pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0021229**
Facility Type	**Municipal**	APS ID	**12197**
Major / Minor	**Major**	Authorization ID	**1167723**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Littlestown Borough Authority Adams County**	Facility Name	**Littlestown STP**
Applicant Address	10 S Queen Street	Facility Address	2136 Whitehall Road
	Littlestown, PA 17340-1612		Littlestown, PA 17340
Applicant Contact	Karen Louey	Facility Contact	Ed Santamaria
Applicant Phone	(717) 359-5101	Facility Phone	(717) 359-5636
Client ID	28459	Site ID	250981
Ch 94 Load Status	Not Overloaded	Municipality	Littlestown Borough
Connection Status	No Limitations	County	Adams
Date Application Received	January 3, 2017	EPA Waived?	No
Date Application Accepted	July 11, 2017	If No, Reason	Major Facility, 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	February 25, 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 Littlestown Borough Authority WWTP located at 2136 Whitehall Road, Littlestown, PA 17340 in Adams County, municipality of Littlestown. The existing permit became effective on July 1, 2012 and expired on June 30, 2017. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on January 3, 2017.

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 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 1.0 MGD annual average flow treatment facility. The hydraulic design capacity of the treatment facility is 1.3 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 Major Sewage Facility due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Adams County Commissioners, Littlestown Borough Council, Union Township Board of Supervisors, and Germany Township Board of Supervisors. Certified mail tracking numbers were available but were not traceable for delivery confirmation at the USPS website. 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 Alloway Creek. The sequence of receiving streams that Alloway Creek discharges into are Monocacy in Maryland and the Potomac River in Maryland prior to eventually draining into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for migratory fishes (MF) and warm water fishes (WWF). 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.

Alloway Creek 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. 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:

- Limits for CBOD will be lowered to 17 mg/l as an average monthly.
- Limits for Ammonia-Nitrogen will be lowered to 1.0 mg/l during the summer and 3.0 mg/l during the winter.
- The facility will be required to record a measurement for UV daily.
- Due to the Chesapeake Bay Implementation Plan, the facility will be required to monitor for nitrogen species and phosphorus on a 2x/wk basis.
- Quarterly monitoring has been established for free cyanide.
- Facility will be required to conduct four (4) quarterly WET Tests. If all four WET tests pass, the facility shall continue WET test monitoring annually.

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.

Summary of Review
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:	Littlestown Borough Authority WWTP
NPDES Permit #	PA0021229
Physical Address:	2136 Whitehall Road Littlestown, PA 17340
Mailing Address:	10 South Queen Street Littlestown, PA 17340
Contact:	Chris Stroup Operator strouplittlestownboro@comcast.net
Consultant:	Ralph Spayd Project Engineer Herbert, Rowland, and Grubic, Inc. 369 East Park Drive Harrisburg, PA 17111 espayd@hrg-inc.com and Michael Postick Herbert, Rowland, and Grubic, Inc. 369 East Park Drive Harrisburg, PA 17111 mpostick@hrg-inc.com

1.2 Permit History

The permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Influent Sample Data
- Effluent Sample Data
- WET Testing Data
- Re-sample data for Toxic pollutants

2.0 Treatment Facility Summary

2.1 Site location

The physical address for the facility is 2136 Whitehall Road, Littlestown, PA 17340. 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

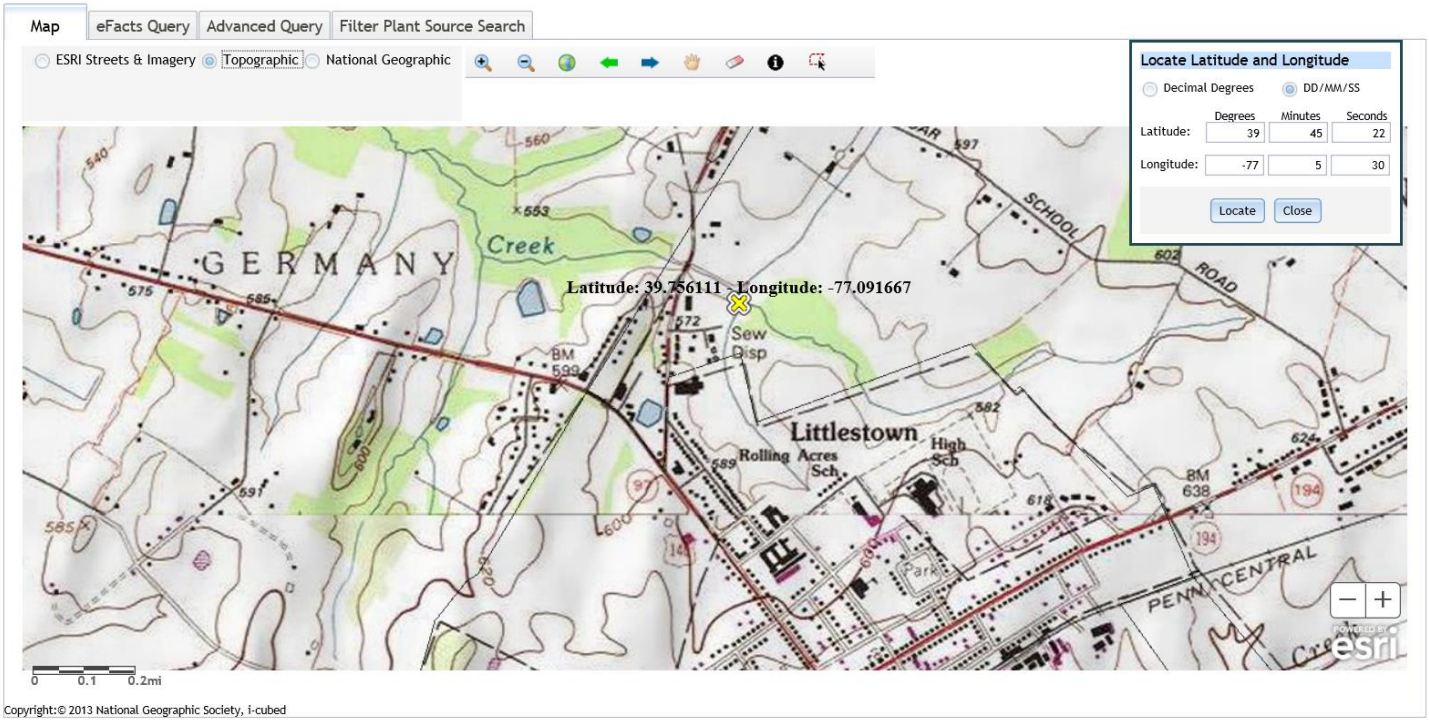
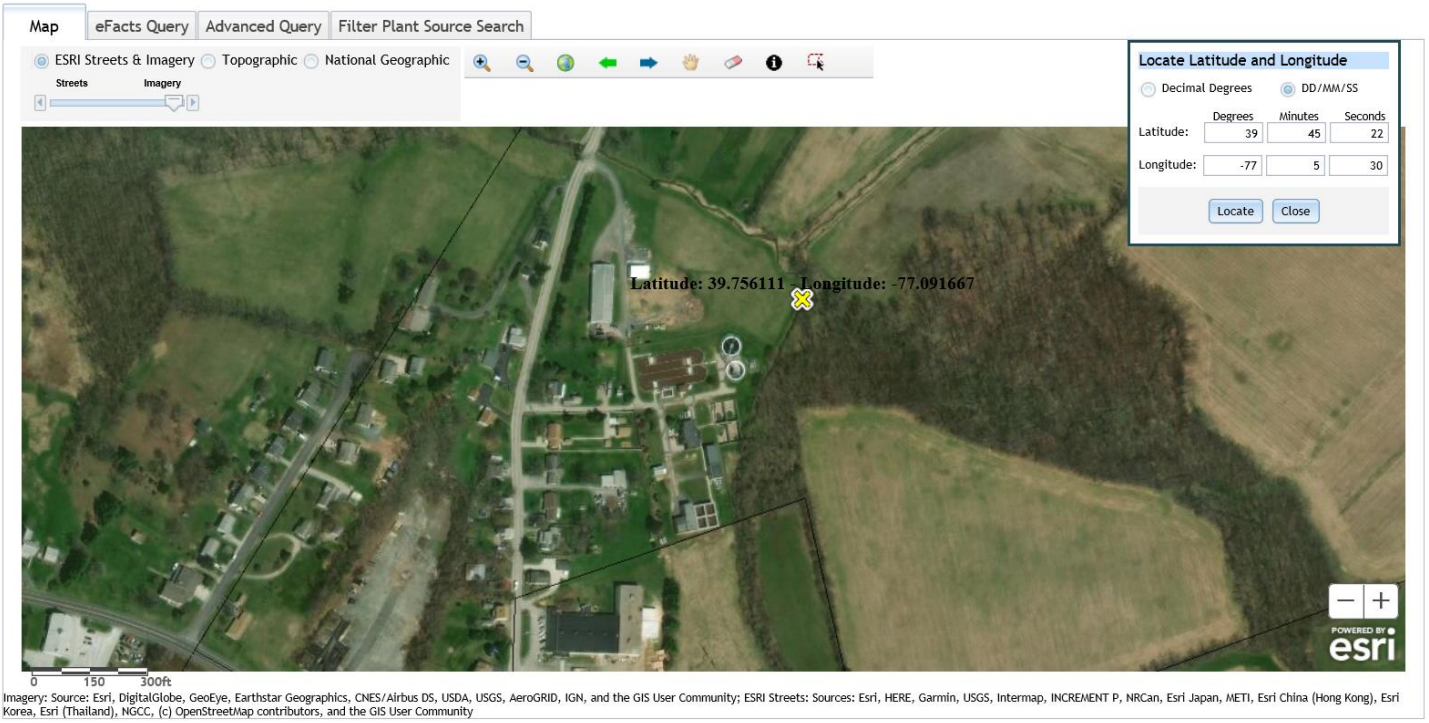


Figure 2: Aerial Photograph of the subject facility



2.1.2 Sources of Wastewater/Stormwater

The Littlestown Borough WWTP serves 3 municipalities. The municipalities contribution to the WWTP is summarized below.

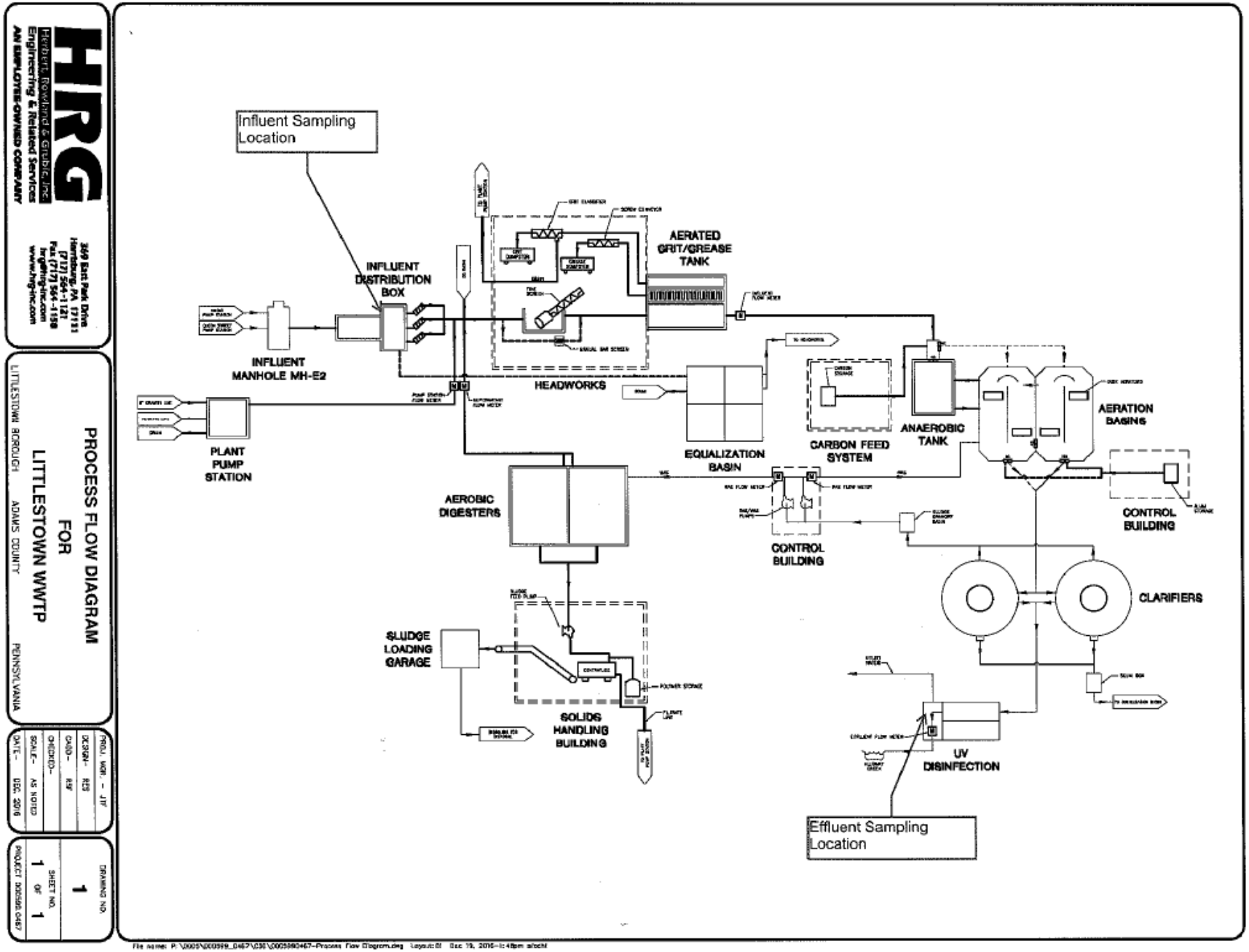
Municipalities Served by Littlestown Borough WWTP		
Municipalities Served	**Flow Contribution (%)**	**Population (EDUs)**
Littlestown Borough	81	1741
Union Township	18	375
Germany Township	1	20
Total	***100***	***2136***

On the application form, the facility reported that they did not (a) have any stormwater outfalls (b) report any CSOs (c) report any hauled in sewage/biosolids and (d) report any participation in a pretreatment program.

The WWTP has the following industrial user: Littlestown Foundry, 150 Charles Street, Littlestown, PA 17340

2.2.2 Description of Wastewater Treatment Process

The subject facility is a 1.0 MGD annual average design flow facility. The subject facility treats wastewater using an equalization tank, an anaerobic tank, an oxidation ditch(s), a clarifier(s), and a uv disinfection unit prior to discharge through the outfall. Sludge is processed through an anaerobic digester(s), a centrifuge, and a sludge storage. A flow diagram for the treatment facility is attached.


Influent Sampling Location
INFLUENT DISTRIBUTION BOX
AERATED GRIT/GREASE TANK
INFLUENT MANHOLE MH-E2
HEADWORKS
PLANT PUMP STATION
EQUALIZATION BASIN
CARBON FEED SYSTEM
ANAEROBIC TANK
AERATION BASINS
AEROBIC DIGESTERS
CONTROL BUILDING
CONTROL BUILDING
CLARIFIERS
SLUDGE LOADING GARAGE
SOLIDS HANDLING BUILDING
UV DISINFECTION
Effluent Sampling Location
HRG
Herbert, Rowland & Grubic, Inc.
Engineering & Related Services
AN EMPLOYEE-OWNED COMPANY
PROCESS FLOW DIAGRAM
FOR
LITTLESTOWN WWTP
LITTLESTOWN BOROUGH ADAMS COUNTY PENNSYLVANIA
DRAWING NO. 1
SHEET NO. 1 OF 1
PROJECT: 0005980467

For TN reduction, the treatment system is designed for simultaneous nitrification and denitrification.

For TP, both biological and chemical treatment are used.

The facility is being evaluated for flow, pH, dissolved oxygen, CBOD5, TSS, fecal coliform, ammonia-nitrogen, 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: Littlestown STP				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia And Phosphorus	Oxidation Ditch	Ultraviolet	1
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
1.3	1700	Not Overloaded	Aerobic Digestion	Landfill

2.3 Facility Outfall Information

The facility has the following outfall information.

Outfall No. 001 **Design Flow (MGD)** 1
Latitude 39º 45' 20.24" **Longitude** -77º 5' 31.09"
Wastewater Description: Sewage Effluent

The subject facility outfall does not appear to be within the vicinity of another sewage/wastewater outfall from the subject facility to the Maryland border.

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 coagulation
- Polymer for dewatering

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** 39° 45' 20.24" , **Longitude** 77° 5' 31.09" , **River Mile Index** 0.1 , **Stream Code** 58849

Discharging to Unnamed Tributary of Alloway Creek

which receives wastewater from Littlestown Sewage Treatment Plant

1. The permittee is authorized to discharge during the period from July 1, 2012 through June 30, 2017 .

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, Footnotes and Supplemental Information).

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 Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
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
$CBOD_5$ May 1 - Oct 31	167	250 Wkly Avg	XXX	20	30	40	2/week	24-Hr Composite
$CBOD_5$ Nov 1 - Apr 30	208	334 Wkly Avg	XXX	25	40	50	2/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	250	375 Wkly Avg	XXX	30	45	60	2/week	24-Hr Composite

Outfall 001, Continued (from July 1, 2012 through June 30, 2017)

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		
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab
Ammonia-Nitrogen May 1 - Oct 31	11.7	XXX	XXX	1.4	XXX	2.7	2/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	35.0	XXX	XXX	4.2	XXX	8.4	2/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	Report Daily Max	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 the discharge from the facility

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

I. C. For Outfall 001 , **Latitude** 39° 45' 20.24" , **Longitude** 77° 5' 31.09" , **River Mile Index** 0.1 , **Stream Code** 58849

Discharging to Unnamed Tributary of Alloway Creek

which receives wastewater from Littlestown Sewage Treatment Plant

1. The permittee is authorized to discharge during the period from October 1, 2014 through June 30, 2017.

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, Footnotes and Supplemental Information).

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---N	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	1/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	24-Hr Composite
Net Total Nitrogen	Report	18,265	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	2435	XXX	XXX	XXX	1/month	Calculation

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

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:

07/31/2012:

- The facility stated that the plant is due to start a major upgrade project in August/September 2012 to meet nutrient limit requirements for the Chesapeake Bay.
- Greasy foam was observed. The facility states this usually occurs in the summer. The grease may potentially be removed with the plant upgrade.

03/04/2013:

- There was nothing significant to report during this inspection.

07/23/2014:

- The plant was in the final stages of a major nutrient upgrade to meet Chesapeake Bay limits.
- The facility was dealing with minor issues with the new SCADA system.
- The facility had a significant buildup of algae in the clarifiers. The facility plans to address this once the plant's utility water low pressure issue is resolved.
- The facility was making adjustments to improve phosphorus removal. The operator stated that alum may be added to increase phosphorus removal.

11/24/2014:

- The facility had a significant buildup of algae in the clarifier weirs and channel.

02/17/2016:

- The facility had a significant buildup of algae in the clarifier weirs and channel.

12/20/2016:

- The facility was advised to test alarms on a regular basis and to replace the traceable thermometers in the composite samplers .

02/06/2018:

- The facility was advised to either replace the slide gate that is being used as an effluent weir with a weir plate or use exclusively influent flow data for DMR reporting.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the hydraulic design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 1.218 MGD. The hydraulic design capacity of the treatment system is 1.3 MGD.

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

Parameter	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18
Flow (MGD) Average Monthly	0.592	0.572	0.848	0.773	0.945	0.882	0.902	0.986	1.218	0.643	1.104	0.760
Flow (MGD) Raw Sewage Influent Average Monthly	0.592	0.572	0.848	0.773	0.945	0.882	0.902	0.986	1.218	0.643	1.104	0.760
Flow (MGD) Daily Maximum	0.873	0.767	2.316	1.374	2.215	1.462	1.942	2.043	2.063	0.923	2.934	1.542
Flow (MGD) Raw Sewage Influent Daily Maximum	0.873	0.767	2.316	1.374	2.215	1.462	1.942	2.043	2.063	0.923	2.934	1.542
pH (S.U.) Minimum	7.0	7.2	7.1	6.6	7.1	7.1	7.0	7.1	7.1	7.3	7.2	7.4
pH (S.U.) Instantaneous Maximum	7.7	7.4	7.4	7.4	7.5	7.5	7.7	7.6	7.5	7.9	7.6	7.8
DO (mg/L) Minimum	5.2	5.2	5.3	5.5	5.5	6.1	5.1	5.2	5.3	5.0	5.2	5.2
CBOD5 (lbs/day) Average Monthly	< 15	< 15	< 22	< 19	< 22	< 22	< 21	< 23	< 31	< 16	< 27	< 19
CBOD5 (lbs/day) Weekly Average	< 19	< 15	< 34	< 27	< 24	< 24	< 25	< 34	< 37	< 22	< 51	< 23
CBOD5 (mg/L) Average Monthly	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
CBOD5 (mg/L) Weekly Average	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 4	< 3	3	< 4	< 3
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	760	959	841	673	576	723	845	650	946	645	786	690
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	1383	1417	1665	1217	861	895	1378	1085	1880	1039	1575	1204

BOD5 (mg/L) Raw Sewage Influent Average Monthly	151	195	120	112	84	103	123	94	93	122	103	114
TSS (lbs/day) Average Monthly	9	10	14	8	10	21	32	27	46	8	43	12
TSS (lbs/day) Raw Sewage Influent Average Monthly	828	1199	986	812	847	919	1048	817	1042	873	882	996
TSS (lbs/day) Raw Sewage Influent Daily Maximum	1143	1782	2161	1616	1028	1401	1917	1668	2137	1322	1846	1818
TSS (lbs/day) Weekly Average	17	13	31	15	12	33	75	54	69	11	109	14
TSS (mg/L) Average Monthly	2	2	2	1	1	3	5	3	4	2	4	2
TSS (mg/L) Raw Sewage Influent Average Monthly	169	244	136	134	121	127	152	119	102	168	127	157
TSS (mg/L) Weekly Average	4	3	3	2	2	4	9	5	6	2	8	3
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1	< 1	< 6	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 2	< 1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	3	3	192	192	1	2	2	1	2	3	6	2
Nitrate-Nitrite (mg/L) Average Monthly	4.2	4.3	4.5	4	5.4	6.4	6.4	5.2	6.5	< 4.7	4.9	3.7
Nitrate-Nitrite (lbs) Total Monthly	649	633	1053	768	1211	1295	1374	1144	1955	< 747	1378	702
Total Nitrogen (mg/L) Average Monthly	< 4.71	< 4.84	< 5.15	< 4.5	< 5.9	< 6.92	< 6.91	< 5.72	< 6.97	< 5.2	< 5.8	4.73
Total Nitrogen (lbs) Effluent Net Total Monthly	< 732	< 706	< 1207	< 864	< 1322	< 1400	< 1483	< 1256	< 2116	< 836	< 1620	904
Total Nitrogen (lbs) Total Monthly	< 732	< 706	< 1207	< 864	< 1322	< 1400	< 1483	< 1256	< 2116	< 836	< 1620	904
Total Nitrogen (lbs) Effluent Net Total Annual											< 11469	

Total Nitrogen (lbs) Total Annual											< 11469	
Ammonia (lbs/day) Average Monthly	< 0.5	< 0.5	< 0.7	< 0.9	< 0.7	< 0.7	< 0.7	< 0.7	< 1.0	< 0.5	< 1.0	< 0.6
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.14	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.11	< 0.1
Ammonia (lbs) Total Monthly	< 16	< 15	< 23	< 26	< 22	< 20	< 22	< 22	< 31	< 16	< 30	< 19
Ammonia (lbs) Total Annual											< 429	
TKN (mg/L) Average Monthly	< 0.54	< 0.5	< 0.68	< 0.5	< 0.5	< 0.52	< 0.5	< 0.51	< 0.52	< 0.55	< 0.94	1.06
TKN (lbs) Total Monthly	< 83	< 73	< 154	< 96	< 112	< 105	< 109	< 112	< 161	< 89	< 241	203
Total Phosphorus (lbs/day) Average Monthly	2	3	4	3	< 2	2	2	2	4	1	< 2	2
Total Phosphorus (mg/L) Average Monthly	0.34	0.62	0.5	0.41	< 0.23	0.32	0.28	0.27	0.36	0.26	< 0.2	0.32
Total Phosphorus (mg/L) Daily Maximum	0.47	1.1	0.62	0.6	0.47	0.81	0.72	0.41	0.67	0.5	0.4	0.45
Total Phosphorus (lbs) Effluent Net Total Monthly	51	90	116	84	< 49	63	58	61	112	42	< 46	63
Total Phosphorus (lbs) Total Monthly	51	90	116	84	< 49	63	58	61	112	42	< 46	63
Total Phosphorus (lbs) Effluent Net Total Annual											< 629	
Total Phosphorus (lbs) Total Annual											< 629	

3.2.1 Compliance with Chespaeake Bay TMDL Truing

The table summarizes the facility's compliance with the Chesapeake Bay cap loads for compliance years 2015 to 2017.

Chesapeake Bay Annual Nutrient Summary Littlestown Borough Authority PA0021229				
Year for Truing Period (Oct 1 - Nov 28)	Net Effluent Limits		Compliant with Permit Limits (Yes/No)	
	Nitrogen (lbs)	Phosphorus (lbs)	Nitrogen	Phosphorus
	18,265	***2,435***		
2015	11,565	531	Yes	Yes
2016	7,973	527	Yes	Yes
2017	11,469	629	Yes	Yes

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 July 1, 2012 to October 17, 2019, there were no observed effluent non-compliances.

3.3.2 Non-Compliance- Enforcement Actions

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

No enforcement actions were found in the WMS system for the time period beginning on July 1, 2012 to the period ending October 17, 2019.

3.4 Summary of Biosolids Disposal

Two aerobic digesters are used for solids treatment. Dewatering is achieved through the use of a centrifuge. Dewatered cake (20% TS) is stored in a storage shed until it is transported off site. Biosolids produced by the WWTP is landfilled.

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

Sewage Sludge / Biosolids Production Information

Hauled Off-Site			
2018	**Tons Dewatered**	**% Solids**	**Dry Tons**
January	35.88	17.9	6.42
February	38.07	18.2	6.93
March	43.66	17.9	7.82
April	57.28	20.3	11.64
May	30.44	20.6	6.27
June	29.72	20.7	6.15
July	22.38	20.5	4.58
August	14.12	20.2	2.85
September	0	0	0
October	20.99	22.5	4.72
November	0	0	0
December	57.99	18.3	10.61
Total			***67.99***

Notes:
York, KO-2434, Landfill

3.5 Open Violations

As of February 2020, the client has an open violation in the Safe Drinking Water program for the same client. The draft has been transmitted for comment. The finalized NPDES renewal may be withheld until the open violations are resolved.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Alloway Creek. The sequence of receiving streams that Alloway Creek discharges into are Monocacy in Maryland and the Potomac River in Maryland prior to eventually draining into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is the City of Frederick, MD located approximately 40 miles downstream of the subject facility on the Monocacy River (Abstracted from March 2012 Fact Sheet). 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. The designated use has been classified as protected waters for warm 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 have been presumed to be in Maryland. The eMAP software only covers data attributes for Pennsylvania.

For WQM modeling, pH and stream water temperature data used were default values. The default values for pH was 7 and the default stream water temperature was 20 C.

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

Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = (Modeling Point #1 Q710 / DA + Modeling Point #2 Q710 /DA) / 2			
LFY =	(0.176 ft^3/sec / 0.56 mi^2 + 0.321 ft^3/s / 3.19 mi^2) / 2		
LFY =	0.2075	$ft^3/sec/mi^2$	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	1
Latitude	39Âº 45' 20.31"	Longitude	-77Âº 5' 31.17"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Unnamed Tributary of Alloway Creek (WWF)	Stream Code	58849
NHD Com ID	53320860	RMI	7.49
Drainage Area	0.56	Yield (cfs/mi^2)	0.2075 (average of Modeling Points #1 and #2)
Q_{7-10} Flow (cfs)	0.176	Q_{7-10} Basis	StreamStats
Elevation (ft)	559	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class.	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	None
Assessment Status	Attaining supporting aquatic life.		
Cause(s) of Impairment	Not applicable		
Source(s) of Impairment	Not applicable		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	7	Default value
Temperature (°C)	20	Default value
Hardness (mg/L)	251	Influent value
Other:		

Nearest Downstream Public Water Supply Intake		City of Frederick, MD	
PWS Waters	Monocacy River (MD)	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	40

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 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).

For modeling, (a) the RMI was measured from the Maryland-Pennsylvania border, (b) the low flow yield was calculated by averaging the output values from StreamStats (0.176 ft^3/s / 0.56 mi^2 + .321 ft^3/s / 3.19 mi^2) / 2 = 0.21 $ft^3/s/mi^2$)

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

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 the pollutants in Groups 1 through 5.

The toxic pollutants submitted with the NPDES application was reviewed using the Toxics Screening Analysis worksheet. There were a number of parameters that were requested to be re-sampled since either (a) the NPDES application submitted did not include a result for the parameter since it was not sampled or (b) the detection limit utilized by the lab for the sample exceeded DEP's recommended target QL. The results of the re-sample are summarized in the table.

Summary of Resample Results

Parameter	Reason for Re-Sample	Resample Result	QL
		ug/l	ug/l
Dissolved Iron	No data reported on application	<20	20
Total Thallium	Non-detect level above QL	<1	2
p-Chloro-m-Cresol	No data reported on application	<10	10
Benzo(a)Anthracene	Non-detect level above QL	<2.5	2.5
Benzo(a)Pyrene	Non-detect level above QL	<2.5	2.5
3,4-Benzofluoranthene	Non-detect level above QL	<2.5	2.5
Benzo(k)Fluoranthene	Non-detect level above QL	<2.5	2.5
Bis(2-Chloroisopropyl)Ether	No data reported on application	<5	5
Chrysene	Non-detect level above QL	<2.5	2.5
Dibenzo(a,h)Anthrancene	Non-detect level above QL	<2.5	2.5
3,3-Dichlorobenzidine	Non-detect level above QL	<5	5
Indeno(1,2,3-cd)Pyrene	Non-detect level above QL	<2.5	2.5
Phenanthrene	Non-detect level above QL	<2.5	2.5
Notes:			
Sampling occurred on 11/6/19, 11/25/19, and 11/20/19			
Data for dissolved oxygen collected on 12/19/16, 12/20/16, 12/21/16			

An additional request was made to re-sample free cyanide. The sampling results are shown in the table.

Summary of Lab Results from Resampling				
Parameter / Date of Sampling	**2/5/2020**	**2/10/2020**	**2/17/2020**	**Max**
	ug/l	**ug/l**	**ug/l**	**ug/l**
Free cyanide	<4	4	<4	4

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.

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)

Whole effluent toxicity is the aggregate toxic effect from a facility's wastewater discharge on aquatic organisms. WET measures the effect of wastewater effluent on an organisms' ability to survive, grow, and reproduce. WET testing is either acute or chronic. Acute testing measures lethality, the ability for an organism to survive after no more than 96 hours of exposure to an effluent. Chronic tests measures both lethality, immobility, and sublethal endpoints to exposures ranging longer than 96 hours and up to 8 days.

WET is applicable for major sewage facilities with an average annual design flow which is greater than or equal to 1.0 MGD (PA Code 92a.28(a)(i)). For chronic tests, a total of 16 endpoints are to be evaluated (two species, growth, reproduction, and survival endpoints).

5.3.3.1 WET Tests Review

The in-stream waste concentration and dilution series was estimated using partial mixing factor factors from PENTOXSD, the design flow rate for the facility, and the Q710.

The In-stream concentration utilized for the current permit was 100%.

The derivation is shown in the calculations.

Whole Effluent Toxicity (WET)

For Outfall 001, **Chronic** WET Testing was completed:

X	For the permit renewal application (4 tests).
	Quarterly throughout the permit term.
	Quarterly throughout the permit term and a TIE/TRE was conducted.
	Other:

The dilution series used for the tests was: 100%, 48%, 24%, 12%, and 6%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 100%.

TST Data Analysis

(NOTE – In lieu of recording information below, the application manager may attach the DEP WET Analysis Spreadsheet).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
3/9/2016	Pass	Pass	Pass	Pass
4/16/2016	Pass	Pass	Pass	Pass
7/19/2016	Pass	Fail	Pass	Pass
10/18/2016	Pass	Pass	Pass	Pass

***** *A "passing" result is that in which the replicate data for the TIWC is not statistically significant from the control condition. This is exhibited when the calculated t value ("T-Test Result") is greater than the critical t value. A "failing" result is exhibited when the calculated t value ("T-Test Result") is less than the critical t value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests). YES/NO*

Comments:

Yes. The facility exhibited a WET test failure in July 2016. A retest was not completed. The facility will be required to conduct quarterly WET tests in the 1st year of renewal. Should all four (4) WET tests pass, the facility will be required to have annual WET tests.

Data

PMFa =	1	
PMFc =	1	
Qd =	1	MGD
Q710 =	0.176	cfs

Step 1: Determine IWC - Acute (IWCa)

IWCa = [(Qd x 1.547) / ((Q7-10 x PMFa) + (Qd x 1.547))] x 100

IWCa = 89.79

Is IWCA < 1% — No — (Yes- acute tests required; No- chronic test required)

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined.

Type of Test for Permit Renewal:

The recommended test for permit renewal are Chronic WET tests.

Step 2a: Determine Target IWCa (If acute tests required)

TIWCa = IWCA / 0.3

TIWCa = 299.28

Step 2b: Determine Target IWCc (If chronic tests required)

ICCc = [(Qd x 1.547) / ((Q7-10 x PWFc) + (Design Flow MGD x 1.547))] x 100

ICCc = 89.79

Step 3: Determine Dilution Series

Dilution Series =	100%	95%	90%	45%	23%

WET Limits

Has reasonable potential been determined ? — Unknown at this time. There was a WET failure in July 2016

Will WET limits be established in the permit ? — No

If WET limits wil be established, identify the species and the limit values for the permit (TU).

Not applicable

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits

In July 2016, the WET test failed for reproduction but passed for survival. DEP has elected to postpone the inclusion of WET limitations until further WET data are reviewed.

The proposed NPDES permit shall utilize a chronic instream waste concentration of 90%. The complete dilution series will be 23%, 45%, 90%, 95%, and 100%.

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)	18,265
TN Delivery Ratio	0.627
TP Cap Load (lbs/yr)	2,435
TP Delivery Ratio	0.67

The Phase II WIP recommends minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant sewage dischargers at 2x/week.

This facility is subject to Sector A monitoring requirements. Monitoring for nitrogen and phosphorus is recommended at least 2x/wk. The facility will be subject to a TN cap load of 18,295 bs/yr and TP cap load of 2,435 lbs/yr.

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 Littlestown Borough Authority, PA0021229			
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	WQBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 17 mg/l as an average monthly and 141 lbs/day from May 1 to October 31. Effluent limits shall not exceed 25 mg/l as an average monthly and 208 lbs/day from November 1 to April 30.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1) or WQBEL. For summer, WQM modeling indicates that the WQBEL is more stringent than the TBEL. Thus, the permit limit is confined to WQBEL.
TSS	TBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 30 mg/l as an average monthly and 250 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).
UV disinfection	SOP	Monitoring:	The monitoring frequency is 1/day. The facility will be required to recording the UV transmittance as a percentage.
		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. UV measurement will be required to be recorded daily.
Fecal Coliform	TBEL	Monitoring:	The monitoring frequency shall be 2x/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 1.0 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

Littlestown Borough Authority, PA0021229

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	WQBEL	Monitoring:	The monitoring frequency shall be 2x/wk as a 24-hr composite sample (Table 6-3)
		Effluent Limit:	The effluent performance limit is 1.0 mg/l and 8 lbs/day from May 1 to October 31 and 3.0 mg/l and 25 lbs/day from November 1 to April 30.
		Rationale:	Water quality modeling recommends the effluent performance limits.
Nitrate-Nitrite as N	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/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 2x/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 1x/mo.
TKN	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/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 2x/wk.
Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 2x/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 2x/wk.
Net Total Nitrogen	Cheapeake Bay TMDL	Monitoring:	Monitoring shall be 1x/mo.
		Effluent Limit:	The annual cap load is 18,265 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility has a cap load.
Net Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	Monitoring shall be 1x/mo.
		Effluent Limit:	The annual cap load is 2,435 lbs/yr.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility has a cap load.

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 1.0 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

6.1.3.1 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, bromide, and 1,4-dioxane 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.
(c) Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 ug/l and the discharge flow exceeds 0.1 MGD, monitoring and reporting should be required.

Sampling for TDS, Sulfate, chloride, bromide, and 1,4-dioxane did not trigger thresholds for concentration and/or loading rates. Thus, monitoring will not be required for these parameters.

6.1.3.2 Summary of Toxics Monitoring/Limits

Summary of Proposed NPDES Parameter Details for Toxics

Littlestown Borough Authority, PA0021229

Parameter	Permit Limitation Required by[1]:	Recommendation	
Free Cyanide	WQBEL	Monitoring:	The monitoring frequency shall be 1/quarter as a grab sample.
		Effluent Limit:	No effluent requirements.
		Rationale:	A postitive hit of 6 ug/l (reported in NPDES application renewal) and 4 ug/l (reported in re-sampling) were observed. Given the sampling results included with the application and the re-sampling data, PENTOXSD recommends water quality based effluent limits. DEP recommends that monitoring without effluent limits shall be included in the proposed permit. A performance limit shall be included in the next renewal cycle contingent upon the sampling data collected.

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 1.0 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
CBOD	The monitoring frequency is 2x/wk. The effluent performance limit is 20 mg/l and 167 lbs/day from May 1 to October 31 and 25 mg/l and 208 lbs/day from November 1 to April 30	The monitoring frequency shall be 2x/wk. Effluent limits shall not exceed 17 mg/l as an average monthly and 141 lbs/day from May 1 to October 31. Effluent limits shall not exceed 25 mg/l as an average monthly and 208 lbs/day from November 1 to April 30. Based upon the last 12 months of DMR, the facility should have no issues meeting the lowered limit.
UV disinfection	No monitoring or effluent limits	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. UV measurement will be required to be recorded daily.
Ammonia-Nitrogen	The monitoring frequency is 2x/wk. The effluent performance limit is 1.4 mg/l and 11.7 lbs/day from May 1 to October 31 and 4.2 mg/l and 35 lbs/day from November 1 to April 30	The monitoring frequency shall be 2x/wk. The effluent performance limit is 1.0 mg/l and 8 lbs/day from May 1 to October 31 and 3.0 mg/l and 25 lbs/day from November 1 to April 30. Based upon the last 12 months of DMR, the facility should have no issues meeting the lowered limit.
Nitrate-Nitrite as N	The monitoring frequency is 1x/wk.	Due to the Chesapeake Bay Implementation Plan, the monitoring frequency shall be 2x/wk.
TKN	The monitoring frequency is 1x/wk.	Due to the Chesapeake Bay Implementation Plan, the monitoring frequency shall be 2x/wk.
Total Phosphorus	The monitoring frequency is 1x/wk.	Due to the Chesapeake Bay Implementation Plan, the monitoring frequency shall be 2x/wk.
Free Cyanide	No monitoring or effluent limits	The monitoring frequency is 1x/quarter.
WET	A minimum of four WET testing completed within the final 18 months of the permit cycle.	Due to WET test failure, quarterly WET testing for 1st year. Should the four WET test pass, the WET testing shall be reduced to 1x/yr.

6.3.1 Summary of Proposed NPDES Effluent Limits

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

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

I. A. For Outfall 001 , **Latitude** 39º 45' 20.24" , **Longitude** 77º 5' 31.09" , **River Mile Index** 0.05 , **Stream Code** 58849

Receiving Waters: Unnamed Tributary of Alloway Creek (WWF)

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
Flow (MGD) Raw Sewage Influent	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) Nov 1 - Apr 30	208	334	XXX	25.0	40.0	50	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	141	212	XXX	17.0	25.5	34	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	250	375	XXX	30	45	60	2/week	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Ammonia-Nitrogen Nov 1 - Apr 30	25.0	XXX	XXX	3.0	XXX	6	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	8.0	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	Report Daily Max	XXX	2/week	24-Hr Composite
Cyanide, Free	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	Grab

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** 39º 45' 20.24" , **Longitude** 77º 5' 31.09" , **River Mile Index** 0.05 , **Stream Code** 58849

Receiving Waters: Unnamed Tributary of Alloway Creek (WWF)

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	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	18265	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	2435	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 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.

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility will have the following Part C conditions.

- Hauled-In Waste Restrictions
- Solids Management for Non-Lagoon Treatment Systems
- Whole Effluent Toxicity – No Permit Limits
- Stormwater Requirements

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

Attachment B

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

Attachment C

Copies of WET Test Analysis Spreadsheet