at the new coordinates upstream yielded much stricter Ammonia-Nitrogen limitations. The final fact sheet for the previous permit (dated December 1, 2015) included the following information:

> "A site survey was conducted on October 14, 2015 at the location of the Lackawanna Trail High School sewage treatment discharge by our Regional Biologist. The discharge is located along Tunnel Hill Road (SR1010) at the headwaters of an unnamed tributary to the South Branch Tunkhannock Creek. The discharge enters a wet, vegetated ditch shortly before entering a long wetland complex. This wetland extends for approximately 0.75 miles before developing a defined stream channel. The receiving water in this case is the wetland, and aquatic life should be protected as per Pennsylvania Code Chapter 93. The point of first use will remain near the point of discharge, as was previously determined by the NERO biologist section in 1983."

Therefore, the previous permit's coordinates were used for WQM Modeling. The RMI's were updated to be more accurate. eMap PA shows the defined stream's headwaters start at RMI 0.495599 (see Figure 4 below). The measure tool was used in eMap to draw the vegetated ditch that is shown in USGS (see Figure 5 below). The RMI that was used for modeling was obtained from adding this measured value to the headwater RMI.

There are no representative stream gages in the vicinity of the outfall and the drainage area at Outfall 001 is too small for USGS StreamStats to estimate accurate low flow values. Therefore, the default Low Flow Yield (LFY) of 0.1 cfs/mi^2 was used to model the discharge. For modeling inputs, RMI values were obtained using the "PA Historic Streams" feature of eMapPA, drainage areas were delineated using USGS's StreamStats Interactive Map, and elevations were obtained using the elevation profile feature of StreamStats.

Sludge use and disposal description and location(s): As per the permittee's Sludge and Biosolids Supplemental Report forms, the permit renewal application, and hauled sludge receipts submitted through eDMR, sludge is hauled to Wyoming Valley Sanitary Authority in Hanover Township, PA by Koberlein Environmental Services.

The existing permit expired on December 31, 2020 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on October 18, 2018 a Routine/Partial Inspection was performed.

eDMR for Outfall 001 from February 1, 2020 to January 31, 2021 is shown below. Effluent violations for this facility from March 1, 2020 to January 31, 2021 is also showed below.

There are no open violations for this client that warrant withholding issuance of this permit.

WQM 7.0 - Lackawanna Trail SD

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)	0.0138
Latitude	41º 34' 45.42"	Longitude	-75º 48' 21.95"
Quad Name	Factoryville	Quad Code	0639
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to South Branch Tunkhannock Creek (CWF)	Stream Code	28815
NHD Com ID	66404413	RMI	0.95
Drainage Area	0.61 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.061	Q_{7-10} Basis	State-wide default
Elevation (ft)	937.5	Slope (ft/ft)	-
Watershed No.	4-F	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Danville Borough Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	122.58	Distance from Outfall (mi)	~ 93.4

Treatment Facility Summary

Treatment Facility Name: Lackawanna Trail High School Wastewater Treatment Facility

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aeration	Chlorination	0.0028 (2017-2019)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0138	-	Not Overloaded	Sludge Holding Tank	Hauled

Compliance History

DMR Data for Outfall 001 (from February 1, 2020 to January 31, 2021)

Parameter	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20
Flow (MGD) Average Monthly	0.00212	0.00204	0.00206	0.00206	0.00181	0.00049	0.00016	0.00022	0.00122	0.00089	0.00132	0.00276
Flow (MGD) Daily Maximum	0.00375	0.00968	0.00351	0.00343	0.00355	0.00085	0.00044	0.00049	0.00468	0.0015	0.00369	0.00500
pH (S.U.) Minimum	6.61	6.87	7.11	6.67	6.74	6.91	7.15	7.38	7.43	7.58	6.7	6.69
pH (S.U.) Maximum	7.5	7.64	7.8	7.74	7.82	7.95	7.68	8.09	7.94	8.07	8.06	7.35
TRC (mg/L) Average Monthly	0.21	0.20	0.19	0.19	0.20	0.19	0.18	0.18	0.20	0.21	0.17	0.20
TRC (mg/L) Inst. Maximum	0.27	0.27	0.27	0.28	0.29	0.27	0.25	0.27	0.29	0.27	0.27	0.27
CBOD5 (mg/L) Average Monthly	< 4.0	9.9	< 4.0	< 4.0	5.5	< 4.0	< 3.0	< 3.0	20.9	23.6	15.4	< 3.0
TSS (mg/L) Average Monthly	< 5.0	8.0	< 5.0	7.0	< 5.0	7.0	8.5	7.5	17.5	48.0	16.0	< 5.0
Fecal Coliform (CFU/100 ml) Geometric Mean	11	< 1.0	< 1.0	2	< 1.0	236	< 1.0	< 1.0	4.0	1	< 1.0	8.6
Fecal Coliform (CFU/100 ml) Inst. Maximum	10.9	< 1.0	< 1.0	2	< 1.0	236	< 1.0	< 1.0	4.1	1	< 1.0	8.6
Nitrate-Nitrite (lbs/day) Annual Average		1.03										
Nitrate-Nitrite (mg/L) Annual Average		51.3										
Total Nitrogen (lbs/day) Annual Average		1.10										
Total Nitrogen (mg/L) Annual Average		54.98										
Ammonia (mg/L) Average Monthly	< 0.3	0.37	< 0.30	2.76	< 0.3	8.39	1.83	11.60	2.10	1.6	40.20	9.5
TKN (lbs/day) Annual Average		0.07										
TKN (mg/L) Annual Average		3.68										
Total Phosphorus (lbs/day) Annual Average		0.13										
Total Phosphorus (mg/L) Annual Average		6.32										

Compliance History

Effluent Violations for Outfall 001, from: March 1, 2020 To: January 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/20	Avg Mo	48.0	mg/L	30.0	mg/L
Fecal Coliform	08/31/20	Geo Mean	236	CFU/100 ml	200	CFU/100 ml
Ammonia	06/30/20	Avg Mo	11.60	mg/L	5.82	mg/L
Ammonia	08/31/20	Avg Mo	8.39	mg/L	5.82	mg/L
Ammonia	03/31/20	Avg Mo	40.20	mg/L	17.46	mg/L

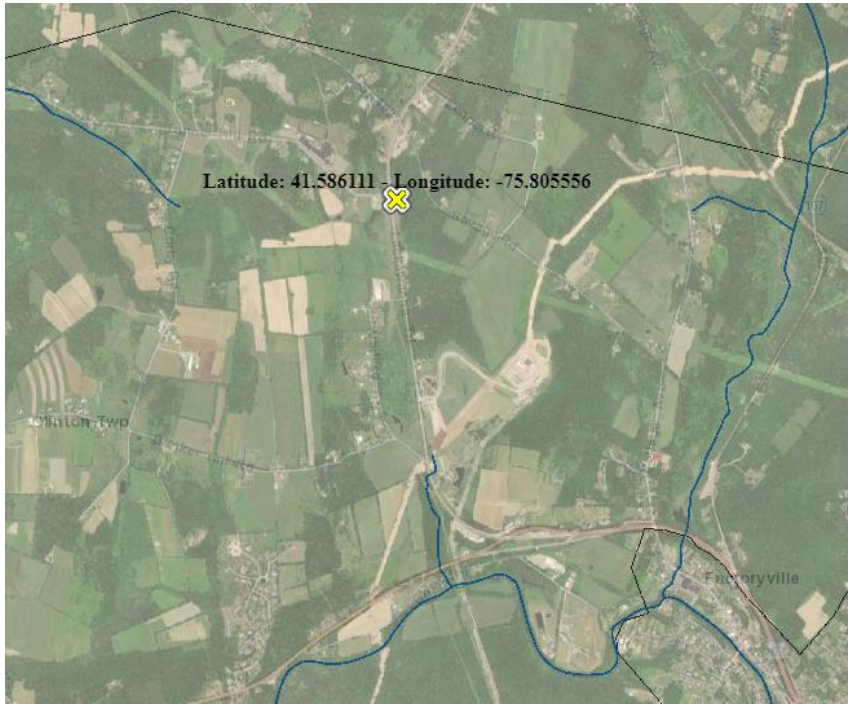


Figure 1. – eMap PA

Figure 2. – USGS StreamStats

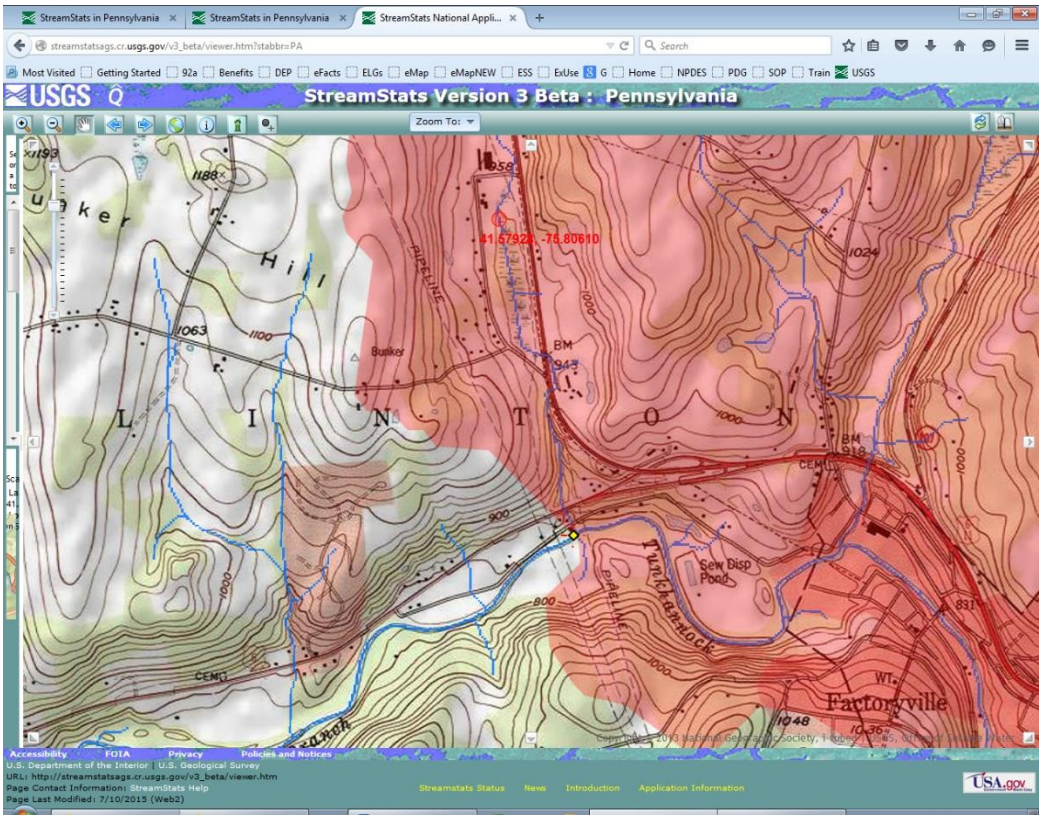


Figure 3. – Previous Permit - USGS StreamStats

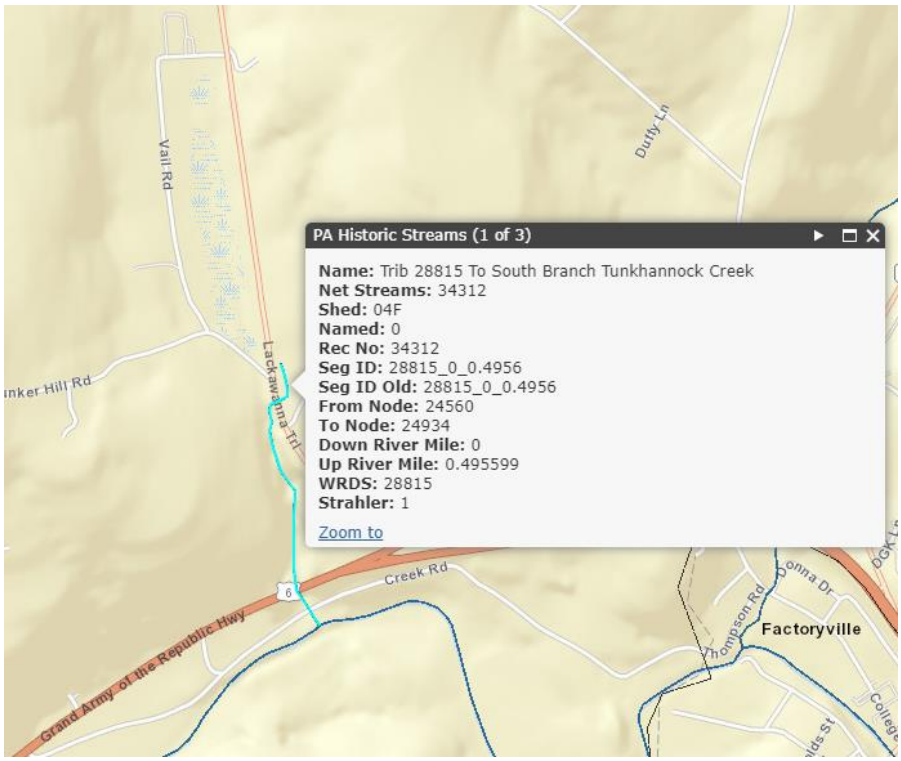


Figure 4. – eMap PA RMI

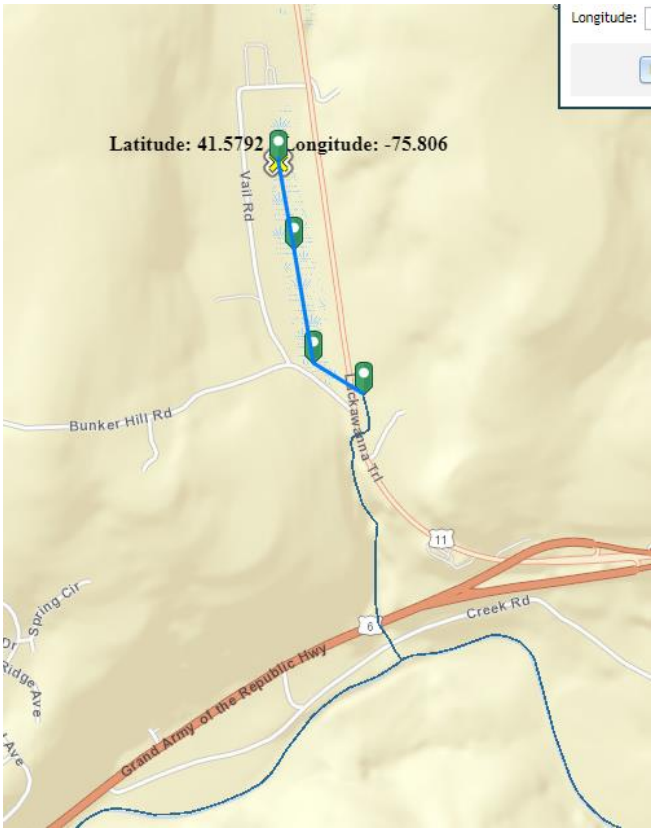


Figure 5. – eMap PA – Measure Tool for RMI

Modeling

At Outfall 001 on Unnamed Tributary 28815 to South Branch Tunkhannock Creek:

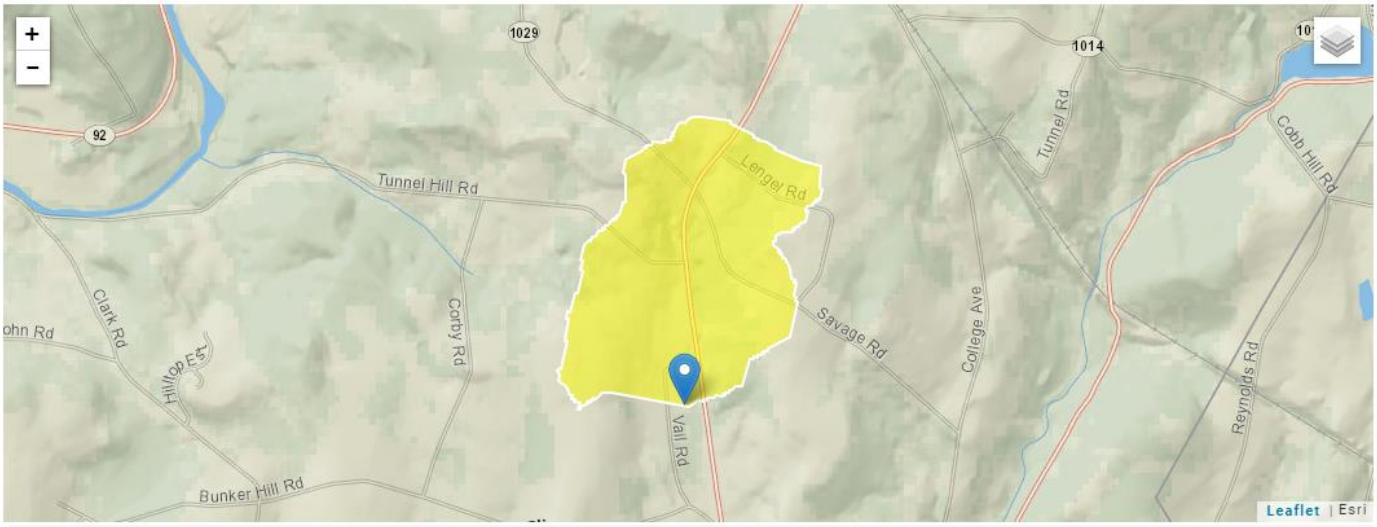
RMI	Elevation (ft)	Drainage Area (mi²)	Q_{7-10} Flow (cfs)
0.95	937.5	0.61	0.00169

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.00169\ ft^3/sec}{0.61\ mi^2} = \mathbf{0.0.0028}\ \frac{\boldsymbol{ft^3/sec}}{\boldsymbol{mi^2}}$$

StreamStats Low-Flow Yield was **not** used because one or more of the statistics parameters provided by Streamstats is outside the suggested range.

StreamStats Report

Region ID: PA
Workspace ID: PA20210317125804369000
Clicked Point (Latitude, Longitude): 41.57924, -75.80607
Time: 2021-03-17 08:58:21 -0400



Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.61	square miles

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00906	ft^3/s
30 Day 2 Year Low Flow	0.0156	ft^3/s
7 Day 10 Year Low Flow	0.00169	ft^3/s

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
04F	28815	Trib 28815 to S Br Tunkhannock Cr

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)
0.950	Lacka Trail SD	PA0060950	0.014	CBOD5	25		
				NH3-N	8.7	17.4	
				Dissolved Oxygen			3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.061	= Q stream (cfs)	0.5	= CV Daily
0.0138	= Q discharge (MGD)	0.5	= CV Hourly
30	= 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 = 0.930	1.3.2.iii	WLA cfc = 0.900
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.347	5.1d	LTA_cfc = 0.523

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.427	AFC
		INST MAX LIMIT (mg/l) = 1.396	

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0138
Latitude 41º 35' 10.00" **Longitude** -75º 48' 20.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	50.0	IMAX	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	60.0	IMAX	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Dissolved Oxygen	5.0	Minimum	-	BPJ

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia-Nitrogen Nov 1 – Apr 30	17.46	Average Monthly	Previous WQM 7.0
	34.92	IMAX	
Ammonia-Nitrogen May 1 – Oct 31	5.82	Average Monthly	
	11.64	IMAX	
Total Residual Chlorine	0.36	Average Monthly	Previous TRC Calculation Spreadsheet
	0.84	IMAX	

Anti-Backsliding

No limitations were made less stringent.