Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0247391**
Facility Type	**Municipal**	APS ID	**507058**
Major / Minor	**Minor**	Authorization ID	**1497191**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**North Codorus Township**	Facility Name	**North Codorus Township STP**
Applicant Address	1986 Stoverstown Road	Facility Address	3923 Old Joseph Road
	Spring Grove, PA 17362-7804		York, PA 17408
Applicant Contact	Mark Derr	Facility Contact	Ryan Swope
Applicant Phone	(717) 225-4812	Facility Phone	(484) 653-9733
Client ID	86222	Site ID	459530
Ch 94 Load Status	Not Overloaded	Municipality	North Codorus Township
Connection Status	No Limitations	County	York
Date Application Received	August 28, 2024	EPA Waived?	No
Date Application Accepted	September 6, 2024	If No, Reason	Significant CB Discharge
Purpose of Application	Renewal of existing NPDES permit		

Summary of Review

North Codorus Township has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of a NPDES permit for the North Codorus Township STP. The permit was last reissued on February 6, 2020 with an effective date of February 6, 2020. The permit expired on January 31, 2025, but the terms and conditions of the permit have been administratively extended since that time.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted, and a notice of the draft permit be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Sludge use and disposal description and location(s): Springettsbury STP

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.

Approve	Deny	Signatures	Date
x		*Aaron Baar* Aaron Baar / Project Manager	May 16, 2025
x		*Maria D. Bebenek* for Daniel W. Martin, P.E. / Environmental Engineer Manager	June 30, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.55
Latitude	39º 53' 42.99"	Longitude	-76º 48' 26.05"
Quad Name	1931	Quad Code	West York
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Codorus Creek (WWF)	Stream Code	08196
NHD Com ID	57470913	RMI	0.53
Drainage Area	4.02 mi^2	Yield (cfs/mi^2)	0.0116
Q_{7-10} Flow (cfs)	0.0465	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	430.72	Slope (ft/ft)	
Watershed No.	7-H	Chapter 93 Class.	WWF
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)	7.0	Assumed, default value
Temperature (°C)	25.0	WWF, default value
Hardness (mg/L)	100	Assumed, default value
Other: Ammonia (mg/L)	0.1	Assumed, default value

Nearest Downstream Public Water Supply Intake		Wrightsville Water Supply Company	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	43.54	Distance from Outfall (mi)	28.34

Drainage Area

The discharge is to a UNT to Codorus Creek at RMI 0.53. A drainage area upstream of the discharge is determined to be 4.02 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, the watershed has a Q_{7-10} of 0.0465 cfs and a Q_{30-10} of 0.0834 cfs. This information was used to obtain a Low Flow Yield (LFY), a chronic Q_{30-10}:Q_{7-10} ratio and acute (Q_{1-10}) exposure stream flows for the discharge point as follows (Guidance No. 391-2000-023).

Q_{7-10} = 0.0465 cfs
Q_{30-10} = 0.0834 cfs
Q_{1-10} = 0.64 cfs (default)

Q_{30-10}:Q_{7-10} = 0.0834 cfs / 0.0465 cfs = 1.7935
LFY = 0.0465 cfs/4.02 mi^2 = 0.0116 cfs/mi^2

UNT to Codorus Creek

25 Pa Code §93.9 classifies the receiving water, UNT to Codorus Creek, with a Warm Water Fishery (WWF) Existing Use designation. Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The discharge is in a stream segment listed as attaining uses.

Local Watershed Total Maximum Daily Loads (TMDLs)

According to PA's 2024 Integrated Water Quality Monitoring and Assessment Report, UNT to Codorus Creek in the vicinity of the point of discharge is impaired for recreation due to an unknown source of pathogens. The waterway's impairment is listed as Category 5 in the 2024 Integrated Report, indicating that the receiving water is impaired for one or more uses by a pollutant that require the development of a TMDL. No TMDL has been developed for UNT to Codorus Creek to date, so no local watershed TMDL has been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is the Wrightsville Water Supply Company intake on the Susquehanna River. Considering the distance and nature, the discharge is not expected to affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream; therefore, no Class A Wild Trout Fishery is impacted by this discharge.

Treatment Facility Summary

Treatment Facility Name: North Codorus Township STP

WQM Permit No.	Issuance Date
6704402 T-1	July 22, 2015

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Sequencing Batch Reactor	Ultraviolet	0.55

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1.38	1147	Not Overloaded	Aerobic Digestion	Other WWTP

North Codorus Township owns and operates the sanitary wastewater treatment facility located in North Codorus Township, York County. The facility serves North Codorus Township and New Salem Borough; wastes are generally residential in nature, and all sewer systems are 100% separated. With an annual average design flow of 0.55 MGD and a hydraulic design capacity of 1.38 MGD, the existing facility consists of an influent screening unit, two SBRs, a post-equalization basin, a UV disinfection system and the outfall (Outfall 001). The facility utilizes on aerobic digester. PAC is utilized to precipitate phosphorus.

Compliance History	
Summary of DMRs:	DMR results for the past year are presented below.
Summary of Inspections:	Since the last renewal of the facility's NPDES permit, the following inspections have been logged in WMS: **October 30, 2024**: A routine CEI was conducted by Shawn Lesitsky. No violations or recommendations were noted. The following unresolved non-compliance was documented: 1. 25 Pa. Code 92a.61(c): Failure to monitor pollutants as required by the NPDES permit. Digester supernatant returns prior to screening. Influent sampler pulls post decant return. Recommend digester supernatant not be introduced during sample collection. **May 12, 2020**: An administrative inspection was conducted via phone call by Austen Randecker. No violations or recommendations were noted. **February 5, 2020**: A routine CEI was conducted by Austen Randecker. No violations or recommendations were noted. **March 12, 2019**: A routine CEI was conducted by Austen Randecker. The following violation was issued: 1. A grab sample collected by the Department for Total Suspended Solids (result 110 mg/L, permit max value IMAX 60 mg/L) exceeded the permit limit established in Part A.1.A of your NPDES permit. A recommendation was made to maintain a secondary thermometer in both influent and effluent composite samplers.

Other Comments: As of May 16, 2025, there are no open violations associated with this facility.

Existing 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	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5	64.0	96	XXX	14.0	21.0	28	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	137	206	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/week	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

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	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Nitrogen (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	20.6	XXX	XXX	4.5	XXX	9	2/week	8-Hr Composite
Ammonia May 1 - Oct 31	6.8	XXX	XXX	1.5	XXX	3	2/week	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	9.0	XXX	XXX	2.0	XXX	4	2/week	8-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Copper (ug/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Lead (ug/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite
Total Zinc (ug/L)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

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	0.1872	0.1889	0.1831	0.1846	0.01782	0.1812	0.181944	0.19247 9	0.18024 1	0.18087 6	0.18965 7	0.20799 4
Flow (MGD) Daily Maximum	0.2592	0.2695	0.2619	0.273	0.2308	0.2454	0.244544	0.35383 8	0.20614 9	0.24091 9	0.25811 4	0.54990 4
pH (S.U.) Instantaneous Minimum	7.09	6.45	7.01	7.13	6.44	7.15	7.22	6.34	7.03	6.28	6.75	7.05
pH (S.U.) Instantaneous Maximum	7.64	7.53	7.56	7.62	7.63	7.6	7.64	7.58	7.34	7.64	7.36	7.33
DO (mg/L) Instantaneous Minimum	8.46	8.8	8.66	8.24	7.62	6.01	6.98	5.85	5.10	5.02	6.46	7.79
CBOD5 (lbs/day) Average Monthly	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 5.0	< 4.0	< 4.0	< 5.0
CBOD5 (lbs/day) Weekly Average	7	5	4.0	< 5	< 5	< 4.0	4	< 5.0	9.0	7.0	< 4	8.0
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 3.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 3.0	< 3.0	< 2.0	< 3.0
CBOD5 (mg/L) Weekly Average	5.0	3.0	3.0	< 2.0	3.0	< 2.0	3.0	3.0	5.0	5.0	< 2.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	350.9	422.98	269.89	476.46	523.23	445.48	411.26	457	469.47	423.59	448.34	516.46
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	442.95	500.06	280.37	508.60	935.17	501.73	449.31	581.37	558.16	548.31	507.93	670.81
BOD5 (mg/L) Raw Sewage Influent Average Monthly	227.5	285.75	188.75	312	330.75	291.20	284.00	276.50	297.20	301.50	294.50	321.40
TSS (lbs/day) Average Monthly	3	4	2	3	2	4	3	4	7	2.0	3	3.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	265.58	379.58	139.82	489.68	387.87	493.72	444.50	469.88	536.35	386.08	528.02	507.54

TSS (lbs/day) Raw Sewage Influent Daily Maximum	413.09	497.73	176.17	519.54	546.63	617.68	524.20	524.07	568.31	530.17	576.16	618.92
TSS (lbs/day) Weekly Average	8	5	3	7	4	6	5	6	12	4.0	5	7.0
TSS (mg/L) Average Monthly	2.0	3.0	1.0	1.0	2.0	3.0	2.0	3.0	4.0	2.0	2.0	2.0
TSS (mg/L) Raw Sewage Influent Average Monthly	171.00	257.00	97.75	322.40	245.00	321.60	306.00	289	340.80	277.00	347	315.20
TSS (mg/L) Weekly Average	4.0	3.0	2.0	3.0	2.0	4.0	3.0	4.0	7.0	3.0	3.0	4.0
Fecal Coliform (No./100 ml) Geometric Mean	6	< 4	< 3	14	4	2	8	19	14	5	1	6.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	10	11	4	921	10	4	11	99	49	14	2	58.0
UV Intensity (mW/cm²) Instantaneous Minimum	9.3	9.3	9.2	9.2	9.3	9.3	9.4	9.6	9.7	9.8	4.1	4.1
Nitrate-Nitrite (mg/L) Average Monthly	< 4.3	< 6.4	< 6.6	< 4.4	< 5.9	< 6.6	< 5.4	< 3.5	< 5.13	< 8.23	< 9.84	< 5.18
Nitrate-Nitrite (lbs) Total Monthly	< 206	< 270	< 296	< 217	< 269	< 305	< 250	< 171	< 243	< 356	< 458	< 248
Total Nitrogen (mg/L) Average Monthly	< 5.9	< 7.7	< 7.8	< 6	< 7.2	< 7.8	< 6.29	< 4.71	< 7.38	< 9.42	< 10.8	< 6.94
Total Nitrogen (lbs) Effluent Net Total Monthly	< 283	< 326	< 348	< 298	< 330	< 360	< 293	< 229	< 350	< 408	< 503	< 334
Total Nitrogen (lbs) Total Monthly	< 283	< 326	< 348	< 298	< 330	< 360	< 293	< 229	< 350	< 408	< 503	< 334
Total Nitrogen (lbs) Effluent Net Total Annual							3907.22					
Total Nitrogen (lbs) Total Annual							3907.22					
Ammonia (lbs/day) Average Monthly	< 0.2	< 0.3	< 0.2	< 0.2	< 0.2	< 0.1	< 0.2	< 0.2	< 0.7	< 0.2	< 0.2	< 0.3
Ammonia (mg/L) Average Monthly	0.15	< 0.21	< 0.15	< 0.11	< 0.1	< 0.1	< 0.1	< 0.1	< 0.48	< 0.12	< 0.1	< 0.17
Ammonia (lbs) Total Monthly	< 7.2	< 9.1	< 6.6	< 5.6	< 4.5	< 4.6	< 4.6	< 4.9	< 22.5	< 5.0	< 4.7	< 8.1

Ammonia (lbs) Total Annual							96.95					
TKN (mg/L) Average Monthly	1.6	< 1.3	< 1.16	1.6	< 1.3	1.2	< 0.92	1.21	2.3	< 1.19	< 1	< 1.8
TKN (lbs) Total Monthly	77	< 56	< 52	81	< 61	55	< 43	58	107	< 52	< 45	< 86
Total Phosphorus (lbs/day) Average Monthly	0.7	0.9	0.8	0.6	1.0	1.0	0.8	1.0	2.0	2.0	1.0	1.0
Total Phosphorus (mg/L) Average Monthly	0.43	0.58	0.53	0.39	0.65	0.93	0.54	0.8	1.09	1.09	0.85	0.64
Total Phosphorus (lbs) Effluent Net Total Monthly	20	25	24	19	29	43	25	38	52	47	39	31
Total Phosphorus (lbs) Total Monthly	20	25	24	19	29	43	25	38	52	47	39	31
Total Phosphorus (lbs) Effluent Net Total Annual							446.18					
Total Phosphorus (lbs) Total Annual							446.18					
Total Copper (ug/L) Average Monthly	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.008	< 0.005	< 0.005	< 0.005	< 0.005
Total Copper (ug/L) Daily Maximum	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005	< 0.01	0.007	0.006	< 0.005	< 0.005
Total Lead (ug/L) Average Monthly	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.006	< 0.001	< 0.001	< 0.001	< 0.001
Total Lead (ug/L) Daily Maximum	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.01	< 0.001	< 0.001	< 0.001	0.003
Total Zinc (ug/L) Average Monthly	< 0.038	0.051	0.052	0.044	0.045	0.048	0.043	0.043	0.045	0.047	0.054	0.044
Total Zinc (ug/L) Daily Maximum	0.051	0.057	0.054	0.049	0.048	0.063	0.045	0.043	0.053	0.052	0.058	0.051

Compliance History

As of May 16, 2025, there are no open violations associated with this facility.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .55
Latitude 39º 53' 43.00" **Longitude** -76º 48' 26.00"
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)
	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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: These standards apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)

1. WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. The model was utilized using data derived by USGS StreamStats and the model output indicated that existing WQBELs for CBOD5 is still protective of water quality. However, the model also determined that existing WQBEL of 1.5 mg/L for ammonia (warm weather) is no longer protective of water quality. A new WQBEL of 1.3 mg/L for ammonia (warm weather) is proposed in this permit. Instantaneous limits for ammonia were updated with the Department's standard 2.0x multiplier. Updated winter limits were calculated with the Department's standard 3.0x multiplier for ammonia. Based on DMR data, the facility can already meet the proposed limits. Updated mass limits for both warm and cold weather were determined by multiplying the proposed ammonia limits by 8.34 (conversion factor) and 0.55 mgd (the facility's design annual average flow rate).

   The model also determined that the facility's existing DO limits of 5 mg/L are still protective of water quality.

   See attached for model inputs and outputs.

Toxics

A reasonable potential (RP) analysis was done for Total Copper, Total Lead and Total Zinc. The Department's Toxics Management Spreadsheet (Version 1.4) was used to perform the RP analysis for these parameters at a pH of 7.2 (average daily pH from the last 12-months of DMRs) and a discharge hardness of 100 mg/L. The last 12-months of DMR data was pulled for Total Copper, Total Lead and Total Zinc and the values were evaluated using TOXCONC. The analysis indicates that a 1/week monitoring requirement for Total Copper and Total Zinc is still appropriate. The requirement to calculate and report pounds of Total Copper and Total Zinc discharged is proposed to be added to this permit for data collection purposes. The flow monitoring requirements for Total Copper and Total Zinc is proposed to be decreased from 24-hour composite sampling to 8-hour composite sampling to align with other sampling requirements at the facility. CWA section 402(o)(2) outlines specific exceptions to the general

prohibition against revising an existing TBEL that was developed on a case-by-case basis using BPJ to reflect subsequently promulgated, less stringent effluent guidelines in a renewed, reissued, or modified permit. CWA section 402(o)(2) provides, in part, that relaxed limitations may be allowed where errors were made in the previous permit. It is the Department's position that the previously required 24-composite sampling was not consistent with the Department's Guidance (*Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (PA Doc No. 362-0400-001)) and should have been originally permitted with an 8-hour composite sampling requirement. The proposed 8-hour composite sampling requirement is at least as strict as that required by *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (PA Doc No. 362-0400-001)

After populating the model with the highest recorded Total Lead concentration collected at Outfall 001 in the last year (51 of 52 samples were non-detect), the model indicated that Total Lead does not need limits or monitoring; therefore, the Department proposes to proceed with the removal of the existing Total Lead monitoring requirement. CWA section 402(o)(2) outlines specific exceptions to the general prohibition against revising an existing TBEL that was developed on a case-by-case basis using BPJ to reflect subsequently promulgated, less stringent effluent guidelines in a renewed, reissued, or modified permit. CWA section 402(o)(2) provides, in part, that relaxed limitations may be allowed where:

- New information (other than revised regulations, guidance, or test methods) is available that was not available at the time of permit issuance and that would have justified a less stringent effluent limitation. If the effluent limitation was based on water quality standards, any changes must result in a decrease in pollutants discharged.

During the last permit renewal, the testing frequency was increased from 1/year to 1/week for all three parameters to determine the need for monitoring or limits moving forward. The Department considers the weekly data collected during the last permit cycle to be new information (other than revised regulations, guidance, or test methods) that was not available at the time of permit issuance. The Department further notes that the applicant states that there are no commercial or industrial users tributary to the treatment plant.

At least one Total Lead sample will need to be collected and reported as part of the permit renewal process. If future sample results show reasonable potential, monitoring or discharge limits will be implemented in future renewals as appropriate.

The full TMS report is presented at the end of this report.

E. Coli Monitoring

In conformity with the Department's *Establishing Effluent Limitations for Individual Sewage Permits* (SOP No. BCW-PMT-033) and as authorized by § 92a.61 of the PA Code, quarterly E. Coli monitoring has been proposed in this permit. The collection method will be via grab sample.

Best Professional Judgment (BPJ) Limitations

Ultraviolet Disinfection

The existing UV system is equipped with an intensity sensor; therefore, UV intensity is proposed to be continued as the monitoring parameter for the UV system.

TDS / Sulfate / Chloride / Bromide / 1,4-Dioxane:

Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Under the authority of § 92a.61, statewide guidance distributed by the Department's Central Office on January 23, 2014 stated the following:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD*

or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.

- *Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

- *Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

The table below compares the above thresholds for monitoring requirements with the concentrations documented in the current application:

Department Monitoring Thresholds and Expected Discharge Concentrations for TDS and Related Parameters

Parameter	Threshold for Discharges >0.1 MGD	Threshold for Discharges ≤0.1 MGD	Max. Concentration in Application
TDS	1,000 mg/L or 20,000 lbs/day	5,000 mg/L	382 mg/L
Sulfate	NA	NA	41 mg/L
Chloride	NA	NA	86 mg/L
Bromide	1 mg/L	10 mg/L	<0.2 mg/L
1,4-Dioxane	10 µg/L	100 µg/L	Not Tested

Based on the sampling results in the application, no additional limits are proposed in the draft permit. 1,4-Dioxane was not evaluated as minor permits are not required to sample the parameter.

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, routine monitoring for Total Phosphorus and Total Nitrogen are recommended to be continued in this permit. Sampling frequency for is currently required 2/week, which is consistent with Table 6.3 in Guidance Doc. 362-0400-001. No change is proposed.

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Chesapeake Bay TMDL

The Department formulated a strategy in April 2007, to comply with the EPA's and Chesapeake Bay Foundation's requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers received annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5 (below 0.2mdg) facilities were required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001).

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed, in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011, Phase 2 in March 2012 and Phase 3 in December 2019. In accordance with the Phase 3 WIP, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal.

The Phase 3 WIP categorizes this facility as a Phase 2 sewage facility. The Phase 3 WIP requires a minimum monitoring frequency for TN species and TP in new or renewed Phase 2 NPDES permits for Significant Sewage dischargers twice a week. Twice weekly monitoring of these pollutants will be continued in this permit.

The Phase 3 WIP assigns the following cap loads to the facility:

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0247391	2	North Codorus Township	7/22/2015	1/31/2019	10/1/2006	13,394	-	1,674	0.961	0.436

Monitoring Frequency and Sample Type

The existing permit currently has weekly concentration and mass discharge limits for CBOD5 and TSS. The Department's SOP No. BCW-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits, Section 1, Part A, Note 9) states that, "In general, weekly average limits for CBOD5 and TSS will not be imposed where the sampling frequency is less than 1/week." Given that existing and proposed monitoring for CBOD5 and TSS will be 2/month, it appears that the weekly limits were assigned erroneously. The draft permit proposes eliminating the weekly limits for CBOD5 and TSS.

Extraneous reporting limits for NOx and TKN were eliminated from the permit. All data required to be submitted in the previous permit is required to be submitted in this renewal,

Unless discussed otherwise above, the permit's monitoring frequency and sample type for all parameters will remain unchanged from the last permit renewal.

Antidegradation Requirements

All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal unless noted otherwise above. This approach is in accordance with 40 CFR §122.44(l(1).

Annual Fees

An annual fee clause is continued in the permit in accordance with 25 Pa. Code § 92a.62. The facility covered by the permit is classified in the Minor Sewage Facility >=0.05 and <1 MGD fee category, which has an annual fee of $1,000.

Mass Loading Limitations

Unless stated otherwise in this fact sheet, mass loading effluent limits are calculated based on the formula: design flow (average annual) (MGD) x concentration limit (mg/L) at design flow x conversion factor (8.34).

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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Total Nitrogen (lbs) Effluent Net	XXX	13394 Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus (lbs) Effluent Net	XXX	1674 Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location: Outfall 001

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	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5	64.0	XXX	XXX	14.0	XXX	28	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	137.0	XXX	XXX	30.0	XXX	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	Calculation

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	Daily Maximum	Instantaneous Minimum	Average Monthly	Maximum	Instant. Maximum		
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	17.8	XXX	XXX	3.9	XXX	7.8	2/week	8-Hr Composite
Ammonia May 1 - Oct 31	5.9	XXX	XXX	1.3	XXX	2.6	2/week	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	Report	XXX	XXX	Report	XXX	XXX	2/week	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	9.0	XXX	XXX	2.0	XXX	4	2/week	8-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus (lbs) Effluent Net	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Copper (ug/L)	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Zinc (ug/L)	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite

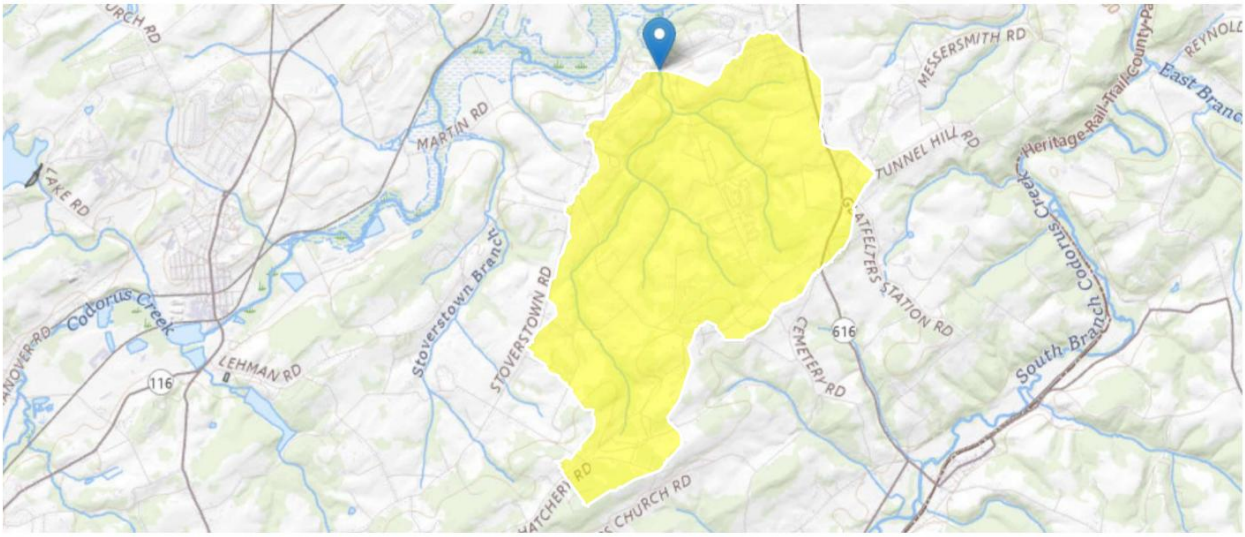
Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	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:
☐	Other:


900110 - DISCHARGE POINT
Hampden Dr
Friar Rd
W George St
S Main St
Old Joseph Rd
Salem Rd
Palmer Ave
Southview Dr
Bahn Ave
Eldine Ave
New Salem
North Codorus Twp
616
Sharoden Dr
Cherylwood Dr
Seven Valleys Rd
Rinehart Ln
Noss Rd
Stoverstown Rd
Country Manor Dr
Country Rd
Federal Rd
Estate Dr
Joseph Rd
Cherry Dr
Salem Rd
esri

StreamStats Report

Region ID: PA
Workspace ID: PA20250516112542409000
Clicked Point (Latitude, Longitude): 39.89530, -76.80727
Time: 2025-05-16 07:26:22 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.6772	degrees
DRNAREA	Area that drains to a point on a stream	4.02	square miles
ROCKDEP	Depth to rock	3	feet
URBAN	Percentage of basin with urban development	1.9892	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.6772	degrees	1.7	6.4
DRNAREA	Drainage Area	4.02	square miles	4.78	1150
ROCKDEP	Depth to Rock	3	feet	4.13	5.21
URBAN	Percent Urban	1.9892	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.149	ft^3/s
30 Day 2 Year Low Flow	0.243	ft^3/s
7 Day 10 Year Low Flow	0.0465	ft^3/s
30 Day 10 Year Low Flow	0.0834	ft^3/s
90 Day 10 Year Low Flow	0.165	ft^3/s

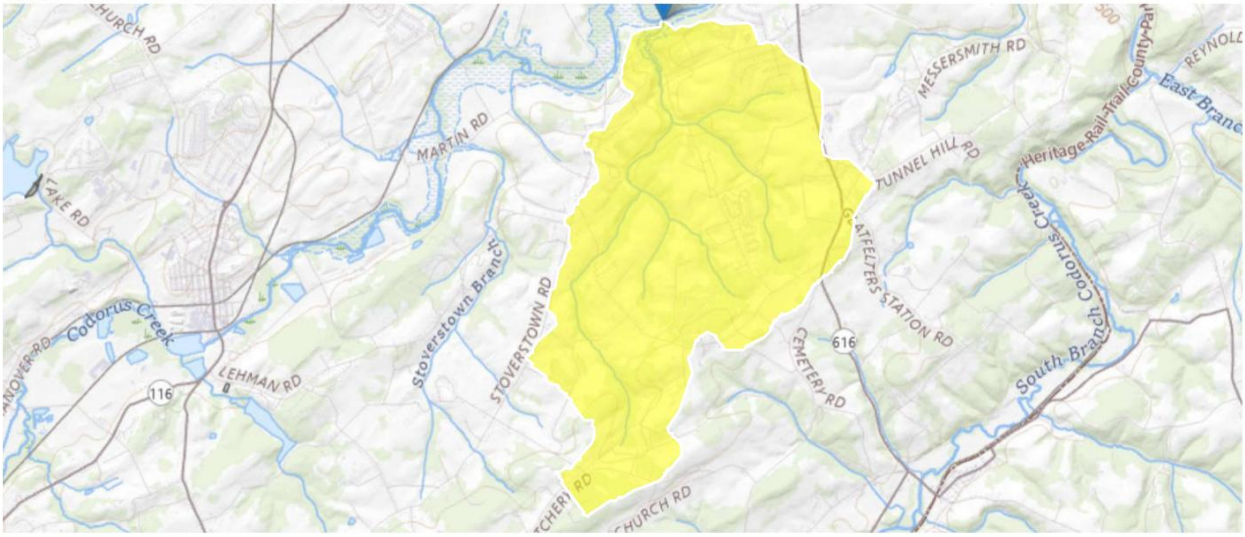
Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20250516112935900000
Clicked Point (Latitude, Longitude): 39.90129, -76.80688
Time: 2025-05-16 07:30:15 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	5.7809	degrees
DRNAREA	Area that drains to a point on a stream	4.37	square miles
ROCKDEP	Depth to rock	3.8	feet
URBAN	Percentage of basin with urban development	1.8647	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	5.7809	degrees	1.7	6.4
DRNAREA	Drainage Area	4.37	square miles	4.78	1150
ROCKDEP	Depth to Rock	3.8	feet	4.13	5.21
URBAN	Percent Urban	1.8647	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.453	ft^3/s
30 Day 2 Year Low Flow	0.641	ft^3/s
7 Day 10 Year Low Flow	0.179	ft^3/s
30 Day 10 Year Low Flow	0.269	ft^3/s
90 Day 10 Year Low Flow	0.445	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Application Version: 4.28.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07H	8196	Trib 08196 to Codorus 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)
0.530	N Codorus Twp	PA0247391	0.550	CBOD5	14		
				NH3-N	1.38	2.76	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07H	8196	Trib 08196 to Codorus Creek

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.530	N Codorus Twp	9.15	3	9.15	3	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.530	N Codorus Twp	1.26	1.38	1.26	1.38	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.53	N Codorus Twp	14	14	1.38	1.38	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07H	8196	Trib 08196 to Codorus Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.530	0.550	25.000	7.187
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
11.948	0.493	24.218	0.152
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
13.38	1.486	1.31	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.168	25.579	Owens	5
Reach Travel Time (days)			
0.212			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.021	12.86	1.28	5.81
0.042	12.36	1.25	6.21
0.064	11.88	1.23	6.47
0.085	11.41	1.20	6.64
0.106	10.97	1.17	6.76
0.127	10.54	1.15	6.86
0.149	10.13	1.12	6.93
0.170	9.74	1.10	7.00
0.191	9.36	1.08	7.05
0.212	8.99	1.05	7.10

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.7935	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07H	8196	Trib 08196 to Codorus Creek

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.530	0.05	0.00	0.05	.8509	0.00855	.493	11.95	24.22	0.15	0.212	25.00	7.19
Q1-10 Flow												
0.530	0.03	0.00	0.03	.8509	0.00855	NA	NA	NA	0.15	0.215	25.00	7.19
Q30-10 Flow												
0.530	0.08	0.00	0.08	.8509	0.00855	NA	NA	NA	0.16	0.208	25.00	7.18

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07H	8196	Trib 08196 to Codorus Creek	**0.530**	430.72	4.02	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.000	0.05	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
N Codorus Twp	PA0247391	0.5500	0.5500	0.5500	0.000	25.00	7.20

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	14.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	1.50	0.00	0.10	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
07H	8196	Trib 08196 to Codorus Creek	**0.001**	406.83	4.37	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.000	0.18	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Facility:	North Codorus Township STP
NPDES #:	PA0247391
Outfall No:	001
n (Samples/Month):	4
Reviewer/Permit Engineer:	Aaron Baar

Parameter Name	Total Copper	Total Lead	Total Zinc
Units	mg/L	mg/L	mg/L
Detection Limit	0.004	0.001	0.005
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*		
3/4/25	<0.005	<0.001	0.051
3/11/25	<0.005	<0.001	0.051
3/18/25	<0.005	<0.001	0.047
3/25/25	<0.005	<0.001	<0.001
2/4/25	<0.005	<0.001	0.052
2/11/25	<0.005	<0.001	0.045
2/18/25	<0.005	<0.001	0.057
2/25/25	<0.005	<0.001	0.05
1/7/25	<0.005	<0.001	0.048
1/14/25	<0.005	<0.001	0.052
1/21/25	<0.005	<0.001	0.052
1/28/2025	<0.005	<0.001	0.054
12/4/2024	<0.005	<0.001	0.042
12/11/2024	<0.005	<0.001	0.049
12/18/2024	<0.005	<0.001	0.042
12/25/2024	<0.005	<0.001	0.044
12/31/2024	<0.005	<0.001	0.041
11/7/2024	<0.005	<0.001	0.044
11/14/2024	<0.005	<0.001	0.044
11/21/2024	<0.005	<0.001	0.044
11/28/2024	<0.005	<0.001	0.048
10/1/24	<0.005	<0.001	0.042
10/8/24	<0.005	<0.001	0.046
10/15/24	<0.005	<0.001	0.063
10/22/24	<0.005	<0.001	0.044
10/29/24	<0.005	<0.001	0.044
9/3/24	<0.005	<0.001	0.04
9/10/24	<0.005	<0.001	0.042
9/17/24	<0.005	<0.001	0.045
9/24/24	<0.005	<0.001	0.045
8/6/24	<0.01	<0.001	0.043
8/13/24	<0.01	<0.001	0.043
8/20/24	<0.005	<0.001	0.041
8/27/24	<0.005	<0.001	0.043
7/2/2024	0.007	<0.001	0.053
7/9/2024	<0.005	<0.001	0.041
7/16/2024	<0.005	<0.001	0.044
7/23/2024	<0.005	<0.001	0.041
7/30/2024	<0.005	<0.001	0.047
6/4/2024	<0.005	<0.001	0.052
6/11/2024	<0.005	<0.001	0.047
6/18/2024	<0.005	<0.001	0.047
6/25/2024	0.006	<0.001	0.043
5/7/2024	<0.005	<0.001	0.058
5/14/2024	<0.005	<0.001	0.057
5/21/2024	<0.005	<0.001	0.053
5/28/2024	<0.005	<0.001	0.048
4/2/2024	<0.005	<0.001	0.04
4/9/2024	<0.005	<0.001	0.037
4/16/2024	<0.005	0.003	0.042

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5/16/2025

Parameter Name	Total Copper	Total Lead	Total Zinc										
Units	mg/L	mg/L	mg/L										
Detection Limit	0.004	0.001	0.005										
Sample Date	*When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)*												
4/23/2024	<0.005	<0.001	0.049										
4/30/2024	<0.005	<0.001	0.051										

Reviewer/Permit Engineer: Aaron Baar

Facility: North Codorus Township STP
NPDES #: PA0247391
Outfall No: 001
n (Samples/Month): 4

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Total Copper (mg/L)	Delta-Lognormal	0.1230813	0.0048164
Total Lead (mg/L)	Delta-Lognormal	#DIV/0!	#DIV/0!
Total Zinc (mg/L)	Delta-Lognormal	0.1688220	0.0557570

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **North Codorus Township STP** NPDES Permit No.: **PA0247391** Outfall No.: **001**

Evaluation Type: **Custom / Additives** Wastewater Description: **Treated Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.55	100	7.2						

				0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Copper	mg/L		0.0048164			0.1231						
Total Lead	mg/L		0.003									
Total Zinc	mg/L		0.055757			0.1688						

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

North Codorus Township STP, NPDES Permit No. PA0247391, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **UNT to Codorus Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	008196	0.53	430.72	4.02			Yes
End of Reach 1	008196	0.001	406.83	4.37			Yes

Q $_{7\text{-}10}$

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.53		0.0465									100	7		
End of Reach 1	0.001		0.179												

Q $_{h}$

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.53														
End of Reach 1	0.001														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

North Codorus Township STP, NPDES Permit No. PA0247391, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 0.016 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.19

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	13.439	14.0	14.8	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	86.1	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	126	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 0.016 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.19

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	8.956	9.33	9.84	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	3.36	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	126	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 0.016 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 0.650 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Copper	0	0		0	N/A	N/A	N/A	

Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	0.01	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.12	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Lead	3.36	µg/L	Discharge Conc ≤ 10% WQBEL