Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0063525**
Facility Type	**Non-Municipal**	APS ID	**561871**
Major / Minor	**Minor**	Authorization ID	**1449463**

Applicant and Facility Information

Applicant Name	**Pocono Mountain School District**	Facility Name	**Clear Run WWTP**
Applicant Address	PO Box 200 Swiftwater, PA 18370-0200	Facility Address	800 Memorial Boulevard Tobyhanna, PA 18466-7789
Applicant Contact	Jody Simchak, Environmental Coordinator	Facility Contact	Jody Simchak, Environmental Coordinator
Applicant Phone	(570) 839-7121	Facility Phone	(570) 839-7121
Client ID	36907	Site ID	541084
Ch 94 Load Status	-	Municipality	Coolbaugh Township
Connection Status	-	County	Monroe
Date Application Received	July 28, 2023	EPA Waived?	Yes
Date Application Accepted	September 22, 2023	If No, Reason	-
Purpose of Application	Renewal of NPDES permit for discharge of treated sewage.		

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge up to 0.027 MGD of treated sewage into Clear Run, a High Quality, Cold-Water Fishery, Migratory Fish (HQ, CWF-MF), receiving stream in State Water Plan Basin 2-A (Upper Lehigh River). 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, Dissolved Oxygen (DO), and Fecal Coliform are technology-based and carried over from the previous permit.

Limitations for $CBOD_5$, Total Suspended Solids (TSS), and Ammonia-Nitrogen are based on the original 1996 "Antidegradation BAT" permit limits that were developed in accordance with the 1992 "Special Protection Waters Implementation Handbook" (Appendix 1) and in conjunction with an SEJ option, per the 6/8/1995 PADEP Preliminary Effluent Limits letter. These limits are carried over from the previous permit. WQM 7.0 modeling did not recommend stricter limits.

The Total Phosphorous limitations are based on the "Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments" Table 6.1 and are carried over from the previous permit.

The Total Residual Chlorine (TRC) Calculation Spreadsheet recommends a stricter water quality-based IMAX limitation than the previous permit. The facility utilizes Ultraviolet (UV) disinfection as the primary disinfection method. In the event the facility uses chlorine for cleaning purposes or as a back-up disinfection option, TRC should be sampled "daily when discharging" (see requirements under Part C.I.E).

Approve	Deny	Signatures	Date
X		/s/ Allison S. Zukosky / Project Manager	October 16, 2024
X		/s/ Amy M. Bellanca, P.E. / Program Manager	10-21-24

Summary of Review

A final Total Maximum Daily Load (TMDL) exists for the Lehigh River Watershed. The TMDL addresses metals (iron, manganese, and aluminum) and low pH associated with acid mine drainage (AMD). There are no approved Waste Load Allocation (WLA) for this facility. Since this is a sewage discharge with no industrial contributors, no appreciable quantities of these metals are expected to be present in the effluent.

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

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

For this permit renewal, all monitoring frequencies for parameters with limitations are consistent with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (document no. 362-0400-001).

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.

The existing permit expired on January 31, 2023 and the application for renewal was received on time.

A Water Management System Inspection query indicated that on July 20, 2020 a Compliance Evaluation was performed.

There are currently three open violations for this client that may need to be resolved before issuance of the final permit:

1. 08/21/2023 - Violation ID 8157349 – Violation Code C1F– Cross-connections exist without proper backflow protection (Safe Drinking Water - Program Specific ID: 2451377).

2. 08/21/2023 - Violation ID 8157350 – Violation Code C4A – Failure to operate and maintain the water system - Program Specific ID: 2451377).

3. 08/21/2023 - Violation ID 8157351 – Violation Code C3A – Failure for a noncommunity water system to provide the level of treatment approved in its BDF or noncommunity water system approval - Program Specific ID: 2451377).

Sludge use and disposal description and location(s): As per the permittee's NPDES Renewal Application, sludge is hauled to the Hazleton Joint Sewer Authority in West Hazleton, PA by Got To Go Septic.

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)	0.027
Latitude	41º 9' 5.11"	Longitude	-75º 22' 59.90"
Quad Name	Tobyhanna	Quad Code	0942
Wastewater Description:	Sewage Effluent		
Receiving Waters	Clear Run (HQ-CWF)	Stream Code	4445
NHD Com ID	26280161	RMI	0.43
Drainage Area	1.24 mi^2	Yield (cfs/mi^2)	0.10
Q_{7-10} Flow (cfs)	0.124	Q_{7-10} Basis	State-wide default
Elevation (ft)	1,899.58	Slope (ft/ft)	-
Watershed No.	2-A	Chapter 93 Class.	HQ-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	Final	Name	Lehigh River TMDL
Nearest Downstream Public Water Supply Intake	HCA Roan Filter Plant		
PWS Waters	Lehigh River	Flow at Intake (cfs)	-
PWS RMI	62.9	Distance from Outfall (mi)	~ 42.2

Treatment Facility Summary

Treatment Facility Name: Pocono Mountain School District – Clear Run WWTP

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Ultraviolet	0.009 (2021-2023)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.027	68	Not Overloaded	Holding Tank	Hauled

Compliance History

DMR Data for Outfall 001 (from September 1, 2023 to August 31, 2024)

Parameter	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23
Flow (MGD) Average Monthly			0.001	0.008	0.012	0.010	0.008	0.010	0.010	0.008	0.009	0.010
Flow (MGD) Daily Maximum			0.007	0.017	0.044	0.022	0.014	0.025	0.038	0.015	0.018	0.019
pH (S.U.) Instantaneous Min.			7.6	7.3	7.7	7.0	6.0	7.6	7.3	7.3	7.6	7.5
pH (S.U.) Instantaneous Max.			7.9	8.0	8.0	8.0	7.8	8.1	8.0	8.0	7.8	7.9
DO (mg/L) Instantaneous Minimum			6.4	6.1	6.2	6.0	6.0	6.6	6.1	6.3	6.1	6.2
TRC (mg/L) Instantaneous Maximum			0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
CBOD5 (mg/L) Average Monthly			3.33	< 3.0	< 3.0	3.36	< 3.0	< 3.0	< 3.0	< 3.0	3.2	< 3.0
TSS (mg/L) Average Monthly			7.8	4.58	3.6	9.23	< 2.53	< 4.39	< 2.63	1.3	4.9	4.0
Fecal Coliform (No./100 ml) Geometric Mean			< 18.54	< 1.0	< 1.0	49.18	13.1	< 1.0	< 1.0	< 1.0	28.4	1252
Fecal Coliform (No./100 ml) Instantaneous Maximum			< 344.8	< 1.0	< 1.0	2419	172.5	< 1.0	< 1.0	< 1.0	816.4	2419
Nitrate-Nitrite (mg/L) Annual Average									27.4			
Total Nitrogen (mg/L) Annual Average									27.4			
Ammonia (mg/L) Average Monthly			< 0.20	< 0.20	< 0.20	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.285
TKN (mg/L) Annual Average									< 0.0250			
Total Phosphorus (mg/L) Average Monthly			0.294	0.08	0.074	0.184	< 0.0250	0.05	0.0250	0.055	0.133	0.095

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.027
Latitude 41º 9' 5.37" **Longitude** -75º 23' 0.19"
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	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	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)
E. Coli	Report	IMAX	-	92a.61
Dissolved Oxygen	5.0	Minimum	-	BPJ

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	1.45	IMAX	TRC Calculation Spreadsheet
$CBOD_5$	10.0	Average Monthly	Previous Permit – Antidegradation
	20.0	IMAX	
Total Suspended Solids	10.0	Average Monthly	
	20.0	IMAX	
Ammonia-Nitrogen (Nov 1 – Apr 30)	4.5	Average Monthly	
	9.0	IMAX	
Ammonia-Nitrogen (May 1 – Oct 31)	1.5	Average Monthly	
	3.0	IMAX	
Total Phosphorous	1.0	Average Monthly	Previous Permit – DEP Policy ID#391-2000-010 “Implementation Guidance for Section 95.6 Management of Point Source Phosphorous Discharges to Lakes, Ponds, and Impoundments”
	2.0	IMAX	

Anti-Backsliding

No limitations were made less stringent.

Modeling Using USGS StreamStats:

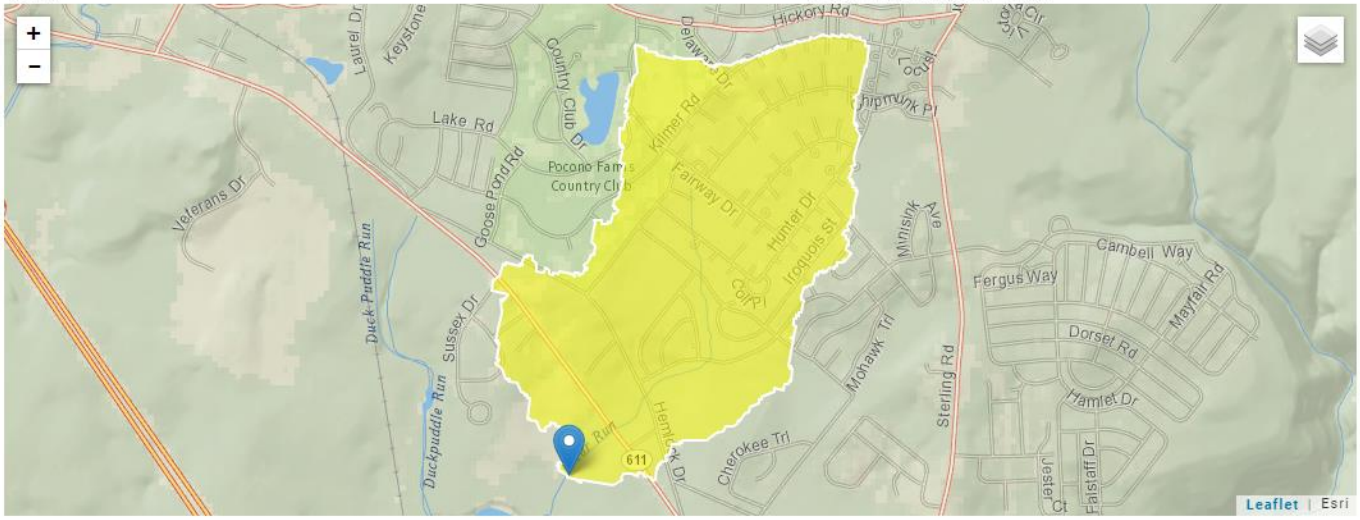
At Outfall 001 on Clear Run:

RMI	Elevation (ft)	Drainage Area (mi^2)	Q_{7-10} Flow (cfs)
0.43	1,899.58	1.24	0.278

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.278\ ft^3/sec}{1.24\ mi^2} = \mathbf{0.22}\ \frac{\boldsymbol{ft^3/sec}}{\boldsymbol{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20241016113948744000
Clicked Point (Latitude, Longitude):	41.15135, -75.38333
Time:	2024-10-16 07:40:10 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	1.24	square miles

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

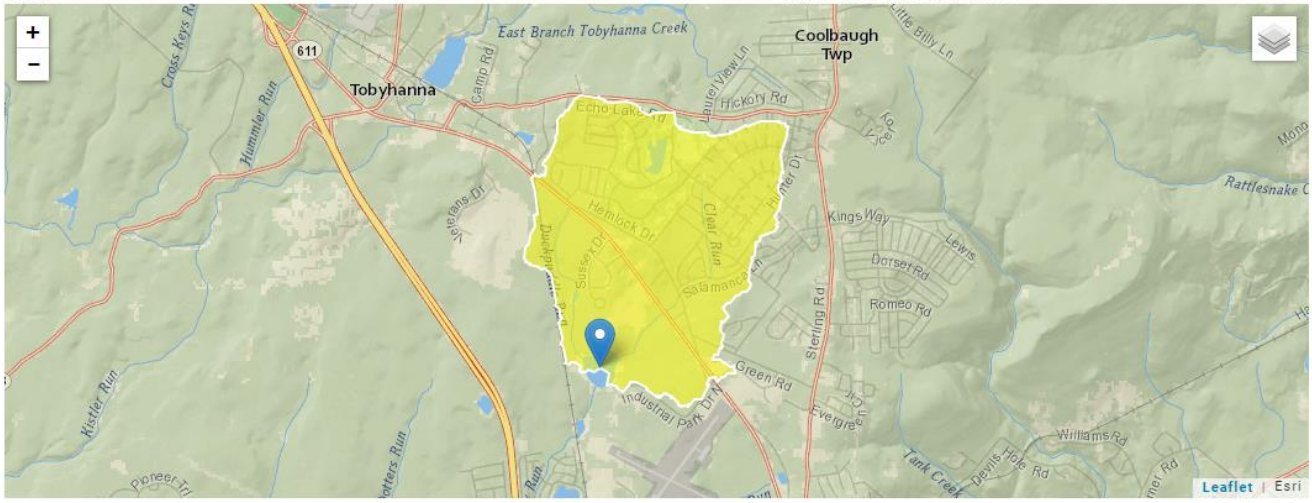
Statistic	Value	Unit
7 Day 2 Year Low Flow	0.506	ft^3/s
30 Day 2 Year Low Flow	0.623	ft^3/s
7 Day 10 Year Low Flow	0.278	ft^3/s

At confluence with Hawkey Run (4442) and Duckpuddle Run (4444):

RMI	Elevation (ft)	Drainage Area (mi^2)
0.0	1,867.89	2.92

StreamStats Report

Region ID: PA
Workspace ID: PA20241016114303580000
Clicked Point (Latitude, Longitude): 41.14777, -75.38947
Time: 2024-10-16 07:43:25 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	2.92	square miles

Modeling using the state-wide Low-Flow Yield (LFY) of 0.1 cfs/mi^2:

$$\frac{0.1\ ft^3/sec}{mi^2} \times 1.24\ mi^2 = \frac{\mathbf{0.124\ ft^3}}{\mathbf{sec}}$$

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
02A	4445	CLEAR RUN

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)
0.430	Poc SD ClearRun	PA0063525	0.027	CBOD5	25		
				NH3-N	8.99	17.98	
				Dissolved Oxygen			3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.124	= Q stream (cfs)	0.5	= CV Daily
0.027	= 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 =	0.966	1.3.2.iii	WLA cfc =	0.934
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.360	5.1d	LTA_cfc =	0.543

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.443	AFC
		INST MAX LIMIT (mg/l) =	1.449	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

WQM 7.0 - Clear Run WWTP.pdf

Approve	Deny	Signatures	Date
X		/s/ Allison S. Zukosky / Project Manager	October 16, 2024
X		/s/ Amy M. Bellanca, P.E. / Program Manager	10-21-24