pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0020478**
Facility Type	**Municipal**	APS ID	**10866**
Major / Minor	**Minor**	Authorization ID	**1233294**

Applicant and Facility Information

Applicant Name	**Bloomfield Borough Perry County**	Facility Name	**Bloomfield STP**
Applicant Address	PO Box 144	Facility Address	300 Barnett Woods Road
	New Bloomfield, PA 17068-0144		New Bloomfield, PA 17068
Applicant Contact	John Patterson	Facility Contact	Ricky Robinson
Applicant Phone	(717) 582-8888	Facility Phone	(717) 582-8295
Client ID	71344	Site ID	248232
Ch 94 Load Status	Not Overloaded	Municipality	Bloomfield Borough
Connection Status	No Limitations	County	Perry
Date Application Received	June 15, 2018	EPA Waived?	Yes
Date Application Accepted	July 5, 2018	If No, Reason	

Purpose of Application: This is application for NPDES renewal.

Summary of Review

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	July 30, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria Bebenek, P.E. / Environmental Program Manager	

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Bloomfield WWTP located at 300 Barnett Woods Road, New Bloomfield, PA 17068 in Perry County, municipality of Bloomfield Borough. The existing permit became effective on March 1, 2014 and expired on February 28, 2019. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on June 15, 2018.

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 0.25 MGD hydraulic design capacity treatment facility. The average annual flow is 0.15 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 Perry County Commissioners and Bloomfield Borough Council and the notice was received by the parties on February 19, 2019. 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 Tributary 11404 to Trout Run. The sequence of receiving streams that Tributary 11404 to Trout Run discharges into are the Trout Run, the Little Juniata Creek, 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 cold water fishes (CWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

Tributary 11404 to Trout Run is a Category 2 and 5 stream listed in the 2018 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life. The receiving stream is also impaired for recreational purposes due to pathogens from an unknown source. 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:

- **The monitoring frequency for nitrogen species and phosphorus have been reduced from 1/week to 1/month.**
- **Ammonia-nitrogen will reduce the effluent limit to 3.0 mg/l and 6.2 lbs/day.**
- **Zinc will have an effluent limit of 0.17 mg/l and 0.35 lbs/day.**

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:	Bloomfield Borough WWTP
NPDES Permit #	PA0020478
Physical Address:	300 Barnett Woods Road New Bloomfield, PA 17068
Mailing Address:	PO Box 144 New Bloomfield, PA 17068
Contact:	Damon Hartman damon.hartman78@gmail.com Supervisor WWTP
Consultant:	Justin J. Mendinsky, PE jmendinsky@hrg-inc.com HRG 369 East Park Drive Harrisburg, PA 17111

1.2 Permit History

Permit submittal included the following information.

- NPDES Application

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 300 Barnett Woods Road, New Bloomfield, PA 17068.

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

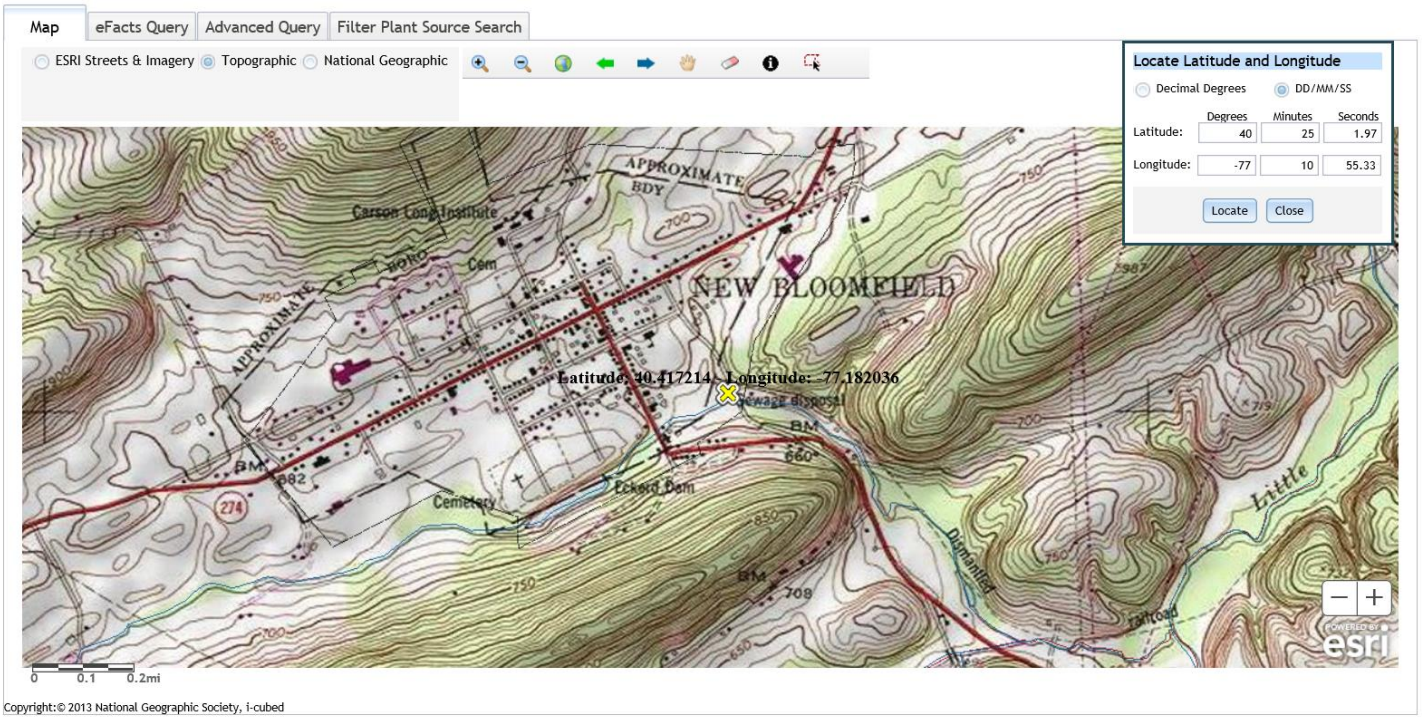
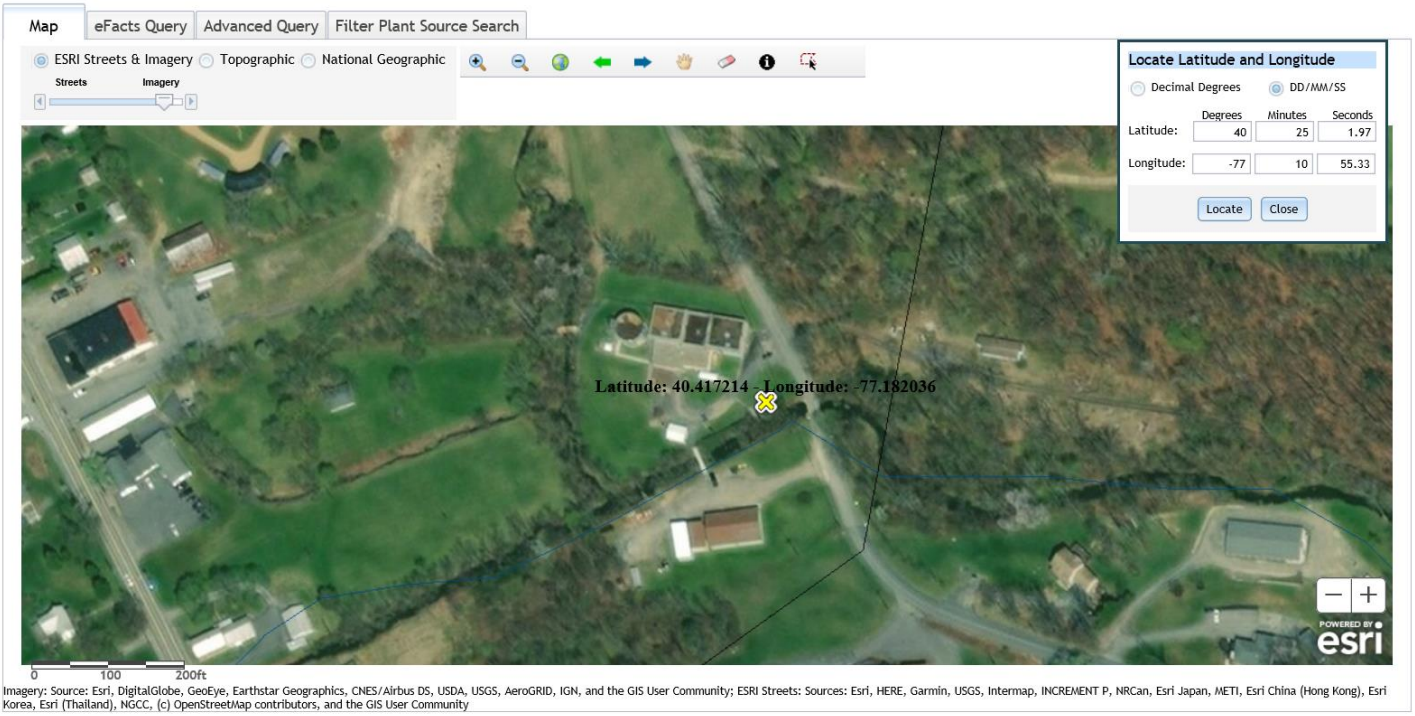


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The facility receives 100% of the flow from the Bloomfield Borough.

The facility reported that they do not receive flow from industrial/commercial users or from hauled in wastes.

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.25 MGD hydraulic design flow facility. The subject facility treats wastewater using a muffin monster, a SBR(s), a uv disinfection chamber prior to discharge through the outfall. The facility is being evaluated for flow, pH, dissolved oxygen, uv transmittance, CBOD5, TSS, fecal coliform, ammonia-nitrogen, zinc, nitrogen species, and phosphorus. 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: Bloomfield STP				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Sequencing Batch Reactor	Ultraviolet	0.15
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.25	460	Not Overloaded		

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 **Design Flow (MGD)** .25
Latitude 40º 25' 1.97" **Longitude** -77º 10' 55.34"
Wastewater Description: Sewage Effluent

The subject facility outfall is not within the general vicinity of another sewage/wastewater outfall.

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.

- Zetag 1786 for polymer for sludge thickening
- Soda ash lime for adjusting pH in the activated sludge

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° 25' 1.97" , **Longitude** 77° 10' 55.33" , **River Mile Index** 0.81 , **Stream Code** 11404

Receiving Waters: Unnamed Tributary to Trout Run

Type of Effluent: Treated municipal wastewater

1. The permittee is authorized to discharge during the period from March 1, 2014 through February 28, 2019.

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	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	52	83 Wkly Avg	XXX	25	40	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	62	93 Wkly Avg	XXX	30	45	60	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab

Outfall 001, Continued (from March 1, 2014 through February 28, 2019)

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		
Ammonia-Nitrogen May 1 - Oct 31	7.3	XXX	XXX	3.5	XXX	7.0	1/week	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	22	XXX	XXX	10.5	XXX	21	1/week	8-Hr Composite
Total Zinc	0.352	XXX	XXX	0.169	XXX	0.422	1/week	8-Hr Composite

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

at Outfall 001

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

I. B. For Outfall 001 , **Latitude** 40° 25' 1.97" , **Longitude** 77° 10' 55.33" , **River Mile Index** 0.81 , **Stream Code** 11404

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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 [1]	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum [2] Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Kjeldahl--N	XXX	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Total Nitrogen	XXX	XXX	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	XXX	XXX	XXX	Report	XXX	1/week	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Outfall 001.

Footnotes:
(1) See Part C for Chesapeake Bay Requirements.
(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events required.

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.

12/12/2013:

- The facility was in the process of completing the following plant upgrades: (a) The new stainless steel above ground digester was designed with sufficient volume for draining of a single SBR basin for maintenance/cleaning; (b) The blowers were replaced with new larger process blowers; (c) Dissolved oxygen probes were installed in the SBR; and (d) A SBR control panel was installed for control of the BNR process.

01/15/2015:

- The facility noted the following problems with the plant: (a) The new digester motor starter for the decant pump was too small. The pump tripped out when it was used; (b) The SBR WAS pumps were too small to pump solids to the new digester. This results in high MLSS levels in November and December; (c) a false overtemp alarm was generated for the SBR#2 WAS pump. The facility believed this was caused by a problem with the pump relay; (d) There was a leak in the ferric chloride chemical feed line for SBR #2.

02/03/2016:

- At the time of the inspection, the facility was in storm mode due to heavy rainfall/snowmelt.

12/14/2016:

- At the time of the inspection, the facility was repairing a defect in the sewer main line on Barnett's Woods Road. The defect was caused by settling of the sewer line at a fernco transition from existing terra cotta pipe to a new PVC pipe.

02/07/2019:

- There was nothing significant to report.

3.2 Summary of DMR Data

A summary of approximately 1-year of DMR data is summarized in the table. In 2019, the maximum average flow data for the DMR reviewed was 0.256 MGD. This flow rate is slightly above the design capacity of the treatment system at 0.25 MGD.

Summary of Monitoring Data for 2019

Sample Collection Date	Flow	pH (S.U.)	DO (mg/l)	UV Transmittance	CBOD (lbs/day)		CBOD (mg/l)		TSS (lbs/day)		TSS (mg/l)		Fecal (#/100 mL)	
Existing NPDES permit	Report	Min 6.0 IMAX 9.0	Min 5.0	Percentage	Ave 52	Wk Avg 83	Ave 25 IMAX 50	Wkl avg 40	Ave 62	Wk Avg 93	Ave 30 IMAX 60	Wkly avg 45	May-Sept 200	Oct - Apr 2000
January	0.201	7.2	7.2	68%	5.8	6.4	4.2	6.3	7.4	13.8	6.6	NR		12.9
February	0.210	7.1	7.3	68%	6.5	11	4	5.6	8.3	11.8	5.3	6		4.9
March	0.192	7.1	7.3	68%	5.2	7.6	4.3	5.8	6.4	8.1	5.3	6		116.4
April	0.256	7.1	7.3	68%	12.5	34.6	8.8	23.2	9.7	26.9	6.5	18		448.6
May	0.215	6.8	5.9	67%	4.5	7.9	2.6	3.6	8.3	11.9	5	5	7.1	
June	0.1	7	6.8	67%	2.6	3.6	3.3	4.7	4.5	6.1	5.8	8	12.7	
July	0.109	7.1	6.9	67%	3	6.1	3.4	5.8	4.4	6.3	5.2	6	125.5	
August	0.083	7	6.8	66%	2.3	3.1	3	3.7	4.8	6.7	6.3	8	231.3	
September	0.087	7.1	6.9	65%	2.7	3.8	3.6	5.1	5.5	8.3	7	11	28.1	
October	0.103	6.9	6.8	60%	2.7	4.2	2.8	4.4	5.7	9.2	6	9		822.8
November	0.094	6.9	7.1	56%	2.3	2.7	3.4	4	4.6	6	7	9		39.2
December	NO DMR submitted to DEP													

Notes:
- Highlighted values are non-compliance with NDPES permit limits
- NR- No data reported

Summary of Monitoring Data for 2019						
Sample Collection Date	**Ammonia-Nitrogen (lbs/day)**	**Ammonia-Nitrogen (mg/l)**	**Ammonia-Nitrogen (lbs/day)**	**Ammonia-Nitrogen (mg/l)**	**Total Zinc (lbs/d)**	**Total Zinc (mg/l)**
Existing NPDES permit	**May-Oct Ave 7.3**	**May-Oct 3.5**	**Nov-Apr 22**	**Nov - Apr Avg 10.5**	**Ave 0.352**	**Wk Avg 0.169**
January			9.9	6.5	0.099	0.071
February			8.7	5	0.123	0.076
March			8.75	7.46	0.087	0.069
April			6.90	6.40	0.110	0.088
May	7.900	4.10			0.088	0.052
June	6.700	8.80			0.063	0.081
July	7.100	8.00			0.044	0.051
August	6.800	8.90			0.062	0.083
September	2.100	2.50			0.146	0.161
October	0.7	0.97			0.068	0.069
November			0.23	0.50	0.069	0.094
December			NO DMR submitted to DEP			
Notes:						
- Highlighted values are non-compliance with NPDES permit limits						

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 January 2019 to November 2019, the following were observed effluent non-compliances.

- August 2019: Fecal coliform at 231.3 #/100 mL. The permit limit is 200 #/100 mL.
- May 2019 to August 2019: Elevated levels of ammonia-nitrogen.

3.3.2 Non-Compliance- Enforcement Actions

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

A scan of non-compliance enforcement action beginning March 1, 2014 to July 26, 2020 showed no enforcement actions on the facility.

3.4 Summary of Biosolids Disposal

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

2019 Sewage Sludge / Biosolids Production Information			
Hauled Off-Site			
Date (YEAR)	Gallons	% Solids	Dry Tons
January	18000	1.5	1.1
February	24000	1.5	1.5
March	24000	1.5	1.5
April	18000	1.4	1.1
May	24000	1.4	1.4
June	24000	1.9	1.9
July	6000	1.2	0.3
July	18000	2.1	1.6
August	18000	1.8	1.4
September	24000	1.9	1.9
October	18000	1.5	1.1
November	24000	1.8	1.8
December	No DMR submitted to DEP		
Notes:			
Biosolids is disposed at Capital Region Water, Harrisburg PA as municipal waste			

3.5 Open Violations

No open violations existed as of July 2020.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Tributary 11404 to Trout Run. The sequence of receiving streams that Tributary 11404 to Trout Run discharges into are the Trout Run, the Little Juniata Creek, 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 Capital Region Water (PWS ID #7220049) located approximately 20 miles downstream of the subject facility on the Susquehanna 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 2018 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 2018 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 5 waterbody. The surface waters is an attaining stream that supports aquatic life. The receiving stream is also impaired for recreational purposes due to pathogens from an unknown source. The designated use has been classified as protected waters for cold water fishes and migratory fishes.

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 and gauge stations to the subject facility is the Susquehanna River station at Harrisburg, PA (WQN202 or USGS station number 1570500). This WQN station is located approximately 26 miles downstream of the subject facility while the gauge station is located 26 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 8.25 and the stream water temperature was estimated to be 23.75 C. The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data			
USGS Station Number	01570500		
Station Name	Susquehanna River at Harrisburg, PA		
Q710	2,440	ft^3/sec	
Drainage Area (DA)	24,100	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(2,440 ft^3/sec / 24,100 mi^2)		
LFY =	0.1012	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		4.65	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.1012 $ft^3/sec/mi^2$)(4.65 mi^2)			
Q710 =	0.471	ft^3/sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.25
Latitude	40Âº 25' 1.50"	Longitude	-77Âº 10' 55.19"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Trout Run (CWF)	Stream Code	11404
NHD Com ID	56399287	RMI	0.85
Drainage Area	4.65	Yield (cfs/mi^2)	0.1012
Q_{7-10} Flow (cfs)	0.471	Q_{7-10} Basis	StreamStats/StreamGauge
Elevation (ft)	638	Slope (ft/ft)	
Watershed No.	7-A	Chapter 93 Class.	CWF, MF
Existing Use	Same as Chapter 93	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) supports aquatic life. Impaired for recreational purposes		
Cause(s) of Impairment	Pathogen		
Source(s) of Impairment	Unknown		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	8.25	WQN202; Median July to Sept
Temperature (°F)	23.75	WQN202; Median July to Sept
Hardness (mg/L)	109	WQN202: Median
Other:		

Nearest Downstream Public Water Supply Intake		Capital Region Water	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	72	Distance from Outfall (mi)	20

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)
	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Total Suspended Solids	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)

5.2.2 Mass Based Limits

For publicly owned treatment works (POTW), mass loadings are calculated based upon design flow rate of the facility and the permit limit concentration. The generalized calculation for mass loadings is shown below:

$$Quantity\left(\frac{lb}{day}\right) = (MGD)(Concentration)(8.34)$$

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 Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.0 (WQM Model) and (3) PENTOXSD for Windows 2.0 (PENTOXSD) for Toxics pollutants.

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 NH_3-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 NH_3-N in the discharge; (d) 24-hour average concentration for NH_3-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 input values utilized for the modeling are summarized in the table which can be found in Attachment B.

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 PENTOXSD Modeling

The PENTOXSD 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. PENTOXSD 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 PENTOXSD 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 input values utilized for the modeling are summarized in the table which can be found in Attachment B.

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

PENTOXSD modeling is required to evaluate toxic pollutants. Facilities with design flows greater than or equal to 0.1 MGD must report the concentrations results of at least one sample analyzed in the past two years for dissolved oxygen (minimum), temperature, TKN, NO_2-N + NO_3-N, TDS, chloride, bromide, sulfate, oil and grease, total copper, total lead, total zinc, and total maximum daily load (TDML) parameters. In addition, other known or suspected parameters suspected to be present as a result of industrial or commercial contributions should be reported. The facility is a municipal sewage treatment plant receiving domestic wastewater.

To determine if PENTOXSD modeling is necessary, DEP has developed a Toxics Screening Analysis worksheet 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 Screening Analysis- Water Quality Pollutants of Concern worksheet indicated PENTOXSD modeling was required since the concentrations measured in the effluent sample were not within the normal range for safe water quality protection.

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.

The PENTOXSD Screening recommendations are summarized in the table.

Summary of PENTOXSD Screening Recommendations for Toxics

Parameter	Max Concentration in Application or DMR (µg/L)	Most Stringent WQBEL (µg/L)	Governing Criterion (AFC, CFC, THH, or CRL)	Screening Recommendation
Total Copper	8.7	9.33	19.891	Monitor
Total Lead	3.3	3.18	7.053	Monitor
Total Zinc	460	119.8	170.241	Establish Limits

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

The Toxics Screening Analysis and the PENTOXSD output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

WET is not applicable to the subject facility.

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.

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 December 17, 2019.

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.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant discharger that includes 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 For Phase 4 sewage facilities (average annual design flow on August 29, 2005 ≥ 0.2 MGD and < 0.4 MGD), a future decision may be made as to the establishment of Cap Loads in permits. Until then, DEP will permit Phase 4 sewage facilities as follows:

1. Renewed or amended permits for facilities that do not increase design flow (compared to the date of the latest prior permit action) will contain monitoring and reporting for TN and TP throughout the permit term at a frequency no less than monthly.
2. Renewed or amended permits that include an increase in design flow will contain Cap Loads based on the lesser of a) existing TN and TP concentrations at current design average annual flow or b) 7,306 lbs/yr TN and 974 lbs/yr TP.

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.

This facility is subject to Sector C monitoring requirements. Monitoring shall be required for nitrogen species and phosphorus on at least 1x/mo basis. The facility is not listed in Attachment B of the Phase 2 WIP.

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 non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

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.l.1 and 40 CFR 122.l.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 Bloomfield Borough, PA0020478			
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	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 25 mg/l and 52 lbs/day as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WQM modeling indicates that the TBEL is more stringent than the WQBEL. Thus, the permit limit is confined to TBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1/week as a 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 30 mg/l and 62 lbs/day as an average monthly.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD. Since the TBEL is more stringent than TBEL, TBEL will apply.
UV disinfection	SOP	Monitoring:	The monitoring frequency is 1/day. The facility will be required to recording the UV transmittance.
		Effluent Limit:	No effluent performance limit.
		Rationale:	Consistent with the SOP- Establishing Effluent Limitations for Individual Sewage Permits (Revised January 10, 2019), the facility will be required to have routine monitoring for UV transmittance, UV dosage, or UV intensity.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk 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).
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 0.25 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 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017			

6.1.2 Nitrogen Species and Phosphorus

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus

Bloomfield Borough, PA0020478

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	WQBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an 8-hr composite sample
		Effluent Limit:	During the months of November 1 to April 30, effluent limits shall not exceed 3.0 mg/l and 6.0 lbs/day as an average monthly. During the months of May 1 to Oct 31, effluent limits shall not exceed 9.0 mg/l and 18.0 lbs/day as an average monthly.
		Rationale:	During the summer months, water quality monitoring recommends a limit of 3.0 mg/l and 6.5 lbs/day for ammonia-nitrogen. During the winter months, the effluent limit shall be 9.0 mg/l and 18 lbs/day.
Nitrate-Nitrite as N	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as an 8-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/mo.
Total Nitrogen	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo
		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/mo.
TKN	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as an 8-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/mo.
Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/mo as an 8-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/mo.
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 0.25 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 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6.1.3 Toxics

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 in January 2014 in conjunction with EPA, increased monitoring in NPDES permits for TDS, sulfate, chloride, and bromide have been recommended.

For point source discharges and upon issuance or reissuance of an individual NPDES permit, the following criteria triggers requirements for monitoring and reporting.

(a) 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 exceeds 0.1 MGD, monitoring and reporting for TDS, sulfate, chloride, and bromide should be required.
(b) Where the concentration of bromide in a discharge exceeds 1 mg/l and the discharge flow exceeds 0.1 MGD, monitoring and reporting should be required

Since the sampling data does not trip the loading or concentration thresholds, the facility will not be subject to monitoring requirements for TDS, sulfate, chloride, and bromide.

6.1.3.2 Summary of Toxics Monitoring/Limits

Summary of Proposed NPDES Parameter Details for Toxics

Bloomfield Borough, PA0020478

Parameter	Permit Limitation Required by[1]:	Recommendation	
Copper	**WQBEL**	Monitoring:	Monitoring shall be 1x/quarter as an 8-hr composite.
		Effluent Limit:	No effluent requirements.
		Rationale:	The Toxics Screening Worksheet recommends monitoring.
Lead	**WQBEL**	Monitoring:	Monitoring shall be 1x/quarter as an 8-hr composite.
		Effluent Limit:	No effluent requirements.
		Rationale:	The Toxics Screening Worksheet recommends monitoring.
Zinc	**WQBEL**	Monitoring:	The monitoring frequency shall be 1x/wk as an 8-hr composite sample (Table 6-3).
		Effluent Limit:	The performance effluent limit shall not exceed 0.17 mg/l as a monthly average and/or 0.35 lbs/day as an average monthly.
		Rationale:	PENTOXSD modeling recommends an effluent limit of 0.17 mg/l.

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 0.25 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 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

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.

Changes in Permit Monitoring or Effluent Quality

Parameter	Existing Permit	Draft Permit
Ammonia-Nitrogen	The monitoring frequency is 1x/wk. Summer effluent limits are 3.5 mg/l and 7.3 lbs/day. Winter effluent limts are 10.5 mg/l and 22 lbs/day	The monitoring frequency shall be 1x/wk. Summer effluent limits shall be 3.0 mg/l and 6.0 lbs/day. Winter effluent limts are 9.0 mg/l and 18.0 lbs/day
Nitrate-Nitrite as N	Monitoring is required 1x/wk	Monitoring is required 1x/month
TKN	Monitoring is required 1x/wk	Monitoring is required 1x/month
Total Phosphorus	Monitoring is required 1x/wk	Monitoring is required 1x/month
Copper	No monitoring or effluent limits	In the NPDES renewal application, the facility reported one sample for the parameter. Monitoring has been recommended on a 1x/quarter basis. If the results from the next renewal cycle are acceptable, the monitoring frequency may be reduced or eliminated in the next renewal cycle.
Lead	No monitoring or effluent limits	In the NPDES renewal application, the facility reported one sample for the parameter. Monitoring has been recommended on a 1x/quarter basis. If the results from the next renewal cycle are acceptable, the monitoring frequency may be reduced or eliminated in the next renewal cycle.
Zinc	The monitoring frequency is 1x/wk. Effluent limits are 0.169 mg/l and 0.352 lbs/day.	The monitoring frequency shall be 1x/wk. Effluent limits shall be 0.17 mg/l and 0.35 lbs/day. The effluent limits have adjusted slightly to account for more equitable mathematical rounding.

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° 25' 1.97" , **Longitude** 77° 10' 55.34" , **River Mile Index** 0.85 , **Stream Code** 11404

Receiving Waters: Unnamed Tributary to Trout Run (CWF)

Type of Effluent: Sewage Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.

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	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
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	52	83	XXX	25	40	50	1/week	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	62	93	XXX	30	45	60	1/week	8-Hr Composite
Total Suspended Solids 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
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Nitrate-Nitrite as N	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Ammonia-Nitrogen Nov 1 - Apr 30	18.0	XXX	XXX	9.0	XXX	18	1/week	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	6.0	XXX	XXX	3.0	XXX	6	1/week	8-Hr Composite
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Copper, Total	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Lead, Total	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	8-Hr Composite
Zinc, Total	0.35	XXX	XXX	0.17	XXX	0.42	1/week	8-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.

- SBR Batch Discharge Condition
- Hauled-in Waste Restrictions
- Chesapeake Bay Nutrient Definitions
- eDMR Use Requirement
- Solids Management for Non-Lagoon Treatment Systems

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Sewage Individual NPDES Permit Applications, Revised October 11, 2013
☐	Other:

Attachment A

Stream Stats/Gauge Data

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

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

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01561000	Brush Creek at Gapsville, Pa.	39.956	-78.254	36.8	N
01562000	Raystown Branch Juniata River at Saxton, Pa.	40.216	-78.265	756	N
01562500	Great Trough Creek near Marklesburg, Pa.	40.350	-78.130	84.6	N
01563200	Raystown Branch Juniata River below Rays Dam nr Huntingdon, Pa.	40.429	-77.991	960	Y
01563500	Juniata River at Mapleton Depot, Pa.	40.392	-77.935	2,030	Y
01564500	Aughwick Creek near Three Springs, Pa.	40.213	-77.925	205	N
01565000	Kishacoquillas Creek at Reedsville, Pa.	40.655	-77.583	164	N
01565700	Little Lost Creek at Oakland Mills, Pa.	40.605	-77.311	6.52	N
01566000	Tuscarora Creek near Port Royal, Pa.	40.515	-77.419	214	N
01566500	Cocolamus Creek near Millerstown, Pa.	40.566	-77.118	57.2	N
01567000	Juniata River at Newport, Pa.	40.478	-77.129	3,354	Y
01567500	Bixler Run near Loysville, Pa.	40.371	-77.402	15.0	N
01568000	Sherman Creek at Shermans Dale, Pa.	40.323	-77.169	207	N
01568500	Clark Creek near Carsonville, Pa.	40.460	-76.751	22.5	LF
01569000	Stony Creek nr Dauphin, Pa.	40.380	-76.907	33.2	N
01569800	Letort Spring Run near Carlisle, Pa.	40.235	-77.139	21.6	N
01570000	Conodoguinet Creek near Hogestown, Pa.	40.252	-77.021	470	LF
01570500	Susquehanna River at Harrisburg, Pa.	40.255	-76.886	24,100	Y
01571000	Paxton Creek near Penbrook, Pa.	40.308	-76.850	11.2	N
01571500	Yellow Breeches Creek near Camp Hill, Pa.	40.225	-76.898	213	N
01572000	Lower Little Swatara Creek at Pine Grove, Pa.	40.538	-76.377	34.3	N
01572025	Swatara Creek near Pine Grove, Pa.	40.533	-76.402	116	N
01572190	Swatara Creek near Inwood, Pa.	40.479	-76.531	167	N
01573000	Swatara Creek at Harper Tavern, Pa.	40.403	-76.577	337	N
01573086	Beck Creek near Cleona, Pa.	40.323	-76.483	7.87	N
01573160	Quittapahilla Creek near Bellegrove, Pa.	40.343	-76.562	74.2	N
01573500	Manada Creek at Manada Gap, Pa.	40.397	-76.709	13.5	N
01573560	Swatara Creek near Hershey, Pa.	40.298	-76.668	483	N
01574000	West Conewago Creek near Manchester, Pa.	40.082	-76.720	510	N
01574500	Codorus Creek at Spring Grove, Pa.	39.879	-76.853	75.5	Y
01575000	South Branch Codorus Creek near York, Pa.	39.921	-76.749	117	Y
01575500	Codorus Creek near York, Pa.	39.946	-76.755	222	Y
01576000	Susquehanna River at Marietta, Pa.	40.055	-76.531	25,990	Y
01576085	Little Conestoga Creek near Churchtown, Pa.	40.145	-75.989	5.82	N
01576500	Conestoga River at Lancaster, Pa.	40.050	-76.277	324	N
01576754	Conestoga River at Conestoga, Pa.	39.946	-76.368	470	N
01578310	Susquehanna River at Conowingo, Md.	39.658	-76.174	27,100	Y
01578400	Bowery Run near Quarryville, Pa.	39.895	-76.114	5.98	N
01580000	Deer Creek at Rocks, Md.	39.630	-76.403	94.4	N
01581500	Bynum Run at Bel Air, Md.	39.541	-76.330	8.52	N
01581700	Winters Run near Benson, Md.	39.520	-76.373	34.8	N
01582000	Little Falls at Blue Mount, Md.	39.604	-76.620	52.9	N
01582500	Gunpowder Falls at Glencoe, Md.	39.550	-76.636	160	Y
01583000	Slade Run near Glyndon, Md.	39.495	-76.795	2.09	N
01583100	Piney Run at Dover, Md.	39.521	-76.767	12.3	N

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

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

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01565000	1941–2008	37	17.6	18.6	28.6	20.3	32.4	24.4
01565700	1965–1981	17	.4	.4	.9	.5	1.1	.8
01566000	1913–2008	52	4.3	7.9	18.8	12.4	25.6	19.2
01566500	1932–1958	27	1.7	2.4	4.0	3.2	5.7	4.9
01567000	[2]1974–2008	35	504	534	725	589	857	727
01567000	[3]1901–1972	72	311	367	571	439	704	547
01567500	1955–2008	54	2.0	2.2	3.3	2.6	3.8	3.1
01568000	1931–2008	78	12.7	15.5	25.5	19.2	32.0	26.0
01568500	[2]1943–1997	55	1.8	2.3	4.3	2.7	5.0	3.1
01569000	1939–1974	14	2.6	4.0	7.4	5.1	9.4	7.8
01569800	1978–2008	31	15.9	17.0	24.4	18.4	26.1	20.3
01570000	[3]1913–1969	35	—	63.1	110	76.1	124	95.3
01570000	[2]1971–2008	38	63.1	69.3	109	78.3	125	97.8
01570500	[3]1901–1972	72	2,310	2,440	4,000	2,830	4,950	3,850
01570500	[2]1974–2008	35	3,020	3,200	5,180	3,690	6,490	4,960
01571000	1941–1995	16	.1	.2	.6	.3	1.2	.8
01571500	1911–2008	62	81.6	86.8	115	94.0	124	105
01572000	1921–1984	14	2.1	2.3	4.8	3.0	6.5	4.5
01572025	1990–2008	17	15.2	16.4	26.7	18.5	34.6	27.7
01572190	1990–2008	17	19.1	20.5	36.2	23.9	45.8	35.3
01573000	1920–2008	89	18.0	22.0	52.0	30.8	69.2	50.9
01573086	1965–1981	17	.5	.6	2.6	.8	3.3	1.1
01573160	1977–1994	18	26.9	29.6	46.4	33.6	51.9	39.5
01573500	1939–1958	20	1.3	1.4	2.5	1.8	3.2	2.6
01573560	1977–2008	30	50.3	62.0	104	76.9	131	108
01574000	1930–2008	79	8.0	11.1	32.0	17.7	47.0	33.9
01574500	[2]1968–2008	41	14.2	24.0	35.9	29.4	42.0	33.3
01574500	[3]1930–1966	34	2.3	7.1	11.5	9.3	14.8	12.7
01575000	[2]1973–1995	23	.7	1.4	6.7	3.2	12.0	9.3
01575000	[3]1929–1971	43	.1	.6	10.3	2.3	15.0	6.1
01575500	[2]1948–1996	49	12.1	18.7	41.3	23.9	50.0	33.8
01576000	[3]1933–1972	40	2,100	2,420	4,160	2,960	5,130	4,100
01576000	[2]1974–2008	35	2,990	3,270	5,680	3,980	7,180	5,540
01576085	1984–1995	12	.4	.5	.8	.7	1.2	1.2
01576500	1931–2008	78	27.2	38.6	79.4	49.1	97.3	66.1
01576754	1986–2008	23	74.2	84.9	151	106	189	147
[4]01578310	1969–2008	40	549	2,820	5,650	4,190	7,380	6,140
01578400	1964–1981	18	1.4	1.5	2.7	1.9	3.2	2.5
[4]01580000	1928–2008	81	19.7	22.8	48.1	28.1	51.8	35.4
[4]01581500	1946–2008	28	.2	.3	1.2	.8	1.7	1.5
[4]01581700	1969–2008	40	4.7	5.5	17.5	8.1	18.3	12.0
[4]01582000	1946–2008	63	11.3	12.5	25.0	15.5	28.0	20.3
[4]01582500	1979–2008	27	41.2	43.9	78.8	53.8	90.6	74.1
[4]01583000	1949–1981	33	.3	.3	.7	.3	1.0	.6
[4]01583100	1984–2008	15	2.1	2.4	5.5	3.2	6.0	4.2

Attachment B

Modeling Input Values
WQM 7.0 Modeling Output Values
Toxics Screening Analysis
PENTOXSD Modeling Output Values

Master Input Sheet
Bloomfield Borough WWTP
PA0020478
February 2020

General Data 1 (Modeling Point #1)	***Type***	***Default***	***Input Value***	***Units***
Stream Code	R		11404	
River Mile Index	R		0.85	miles
Elevation	R		638	feet
Latitude			40.417214	
Longitude			-77.182036	
Drainage Area	R		4.65	sq miles
Reach Slope	O		Default	ft/ft
Low Flow Yield	R	0.1	0.1012	cfs/sq mile
Potable Water Supply Withdrawal	O	0	Default	mgd
General Data 2 (Modeling Point #2)	***Type***	***Default***	***Input Value***	***Units***
Stream Code	R		11404	
River Mile Index	R		0	miles
Elevation	R		604	feet
Latitude			40.410244	
Longitude			-77.17054	
Drainage Area	R		9.63	sq miles
Reach Slope	O		Default	ft/ft
Low Flow Yield	R	0.1	0.1012	cfs/sq mile
Potable Water Supply Withdrawal	O	0	Default	mgd
Hydrodynamic and Related Data	***Type***	***Default***	***Input Value***	***Units***
Tributary Flow	O		Default	cfs
Stream Flow	O		Default	cfs
Tributary Temperature	R	20	23.75	C
Tributary pH	R	7	8.25	pH units
Stream Temperature	O		Default	C
Stream pH	O		Default	pH Units
Tributary Hardness	R (Pentox)	100	Default	mg/l

Discharge Data	***Type***	***Default***	***Input Value***	***Units***
Discharge Name	R		Bloomfield WWTP	15 character
Permit Number	R		PA0020478	PA0000000

Existing Discharge Flow	R		0.25	mgd
Permitted Discharge Flow	R		0.25	mgd
Design Discharge Flow	R		0.25	mgd
Reserve Factor	O	0	Default	decimal percent
Discharge Temperature	R	25	20	C
Discharge pH	R	7	7	pH units
Discharge Hardness	R (Pentox)	100	Default	mg/l

Parameter Data	*Type*	*Default*	*Input Value*	*Units*
CBOD				
Average Discharge Concentration	R	25	25	mg/l
Tributary Concentration	R	2	Default	mg/l
Stream Concentration	O		Default	mg/l
Discharge Deoxygenation Rate	R	1.5	Default	1/day
NH3-N				
Average Discharge Concentration	R	25	3.5	mg/l
Tributary Concentration	R	0	Default	mg/l
Stream Concentration	O		Default	mg/l
Stream Nitrification Rate	R	0.7	Default	1/day
DO				
Average Discharge Concentration	R	3	5	mg/l
Tributary Concentration	R	Calculated	Default	mg/l
Stream Concentration	O		Default	mg/l
Stream Reaeration Rate	O		Sensitivity	1/day
Tributary Saturation	R	90	Default	percent

Model Specifications	*Type*	*Default*	*Input Value*	*Units*
Parameters (DO/NH3-N)	R	Both	Both	NH3-N/DO/Both

WLA Method	R	EMPR	EMPR	UT/EMPR/DO
Use entered Q1-10 and Q30-10 data	R	Yes	Yes	Yes/No
Default Q1-10 /Q7-10 ratio	R	0.64	0.95	Dimensionless
Default Q30-10 / Q7-10 ratio	R	1.6	1.16	Dimensionless
Use input reach width/depth ratios	R	No	Default	Yes/No
Use input reach travel times	R	No	Default	Yes/No
Temperature Adjust Kr	R	Yes	Default	Yes/No
Default DO Goal	R	6	5	mg/l
Use Balanced Technology	R	Yes	Yes	Yes/No

Number of Samples for PENTOXSD	R	---	4	Dimensionless

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.7

Facility: Bloomfield Borough STP
NPDES Permit No.: PA0020478
Outfall: 001
Analysis Hardness (mg/L): 100
Discharge Flow (MGD): 0.25
Analysis pH (SU): 7
Stream Flow, Q_{7-10} (cfs): 0.471

Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Total Dissolved Solids		434000	500000	Yes		
Chloride		99600	250000	No		
Bromide	<	600	N/A	No		
Sulfate		47500	250000	No		
1,4-Dioxane			N/A			
Total Copper		8.7	9.33	Yes	19.891	Monitor
Total Lead		3.3	3.18	Yes	7.053	Monitor
Total Zinc		460	119.8	Yes	170.241	Establish Limits

TSA PA0020478.xlsm, 7/27/2020