

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0044261
 APS ID 319071
 Authorization ID 1452045

Applicant and Facility Information

Applicant Name	<u>PA DCNR Facility Design & Const Bureau</u>	Facility Name	<u>Canoe Creek State Park</u>
Applicant Address	<u>205 Canoe Creek Road Hollidaysburg, PA 16648-8444</u>	Facility Address	<u>205 Canoe Creek Road Hollidaysburg, PA 16648-8444</u>
Applicant Contact	<u>James Sowerbrower</u>	Facility Contact	<u>Joseph Basil</u>
Applicant Phone	<u>(814) 733-9123</u>	Facility Phone	<u>(814) 695-6807</u>
Client ID	<u>76763</u>	Site ID	<u>452857</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Frankstown Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Blair</u>
Date Application Received	<u>August 24, 2023</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>September 6, 2023</u>	If No, Reason	<u></u>
Purpose of Application	<u>This is an application request for NPDES renewal.</u>		

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineering Nick Hong (via electronic signature)	November 15, 2023
X		Daniel W. Martin, P.E. / Environmental Engineer Manager Maria D. Bebenek for Daniel W. Martin	December 7, 2023
X		Maria D. Bebenek, P.E. / Environmental Program Manager Maria D. Bebenek	December 7, 2023

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Canoe Creek State Park STP located at 205 Canoe Creek Road, Hollidaysburg, PA 16648 in Blair County, municipality of Frankstown Township. The existing permit became effective on October 1, 2018 and expired on September 30, 2023. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on August 24, 2023.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.120 annual average design flow rate. The hydraulic design capacity is 0.300 MGD. The applicant does not anticipate any proposed upgrades to the treatment facility in the next five years. The NPDES application has been processed as a Minor Sewage Facility (Level 2) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Blair County Commissioners and Frankstown Township Supervisors and the notice was received by the parties on March 31, 2023. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be New Creek. The sequence of receiving streams that the New Creek discharges into are Canoe Creek, Frankstown Branch Juniata River, Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for high quality cold water fishes (HQ-CWF) and migratory fishes. No Class A Wild Trout fisheries are impacted by this discharge. The presence of high quality and/or exceptional value surface waters triggers the need for an additional evaluation of anti-degradation requirements.

The New Creek is a Category 4c and 5 stream listed in the 2022 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an impaired stream for aquatic life due to flow regime modification from dam/impoundment. The receiving stream is also impaired for aquatic life due to siltation/sediment from agriculture. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **Due to the EPA triennial review, monitoring for E. coli is required.**
- **Monitoring for lead has been reduced to 2x/yr**

Sludge use and disposal description and location(s): Biosolids/sewage sludge disposed at Altoona STP located in Blair County, Altoona, PA

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name: Canoe Creek State Park STP

NPDES Permit # PA0044261

Physical Address: 205 Canoe Creek Road
Hollidaysburg, PA 16648

Mailing Address: 205 Canoe Creek Road
Hollidaysburg, PA 16648

Contact: James Sowerbrower
Regional Engineer
(814) 733-9123
jsowerbrow@pa.gov

Adam Watchey, PE
Assistant Regional Engineer
awatchey@pa.gov

Consultant: There was not a consultant utilized for this NPDES renewal.

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 205 Canoe Creek Road, Hollidaysburg, PA 16648. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

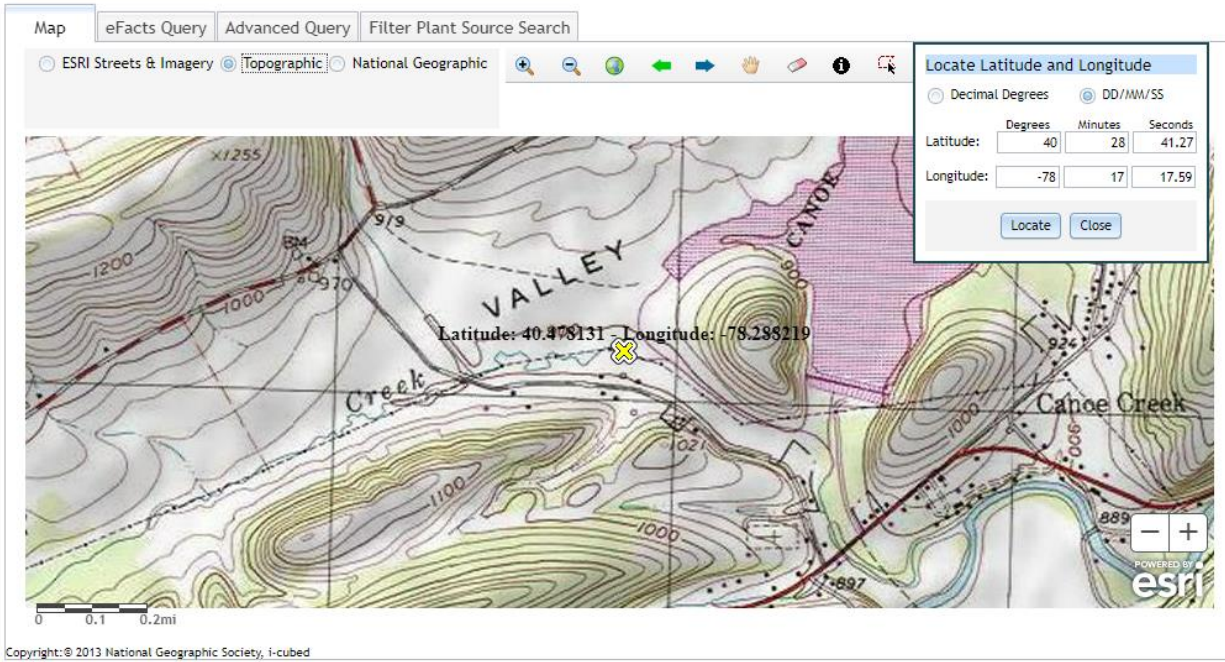
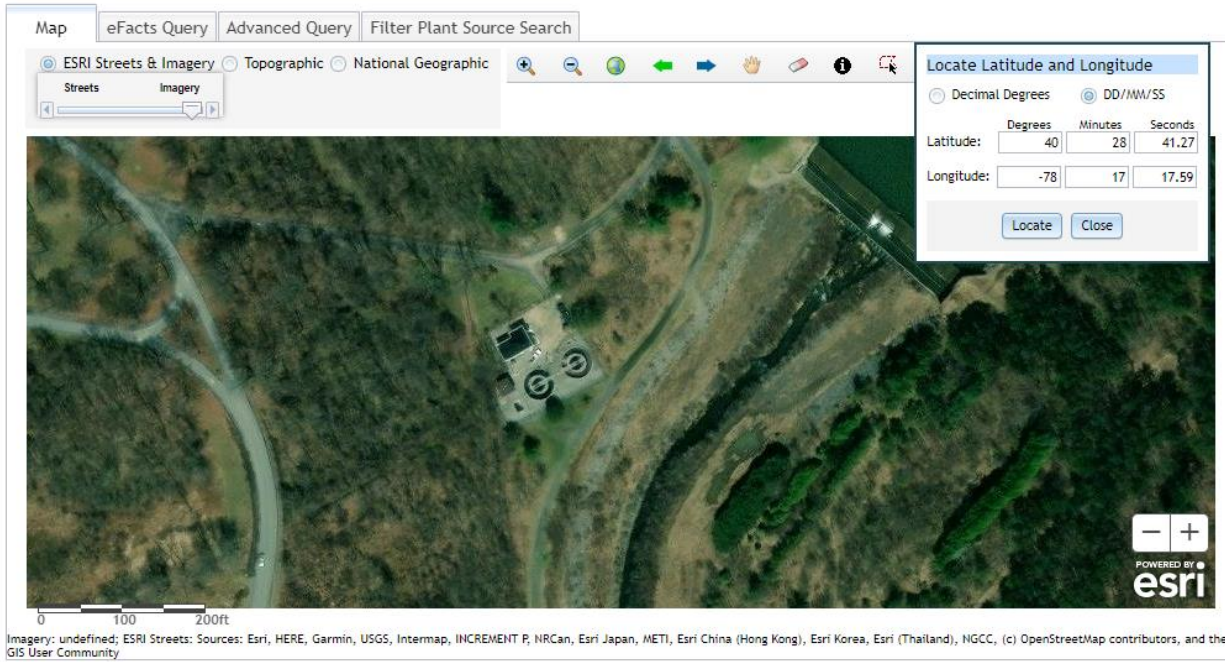


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The facility receives wastewater from the sources summarized in the table.

Sources of Wastewater	
Municipalities Served	Flow Contribution
Frankstown Township	45.00%
Canoe Creek State Park	55.00%
Total	100.00%

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.120 MGD annual average design flow facility. The subject facility treats wastewater using two (2) aeration basins, an AquaDisk Tertiary Filtration (manufactured by Aqua-Aerobic Systems, Inc.), and a chlorine contact chamber for disinfection prior to discharge to New Creek. The treatment forward flow process has a bypass around the AquaDisk Tertiary Filtration unit on an as needed basis for overloading as permitted in the NPDES permit conditions. The facility is being evaluated for flow, pH, dissolved oxygen, TRC, CBOD5, TSS, fecal coliform, nitrogen species, phosphorus, and lead. The existing permits limits for the facility is summarized in Section 2.4.

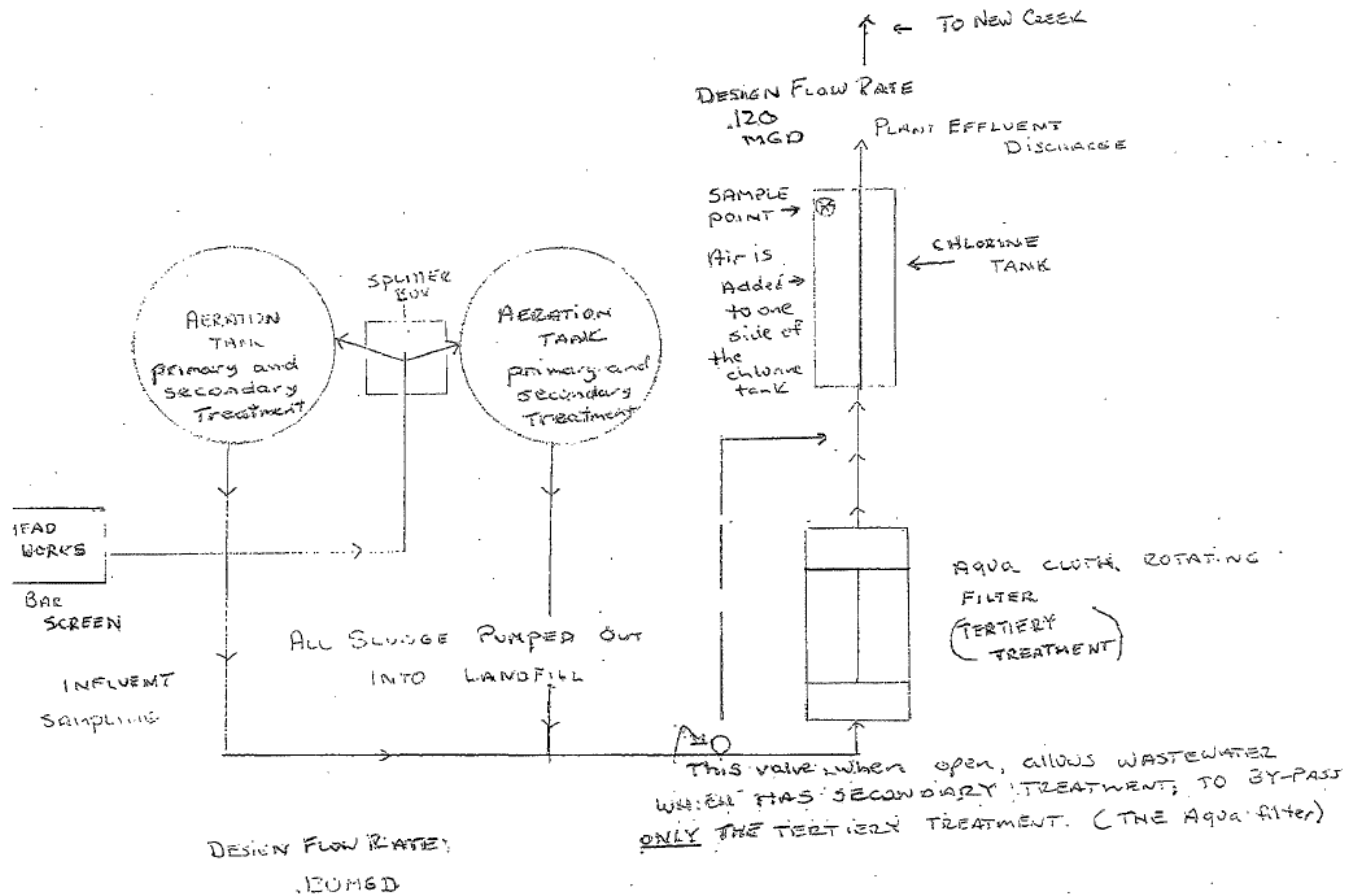
The treatment process is summarized in the table.

Treatment Facility Summary				
Treatment Facility Name: Canoe Creek State Park				
WQM Permit No.	Issuance Date			
0706403	09/01/2015			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.12
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.30		Not Overloaded	Aerobic Digestion	Combination of methods

A schematic of the treatment process is depicted.

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SCHEMATIC OF WASTEWATER FLOW



2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	Design Flow (MGD)	.12 (average annual); .30 (hydraulic)
Latitude	40° 28' 41.27"	Longitude	-78° 17' 17.59"
Wastewater Description: Sewage Effluent			

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Sodium hypochlorite for disinfection

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 28' 41.27", Longitude 78° 17' 17.59", River Mile Index 0.43, Stream Code 16255

Receiving Waters: New Creek

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from October 1, 2018 through September 30, 2023.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	15.0	24.0	30	2/month	24-Hr Composite
Biochemical Oxygen Demand (BOD5)								
Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	15.0	24.0	30	2/month	24-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
Nitrate-Nitrite as N	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-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	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Calculation
Ammonia-Nitrogen	XXX	XXX	XXX	3.0	XXX	6	2/month	24-Hr Composite
Ammonia-Nitrogen (Total Load, lbs) (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Kjeldahl Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Lead, Total	Report Avg Qrtly	Report	XXX	Report Avg Qrtly	Report Daily Max	XXX	1/quarter	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

05/01/2020

- Monthly and quarterly DMR's were being submitted as required but there were no supplemental reports attached to the E-DMRs since July 2019. Monthly discharge monitoring reports from August 2019 through March 2020 needed to be revised to include influent and effluent supplemental reports and the biosolids disposal form. Quarterly reports should include an annual Chesapeake Bay spreadsheet supplemental form attached.
- The plant upgrade project was completed.
- The only recent effluent DMR violation was for TSS in February 2020. The violation was attributed to a problem with the cloth filter unit

10/19/2021:

- The treatment plant upgrade project was completed in 2018. Recent work included repairing all three blower motors and manifolds and replacing the chlorine feed pump.
- There was no calibration record for the influent flow meter and the operator was unsure when it was last calibrated. Flow meters are required to be calibrated annually.
- The thermometer in the sample storage refrigerator read 20 degrees and did not appear to be accurate. Recommend replacing with a NIST traceable thermometer.
- A review of plant records showed a reporting error on the August 2021 discharge monitoring report and supplemental form. The test result for Nitrate-Nitrite on the laboratory report did not match the value on the effluent supplemental form. The supplemental form and DMR needed to be revised.
- The log book used for recording daily effluent test results showed a grab time for effluent sample, but not the analysis time. EPA method requires that both times be recorded to demonstrate that testing is conducted within the 15 minute holding time.
- Sludge removal records are kept at the park office and were not available for review at the treatment plant.

03/18/2022:

- The grab and analysis times for daily effluent tests were being recorded in the logbook.
- Sludge hauler receipts were available for review. Sludge is hauled by Ken Wertz Septic service and was last removed on November 1, 2021.
- The park needed to obtain a NIST traceable thermometer for the effluent composite sampler.
- The operator needed to revise the August 2021 DMR to show the correct value for NO₂-NO₃ and attach a revised effluent supplemental form. In addition, a review of DMRs showed that the quarterly reports did not include a supplemental form. Each quarterly DMR should have an Annual Chesapeake Bay Spreadsheet attached to the report.

04/25/2022:

- Quarterly DMR's for 2021 Annual Chesapeake Bay Spreadsheet were not attached to the report

12/7/2022: The facility was cited for:

- Failure to monitor pollutants as required by the NPDES permit. Influent sample was only 4 hour composite sample. Permit requires 24 composite sample (25 Pa. Code 92a.61(c)).

- Failure to update lab accreditation or registration. Needed to update Lab form to reflect new testing laboratory (25 Pa. Code 252.4(a).
- Failure to properly calibrate equipment. Dissolved oxygen probe cap was expired and meter needs to be calibrated 25 Pa. Code 92a.41(a)(10)

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.078 MGD in November 2022. The design capacity of the treatment system is 0.30 MGD.

The off-site laboratory used for the analysis of the parameters was the DEP Bureau of Labs located at 2675 Interstate Drive, Harrisburg, PA 1710 and Fairway Laboratories located at 2019 Ninth Avenue, Altoona, PA 166003.

DMR Data for Outfall 001 (from September 1, 2022 to August 31, 2023)

Parameter	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22	NOV-22	OCT-22	SEP-22
Flow (MGD) Average Monthly	0.013	0.017	0.036	0.031	0.067	0.033	0.02	0.018	0.03	0.078	0.049	0.038
Flow (MGD) Daily Maximum	0.020	0.045	0.071	0.100	0.311	0.091	0.029	0.028	0.07	0.246	1.116	0.070
pH (S.U.) Instantaneous Minimum	8.21	7.52	7.94	7.29	7.67	7.68	7.78	7.62	7.78	7.56	7.75	7.72
pH (S.U.) Instantaneous Maximum	8.81	8.54	8.32	8.28	8.48	8.27	8.22	8.17	8.14	7.99	8.01	8.35
DO (mg/L) Instantaneous Minimum	8.27	8.31	8.99	9.34	6.71	9.74	10.3	8.27	8.59	8.47	8.96	8.85
TRC (mg/L) Average Monthly	0.28	0.32	0.41	0.34	0.32	0.29	0.29	0.28	0.41	0.39	0.45	0.42
TRC (mg/L) Instantaneous Maximum	0.98	0.77	0.4	0.66	0.9	0.48	0.48	0.55	0.88	0.96	0.79	0.66
CBOD5 (mg/L) Average Monthly	5.0	3.0	7.0	3.0	1.0	5.0	2.0	0.2	3.0	< 3.0	2.0	2.0
CBOD5 (mg/L) Weekly Average	6.0	3.0	10.0	4.0	2.0	8.0	2.0	0.2	3.0	< 3.0	3.0	2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	15.0	19	71.0	59	95	23	23	25	70	61.0	31	41.0
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	15.0	22	90.0	62	113	38	26	29	94	80.0	37	43.0
BOD5 (mg/L) Raw Sewage Influent Average Monthly	165.0	201	172.0	204	181	130	133	192	178	95.0	152	137.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	19.0	58	86.0	124	161	34	23	36	22	275.0	30	50.0
TSS (lbs/day) Raw Sewage Influent Daily Maximum	22.0	61	102.0	127	187	63	25	51	40	513.0	35	51.0

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TSS (mg/L) Average Monthly	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	8.0	8.0	2.0	< 1.6	8.0	< 8.0
TSS (mg/L) Raw Sewage Influent Average Monthly	214	658	215.0	424	310	164	137	274	71	163.0	147	173.0
TSS (mg/L) Weekly Average	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	8.0	8.0	2.0	< 2.0	8.0	< 8.0
Fecal Coliform (No./100 ml) Geometric Mean	14.0	< 32.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	7	1.0	< 1.0	< 10	< 10.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	20.0	100.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	10	1.0	1.0	< 10	< 10.0
Nitrate-Nitrite (lbs/day) Average Quarterly			17.0			2			6.0			6.48
Nitrate-Nitrite (mg/L) Average Quarterly			25.0			19.39			28.58			24
Total Nitrogen (lbs/day) Average Quarterly			19.0			2			6.0			6.81
Total Nitrogen (mg/L) Average Quarterly			27.0			19.85			29.77			24.76
Ammonia (mg/L) Average Monthly	0.26	0.2	0.29	0.14	0.25	0.1	0.15	0.2	< 1.0	< 1.066	0.08	0.07
Ammonia (lbs) Average Quarterly			0.2			0.03			0.02			0.028
TKN (lbs/day) Average Quarterly			1.0			0.01			0.3			0.34
TKN (mg/L) Average Quarterly			2.0			1.19			1.41			1.24
Total Phosphorus (lbs/day) Average Quarterly			4.0			0.3			0.9			1.25
Total Phosphorus (mg/L) Average Quarterly			5.0			2.684			4			4.531
Total Lead (lbs/day) Average Quarterly			< 0.7			< 0.1			0.2			0.28
Total Lead (lbs/day) Daily Maximum			< 0.7			< 0.1			0.2			0.28
Total Lead (mg/L) Average Quarterly			< 1.0			< 1			< 1.0			1

Total Lead (mg/L) Daily Maximum			< 1.0			< 1			< 1.0			1
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3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in October 1, 2018 to October 30, 2023, the following were observed effluent non-compliances.

Summary of Non-Compliance with NPDES Permit Limits									
Beginning October 1, 2018 and ending October 30, 2023									
NON_COMPLIANCE_DATE	NON_COMPL_CATEGORY_DESC	PARAMETER	SAMPLE_VALUE	VIOLATION_CONDITION	PERMIT_VALUE	UNIT_OF_MEASURE	STAT_BASE_CODE	DISCHARGE_COMMENTS	FACILITY_COMMENTS
3/12/2020	Effluent	Total Suspended Solids	29.0	>	15.0	mg/L	Average Monthly		Filter Cloths had tears in them. Replaced with new filter cloths.
3/12/2020	Effluent	Total Suspended Solids	43.0	>	24.0	mg/L	Weekly Average		Filter cloths had tears in them. Replaced with new filter cloths on 3/6/2020
7/13/2020	Effluent	Fecal Coliform	3245	>	200	No./100 ml	Geometric Mean		
7/13/2020	Effluent	Fecal Coliform	4352	>	1000	No./100 ml	Instantaneous Maximum		
7/15/2021	Effluent	Fecal Coliform	5450	>	1000	No./100 ml	Instantaneous Maximum		
7/15/2021	Effluent	Total Residual Chlorine (TRC)	0.52	>	.5	mg/L	Average Monthly		

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in October 1, 2018 to October 30, 2023, there were no observed enforcement actions.

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

2022			
Sewage Sludge / Biosolids Production Information			
Hauled Off-Site			
Date (YEAR)	Gallons	% Solids	Dry Tons
January	16851	2.6	2.15
February			
March			
April	22089	1.49	1.41
May			
June			
July	13885	1.49	Not reported
August			
September			
October			
November			
December			
Notes:			
Biosolids/sewage sludge disposed at Altoona STP located in Blair County, Altoona, PA			

3.5 Open Violations

No open violations existed as of November 2023.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be New Creek. The sequence of receiving streams that the New Creek discharges into are Canoe Creek, Frankstown Branch Juniata River, Juniata River, and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Mifflintown MA (PWS ID #4340008) located approximately 90 miles downstream of the subject facility on the Juniata River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2022 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2022 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 4c and 5 waterbody. This stream is an impaired stream for aquatic life due to flow regime modification from dam/impoundment. The receiving stream is also impaired for aquatic life due to siltation/sediment from agriculture. The designated use has been classified as protected waters for high quality cold water fishes (HQ-CWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Frankstown Branch Juniata station (WQN224). This WQN station is located approximately 9 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Frankstown Branch Juniata River at Williamsburg, PA (USGS station number 1556000). This gauge station is located approximately 7 miles downstream of the subject facility.

For WQM modeling, pH and stream water temperature data from the water quality network station was used. pH was estimated to be 7.84 and the stream water temperature was estimated to be 22 C.

The hardness of the stream was estimated from the water quality network to be 135 mg/l CaCO₃.

The low flow yield and the Q710 for the subject facility was estimated as shown below.

Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY = (47.8 ft ³ /sec / 291 mi ²)			
LFY =	0.1643	ft ³ /sec/mi ²	
The low flow at the subject site is based upon the DA of			
	6.41	mi ²	
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.1643 ft ³ /sec/mi ²)(6.41 mi ²)			
Q710 =	1.053	ft ³ /sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.12</u>
Latitude	<u>40° 28' 40.93"</u>	Longitude	<u>-78° 17' 17.70"</u>
Quad Name	<u></u>	Quad Code	<u></u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>New Creek (HQ-CWF)</u>	Stream Code	<u>16255</u>
NHD Com ID	<u>65607928</u>	RMI	<u>0.42</u>
Drainage Area	<u>6.41</u>	Yield (cfs/mi ²)	<u>0.1643</u>
Q ₇₋₁₀ Flow (cfs)	<u>1.053</u>	Q ₇₋₁₀ Basis	<u>StreamStats/streamgauge</u>
Elevation (ft)	<u>890</u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>11-A</u>	Chapter 93 Class.	<u>HQ-CWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Impaired for aquatic life due to flow regime modification from dam/impoundment Impaired for aquatic life due to siltation/sediment from agriculture</u>		
TMDL Status	<u>Not applicable</u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>7.84</u>	WQN224; Median July to Sept	<u></u>
Temperature (°C)	<u>22.0</u>	WQN224; Median July to Sept	<u></u>
Hardness (mg/L)	<u>135</u>	WQN224; median historical	<u></u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>Mifflintown MA</u>		
PWS Waters	<u>Juniata River</u>	Flow at Intake (cfs)	<u></u>
PWS RMI	<u>37</u>	Distance from Outfall (mi)	<u>90</u>

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	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)

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chlorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below. The modeling point river mile index was extended to the secondary stream for modeling purposes.

General Data 1	(Modeling Point #1)	(Modeling Point #2)	Units
Stream Code	16255	16255	
River Mile Index	0.96	0	miles
Elevation	890.61	873.83	feet
Latitude	40.478131	40.473626	
Longitude	-78.288219	-78.276439	
Drainage Area	6.41	256	sq miles
Low Flow Yield	0.164	0.1643	cfs/sq mile

The actual river mile index to the facility is 0.42.

5.3.1 Water Quality Modeling 7.0

The WQM Model is a computer model that is used to determine NPDES discharge effluent limitations for Carbonaceous BOD (CBOD5), Ammonia Nitrogen (NH₃-N), and Dissolved Oxygen (DO) for single and multiple point source discharges scenarios. WQM Model is a complete-mix model which means that the discharge flow and the stream flow are assumed to instantly and completely mixed at the discharge node.

WQM recommends effluent limits for DO, CBOD5, and NH₃-N in mg/l for the discharge(s) in the simulation.

Four types of limits may be recommended. The limits are

- (a) a minimum concentration for DO in the discharge as 30-day average;
- (b) a 30-day average concentration for CBOD5 in the discharge;
- (c) a 30-day average concentration for the NH₃-N in the discharge;
- (d) 24-hour average concentration for NH₃-N in the discharge.

The WQM Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

The applicable WQM Effluent Limit Type are discussed in Section 6 under the corresponding parameter which is either DO, CBOD, or ammonia-nitrogen.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the following pollutants: TDS, chloride, bromide, and sulfate. As the facility does not receive industrial/commercial contributions, sampling for other parameters were not required.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

- (a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or exceeds 50% of the WQBEL.
- (b) For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
- (c) For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10% - 50% of the WQBEL.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

A TMDL for a given pollutant and waterbody is composed of the sum of individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background levels. In addition, the TMDL must include an implicit or explicit margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. The TMDL components are illustrated using the following equation:

$$\text{TMDL} = \Sigma \text{WLAs} + \Sigma \text{LAs} + \text{MOS}$$

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

For Phase 5 sewage facilities with individual permits (average annual design flow on August 29, 2005 > 0.002 MGD and < 0.2 MGD), DEP will issue individual permits with monitoring and reporting for TN and TP throughout the permit term at a frequency no less than annually, unless 1) the facility has already conducted at least two years of nutrient monitoring and 2) a summary of the monitoring results are included in the next permit's fact sheet. If, however, Phase 5 facilities choose to expand, the renewed or amended permits will contain Cap Loads based on the lesser of a) existing TN/TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

If no data are available to determine existing concentrations for expanding Phase 4 or 5 facilities, default concentrations of 25 mg/l TN and 4 mg/l TP may be used (these are the average estimated concentrations of all non-significant sewage facilities).

DEP will not issue permits to existing Phase 4 and 5 facilities containing Cap Loads unless it is done on a broad scale or unless the facilities are expanding.

For new Phase 4 and 5 sewage discharges, in general DEP will issue new permits containing Cap Loads of "0" and new facilities will be expected to purchase credits and/or apply offsets to achieve compliance, with the exception of small flow and single residence facilities.

Due to the Chesapeake Bay WIP, this facility is subject to Sector C monitoring requirements. Monitoring for nitrogen species and phosphorus shall be 1x/quarter.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a high quality (HQ) special protection waters. The permit conditions are imposed to protect existing instream water quality and uses. The effluent limits to satisfy the anti-degradation analysis are consistent with the April 26, 1993 antidegradation guidance manual. Since the facility is not expanding, the facility will not be subject to the effluent limits prescribed by the November 29, 2003 antidegradation guidance document.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.1.1 and 40 CFR 122.1.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

- a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
- b) a summary of changes from the existing NPDES permit to the proposed permit; and
- c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, and (c) Toxics.

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection Canoe Creek State Park STP, PA0044261			
Parameter	Permit Limitation Required by ¹ :	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
Dissolved Oxygen	BPJ	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits shall be greater than 5.0 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by best professional judgement.
CBOD	Anti-backsliding	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 15 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by anti-backsliding from prior permit limits. While WQM modeling indicates that 25 mg/l CBOD, the recommended limit will remain at 15 mg/l due to anti-backsliding. The effluent limit was developed in accordance with the April 4, 1993 antidegradation manual. Since the facility is not expanding, the facility will not be subject to the November 29, 2003 antibacksliding implementaion guidance.
TSS	Anti-backsliding	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 15 mg/l as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by anti-backsliding from prior permit limits. The effluent limit was developed in accordance with the April 4, 1993 antidegradation manual. Since the facility is not expanding, the facility will not be subject to the November 29, 2003 antibacksliding implementaion guidance.
TRC	TBEL	Monitoring:	The monitoring frequency shall be on a daily basis as a grab sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 0.5 mg/l and/or 1.6 mg/l as an instantaneous maximum.
		Rationale:	Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the TBEL is more stringent than the WQBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 2x/month as a grab sample (Table 6-3).
		Effluent Limit:	Summer effluent limits shall not exceed 200 No./100 mL as a geometric mean. Winter effluent limits shall not exceed 2000 No./100 mL as a geometric mean.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(4) and 92a.47(a)(5).
E. Coli	SOP; Chapter 92a.61	Monitoring:	The monitoring frequency shall be 1x/month as a grab sample (SOP).
		Effluent Limit:	No effluent requirements.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised March 22, 2019) and under the authority of Chapter 92a.61, the facility will be required to monitor for E.Coli.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.12 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.2 Nitrogen Species and Phosphorus

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus			
Canoe Creek State Park STP, PA0044261			
Parameter	Permit Limitation Required by ¹ :	Recommendation	
Ammonia-Nitrogen	Anti-backsliding	Monitoring:	The monitoring frequency shall be 2x/month as a 24-hr composite sample
		Effluent Limit:	Effluent limits shall not exceed 3.0 mg/l as an average monthly.
		Rationale:	While the WQM recommends that the ammonia-nitrogen limit should be 6 mg/l, the current limit of 3 mg/l is more stringent than the WQM modeling. Thus, by anti-backsliding, the current effluent limit of 3 mg/l will remain in the proposed permit.
Nitrate-Nitrite as N	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/quarter as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/quarter.
Total Nitrogen	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/quarter as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/quarter.
TKN	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/quarter as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/quarter.
Total Phosphorus	Chesapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/quarter as a 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least 1x/quarter.
Notes:			

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.12 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.3 Toxics

The monitoring data for lead was reviewed for the current cycle. The maximum lead concentration was 1 ug/l. Greenport data was erroneously reported as mg/l instead of ug/l. The units were confirmed with DCNR on November 8, 2023.

TMS was conducted without reasonable potential.

Attached D summarizes the monitoring data.

Summary of Proposed NPDES Parameter Details for Toxics			
Canoe Creek State Park STP, PA0044261			
Parameter	Permit Limitation Required by ¹ :	Recommendation	
Lead	Anti-backsliding	Monitoring:	The monitoring frequency shall be 2x/yr (semi-annual) as a 24-hr composite sample
		Effluent Limit:	No effluent requirements
		Rationale:	Toxics Management Spreadsheet was conducted without reasonable potential. Due to anti-backsliding, the parameter shall continue to be monitored. Monitoring frequency has been reduced to 2x/yr (semi-annual).
Notes:			
1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other			
2 Monitoring frequency based on flow rate of 0.12 MGD.			
3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limita			
4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)			
5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021			

6.1.3.1 Implementation of Regulation- Chapter 92a.61

Chapter 92a.61 provides provisions to DEP to monitor for pollutants that may have an impact on the quality of waters of the Commonwealth. Based upon DEP policy directives issued on March 22, 2021 and in conjunction with EPA's 2017 Triennial Review, monitoring for E. Coli shall be required.

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

- Due to the EPA triennial review, monitoring for E.coli is required.
- Monitoring for lead has been reduced to 2x/yr

6.3.1 Summary of Proposed NPDES Effluent Limits

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” (362-0400-001), SOPs and/or BPJ.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001, Latitude 40° 28' 41.27", Longitude 78° 17' 17.59", River Mile Index 0.43, Stream Code 16255

Receiving Waters: New Creek

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **October 1, 2018** through **September 30, 2023**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	15.0	24.0	30	2/month	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	15.0	24.0	30	2/month	24-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
Nitrate-Nitrite as N	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-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	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Nitrate-Nitrite as N	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Calculation
Ammonia-Nitrogen	XXX	XXX	XXX	3.0	XXX	6	2/month	24-Hr Composite
Ammonia-Nitrogen (Total Load, lbs) (lbs)	Report Avg Qrtly	XXX	XXX	XXX	XXX	XXX	1/quarter	Calculation
Total Kjeldahl Nitrogen	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Total Phosphorus	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Lead, Total (ug/L)	XXX	XXX	XXX	Report SEMI AVG	XXX	XXX	1/6 months	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Chlorine Minimization
- Hauled-in Waste Restrictions
- Chesapeake Bay Nutrient Definitions
- Solids Management for Non-Lagoon Treatment Systems

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input checked="" type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input checked="" type="checkbox"/>	SOP: New and Reissuance Sewage Individual NPDES Permit Applications
<input type="checkbox"/>	Other: [redacted]

Attachment A

Stream Stats/Gauge Data

Table 1 13

Table 1. List of U.S. Geological Survey streamgauge locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgauge number	Streamgauge name	Latitude	Longitude	Drainage area (mi ²)	Regulated ¹
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville, Pa.	40.509	-78.584	6.77	N
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01542000	Moshannon Creek at Osceola Mills, Pa.	40.850	-78.268	68.8	N
01542500	WB Susquehanna River at Karthaus, Pa.	41.118	-78.109	1,462	Y
01542810	Waldy Run near Emporium, Pa.	41.579	-78.293	5.24	N
01543000	Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	41.413	-78.197	272	N
01543500	Sinnemahoning Creek at Sinnemahoning, Pa.	41.317	-78.103	685	N
01544000	First Fork Sinnemahoning Creek near Sinnemahoning, Pa.	41.402	-78.024	245	Y
01544500	Kettle Creek at Cross Fork, Pa.	41.476	-77.826	136	N
01545000	Kettle Creek near Westport, Pa.	41.320	-77.874	233	Y
01545500	West Branch Susquehanna River at Renovo, Pa.	41.325	-77.751	2,975	Y
01545600	Young Womans Creek near Renovo, Pa.	41.390	-77.691	46.2	N
01546000	North Bald Eagle Creek at Milesburg, Pa.	40.942	-77.794	119	N
01546400	Spring Creek at Houserville, Pa.	40.834	-77.828	58.5	N
01546500	Spring Creek near Axemann, Pa.	40.890	-77.794	87.2	N
01547100	Spring Creek at Milesburg, Pa.	40.932	-77.786	142	N
01547200	Bald Eagle Creek below Spring Creek at Milesburg, Pa.	40.943	-77.786	265	N
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77.604	339	Y
01547700	Marsh Creek at Blanchard, Pa.	41.060	-77.606	44.1	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77.904	12.2	N
01547950	Beech Creek at Monument, Pa.	41.112	-77.702	152	N
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.081	-77.549	562	Y
01548500	Pine Creek at Cedar Run, Pa.	41.522	-77.447	604	N
01549000	Pine Creek near Waterville, Pa.	41.313	-77.379	750	N
01549500	Blockhouse Creek near English Center, Pa.	41.474	-77.231	37.7	N
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	Y
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77.033	173	N
01551500	WB Susquehanna River at Williamsport, Pa.	41.236	-76.997	5,682	Y
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	435	N
01552500	Muncy Creek near Sonestown, Pa.	41.357	-76.535	23.8	N
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Y
01553700	Chillisquaque Creek at Washingtonville, Pa.	41.062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54.2	N
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40.684	-78.234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40.524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N

26 Selected Streamflow Statistics for Streamgauge Locations in and near Pennsylvania

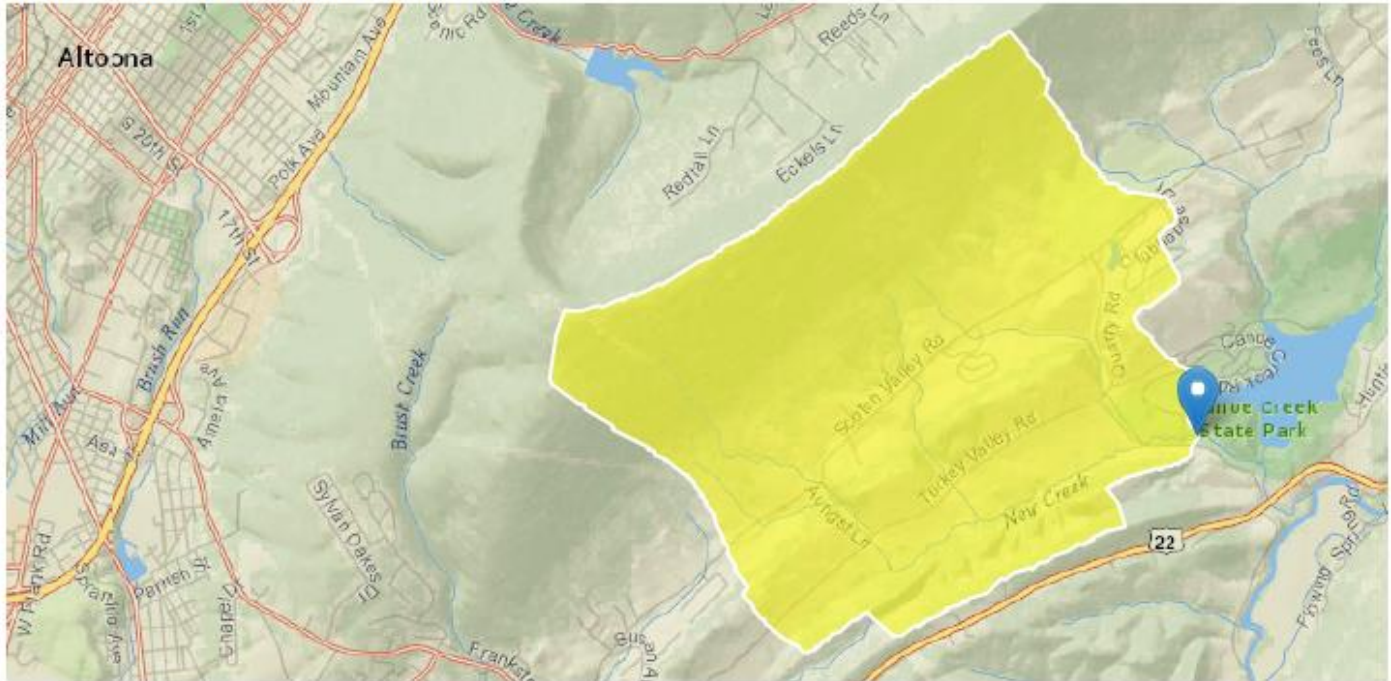
Table 2. Selected low-flow statistics for streamgauge locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgauge number	Period of record used in analysis ¹	Number of years used in analysis	1-day, 10-year (ft ³ /s)	7-day, 10-year (ft ³ /s)	7-day, 2-year (ft ³ /s)	30-day, 10-year (ft ³ /s)	30-day, 2-year (ft ³ /s)	90-day, 10-year (ft ³ /s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	² 1971–2008	38	28.2	109	151	131	172	153
01547500	³ 1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	² 1971–2000	25	142	151	206	178	241	223
01548005	³ 1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	² 1963–2008	46	520	578	1,020	678	1,330	919
01551500	³ 1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	² 1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	³ 1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	² 1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	³ 1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	² 1974–2008	35	—	—	—	112	266	129
01563200	³ 1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	² 1974–2008	35	384	415	519	441	580	493
01563500	³ 1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

StreamStats Report

Region ID: PA
 Workspace ID: PA20231107172812751000
 Clicked Point (Latitude, Longitude): 40.47803, -78.28832
 Time: 2023-11-07 12:28:34 -0500



Canoe Creek State Park PA0044261 Modeling Point #1 November 2023

Collapse All

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	41.33	percent
DRNAREA	Area that drains to a point on a stream	6.41	square miles
PRECIP	Mean Annual Precipitation	40	inches
ROCKDEP	Depth to rock	4.5	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.33	miles per square mile

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	40	inches	35	50.4
STRDEN	Stream Density	2.33	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.5	feet	3.32	5.65
CARBON	Percent Carbonate	41.33	percent	0	99

Low-Flow Statistics Flow Report [Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.729	ft ³ /s	38	38
30 Day 2 Year Low Flow	0.945	ft ³ /s	33	33
7 Day 10 Year Low Flow	0.352	ft ³ /s	51	51
30 Day 10 Year Low Flow	0.458	ft ³ /s	46	46
90 Day 10 Year Low Flow	0.641	ft ³ /s	36	36

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/>)

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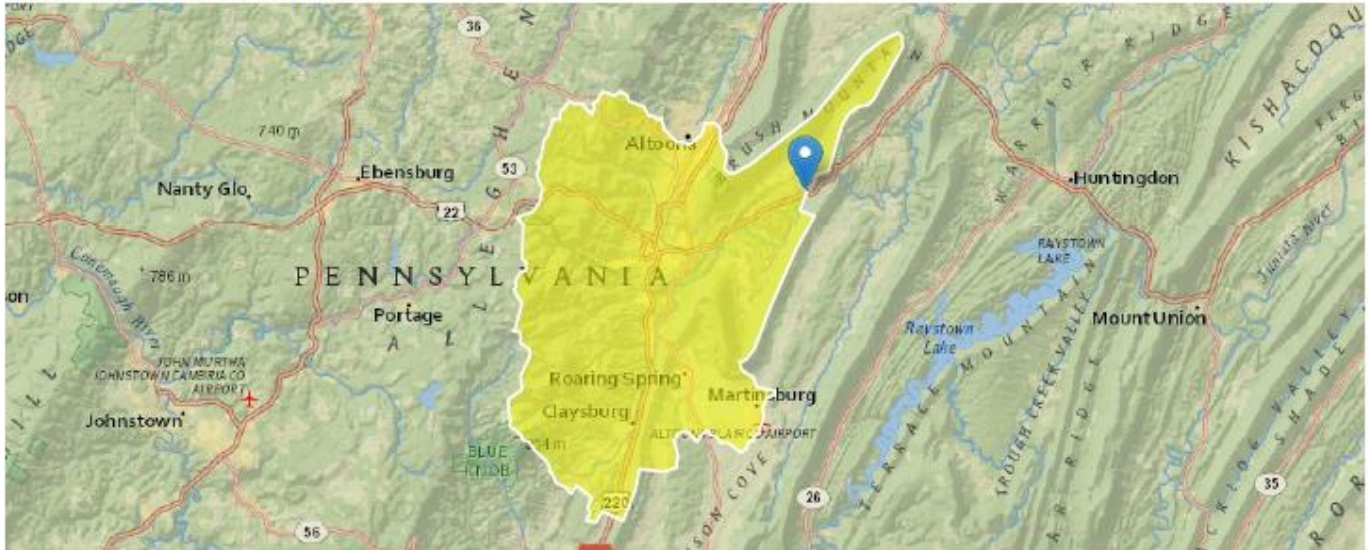
Application Version: 4.18.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
 Workspace ID: PA20231107173229614000
 Clicked Point (Latitude, Longitude): 40.47382, -78.27600
 Time: 2023-11-07 12:32:50 -0500



Canoe Creek State Park PA0044261 Modeling Point #2 December 2023

[+ Collapse All](#)

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	20.59	percent
DRNAREA	Area that drains to a point on a stream	256	square miles
PRECIP	Mean Annual Precipitation	40	inches
ROCKDEP	Depth to rock	4.6	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.07	miles per square mile

Low-Flow Statistics

Low-Flow Statistics Parameters [99.9 Percent (256 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	256	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	40	inches	35	50.4
STRDEN	Stream Density	2.07	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.6	feet	3.32	5.65
CARBON	Percent Carbonate	20.59	percent	0	99

Low-Flow Statistics Flow Report [99.9 Percent (256 square miles) Low Flow Region 2]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	39.3	ft ³ /s	38	38
30 Day 2 Year Low Flow	48.8	ft ³ /s	33	33
7 Day 10 Year Low Flow	23.4	ft ³ /s	51	51
30 Day 10 Year Low Flow	28.9	ft ³ /s	46	46
90 Day 10 Year Low Flow	38.4	ft ³ /s	36	36

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/>)

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Application Version: 4.18.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

Attachment B

WMS Output

Toxics Management Spreadsheet Output Values

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
11A		16255		NEW 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)
0.960	Canoe Creek SP	PA0044261	0.120	CBOD5	25		
				NH3-N	6.09	12.18	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
11A	16255	NEW 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
0.960	Canoe Creek SP	4.1	25.28	4.1	25.28	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
0.960	Canoe Creek SP	.81	6.09	.81	6.09	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.96	Canoe Creek SP	25	25	6.09	6.09	5	5	0	0

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
11A	16255	NEW CREEK	0.960	890.61	6.41	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.164	0.00	0.00	0.000	0.000	0.0	0.00	0.00	22.00	7.84	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
Canoe Creek SP	PA0044261	0.1200	0.1200	0.1200	0.000	25.00	8.00

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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	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
11A	16255	NEW CREEK	0.000	873.83	256.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.164	0.00	0.00	0.000	0.000	0.0	0.00	0.00	22.00	7.84	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	25.00	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

WQM 7.0 D.O. Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
11A	16255	NEW CREEK		
<hr/>				
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
0.960	0.120	22.450	7.861	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
15.445	0.527	29.288	0.152	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
5.45	0.920	0.91	0.845	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
7.757	5.070	Tsivoglou	5	
<u>Reach Travel Time (days)</u>				
0.386				
	<u>Subreach Results</u>			
	<u>TravTime</u>	<u>CBOD5</u>	<u>NH3-N</u>	<u>D.O.</u>
	(days)	(mg/L)	(mg/L)	(mg/L)
	0.039	5.23	0.88	7.52
	0.077	5.03	0.85	7.35
	0.116	4.83	0.83	7.22
	0.154	4.65	0.80	7.13
	0.193	4.47	0.77	7.06
	0.231	4.29	0.75	7.02
	0.270	4.12	0.73	7.00
	0.309	3.96	0.70	7.00
	0.347	3.81	0.68	7.01
	0.386	3.66	0.66	7.03

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
11A		16255				NEW 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												
0.960	1.05	0.00	1.05	.1856	0.00331	.527	15.44	29.29	0.15	0.386	22.45	7.86
Q1-10 Flow												
0.960	0.96	0.00	0.96	.1856	0.00331	NA	NA	NA	0.15	0.403	22.49	7.86
Q30-10 Flow												
0.960	1.21	0.00	1.21	.1856	0.00331	NA	NA	NA	0.16	0.361	22.40	7.86

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.91	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.15	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		



Discharge Information

Instructions Discharge Stream

Facility: Canoe Creek State Park NPDES Permit No.: PA0044261 Outfall No.: 001

Evaluation Type Major Sewage / Industrial Waste Wastewater Description: Sewage effluent

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
0.12	100	8						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	1320								
	Chloride (PWS)	mg/L	577								
	Bromide	mg/L	< 0.2								
	Sulfate (PWS)	mg/L	61.6								
	Fluoride (PWS)	mg/L									
Group 2	Total Aluminum	µg/L									
	Total Antimony	µg/L									
	Total Arsenic	µg/L									
	Total Barium	µg/L									
	Total Beryllium	µg/L									
	Total Boron	µg/L									
	Total Cadmium	µg/L									
	Total Chromium (III)	µg/L									
	Hexavalent Chromium	µg/L									
	Total Cobalt	µg/L									
	Total Copper	µg/L									
	Free Cyanide	µg/L									
	Total Cyanide	µg/L									
	Dissolved Iron	µg/L									
	Total Iron	µg/L									
	Total Lead	µg/L	1								
	Total Manganese	µg/L									
	Total Mercury	µg/L									
	Total Nickel	µg/L									
	Total Phenols (Phenolics) (PWS)	µg/L									
Total Selenium	µg/L										
Total Silver	µg/L										
Total Thallium	µg/L										
Total Zinc	µg/L										
Total Molybdenum	µg/L										
Acrolein	µg/L	<									
Acrylamide	µg/L	<									
Acrylonitrile	µg/L	<									
Benzene	µg/L	<									
Bromoform	µg/L	<									
Carbon Tetrachloride	µg/L	<									
Chlorobenzene	µg/L	<									
Chlorodibromomethane	µg/L	<									
Chloroethane	µg/L	<									
2-Chloroethyl Vinyl Ether	µg/L	<									



Stream / Surface Water Information

Canoe Creek State Park, NPDES Permit No. PA0044261, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **New Creek**

No. Reaches to Model: **1**

- Statewide Criteria
- Great Lakes Criteria
- ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	016255	0.96	890.61	6.41			Yes
End of Reach 1	016255	0	873.83	256			Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.96	0.164										135	7.84		
End of Reach 1	0	0.164										135	7.84		

Q_h

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.96														
End of Reach 1	0														



Model Results

Canoe Creek State Park, NPDES Permit No. PA0044261, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

All

Inputs

Results

Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	85.650	114	758	Chem Translator of 0.753 applied

CFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	3.338	4.43	29.5	Chem Translator of 0.753 applied

THH

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

Pollutants	Stream Conc	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	

CRL

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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

Chloride (PWS)	0	0		0	N/A	N/A	N/A
Sulfate (PWS)	0	0		0	N/A	N/A	N/A
Total Lead	0	0		0	N/A	N/A	N/A

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits			Units	Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX				

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 Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Lead	29.5	µg/L	Discharge Conc ≤ 10% WQBEL

Attachment C

TRC Evaluation

Canoe Creek State Park
PA0044261

November 2023

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Input appropriate values in B4:B8 and E4:E7					
4	1.053	= Q stream (cfs)		0.5	= CV Daily	
5	0.12	= Q discharge (MGD)		0.5	= CV Hourly	
6	30	= no. samples		1	= AFC_Partial Mix Factor	
7	0.3	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0	= Chlorine Demand of Discharge		15	= AFC_Criteria Compliance Time (min)	
9	0.5	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)		0	= Decay Coefficient (K)	
10	Source	Reference	AFC Calculations	Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA_afc = 1.828	1.3.2.iii	WLA_cfc = 1.775	
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373	5.1c	LTAMULT_cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc = 0.681	5.1d	LTA_cfc = 1.032	
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
18			INST MAX LIMIT (mg/l) = 1.635			
	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)				

Attachment D

Lead Monitoring

Summary of Lead Monitoring

Monitoring Period Begin Date	Monitoring Period End Date	Parameter Name	DMR Value	Permit Limit	Units	Units	Statistical Base Code
10/01/2018	12/31/2018	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
10/01/2018	12/31/2018	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
01/01/2019	03/31/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
01/01/2019	03/31/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
04/01/2019	06/30/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
04/01/2019	06/30/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
07/01/2019	09/30/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
07/01/2019	09/30/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
10/01/2019	12/31/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
10/01/2019	12/31/2019	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
01/01/2020	03/31/2020	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
01/01/2020	03/31/2020	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
04/01/2020	06/30/2020	Lead, Total	< 0.008	Monitor and Report	mg/l	ug/l	Average Quarterly
04/01/2020	06/30/2020	Lead, Total	< 0.008	Monitor and Report	mg/l	ug/l	Daily Maximum
07/01/2020	09/30/2020	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
07/01/2020	09/30/2020	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
10/01/2020	12/31/2020	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
10/01/2020	12/31/2020	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
01/01/2021	03/31/2021	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
01/01/2021	03/31/2021	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
04/01/2021	06/30/2021	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
04/01/2021	06/30/2021	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
07/01/2021	09/30/2021	Lead, Total	1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
07/01/2021	09/30/2021	Lead, Total	1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
10/01/2021	12/31/2021	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
10/01/2021	12/31/2021	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
01/01/2022	03/31/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
01/01/2022	03/31/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
04/01/2022	06/30/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
04/01/2022	06/30/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
07/01/2022	09/30/2022	Lead, Total	1	Monitor and Report	mg/l	ug/l	Average Quarterly
07/01/2022	09/30/2022	Lead, Total	1	Monitor and Report	mg/l	ug/l	Daily Maximum
10/01/2022	12/31/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
10/01/2022	12/31/2022	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
01/01/2023	03/31/2023	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Average Quarterly
01/01/2023	03/31/2023	Lead, Total	< 1	Monitor and Report	mg/l	ug/l	Daily Maximum
04/01/2023	06/30/2023	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
04/01/2023	06/30/2023	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum
07/01/2023	09/30/2023	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Average Quarterly
07/01/2023	09/30/2023	Lead, Total	< 1.0	Monitor and Report	mg/l	ug/l	Daily Maximum