pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0020249**
Facility Type	**Municipal**	APS ID	**328568**
Major / Minor	**Minor**	Authorization ID	**1223674**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Roaring Spring Borough Municipal Authority Blair County**	Facility Name	**Roaring Spring Borough STP**
Applicant Address	PO Box 33 616 Spang Street	Facility Address	PO Box 33 616 Spang Street
	Roaring Spring, PA 16673-0033		Roaring Spring, PA 16673-0033
Applicant Contact	Terry Glunt	Facility Contact	Terry Glunt
Applicant Phone	(814) 224-4814	Facility Phone	(814) 224-4814
Client ID	77311	Site ID	248590
Ch 94 Load Status	Not Overloaded	Municipality	Roaring Spring Borough
Connection Status	No Limitations	County	Blair
Date Application Received	April 3, 2018	EPA Waived?	No
Date Application Accepted	April 12, 2018	If No, Reason	Significant CB Discharge

Adobe Acrobat Document

Purpose of Application: This is an application for NPDES renewal.

Summary of Review

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineering Specialist	November 1, 2019
		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 Roaring Spring Municipal Authority Wastewater Treatment Plant located at 1099 Papermill Road, Roaring Spring, PA in Blair County, municipality of Freedom Township. The existing permit became effective on October 1, 2013 and expired on September 30, 2018. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on April 3, 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 0.7 MGD average annual design flow treatment facility. The hydraulic design capacity of the WWTP is 1.2 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, Freedom Township Supervisors, Roaring Spring Borough Council, and the notice was received by the parties on approximately March 12, 2018. 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 Frankstown Branch Juniata River. The sequence of receiving streams that the Frankstown Branch Juniata River discharges into is the Juniata River which eventually drains into the Chesapeake Bay. The facility relocated the outfall from Halter Creek to the Frankstown Branch Juniata River. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for trout stocking fish (TSF) 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.

The Frankstown Branch Juniata River is a Category 2 stream listed in the 2016 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life and fish consumption. 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 effluent performance limit for ammonia-nitrogen has been lowered to 6.5 mg/l as an average monthly and 37 lbs/day as an average monthly.
- Due to concerns for emerging pollutants, bromide shall be monitored 1x/wk.

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:	Roaring Spring WWTP
NPDES Permit #	PA0020249
Physical Address:	1099 Papermill Road Roaring Spring, PA
Discharge Location:	Intersection of Freedom Street and Shaw Court Latitude 40.356278; Longitude -78.427861
Mailing Address:	616 Spang Street Roaring Spring, PA 16673
Contact:	Terry Glunt Chairman 814-224-4814
Consultant:	David Cunningham Keller Engineers, Inc. 42 Allegheny Street Hollidaysburg, PA 16648 dcunningham@keller-engineers.com

1.2 Permit History

The facility changed the discharge location from Halter Creek, an impaired cold water fishery, to the Frankstown Branch Juniata River.

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 1099 Papermill Road, Roaring Spring, PA. 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

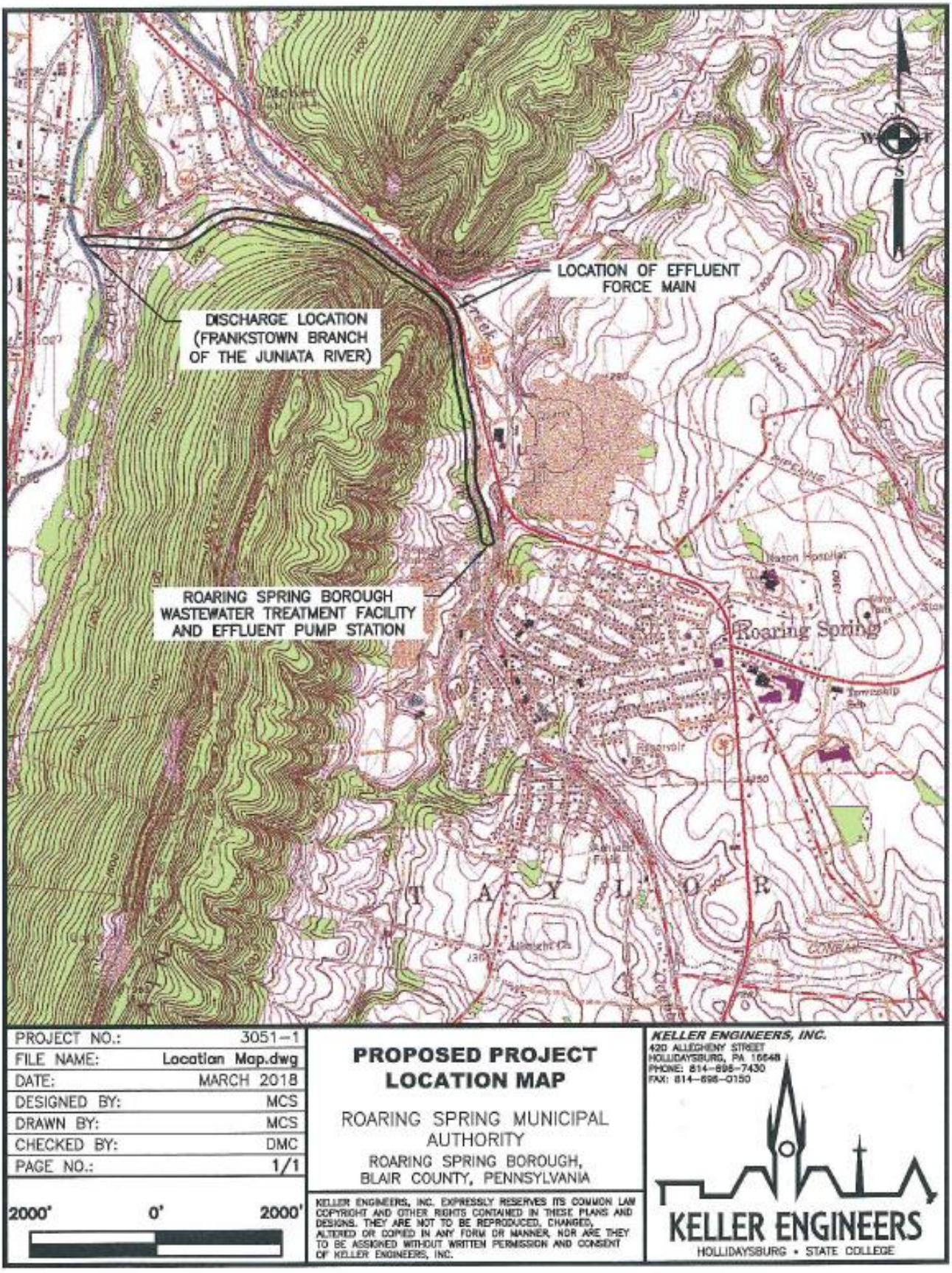


Figure 2: Aerial Photograph of the subject facility

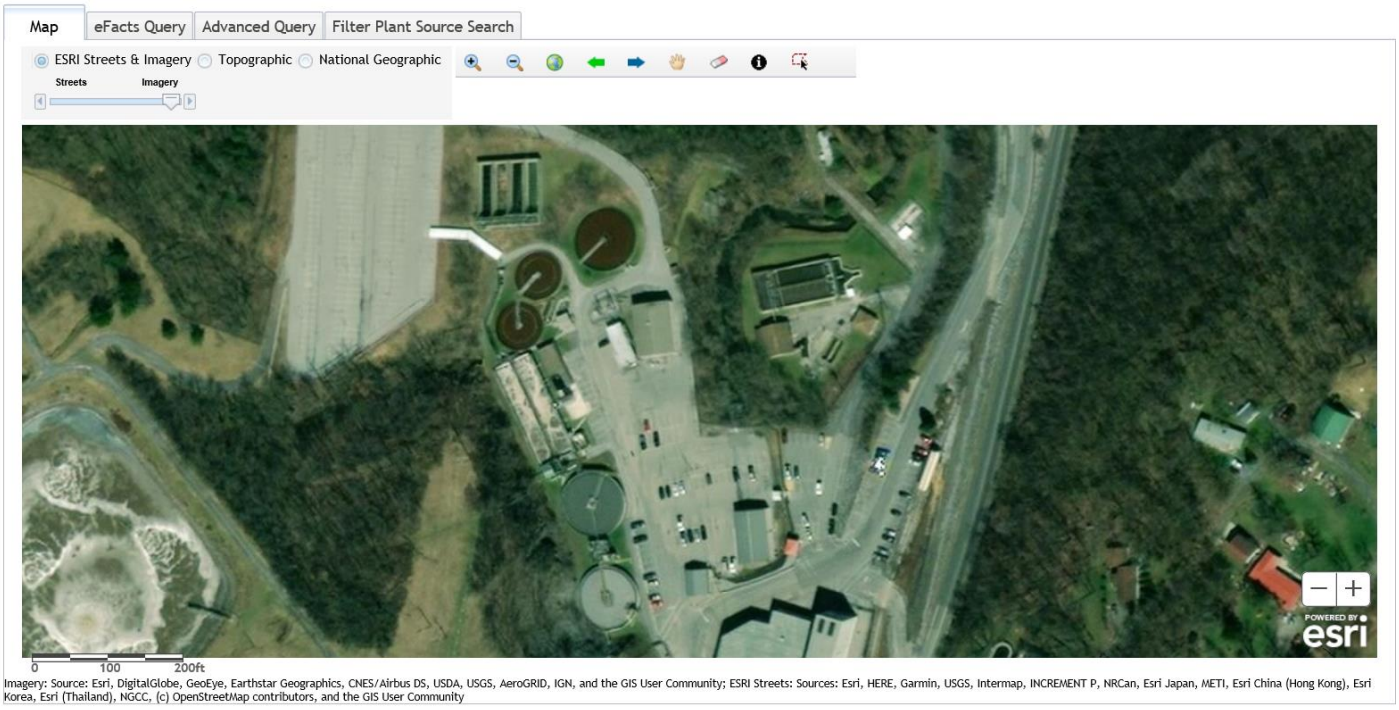
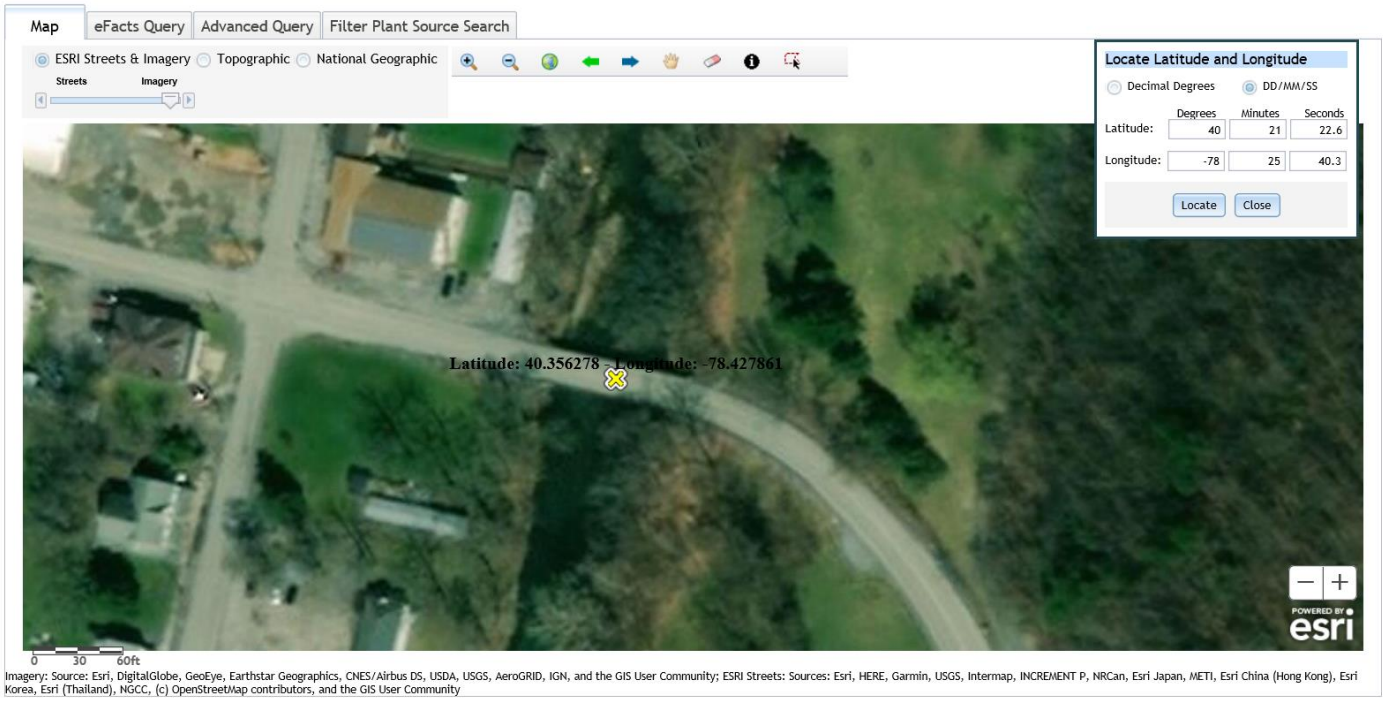


Figure 3: Approximate Location of Discharge Point

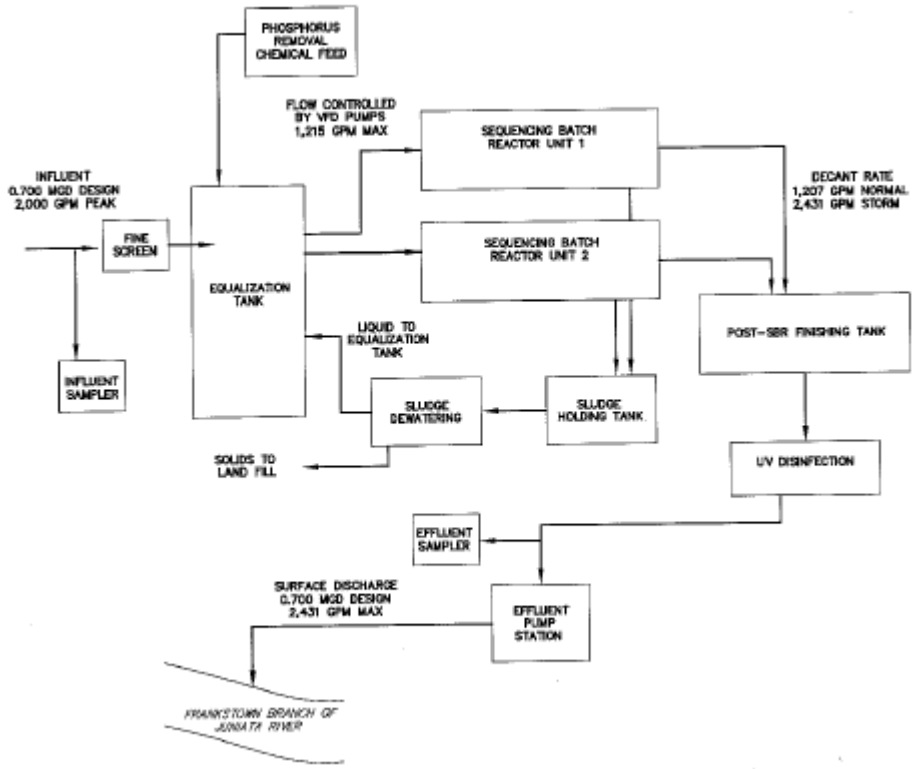


2.1.2 Sources of Wastewater/Stormwater

The WWTP has multiple sources which contributions to the flow to the wastewater treatment plant. The facility receives 100% of the flow from the Roaring Spring Borough. The facility does not have any combined sewer overflow. The facility receives wastewater from at least three industrial/commercial sources. Namely, the facility receives approximately 0.014 MGD wastewater from Nason Hospital, 0.006 MGD wastewater from Graystone Courts (apartment complex), and 0.004 MGD wastewater from Appleton Papers (manufacturer). The facility does not participate in an EPA-approved pretreatment program.

2.2 Description of Wastewater Treatment Process

The subject facility is a 0.7 MGD design flow facility. The subject facility treats wastewater using an equalization basin(s), an SBR tank(s), a uv disinfection chamber(s), a sludge holding tank, and a belt filter press. A schematic of the process is shown below.



The facility is being evaluated for flow, pH, dissolved oxygen, UV intensity, CBOD5, TSS, fecal coliform, 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: Roaring Spring STP				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Sequencing Batch Reactor	Gas Chlorine	0.7
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
1.2	1190	Not Overloaded		

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No. 001 **Design Flow (MGD)** .7
Latitude 40º 21' 22.6" **Longitude** -78º 25' 40.3"
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.

- Alum for phosphorus removal

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. B. For Outfall 002 , **Latitude** 40° 21' 17.00" , **Longitude** 78° 25' 39.00" , **River Mile Index** 41.52 , **Stream Code** 16061

Receiving Waters: Frankstown Branch Juniata River

Type of Effluent: Treated Sewage

1. The permittee is authorized to discharge during the period from January 1, 2015 through September 30, 2018.
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 Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	146	233 Wkly Avg	XXX	25	40	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	175	263 Wkly Avg	XXX	30	45	60	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-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
Ammonia-Nitrogen May 1 - Oct 31	58	XXX	XXX	10	XXX	20	1/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	Report	1/week	24-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall, 002

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.

03/10/2014:

- The contact tank subsequent to the SBR tank had some floating solids debris accumulating at the beginning of the wooden weirs. The operator was instructed that more frequent cleaning was necessary.
- Both uv units were both on-line since some bulbs were burned out. The operator stated that the uv units are having problems due to wiring harnesses from the manufacturer malfunctioning. The facility contacted the manufacturer for a replacement harness. The manufacturer was located in Germany.
- The effluent flow meter was out of service. The meter controlled the decanters for the SBRs and the composite sampler. A new flow meter was ordered and it should be installed by the end of the week. With an inoperable flow meter, the facility has had decanters decanting at a faster rate than normal causing excess debris carryover into contact tank. Secondly, the composite samples were collected as grab samples every 4 hours during decant.
- The outfall was noted as having rages/debris and solids sedimentation around the outfall pipe.

12/4/2014:

- There was nothing significant to report.

01/07/2015:

- Based upon the available data, the facility was not achieving compliance with the phosphorus loadings for the compliance year 2013- 2014. The total annual phosphorus loading for the compliance year was 2,642 lbs while the permit limit was 1705 lbs.

03/05/2015:

- There was nothing significant to report.

07/20/16:

- The facility was in the beginning stages of a major upgrade.
- The new uv unit was relocated to the rear of the SBR tanks and is not online.
- The location of the old uv unit will now house the effluent pump station. Three (3) 125 HP pumps and associated electrical equipment are housed in a new control building.
- Electrical service to the comminutor was disconnected and the facility was clearing the manual bar screen by hand.
- The outfall was inspected. It is located off Freedom Street across from Dibert Lane.

01/29/2017:

- The facility purchased phosphorus credits and was compliant with nitrogen and phosphorus loading for the compliance year 2015/2016 and 2015/2016.

04/04/2017:

- In July 2016, the effluent discharge was relocated from Halter Creek to the Frankstown Branch Juniata River. It is located across the field near the intersection of Freedom Street and Shaw Court.
- The facility was noticed to not have sampling completed as prescribed by the permit. The permit requires 24-hr composite sampling which is accomplished by combining at least 8 samples over 24 hrs at spaced intervals. The facility had been collecting 4 or 5 samples over an 8-hr period.
- The facility stated that the effluent composite sampler was not connected since the new uv and effluent pump stations were installed last year. The influent compositor was being planned to be installed.
- The facility was advised to attach the appropriate supplemental reports.

06/13/2017:

- The facility had nearly completed the upgrade. The plant was operating with only one SBR unit for the last 4 weeks while SBR #2 was being upgraded with new fine bubble diffusers, new actuator, and new sludge pump.
- The effluent compositor was operational beginning in April 2017 but the operator continues to take influent composite samples by hand. The operator was taking 8 samples over an 8-hr period.

08/29/2017:

- There was nothing significant to report.

01/25/2018

- There was nothing significant to report.

3.2.1 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 0.7725 MGD. The design capacity of the treatment system is 1.2 MGD.

DMR Data for Outfall 001 (from September 1, 2018 to August 31, 2019)

Parameter	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18
BOD5 (lbs/day) Raw Sewage Influent Average Monthly											804	409
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum											1553	705
BOD5 (mg/L) Raw Sewage Influent Average Monthly											170	80
TSS (lbs/day) Raw Sewage Influent Average Monthly											486	388
TSS (lbs/day) Raw Sewage Influent Daily Maximum											629	486
TSS (mg/L) Raw Sewage Influent Average Monthly											104	75

DMR Data for Outfall 002 (from September 1, 2018 to August 31, 2019)

Parameter	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18
Flow (MGD) Average Monthly	0.467	0.4899	0.5072	0.6055	0.5779	0.7096	0.7725	0.6484	0.6729	0.6243	0.5752	0.741
Flow (MGD) Daily Maximum	0.6002	0.601	0.5894	0.8695	0.7124	0.9464	1.1523	0.8143	0.785	0.7856	0.7734	2.0897
pH (S.U.) Minimum	6.5	6.6	6.5	6.5	6.7	6.6	6.8	6.7	6.5	6.5	6.8	6.7
pH (S.U.) Maximum	7.9	7.3	7.1	7.4	7.1	7.5	7.1	7.3	7.9	7.1	7.9	7.4
DO (mg/L) Minimum	7.1	7.5	8.0	7.8	8.0	8.2	8.3	8.4	7.8	7.0	7.4	7.1
CBOD5 (lbs/day) Average Monthly	19	13	13	17	14	22	19	17	15	18	15	21

CBOD5 (lbs/day) Weekly Average	39	14	16	25	14	34	23	20	16	26	21	32
CBOD5 (mg/L) Average Monthly	5	3	3	3	3	4	3	3	3	4	3	4
CBOD5 (mg/L) Weekly Average	10	3	4	5	3	6	3	3	3	6	4	5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	277	402	463	492	655	425	513	432	1334	440	804	409
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	355	642	559	773	838	628	932	792	2786	628	1553	705
BOD5 (mg/L) Raw Sewage Influent Average Monthly	70	102	113	99	142	74	84	78	259	92	170	80
TSS (lbs/day) Average Monthly	11	8	7	11	8	23	19	14	11	17	14	12
TSS (lbs/day) Raw Sewage Influent Average Monthly	420	386	402	556	491	481	568	640	522	434	486	388
TSS (lbs/day) Raw Sewage Influent Daily Maximum	503	461	474	1008	585	599	625	833	692	597	629	486
TSS (lbs/day) Weekly Average	14	15	11	25	10	31	26	18	17	23	26	19
TSS (mg/L) Average Monthly	3	2	2	2	2	4	3	3	2	3	3	2
TSS (mg/L) Raw Sewage Influent Average Monthly	107	94	97	110	106	85	90	115	101	87	104	75
TSS (mg/L) Weekly Average	4	4	3	5	2	6	4	3	3	4	5	3
Fecal Coliform (CFU/100 ml) Geometric Mean	37	4	4	4	4	4	5	4	4	5	9	4
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	3481.6	4	4	4	4	4	10	4	4	10	20	10

Nitrate-Nitrite (mg/L) Average Monthly	2.913	2.649	3.428	2.638	1.947	2.5	2.557	2.812	2.965	4.714	3.193	4.099
Nitrate-Nitrite (lbs) Total Monthly	355	344	424	404	269	445	455	492	472	698	471	668
Total Nitrogen (mg/L) Average Monthly	5.863	4.355	6.043	5.552	4.587	5.89	4.355	4.264	4.527	6.482	5.027	5.684
Total Nitrogen (lbs) Effluent Net Total Monthly	716	565	748	849	631	1050	773	745	720	953	741	931
Total Nitrogen (lbs) Total Monthly	716	565	748	849	631	1050	773	745	720	953	741	931
Ammonia (lbs/day) Average Monthly	5	0.7	5	6	7	13	7	6	1.167	4	4	4
Ammonia (mg/L) Average Monthly	1.2	3	1.286	1.164	1.516	2.211	1.164	0.997	6	0.888	0.884	0.755
Ammonia (lbs) Total Monthly	141	91	160	177	209	391	207	174	185	131	131	130
TKN (mg/L) Average Monthly	2.95	1.71	2.62	2.91	2.64	3.39	1.8	1.45	1.56	1.77	1.83	1.59
TKN (lbs) Total Monthly	360	221	324	445	362	605	318	253	248	255	270	263
Total Phosphorus (mg/L) Average Monthly	2.14	1.71	2.27	1.633	2.03	1.325	1.44	1.44	1.39	1.425	1.86	1.17
Total Phosphorus (lbs) Effluent Net Total Monthly	261	218	281	245	278	233	257	250	221	205	273	178
Total Phosphorus (lbs) Total Monthly	261	218	281	245	278	233	257	250	221	205	273	178

3.3.2 Compliance with Chesapeake By Truing

The table below summarizes the facility's compliance/non-compliance with the Chesapeake Bay TMDL. The facility did purchase phosphorus credits in 2014/2015 and 2015/2016.

Chesapeake Bay Annual Nutrient Summary
Roaring Springs MA WWTP
PA0020249

Year for Truing Period (Oct 1 - Nov 28)	Net Effluent Limits		Compliant with Permit Limits (Yes/No)	
	Nitrogen (lbs)	Phosphorus (lbs)	Nitrogen	Phosphorus
	12,785	***1,705***		
2013/2014	7,543	2,642	Yes	No
2014/2015	8,788	1,705	Yes	Yes
2015/2016	8,714	1,705	Yes	Yes
2016/2017	9,507	1,427	Yes	Yes
2017/2018	12,785	1,704	Yes	Yes
Notes:				
The facility purchased 560 lbs of phosphorus credit in 2014/2015.				
The facility purchased 435 lbs of phosphorus credit in 2015/2016.				

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, 2013 and ending on October 30, 2019, the table summarizes effluent non-compliances.

The table summarizes non-compliance subsequent to the facility utilizing eDMR.

Summary of Non-Compliance with NPDES Effluent Limits
Beginning October 1, 2013 and Ending October 30, 2019

NON COMPLIANCE DATE	NON COMPLIANCE CATEGORY	PARAMETER	SAMPLE VALUE	VIOLATION CONDITION	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
06/21/2017	Concentration 3 Effluent Violation	Fecal Coliform	24196	>	1000	CFU/100 ml	Instantaneous Maximum
09/21/2017	Concentration 3 Effluent Violation	Fecal Coliform	3683.2	>	1000	CFU/100 ml	Instantaneous Maximum
07/24/2018	Concentration 3 Effluent Violation	Fecal Coliform	15531	>	1000	CFU/100 ml	Instantaneous Maximum
07/24/2018	Concentration 2 Effluent Violation	Fecal Coliform	350	>	200	CFU/100 ml	Geometric Mean
08/21/2018	Concentration 2 Effluent Violation	Fecal Coliform	421	>	200	CFU/100 ml	Geometric Mean
08/21/2018	Concentration 3 Effluent Violation	Fecal Coliform	24196	>	1000	CFU/100 ml	Instantaneous Maximum
09/25/2018	Concentration 3 Effluent Violation	Fecal Coliform	15531	>	1000	CFU/100 ml	Instantaneous Maximum
09/23/2019	Concentration 3 Effluent Violation	Fecal Coliform	3481.6	>	1000	CFU/100 ml	Instantaneous Maximum

3.3.2 Non-Compliance- Enforcement Actions

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

Summary of Enforcement Actions
Beginning October 1, 2013 and Ending October 30, 2019

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
368567	NOV	Notice of Violation	10/19/2018	10/12/2018	92A.44	Comply/Closed	10/19/2018
321378	COA	Consent Order and Agreement	03/31/2015	03/31/2015	92A.44	Comply/Closed	06/29/2016
319052	NOV	Notice of Violation	01/13/2015	01/12/2015	92A.44	Comply/Closed	03/31/2015
353168	NOV	Notice of Violation	05/08/2017	04/11/2017	92A.41(A)10C	Comply/Closed	04/18/2017
341711	NOV	Notice of Violation	04/11/2016	04/11/2016	92A.41(A)1; 92A.41(A)5	Comply/Closed	04/11/2016

3.4 Summary of Biosolids Disposal

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

2018 Sewage Sludge / Biosolids Production Information

Hauled Off-Site			
Date (YEAR)	Tons Dewatered	% Solids	Dry Tons
July	29.99	15	4.499
August	15.02	15	2.25
September	0		
October	0		
November	0		
December	16.85	15	2.53

Notes:

Biosolids disposed at the landfill at Laurel Highlands, DEP Permit # 46200

2019 Sewage Sludge / Biosolids Production Information

Hauled Off-Site			
Date (YEAR)	Tons Dewatered	% Solids	Dry Tons
January	31	15	4.65
February	16.92	15	2.54
March	50.59	15	7.589
April	52.44	15	7.866
May	29.92	15	4.488
June	31.47	15	4.721
July	15.76	15	2.364
August	31.18	15	4.677

Notes:

Biosolids disposed at the landfill at Laurel Highlands, DEP Permit # 46200

3.5 Open Violations

No open violations existed as of October 2019.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Frankstown Branch Juniata River. The sequence of receiving streams that the Frankstown Branch Juniata River discharges into is the Juniata River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Mifflintown Municipal Authority (PWS ID #4340008) located approximately 106 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 2016 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 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 waterbody. The surface waters is an attaining stream that supports aquatic life and fish consumption. The designated use has been classified as protected waters for trout stocking 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 Frankstown Branch Juniata River station at Williamsburg, PA (WQN214 and USGS station number 1556000). This WQN station is located approximately 131 miles downstream of the subject facility while the gauge station is located 23 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 8.4 and the stream water temperature was estimated to be 23.97 C. The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data			
USGS Station Number	01556000		
Station Name	Frankstown Branch Juniata River at Wiliamsburg, PA		
Q710	47.8	ft^3/sec	
Drainage Area (DA)	291	mi^2	
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		47.8	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.1643 $ft^3/sec/mi^2$)(47.8 mi^2)			
Q710 =	7.852	ft^3/sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.7
Latitude	40Âº 21' 22.6"	Longitude	-78Âº 25' 40.3"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Frankstown Branch Juniata River (TSF, MF)	Stream Code	16061
NHD Com ID	65610012	RMI	40
Drainage Area	47.5	Yield (cfs/mi^2)	0.1643
Q_{7-10} Flow (cfs)	7.852	Q_{7-10} Basis	StreamStats/StreamGauge
Elevation (ft)	1006	Slope (ft/ft)	
Watershed No.	11-A	Chapter 93 Class.	TSF, MF
Existing Use	Same as Chapter 93	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	None
Assessment Status	Attaining Use(s) supports aquatic life and fish consumption		
Cause(s) of Impairment	Not appl.		
Source(s) of Impairment	Not appl.		
TMDL Status	Not appl.	Name	

Background/Ambient Data		Data Source
pH (SU)	8.4	WQN214; median July to Sept
Temperature (°C)	23.97	WQN214; median July to Sept
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Mifflintown Municipal Authority		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	37	Distance from Outfall (mi)	106

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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

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

PENTOXSD is not applicable to the subject facility.

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

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 reviewed for reasonable potential were TDS, chloride, bromide, sulfate, total copper, and total zinc.

The Toxics Screening Analysis- Water Quality Pollutants of Concern worksheet indicated PENTOXSD modeling was not required since the concentrations measured in the effluent sample were within the normal range for safe water quality protection.

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

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 and II 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. The jurisdictions have developed or will develop WIPs over three Phases.

Phase I and Phase II WIPs were developed and submitted to EPA in 2010 and 2012 for objectives to be implemented by 2017 and 2025 to achieve applicable water quality standards. The Phase II WIPs build on the initial Phase I WIPs platform by providing more specific local actions. In 2018, Phase III WIPs will be developed to include further actions for jurisdictions to implement between 2018 and 2025.

Section 7 of the Phase II WIP describes Pennsylvania's strategy for reducing nutrients to the Chesapeake Bay from wastewater facilities. The supplement to Section 7 of the Phase II WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The supplement is updated periodically to reflect changes due to PA DEP's permit actions as well as changes to strategies in managing the wastewater sector's allocated loads under the TMDL. The latest revision of the supplement was October 14, 2016.

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 A discharger. The supplement defines Sector A as a sewage facility is considered significant if it has a design flow of at least 0.4 MGD. There are approximately 189 significant sewage dischargers. For rollout of the permitting strategy, PA DEP has classified these facilities as either Phase 1, Phase 2, or Phase 3. Table 7-1 of the supplement lists all NPDES permits for significant sewage dischargers with cap loads.

The total nitrogen (TN) and total phosphorus (TP) cap loads itemized by Table 7-1 for the subject facility are as follows:

TN Cap Load (lbs/yr)	12,785
TN Delivery Ratio	0.88
TP Cap Load (lbs/yr)	1,705
TP Delivery Ratio	0.436

The Chesapeake Bay Phase 2 WIP recommends the minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant sewage dischargers will be 2/week.

This facility is subject to Sector A monitoring requirements. The facility is listed in Table 7-1 as a significant Chesapeake Bay Sewage facility. The monitoring frequency for nitrogen species and phosphorus shall be 2x/wk. The nitrogen and phosphorus cap loads will continue to the proposed permit.

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 Roaring Springs Municipal Authority WWTP, PA0020249			
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 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 25 mg/l as an average monthly and 146 lbs/day as a monthly average.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). WMS modeling indicates that the TBEL is more stringent than the WQBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 30 mg/l as an average monthly and 175 lbs/day as a monthly average.
		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 record the UV intensity in uW/cm^2)
		Effluent Limit:	No effluent requirements.
		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, or (g) WET			
2 Monitoring frequency based on flow rate of 0.7 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

Roaring Springs Municipal Authority WWTP, PA0020249

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	WQBEL	Monitoring:	The monitoring frequency shall be 1x/wk as an 24-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Since PENTOXSD recommends a performance effluent limit of 6.5 mg/l as a monthly average and 37 lbs/day, water quality based effluent limits have been established.These limits are enforceable from May 1 to to October 31.
Nitrate-Nitrite as N	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/wk 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/wk.
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 monthly.
TKN	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/wk 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/wk.
Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/wk as an 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/wk.
Net Total Nitrogen	Cheapeake Bay TMDL	Monitoring:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency 1x/mo.
		Effluent Limit:	The total nitrogen cap load is 12,785 lbs/yr
		Rationale:	The Cap Load is set by the Chesapeake Bay Phase 2 WIP shown in Table 7-1
Net Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency 1x/mo.
		Effluent Limit:	The total phosphorus cap load is 1,705 lbs/yr
		Rationale:	The Cap Load is set by the Chesapeake Bay Phase 2 WIP shown in Table 7-1

Notes:

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

2 Monitoring frequency based on flow rate of 0.7 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.

Based upon the sampling data submitted with the application, bromide exceeds the concentration threshold and will require monitoring and reporting. Monitoring for TDS, sulfate, and chloride do not exceed thresholds and will not require monitoring.

6.1.3.2 Summary of Toxics Monitoring/Limits

Summary of Proposed NPDES Parameter Details for Toxics

Roaring Springs Municipal Authority WWTP, PA0020249

Parameter	Permit Limitation Required by[1]:	Recommendation	
Bromide	SOP	Monitoring:	The monitoring frequency shall be 1x/week as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	No effluent limits
		Rationale:	Based upon the SOP-Establishing Effluent Limitations for Individual Sewage Permits, bromide will be required to be monitored 1x/wk since it is a concern as an emerging pollutant

Notes:

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

2 Monitoring frequency based on flow rate of 0.7 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	Monitoring 1x/wk with effluent limit of 10 mg/l and 58 lbs/day during the months of May 1 to October 31	During the months of May 1 to October 31, the ammonia-nitrogen limits have been lowered from 10 mg/l to 6.5 mg/l. The mass limits shall be 37 lbs/day as a monthly average. Based upon the DMR data from September 2018 to August 2019, the facility will not have issues with meeting the lowered limit.
Bromide	No monitoring or effluent requirements	Based upon the SOP-Establishing Effluent Limitations for Individual Sewage Permits, bromide will be required to be monitored 1x/wk since it is a concern as an emerging pollutant

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 002 , **Latitude** 40° 21' 17.00" , **Longitude** 78° 25' 39.00" , **River Mile Index** 40 , **Stream Code** 16061

Receiving Waters: Frankstown Branch Juniata River (TSF, MF)

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)	146	233	XXX	25	40	50	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	175	263	XXX	30	45	60	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-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 intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

Outfall 002, 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		
Ammonia-Nitrogen Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	37	XXX	XXX	6.5	XXX	13	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Bromide	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite

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

at Outfall 002

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

I. B. For Outfall 002 , **Latitude** 40° 21' 17.00" , **Longitude** 78° 25' 39.00" , **River Mile Index** 40 , **Stream Code** 16061

Receiving Waters: Frankstown Branch Juniata River (TSF, MF)

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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Net Total Nitrogen	Report	12785	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1705	XXX	XXX	XXX	XXX	1/month	Calculation

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

at Outfall 002

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.

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility does not have Part C conditions.

- SBR Batch Discharge Condition
- Hauled-in Waste Restrictions
- 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]
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

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)
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

Attachment B

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

Attachment C

TRC Evaluation