Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0035637**
Facility Type	**Non-Municipal**	APS ID	**860874**
Major / Minor	**Minor**	Authorization ID	**1412945**

Applicant and Facility Information

Applicant Name	**PA DOT Bureau Of Project Delivery**	Facility Name	**Roadside Rest North Bound 55**
Applicant Address	Bureau Of Operations 400 North Street 6th Floor Harrisburg, PA 17105-3060	Facility Address	Rest Area No 55 Greenfield Twp, PA 18411
Applicant Contact	Mark Bowen	Facility Contact	Sean Skeath
Applicant Phone	215-397-4055	Facility Phone	570-449-4538
Client ID	62162	Site ID	246168
Ch 94 Load Status	Not Overloaded	Municipality	Greenfield Township
Connection Status	No Limitations	County	Lackawanna
Date Application Received	October 6, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal of existing NPDES permit to discharge treated sewage.

Summary of Review

This permit renewal has been through one 30-day public comment period from 5/24/2025 to 6/24/2025. No comments were received, however, the permit will be redrafted as requested by the permittee to correct for a calculation error in Ammonia-Nitrogen limits. More details about the changes in this redraft are offered on the next page of this fact sheet.

The applicant is requesting renewal of an individual NPDES permit to discharge 0.0098 MGD of treated sewage to Tributary 28884 of South Branch Tunkhannock Creek, a designated Cold-Water Fishes, Migratory Fishes (CWF-MF) receiving stream in state water plan basin 04-F (Tunkhannock Creek). This stream drains to Lackawanna Lake and eventually the Susquehanna River. The applicant's average reported discharge flow over the past 5 years has been 0.0023 MGD. As per the Departments Existing Use list, the receiving stream does not have a more protective existing use than the designated use. There is no TMDL for the receiving stream and it is currently attaining its designated use.

Both the WQM 7.0 and TRC Spreadsheet water quality modeling tools were used to evaluate the discharge. Stream gage 01533950 – South Branch Tunkhannock Creek near Montdale, PA, has flow history from 1962 – 1978 and was not used due to its age. Previous modeling utilized the DEP default LFY of 0.1 cfs/mi^2, however, USGS's StreamStats was able to calculate an LFY for the stream accurately, with a $Q_{7/10}$ of 0.01 MGD and LFY of 0.027 MGD at the point of discharge. This new $Q_{7/10}$ and LFY affected WQM 7.0 modeling results, creating a more stringent Ammonia-Nitrogen monthly average limit from 5 mg/L to 3.58 mg/L and an IMAX limit from 10 mg/L to 7.16 mg/L during the May to October period of the year. The winter months have been adjusted accordingly to match this change. The facility should still be able to maintain this requirement after review of past eDMR data. WQM 7.0 modeling did not result in more stringent limits for $CBOD_5$ or Dissolved Oxygen, so previous permit limits will be reused. The TRC Spreadsheet modeling did not result in more stringent limits for Total Residual Chlorine.

Total Phosphorus limits are water-quality based and carried over from the previous permit.

Approve	Deny	Signatures	Date
X		Luca Jordache Luca Jordache / Environmental Engineer Trainee	June 27, 2025
X		Edward Dudick Edward Dudick, P.E. / Environmental Engineer Manager	June 27, 2025

Summary of Review

$CBOD_5$, TSS, pH, and Fecal Coliform limits are technology-based and carried over from the previous permit. A new technology-based limit was established for E. Coli that requires a sample to be reported at least once per year. All dischargers of sewage are now required to provide E. Coli reporting according to PA 25 Code §92a.61(11)(12).

Requirements for Nitrate+Nitrite-N and Total Kjeldahl Nitrogen are carried over from the previous permit to calculate the Total Nitrogen.

For this permit renewal, all monitoring frequencies are consistent with the DEP's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (Document no. 386-0400-001). Table 6-3 of this document contains the effluent self-monitoring frequency requirements for sewage discharges.

The previously issued permit for this operation expired on March 31, 2023, and the application for renewal was received on time. There are no currently open violations for the client that would warrant withholding the issuance of this permit. The EPA waiver is in effect.

The following attachments were used to aid in the determination of limits in this permit:

TRC Calculations.pdf | Watershed Information.pdf | WQM 7.0 Model PA0035637.pdf | TRC Calc Comparison.pdf

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.

CHANGES IN REDRAFT:

On the original draft permit, the Ammonia-Nitrogen (NH3-N) IMAX limit during the winter months (Nov-Apr) was calculated incorrectly. The permittee was contacted after the conclusion of the 30-day public comment period to see if they wanted a redraft with a corrected limit or to let it go through. The permittee decided they wanted a redraft with the corrected NH3-N limit on 6/26/2025.

The changes made in this redraft include updating the winter IMAX limit for NH3-N from 14.32 mg/L to 21.48 mg/L and adding daily max limits for any pollutant requiring a composite sample and an IMAX limit to account for composite samples not being instantaneous. Adding the daily max limits should not change anything about the sampling done, but will make keeping track of pollutant levels easier on eDMR forms and for the operations section of the DEP. All daily max limits match the IMAX limits of the respective pollutant.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0098
Latitude	41º 36' 0.56"	Longitude	-75º 38' 57.10"
Quad Name	Dalton	Quad Code	0640
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of South Branch Tunkhannock Creek (CWF, MF)	Stream Code	28884
NHD Com ID	66402579	RMI	4.54 (DP to Lackawanna Lake)
Drainage Area	0.54	Yield (cfs/mi^2)	0.027
Q_{7-10} Flow (cfs)	0.01	Q_{7-10} Basis	StreamStats Calculation
Elevation (ft)	1183	Slope (ft/ft)	0.049
Watershed No.	04-F	Chapter 93 Class.	CWF, MF
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	-

Background/Ambient Data		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake	Danville Municipal Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	1160 ($Q_{30/10}$)
PWS RMI	107.05	Distance from Outfall (mi)	67.04

Treatment Facility Summary

Treatment Facility Name: PA DOT - Rest Area 55

WQM Permit No.	Issuance Date
3590404	6/15/1990

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Gas Chlorine	0.0023 (2020-2025)

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0098	20.5	Not Overloaded	Aerated Sludge Holding	Hauled

Compliance History

DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	0.0037	0.0037	0.0035	0.0039	0.0034	0.0055	0.0043	0.0025	0.0026	0.0018	0.0019	0.0019
Flow (MGD) Daily Maximum	0.0088	0.0148	0.0118	0.0092	0.009	0.0133	0.0077	0.0092	0.0047	0.0036	0.006	0.006
pH (S.U.) Minimum	6.9	7.0	7.0	6.8	7.4	7.5	6.8	6.1	7.1	6.9	6.6	6.6
pH (S.U.) Instantaneous Maximum	8.5	7.7	8.1	8.7	8.2	8.2	7.9	8.7	8.1	7.8	7.7	7.7
DO (mg/L) Minimum	7.3	9.5	9.7	6.0	6.6	6.1	4.5	5.0	5.3	6.0	6.2	6.2
TRC (mg/L) Average Monthly	< 0.1	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
TRC (mg/L) Instantaneous Maximum	0.4	0.63	0.6	0.9	0.5	0.6	0.6	0.6	0.6	0.8	1.0	1.0
CBOD5 (mg/L) Average Monthly	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
TSS (mg/L) Average Monthly	< 6.9	6.7	< 5.0	15.4	< 5.9	5.4	9.2	20.0	< 8.7	14.2	< 6.6	< 6.6
Fecal Coliform (No./100 ml) Geometric Mean	< 5	< 1	33	< 1	< 1	< 1	1	< 3	< 6	< 1	< 1	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	21.6	< 1	1120	< 1	< 1	< 1	1	6.3	32.7	< 1	< 1	< 1
Nitrate-Nitrite (mg/L) Average Monthly	< 77.4	< 53.4	< 64.6	< 103.5	< 139.1	< 138.6	< 96.5	< 115.79	< 95.4	< 108.72	< 108.3	< 108.3
Total Nitrogen (mg/L) Average Monthly	< 78.4	< 54.4	< 65.6	< 104.5	< 142.1	< 139.6	< 97.5	< 116.79	< 97.32	< 109.72	< 109.3	< 109.3
Ammonia (mg/L) Average Monthly	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.6	< 0.6	< 1.0	< 0.6	1.0	1.0
TKN (mg/L) Average Monthly	< 1.0	< 1	< 1	< 1	< 3.0	< 1	< 1	< 1	< 1.92	< 1	< 1	< 1
Total Phosphorus (mg/L) Average Monthly	0.5	0.2	0.1	0.3	0.2	0.3	0.3	0.4	0.9	0.6	0.8	0.8

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0098
Latitude 41º 36' 1.00" **Longitude** -75º 38' 53.00"
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	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	50	IMAX	-	-
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	60	IMAX	-	-
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)
	1,000 / 100 ml	IMAX	-	-
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
	10,000 / 100 ml	IMAX	-	-
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli	Report	IMAX	-	92a.61

Comments: E. Coli is a recently added contaminant to the TBEL list that is now required for all dischargers of treated sewage to report at least once per year.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0	Minimum	WQM 7.0
Ammonia-Nitrogen (5/1 – 10/31)	3.58	Average Monthly	WQM 7.0
	7.16	IMAX	
Ammonia-Nitrogen (11/1 – 4/30)	10.74	Average Monthly	WQM 7.0
	21.48	IMAX	
Total Residual Chlorine (TRC)	0.4	Average Monthly	TRC Spreadsheet
	1.0	IMAX	
Total Phosphorus	2.0	Average Monthly	Previous Modeling
	4.0	IMAX	

Comments: The limits for Ammonia-Nitrogen have been adjusted after re-modeling the discharge and stream via WQM 7.0. The new limits should still be attainable for this facility after reviewing eDMR data over the past 5 years for Ammonia-Nitrogen levels. See attached WQM 7.0 results for more information.

Anti-Backsliding

Most limits remained unchanged from the previous permit, with TRC getting slightly more restrictive. Due to anti-backsliding policy, limits may not be loosened without a strong argument and evidence for doing so.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.4	XXX	1.0	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	50 (Daily Max)	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	60 (Daily Max)	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	10.74	21.48 (Daily Max)	21.48	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	3.58	7.16 (Daily Max)	7.16	2/month	8-Hr Composite

Outfall 001 , Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	4 (Daily Max)	4	2/month	8-Hr Composite

Compliance Sampling Location: Samples must be taken at the point of contact between discharge and the receiving waters (Unnamed Tributary of South Branch Tunkhannock Creek).

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment WQM 7.0 Model PA0035637.pdf)
☐	TRC Model Spreadsheet (see Attachment TRC Calculations.pdf)
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP: TECHNICAL_GUIDANCE_FOR_THE_DEVE Individual Sewage SOP - Effluent Limits Individual NPDES SOP - Sewage (Versi
☐	Other: Watershed Information.pdf TRC Calc Comparison.pdf