pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026191**
Facility Type	**Municipal**	APS ID	**320042**
Major / Minor	**Major**	Authorization ID	**1365748**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Huntingdon Borough Huntingdon County**	Facility Name	**Huntingdon STP**
Applicant Address	PO Box 592, 530 Washington Street	Facility Address	10477 Snyders Run Road
	Huntingdon, PA 16652-0592		Huntingdon, PA 16652-1505
Applicant Contact	Chris Stevens	Facility Contact	Roger Shaffer
Applicant Phone	(814) 643-3966	Facility Phone	(814) 643-5123
Client ID	28607	Site ID	252257
Ch 94 Load Status	Not Overloaded	Municipality	Huntingdon Borough
Connection Status	No Limitations	County	Huntingdon
Date Application Received	August 16, 2021	EPA Waived?	No
Date Application Accepted	August 24, 2021	If No, Reason	Major Facility, Pretreatment, Significant CB Discharge
Purpose of Application	NPDES Permit renewal.		

Summary of Review

GHD, Inc., on behalf of Huntingdon Borough, has applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on February 16, 2017 and became effective on March 1, 2017. The permit expired on February 28, 2022.

This facility receives 57% of its flow from Huntingdon Borough, 36.4% from Smithfield Township, 5.5% from Walker Township, 0.8% from Oneida Township, and 0.3% from Penn Township. There are also 7 non-categorical significant industrial users. The facility has average annual design flow of 4.0 MGD and hydraulic design capacity of 5.9 MGD. The organic design capacity is 9,100 lbs BOD_5/day. The facility discharge is to Juniata River, which is classified for warm water and migratory fishes (WWF & MF). Currently, other permitted outfalls are combined sewer overflow (CSO) outfalls 002, 003, 004, 005, & 006, that discharge to the Juniata River & Muddy Run, and two (2) storm water outfalls 008 & 009. CSO outfalls 002 and 006 will be eliminated with this renewal.

The WQM Part II permit No. 3104401 was issued on February 17, 2005. The WQM Part II permit No. 3104401 A-1 was issued on February 17, 2022 for construction of a 48" combined sewer screening chamber, and 60" RCP. The WQM Part II, sewer Extensions & Pumping Station, Permit No. 3112402 was issued on July 10, 2012. The WQM permit No. 3186401 was issued on May 28, 2009 to install new ¾ washer and compacted course screen.

Sludge use and disposal description and location(s): N/A due to Class A give-away program.

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml. The E. Coli. monitoring and report requirements will be added to the proposed permit. Total Aluminum (Al), total Copper (Cu), and total Mercury (Hg) monitoring requirements are added in the proposed permit.

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

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	February 16, 2022
x		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	March 29, 2022

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	4.0
Latitude	40º 28' 34.68"	Longitude	-78º 0' 3.97"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Juniata River (WWF)	Stream Code	11414
NHD Com ID	65607282	RMI	93.22 miles
Drainage Area	979 mi.^{2}	Yield (cfs/mi^2)	0.145
Q_{7-10} Flow (cfs)	142	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	597	Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Mifflintown Borough Municipal Authority, Juniata County		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	37.26 miles	Distance from Outfall (mi)	Approximate 56.0 miles

Changes Since Last Permit Issuance: None

Drainage Area
The discharge is to Juniata River at RMI 93.22 miles. A drainage area upstream of the discharge is estimated to be 979 mi.^{2}, according to USGS PA StreamStats available at: https://streamstats.usgs.gov/ss/.

Stream Flow
According to StreamStats, the discharge point in the receiving stream has a Q_{7-10} of 142 cfs and a drainage area of 979 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.145 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 142 cfs
Low Flow Yield = 142 cfs / 979 mi.^{2} = 0.145 cfs/mi.^{2}
Q_{30-10} = 1.36 * 142 cfs = 193.1 cfs
Q_{1-10} = 0.64 * 142 cfs = 90.9 cfs

The resulting Q_{7-10} dilution ratio is: Q_{stream} / $Q_{discharge}$ = 142 cfs / [4.0 MGD * (1.55 cfs/MGD)] = 22.9:1.

The discharge is into a stream segment of Juniata River which is a large water body. The DEP's SOP No. BCW-PMT-033, revised on March 22, 2021, version 1.9 page 4.II.B. states that where a facility is eligible for technology-based limits of $CBOD_5$ exceeding 25.0 mg/L, and the discharge is to a large waterbody, application manager will evaluate a WQBEL for $CBOD_5$ as follows:

a. Model the discharge using the Toxics Management Spreadsheet (TMS).
b. Multiply the acute partial mix factor by the Q_{7-10} flow of the receiving waters.
c. Run the WQM 7.0 model using the adjusted Q_{7-10} and apply the WQBELs in the permit, if less than the technology-based limits.
d. Establish the average monthly concentration limit for TSS at the same concentration as for $CBOD_5$ using BPJ, if the $CBOD_5$ limit is a WQBEL.

According to DEP's technical reference guidance (TRG) PENTOXSD, DEP ID: 391-2000-011, version 2.0 on May 22, 2004 states that the partial mix factor (PMF) is used to describe the fractional portion of the stream that mixes with the discharge at the criteria compliance times. The partial mix factor is a value between 0 and 1; 1 presenting complete mixing and less than 1 represents there is incomplete mixing between the discharge and the stream. Historically 50% of the stream width was used for complete mix. The EPA-833-K-10-001, September 2010, Chapter 6.2.5.2 manual indicates a maximum of 25% of stream width available for acute mixing. Considering above guideline and the facility's performance, it is decided that acute partial mix factor (PMF_a) of 0.25 will be used.

The TMS model suggested a PMF_a of 0.108 (reference pages 48 of this factsheet), however based on historical data and plant performance the PMF_a of 0.25 will be used to revise Q_{7-10}. The revised Q_{7-10} will be (142 cfs x 0.25) 35.5 cfs.

Public Water Supply

The nearest downstream public water supply intake is the Mifflintown Borough Municipal Authority Juniata County on Juniata River. It is approximately 56.0 miles downstream of the discharge at RMI 37.26 miles. Due to the distance, dilution, and proposed effluent limits the discharge is not expected to impact the water supply.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	N/A
Latitude	40º 29' 36.99"	Longitude	-78º 1' 22.71"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Combined Sewer Overflow		
Receiving Waters	Juniata River (WWF)	Stream Code	11414
NHD Com ID	65607064	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Changes Since Last Permit Issuance:

Other Comments: CSO Outfall 003 is located along the old Ice Plant Road across the railroad tracks from 14th street. It is also known as East Interceptor Overflow # 003. Regulator No. 2 is located here. The 2017 Combined Sewer Overflow Long Term Control Plan Update document stated that "*With respect to Regulator No. 2 located uptown near the old ice plant, the Borough keeps it open at all times.*" (Ref. Combined Sewer Overflow Long Term Control Plan Update, by GHD dated March 27, 2017, page 2)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	N/A
Latitude	40º 29' 9.02"	Longitude	-78º 0' 52.02"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Combined Sewer Overflow		
Receiving Waters	Muddy Run (WWF)	Stream Code	
NHD Com ID	65607182	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Changes Since Last Permit Issuance:

Other Comments: The CSO outfall # 004 is located at Seventh and Penn Street. The discharge point is at Muddy Run and classified as WWF. The 2017 Combined Sewer Overflow Long Term Control Plan Update document stated that "…*the combined sewer in the 7th Street sewer shed divert flow in excess of what CSO # 004 can convey to the Juniata River to the 21-inch diameter interceptor at 6th and Allegheny Street*." (Ref. Combined Sewer Overflow Long Term Control Plan Update, by GHD dated March 27, 2017, page 4)

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	N/A
Latitude	40º 29' 49.75"	Longitude	-78º 0' 53.00"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Combined Sewer Overflow		
Receiving Waters	Muddy Run (WWF, MF)	Stream Code	
NHD Com ID	65606996	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Changes Since Last Permit Issuance:

Other Comments: The CSO outfall # 005 is located at 16th and Oneida street. The discharge point is at Muddy Run and classified as WWF.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	008	Design Flow (MGD)	N/A
Latitude	40º 28' 33.9"	Longitude	-78º 0' 9.5"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Juniata River (WWF, MF)	Stream Code	
NHD Com ID	120007005	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	009	Design Flow (MGD)	N/A
Latitude	40º 28' 33.8"	Longitude	-78º 0' 8.9"
Quad Name	Huntingdon	Quad Code	
Wastewater Description:	Stormwater		
Receiving Waters	Onsite Rain Garden Overflow to Juniata River (WWF, MF)	Stream Code	
NHD Com ID	120007005	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	11-B	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Treatment Facility Summary

Treatment Facility Name: Huntingdon STP

WQM Permit No.	Issuance Date	Description
3112402	July 10, 2012	WQM Part II, Sewer Extension & Pumping Station Replacement of 20" dia. combined sewer with 21" dia. PVC pipe and construction of 18" dia. HDPE storm sewer with an end-wall for discharging to Stone Creek to replace 10" storm sewer
3104401	February 17, 2022	Construction of 48" combined sewer between 4th St. to Standing Stone Creek, construction of screening chamber near Regulator 1, and construction of 60" RCP outfall from screening chamber to Juniata River
3186401	May 28, 2009	New ¾ washer and compacted course screen, new fine screen and grit/grease removal system, raw WW pump station, two new primary clarifiers with primary storage tank, denitrification filter building, UV building, chemical storage, existing two clarigesters converted to ATAD, new rotary press
3104401	February 17, 2005	WQM Part II Sewage Facility

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Trickling Filter With Settling	Ultraviolet	4.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
5.9	9,100	Not Overloaded	Aerobic Digestion	Combination of methods

Changes Since Last Permit Issuance:

According to DEP's recent visit to the site on June 16, 2021, the treatment facility consists of the following units:

- One Influent Wet Well, online with 4 pumps
- Influent Screen, total 3, one online (muffin monster, fine screen, and back up bar screen)
- One Bio Filter/Tower, online (odor control)
- Two Sludge Holding Tank/Lagoon Rotary Sludge Press, online (old tanks, back up only)
- One Sludge Holding Tank/Lagoon, online (unused back up tank ½ million gallons)
- One Grit Removal, online
- Two Primary Clarifier, online
- Two Trickling Filters, online
- Two Second Clarifiers, online
- Four Other Denote Filters with separate tank to hold and feed backwash water, online
- Four UV Disinfection units, three are online and one as backup
- One Automatic Thermophilic Aerobic Digestion (ATAD) system, online
- One Sludge Holding Tank/Lagoon (Storage Nitrification/Denitrification Reactor (SNDR)), online

The tertiary treatment plant follows the below flow path:

Coarse Screening → raw wastewater pumping → grit/grease removal → fine screening → primary clarification → trickling filtration → Final Clarification (DelPAC addition) → secondary clarification → methanol addition → denitrification filtration → UV disinfection → discharge to the Juniata River through outfall 001

The Class A biosolids is produced by the following process:

Gravity thickening → mechanical thickening → ATAD digestion → SNDR reactor → rotary dewatering press with polymer addition → cake storage

Cake solids are stored on a covered storage pad until disposed offsite. Sludge is considered Class A and is given away for agricultural utilization, blending, or composting.

Chemical uses:

DelPAC 1525 (Aluminum Chloride) is added just prior to the final clarifiers for phosphorus removal.

Methanol is added prior to the denitrification pump station as a carbon source for complete denitrification in the filters.

Other Comments:

There are seven (7) non-categorical significant industrial/commercial users contributing to this treatment plant. The table below summarizes their contributions:

Name	Description	Discharge Rate (GPD)				
		Process	NCCW	Sanitary	Other	Total
J.C. Blair Memorial Hospital	Hospital	0	5,100	25,200	Boiler: 1,400	31,700
John R. Wald Company, Inc.	Manufacturer	0	0	110	0	110
Juniata College	College	0	0	28,400	Boiler: 4,200	32,600
State Correctional Ins.-Huntingdon	Prison	0	0	500,000	0	500,000
State Correctional Ins.-Smithfield	Prison	0	0	263,000	0	263,000
Superior Huntingdon Comp., LLC	Glass fiber Yarn Cont. Filament Mat. Manufacturing	33,000	0	1,200	0	34,200
Walker Township Municipal Auth.	Contributing public sewer sys. with past history of FOG problem (not in past 5 years)	0	0	108,200	0	108,200

Compliance History	
Summary of DMRs:	DMRs reported last 12 months from January 1, 2021 to December 31, 2021 are summarized in the Table below (Pages 8 thru 10).
Summary of Inspections:	7/7/2021: Mr. Clark, DEP WQS, conducted a combined sewer overflow (CSO) inspection. Inspection included records review and an examination of each CSO outfall and regulator. There were no violations noted. The facility is currently permitted for 5 CSOs. CSO 002 has not had a discharge in about 10 years and the gate has been kept shut, forcing all wastewater and stormwater to the plant. An extensive sewer line separation project in the 4th street area has resulted in the removal of CSO 006. CSOs (002 & 006) has discharged to the same point at the Juniata River, and requested to remove them from NPDES permit when it is renewed next year. Outfalls for CSOs (004 & 005) discharge into a tunnel leading to Muddy Run. CSO 003 discharges to a small unnamed tributary to the Juniata River. All CSO screens are being maintained and outfall areas appeared clear. 6/16/2021: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted. Treatment plant appeared to be operating properly, effluent clear, field tests results were within permit limits. Since last inspection, the media and support beams for one of the bio-towers was replaced, scum collection pipes were added to the final clarifiers, and transfer valve for the Automatic Thermophilic Aerobic Digestion (ATAD) system was replaced. 01/01/2021: Mr. Clark, DEP WQS, conducted an administrative review of the Huntingdon STP annual Chesapeake Bay report. There were no violations noted. The Department received a 2019-2020 annual DMR and Chesapeake Bay supplemental spreadsheet on November 18, 2020. The facility has achieved compliance with it's Nitrogen and Phosphorus annual loading limits for 2019-2020 compliance year.
Other Comments:	There are currently no open violations associated to the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	2.128	2.329	2.946	3.257	2.010	2.173	2.232	2.412	2.616	2.905	2.696	2.266
Flow (MGD) Daily Maximum	7.316	5.000	6.680	11.777	5.854	3.745	3.935	5.165	5.59	7.566	5.976	4.563
pH (S.U.) Minimum	7.1	7.2	7.2	7.1	7.1	6.9	7.0	7.1	7.0	7.3	7.3	7.1
pH (S.U.) Maximum	7.6	7.6	7.6	7.7	7.6	7.6	7.6	7.6	7.7	7.8	7.9	7.7
DO (mg/L) Minimum	5.5	5.2	5.1	5.3	5.0	5.2	5.2	5.2	5.2	5.2	5.5	5.0
CBOD5 (lbs/day) Average Monthly	< 85	< 59	< 64	< 555	< 74	< 67	< 63	< 93	< 90	< 152	< 89	< 62
CBOD5 (lbs/day) Weekly Average	< 156	< 93	< 73	1642	< 155	< 91	< 77	< 144	135	622	110	< 80
CBOD5 (mg/L) Average Monthly	< 5.0	< 3.0	< 3.0	< 9.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 5.0	< 4.0
CBOD5 (mg/L) Weekly Average	8.0	< 3.0	< 3.0	20.0	< 4.0	< 5.0	4.0	< 5.0	7.0	9.0	6.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1644	1714	1955	1321	2003	3155	1349	2107	1980	1762	2311	1896
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	2223	3399	3360	2110	3413	9890	1768	4500	3161	3237	6606	4108
BOD5 (mg/L) Raw Sewage Influent Average Monthly	102	91	90	58	121	150	80	97	94	70	115	114
TSS (lbs/day) Average Monthly	98.0	71.0	126.0	831.0	114.0	224.0	217.0	194.0	154.0	226.0	119.0	155.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	2633	1942	2896	2444	2843	3883	2588	2895	3256	3578	2613	1986
TSS (lbs/day) Raw Sewage Influent Daily Maximum	5003	3432	3378	4201	5322	8339	4737	3878	5128	4282	3841	2895
TSS (lbs/day) Weekly Average	264.0	119.0	168.0	2630.0	145.0	521.0	314.0	236.0	235.0	587.0	140.0	344.0
TSS (mg/L) Average Monthly	4.0	4.0	6.0	12.0	7.0	11.0	12.0	10.0	7.0	8.0	6.0	8.0

TSS (mg/L) Raw Sewage Influent Average Monthly	156	98	136	111	170	191	143	140	150	152	135	114
TSS (mg/L) Weekly Average	6.0	5.0	8.0	35.0	11.0	18.0	16.0	15.0	9.0	11.0	9.0	14.0
Fecal Coliform (No./100 ml) Geometric Mean	< 7	4	14	45	12	7	14	7	5	6	2.0	4
Fecal Coliform (No./100 ml) Instantaneous Maximum	39	9	78	750	20	32	59	38	16	178	4.0	7
UV Intensity (mW/cm²) Minimum	2.1	2	1.3	1.2	1.2	1.0	1.3	2.0	2.5	2.3	2.5	2.7
Nitrate-Nitrite (mg/L) Average Monthly	< 4.51	< 3.198	< 2.21	< 2.424	< 2.975	< 2.199	< 2.061	< 2.382	< 2.275	< 2.816	< 3.146	< 3.565
Nitrate-Nitrite (lbs) Total Monthly	< 2824.3	< 1962.1	< 1484.2	< 2613.5	< 1490.6	< 1327.5	< 1146.5	< 1606.4	< 1479.7	< 2382.6	< 1627.2	< 1890.5
Total Nitrogen (mg/L) Average Monthly	< 5.32	< 4.694	< 3.316	< 4.53	< 4.579	< 4.661	< 4.675	< 3.013	< 2.993	< 3.355	< 4.085	< 4.729
Total Nitrogen (lbs) Effluent Net Total Monthly	< 3268	< 2867.2	< 2186.7	< 5848.5	< 2358.2	< 2518.5	< 2590.9	< 2020.0	< 1935.3	< 2827	< 2110.7	< 2667.3
Total Nitrogen (lbs) Total Monthly	< 3268	< 2867.2	< 2186.7	< 5848.5	< 2358.2	< 2518.5	< 2590.9	< 2020.0	< 1935.3	< 2827	< 2110.7	< 2667.3
Total Nitrogen (lbs) Effluent Net Total Annual				< 34261.0								
Total Nitrogen (lbs) Total Annual				< 34261								
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.105	< 0.381	0.98	< 1.267	< 1.531	< 0.243	< 0.424	< 0.127	< 0.1	< 0.103
Ammonia (lbs) Total Monthly	< 61.5	< 59	< 67.7	< 528.7	520.5	< 636.4	< 768.2	< 159.8	< 277.5	< 103.6	< 55.6	< 57.6
Ammonia (lbs) Total Annual				< 5283								
TKN (mg/L) Average Monthly	< 0.809	< 1.496	1.106	< 2.093	< 1.592	< 2.461	< 2.614	< 0.614	< 0.636	< 0.54	< 0.939	< 1.164
TKN (lbs) Total Monthly	< 443.6	< 905.1	702.5	< 3226	< 862.6	< 1190.5	< 1444.5	< 404.3	< 415.8	< 444.4	< 483.5	< 776.8
Total Phosphorus (lbs/day) Average Monthly	17.62	17.2	21.7	39.4	16.2	17.19	16.14	23.49	20.38	22.65	11.44	5.46
Total Phosphorus (mg/L) Average Monthly	1.056	0.978	1.022	0.865	1.033	0.946	0.919	1.123	0.988	0.959	0.602	0.319

Total Phosphorus (lbs) Effluent Net Total Monthly	546.4	516.5	671	1181.2	500.8	532.6	484.7	727.7	611.4	702	320.2	169.5
Total Phosphorus (lbs) Total Monthly	546.4	516.5	671	1181.2	500.8	532.6	484.7	727.7	611.4	702	320.2	169.5
Total Phosphorus (lbs) Effluent Net Total Annual				6747.0								
Total Phosphorus (lbs) Total Annual				6747								

DMR Data for Outfall 008 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
TSS (mg/L) Daily Maximum	4.00						2.60					
Oil and Grease (mg/L) Daily Maximum	< 5.00						< 5.00					

DMR Data for Outfall 009 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
TSS (mg/L) Daily Maximum	4.60						< 0.800					
Oil and Grease (mg/L) Daily Maximum	< 5.00						< 5.00					

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 4.0
Latitude 40º 28' 33.27" **Longitude** -78º 0' 5.54"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments:

Water Quality-Based Limitations

WQM 7.0:

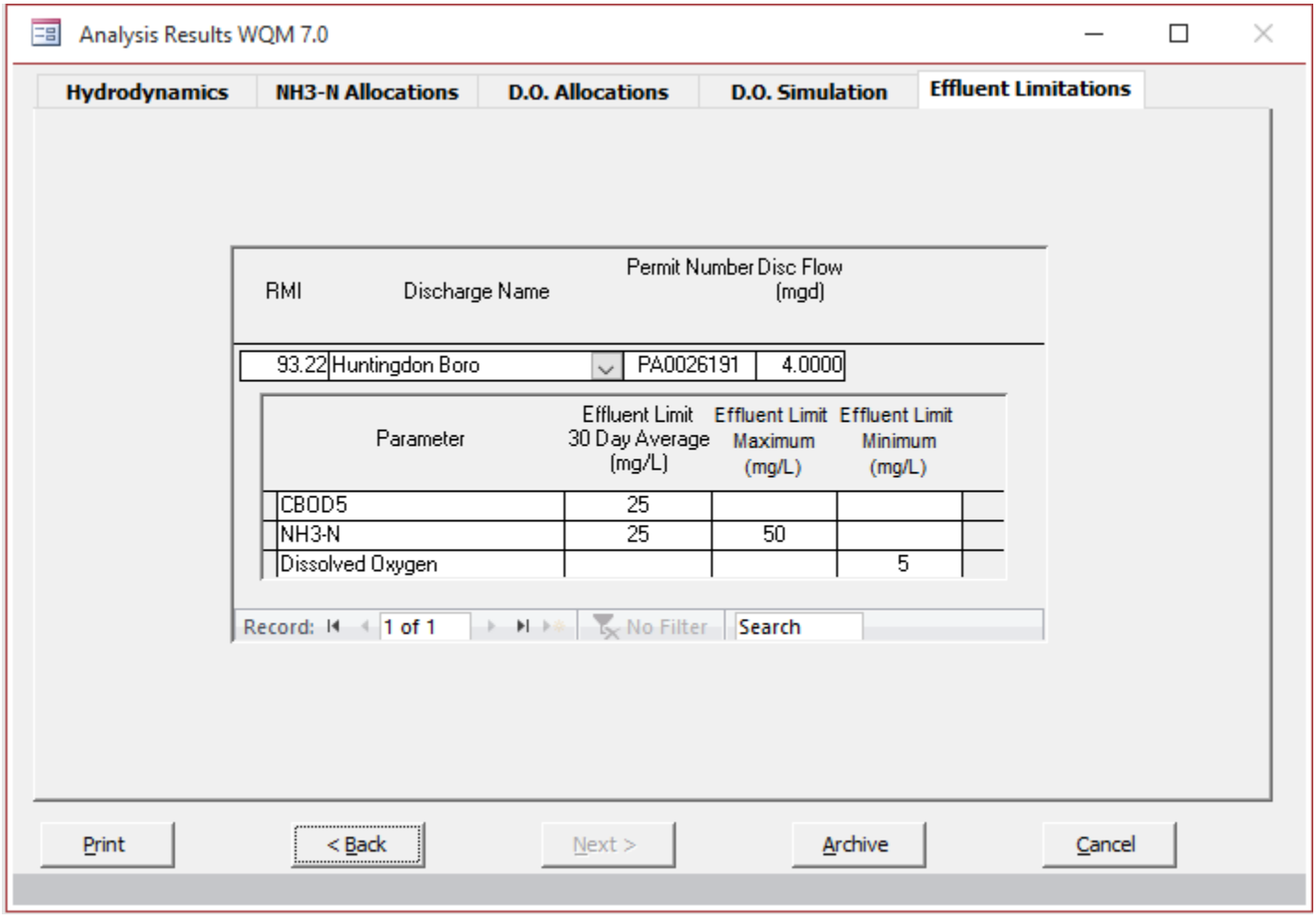
The following data were used in the attached computer model (WQM 7.0) of the stream:

- Discharge pH 7.0 (Default)
- Discharge Temperature 25°C (Default)
- Stream pH 7.0 (Default)
- Stream Temperature 20°C (Default)

The following three nodes were used in modeling:

Node 1: Outfall 001 at Juniata River (11414)
- Elevation: 597 ft (USGS)
- Drainage Area: 979 $mi.^2$ (StreamStats)
- River Mile Index: 93.22 (PA DEP eMapPA)
- Low Flow Yield: 0.15 $cfs/mi.^2$
- Discharge Flow: 4.0 MGD

Node 2: At the confluence with Raystown Branch Juniata River (13349)
- Elevation: 585 ft (USGS)
- Drainage Area: 991 $mi.^2$ (StreamStats)
- River Mile Index: 91.33 (PA DEP eMapPA)
- Low Flow Yield: 0.15 $cfs/mi.^2$
- Discharge Flow: 0.00 MGD



Ammonia (NH_3-N):
Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 25.0 mg/L NH_3-N as a monthly average (AML) and 50.0 mg/L NH_3-N instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects. Recent DMR data show that the plant is discharging NH_3-N well below 25.0 mg/l year-round. Therefore, no NH_3-N limits are proposed in this renewal permit.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit (AML) of 25.0 mg/L, 40.0 mg/L AWL, & 50.0 mg/L IMAX will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has typically been achieving concentrations below this limit. Mass limits are calculated as follows:

Average monthly mass limit: 25.0 mg/L x 4.0 MGD x 8.34 = 834 (830) lbs/day
Average weekly mass limit: 40.0 mg/L x 4.0 MGD x 8.34 = 1,334 (1,330) lbs/day

Dissolved Oxygen (D.O.):
The D.O. goal is 6.0 mg/L. However, a minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained in the proposed permit to ensure the protection of water quality standards. This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BPNPSM-PMT-033 and has been applied to other point source dischargers throughout the state.

Fecal Coliform:
The recent coliform guidance in 25 Pa. code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and 25 Pa. Code § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

E. Coli:
As recommended by DEP's SOP no. BPNPSM-PMT-033, a routine monitoring for E. Coli will be included in the permit under 25 Pa. Code §92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/month will be included in the permit to be consistent with the recommendation from this SOP.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units (S.U.) according to 25 Pa. Code § 95.2(1).

UV:
The UV system monitor and report the UV intensity (mW/cm^2) after update to replace chlorine disinfection to UV disinfection system will remain in the proposed permit.

Toxics:
The data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration 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.

Pollutant testing results on the current (2021) application were reviewed in comparison with DEP's Toxic Management Spreadsheet, version 1.3, March 2021, output recommends a routine monitoring requirement for Total Aluminum (Al), Total Copper (Cu), and Total Mercury (Hg). Therefore, monitoring requirements for these parameters are added in the proposed permit.

Total Phosphorus:
The discharge is into a stream segment of Juniata River. DEP's phosphorus guidance (BPNPSM-PMT-033, version 1.5. revised August 23, 2013) mentions that "(a) Phosphorus controls for waste discharges to streams shall be established, under subsection (b) whenever the Department determines that instream phosphorus, alone or in combination with other pollutants or instream conditions, contribute to impairment of designated uses as defined in Chapter 93 (relating to water quality standard). No determination made under this subsection shall constitute a final Department action with respect to any person until a specific treatment or control requirement is imposed under subsection (b)." Since Juniata River doesn't have instream phosphorus related impairment, local phosphorus limit is not necessary at this time. This determination may be re-evaluated in next permit term if regulation demands.

Chesapeake Bay:
In the Phase 3 WIP Wastewater Supplement revised on September 13, 2021, Table 5 of this document shows that Huntingdon Borough has been allocated 73,058 lbs/year of TN and 9,741 lbs/year of TP. This approach is consistent with the Chesapeake Bay TMDL, based on the actual performance data previously evaluated by the Department. Since the permittee is easily capable of achieving compliance with these loads, the Department determines that no "compliance schedule" for the requirements associated with the Chesapeake Bay Strategy is necessary. Accordingly, the Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

This facility is currently a significant discharger. Therefore, the facility's waste load allocation (WLA) will be tracked under an individual WLA as a significant discharger in the Phase 2 WIP Wastewater Supplement. Monitoring frequency for TN constituents will be remained in the proposed permit.

Additional Considerations

Flow Monitoring
Flow monitoring is recommended by the permit guidance and is also required by 25 Pa. Code §§ 92a.27 and 92a.61.

Influent Monitoring

As a result of negotiation with EPA, influent monitoring of TSS and BOD_5 are required for any POTWs; therefore, influent sampling of BOD_5 and TSS will be included in the draft permit. A 24-hr composite sample type will be required to be consistent with the proposed sampling frequency for TSS and $CBOD_5$ in the effluent.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants is necessary under the following DEP Central Office directive:

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

- *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*
- *Where the concentration of bromide in a discharge exceeds 1.0 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

The facility has no record of monitoring these pollutants. However, the application shows a maximum influent concentration of 35.2 mg/L for TDS. The effluent concentration is not expected to exceed 1,000 mg/L. No monitoring is necessary.

303d Listed Streams:

The discharge from this facility is to Juniata River which is assessed as attaining its designated uses.

Antidegradation (93.4):

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries:

No Class A Wild Trout Fisheries are impacted by this discharge.

Biosolids Management:

Primary sludge and trickling filter- slough are pumped to one of two (2) holding tanks. The sludge is the either pumped to the Autothermal Thermophilic Aerobic Digestion (ATAD) system or a rotary drum thickener before dropped into the ATAD tank, which is followed by a Storage Nitrification Denitrification Reactor (SNDR). The liquid SNDR sludge is conditioned with DelPAC 1525 prior to dewatering with a rotary screen press. Cake solids are stored on a covered storage pad until disposed offsite. Sludge is considered Class A and is given away for agricultural utilization, blending, or composting. Beneficial use and Land Application of Exceptional Quality Biosolids are permitted under PAG-073520 which issued date May 4, 2017, respectively.

The total sewage sludge / biosolids produced and received is 180.68 dry tons. The facility recently initiated a sludge sale or give-away in a bag or other container for land application by individuals. The total generated at the facility is 163.91 dry metric tons per year (180.68 Dry Tons × 0.90718).

The facility also receives hauled in sludge from Greenwood Furnace State Park located in 15795 Greenwood Road, Huntingdon, PA 16652. A total of 0.45 dry metric tons per year WWTP Sewage Sludge and 8.06 dry metric tons per year Septage Various Sites.

Pretreatment:

Huntingdon Borough is participating EPA approved pre-treatment program. The significant non-categorical industries are listed on page 7 of this report. Standard language for industrial pretreatment program implementation will be included in Part C. A review of the letter issued by EPA regarding "Industrial Pretreatment Program-2019 Annual Report Review" indicated the facility earned an overall rating of 100% which is category 1.

Combined Sewer Overflow (CSO):

There were five (5) approved CSO outfalls for this facility. They are numbered as Outfall # 002 through Outfall # 006. However, the NPDES renewal application submitted in 8/2021 requested to remove the two (2) CSO outfalls # 002 (Regulator No. 1 has been disassembled, closed at all times, and is no longer in use; ref letter dated 6/7/2021) & # 006

(which is under contract eliminated in August 2021). Therefore, the facility has three (3) CSO outfalls # 003, # 004, & # 005 which will remain in the proposed permit. The details are summarized in the Table below.

Outfall	Latitude			Longitude			Location	Receiving Stream	Designated Use	Notes
CSO 002 Regulator No. 1	40	28	49.66	-78	0	16.93	Adjacent to Penn St. along Standing Stone Creek	Juniata River at confluence of Standing Stone Creek	WWF	Removed CSO No. 002 and Regulator No.1 closed (ref. letter dated 6/7/2021)
CSO 003 Regulator No. 2	40	29	36.99	-78	1	22.71	Old Ice Plant Rd. adjacent to RR tracks	Juniata River	WWF	
CSO 004 Diversion Structure	40	29	9.02	-78	0	52.02	7th & Penn Streets	Muddy Run	WWF	
CSO 005 Diversion Structure	40	29	12.00	-78	0	54.00	16th & Oneida Street	Muddy Run	WWF	
CSO 006 Diversion Structure	40	28	52.00	-78	0	17.00	4th & Allegheny Streets	Juniata River at Confluence of Standing Stone Creek	WWF	Removed CSO 006 due to contract eliminated in 8/2021

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0
Latitude 40º 29' 36.99" **Longitude** -78º 1' 22.71"
Wastewater Description: Combined Sewer Overflow

Outfall No. 004 **Design Flow (MGD)** 0
Latitude 40º 29' 9.02" **Longitude** -78º 0' 52.02"
Wastewater Description: Combined Sewer Overflow

Outfall No. 005 **Design Flow (MGD)** 0
Latitude 40º 29' 12.00" **Longitude** -78º 0' 54.00"
Wastewater Description: Combined Sewer Overflow

Dry weather bypass is not authorized. Wet weather overflow is authorized as follows.

The practice of keeping the Regulator No.1 gate closed has reduced the amount of CSO's discharge to the Juniata River. In 2020 the total combined sewage discharged to the river for the year was estimated to be rainfall of 34.45-inches equivalent with total of 17.07 MG and number of 130 overflows (Tables below), which compares to the average number of recorded overflows in the last five years of 164 overflows per year. The following tables are generated from permittee's 2020 Ch. 94 report:

Month	Rainfall (inch)	Outfall 002 (MG)	Outfall 003 (MG)	Outfall 004 (MG)	Outfall 005 (MG)	Outfall 006 (MG)	Total (MG)
January	2.62	0.000	0.528	0.451	0.004	0.054	1.037
February	2.09	0.000	0.398	0.418	0.000	0.003	0.819
March	4.78	0.000	1.222	1.356	0.065	0.118	2.761
April	4.55	0.000	0.629	0.437	0.000	0.193	1.259
May	1.49	0.000	0.001	0.016	0.000	0.066	0.083
June	3.84	0.000	0.174	0.595	0.000	1.181	1.95
July	0.92	0.000	0.025	0.021	0.000	0.011	0.057
August	2.65	0.000	0.061	0.427	0.000	1.06	1.548
September	1.99	0.000	0.083	0.165	0.000	0.048	0.296
October	3.17	0.000	0.470	0.672	0.000	0.024	1.166
November	3.23	0.000	0.373	1.103	0.000	0.181	1.657
December	3.12	0.000	1.345	2.739	0.343	0.01	4.437
Total	34.45	0.000	5.309	8.4	0.412	2.949	17.07

Month	Outfall 002	Outfall 003	Outfall 004	Outfall 005	Outfall 006	Total
January	0	3	3	1	2	9
February	0	4	4	0	2	10
March	0	9	8	1	3	21
April	0	5	5	0	3	13
May	0	1	1	0	1	3
June	0	7	8	0	6	21
July	0	3	2	0	1	6
August	0	6	5	0	6	17
September	0	2	2	0	2	6
October	0	1	2	0	2	5
November	0	5	5	0	3	13
December	0	2	2	1	1	6
Total	0	48	47	3	32	130

In 2020, the total combined sewage discharged to the river was estimated to be 17.07 MG which represented 8% of the total combined sewage. So, 92% of the combined sewage was estimated to be captured compared to 89.6% in 2019 and 93% in 2018 meeting the 85% requirement. There were several dry weather overflows that occurred during last five years. The permittee mentioned that the overflows were due to hydrant flushing in the area, blockage in the sewer etc. The permittee informed DEP regarding the overflows on time. The Combined Sewer Overflow Long Term Control Plan Updated 2017 was prepared by GHD's Huntingdon Borough consultant dated March 27, 2017 as follows:

- Update the combined sewer system map to show:
    - The area encompassed by each combined sewer basin.
    - The sanitary sewer basins tributary to each combined sewer basin.
    - The major trunk sewers and interceptors.
    - The outfall numbers
- Update the Long-Term Control Plan Operations Plan to include how the De-Nitrification filter and the Trickling Filter bypasses are used. Such as, the Borough of Huntingdon Wastewater Treatment Plant staff follows the following procedure when anticipating wet weather.
    - Monitor the weather report daily.
    - In advance of a wet weather event, backwash all denitrification filter cells.
    - Throughout the wet weather event operate the filters in the semi-automatic mode and refrain from backwashing filter units.
    - When a wet weather event ceases and flows return to normal, backwash all four filter cells and return to normal operation.
- Update the Plan regarding current regulator operations. Such as, the Regulator No. 1 always keeps closed, and the Regulator No. 2 is open at all time.

Whole Effluent Toxicity Testing (WETT):

The permittee submitted four (4) WET Test results during the submission of the renewal application. The details are under WET section below of this fact sheet. In summary, all four (4) WETT results are "Passing" which do not necessitate the inclusion of WET parameters; however, WETT requirement will remain in the proposed permit to submit four (4) WETT results during next permit renewal. The dilution series is updated.

Whole Effluent Toxicity (WET)

For Outfall , ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☒ 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%, 60%, 30%, 4%, and 2%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 4%.

Summary of Four Most Recent Test Results

(NOTE – Enter results into one table, depending on which data analysis method was used).

NOEC/LC50 Data Analysis

Test Date	*Ceriodaphnia* Results (% Effluent)			*Pimephales* Results (% Effluent)			Pass? *
	NOEC Survival	NOEC Reproduction	LC50	NOEC Survival	NOEC Growth	LC50	
4/10/2018	100	100	>100	100	100	>100	Yes
4/9/2019	100	100	>100	100	100	>100	Yes
3/10/2020	100	100	>100	100	100	>100	Yes
3/30/2021	100	100	>100	100	100	>100	Yes

***** *A "passing" result is that which is greater than or equal to the TIWC 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:

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **0.108** Chronic Partial Mix Factor (PMFc): **0.751**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(4.0 MGD x 1.547) / ((142 cfs x 0.108) + (4.0 MGD x 1.547))] x 100 = **28.75%**

Is IWCa < 1%? ☐ **YES** ☒ **NO** **(YES - Acute Tests Required OR NO - Chronic Tests 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:

2a. Determine Target IWCa (If Acute Tests Required)

TIWCa = IWCa / 0.3 = **%**

2b. Determine Target IWCc (If Chronic Tests Required)

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(4.0 MGD x 1.547) / ((142cfs x 0.751) + (4.0 MGD x 1.547))] x 100 = **5.48%**

3. Determine Dilution Series

(NOTE – check Attachment C of WET SOP for dilution series based on TIWCa or TIWCc, whichever applies).

Dilution Series = 100%, 71%, 42%, 21%, and 11%.

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO

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

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

WET Summary and Evaluation

Facility Name	Huntingdon WWTP
Permit No.	PA0026191
Design Flow (MGD)	1.788
Q_{7-10} Flow (cfs)	3.76
PMF_a	0.728
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	4/10/18	4/9/19	3/10/20	3/30/21
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	4/10/18	4/9/19	3/10/20	3/30/21
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	4/10/18	4/9/19	3/10/20	3/30/21
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	4/10/18	4/9/19	3/10/20	3/30/21
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**42** % Effluent
Dilution Series	**11, 21, 42, 71, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.04
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.2

Facility Name: Huntingdon WWTP

Permit No.: PA0026191

Replicate No.	Test Completion Date: 4/10/2018 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 4/9/2019 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/10/2020 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/30/2021 Control	TIWC
1	0	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	0	0
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	0.800	0.900
Std Dev.	0.422	0.316
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.04
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Huntingdon WWTP

Permit No.: PA0026191

Replicate No.	Test Completion Date 4/10/2018 Control	TIWC
1	31	31
2	29	25
3	27	28
4	23	26
5	22	30
6	22	26
7	31	30
8	29	37
9	36	37
10	36	38
11		
12		
13		
14		
15		
Mean	28.600	30.800
Std Dev.	5.190	4.917
# Replicates	10	10
T-Test Result	4.7148	
Deg. of Freedom	16	
Critical T Value	0.8647	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 4/9/2019 Control	TIWC
1	27	24
2	26	32
3	30	27
4	26	15
5	28	32
6	26	27
7	27	28
8	33	25
9	24	24
10	22	27
11		
12		
13		
14		
15		
Mean	26.900	26.100
Std Dev.	3.035	4.818
# Replicates	10	10
T-Test Result	3.5163	
Deg. of Freedom	14	
Critical T Value	0.8681	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/10/2020 Control	TIWC
1	27	20
2	25	26
3	26	19
4	23	18
5	20	25
6	23	20
7	33	20
8	22	22
9	23	36
10	24	29
11		
12		
13		
14		
15		
Mean	24.600	23.500
Std Dev.	3.565	5.622
# Replicates	10	10
T-Test Result	2.5650	
Deg. of Freedom	14	
Critical T Value	0.8681	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/30/2021 Control	TIWC
1	0	9
2	17	24
3	25	14
4	15	16
5	27	26
6	30	29
7	2	2
8	27	19
9	19	27
10	31	28
11		
12		
13		
14		
15		
Mean	19.300	19.400
Std Dev.	11.046	9.070
# Replicates	10	10
T-Test Result	1.2678	
Deg. of Freedom	17	
Critical T Value	0.8633	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.04
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Huntingdon WWTP

Permit No.: PA0026191

Replicate No.	Test Completion Date: 4/10/2018 Control	TIWC	Test Completion Date: 4/9/2019 Control	TIWC
1	0.9	1	1	1
2	1	1	1	0.9
3	0.9	1	1	1
4	0.9	1	1	1
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.925	1.000	1.000	0.975
Std Dev.	0.050	0.000	0.000	0.050
# Replicates	4	4	4	4
T-Test Result	28.1497		17.8623	
Deg. of Freedom	3		3	
Critical T Value	0.7649		0.7649	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 3/10/2020 Control	TIWC
1	1	0.4
2	1	0.9
3	1	0.6
4	1	0.8
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.675
Std Dev.	0.000	0.222
# Replicates	4	4
T-Test Result	0.8180	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/30/2021 Control	TIWC
1	1	1
2	1	1
3	1	0.8
4	1	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.925
Std Dev.	0.000	0.096
# Replicates	4	4
T-Test Result	8.0674	
Deg. of Freedom	3	
Critical T Value	0.7649	
Pass or Fail	PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.04
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Huntingdon WWTP

Permit No.: PA0026191

Replicate No.	Test Completion Date: 4/10/2018 Control	TIWC
1	0.288	0.231
2	0.248	0.319
3	0.247	0.301
4	0.225	0.284
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.252	0.284
Std Dev.	0.026	0.038
# Replicates	4	4
T-Test Result	4.4319	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 4/9/2019 Control	TIWC
1	0.317	0.346
2	0.352	0.329
3	0.383	0.358
4	0.329	0.364
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.345	0.349
Std Dev.	0.029	0.015
# Replicates	4	4
T-Test Result	6.7638	
Deg. of Freedom	5	
Critical T Value	0.7267	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/10/2020 Control	TIWC
1	0.446	0.397
2	0.4889	0.314
3	0.444	0.423
4	0.45	0.403
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.457	0.384
Std Dev.	0.021	0.048
# Replicates	4	4
T-Test Result	1.6302	
Deg. of Freedom	4	
Critical T Value	0.7407	
Pass or Fail	PASS	

Replicate No.	Test Completion Date 3/30/2021 Control	TIWC
1	0.477	0.481
2	0.424	0.545
3	0.478	0.399
4	0.47	0.55
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.462	0.494
Std Dev.	0.026	0.071
# Replicates	4	4
T-Test Result	4.0213	
Deg. of Freedom	4	
Critical T Value	0.7407	
Pass or Fail	PASS	

Stormwater Outfalls:

The renewal application indicated that there are two stormwater outfalls associated with this WWTP. The details are below:

Outfall	Latitude			Longitude			Receiving Stream	Designated use	Drainage Area (ft^2)
008	40	28	33.9	-78	00	9.5	Dry Swale to Juniata River	WWF, MF	Combined: Grass = 98,793 sf Impervious = 101,181 sf
009	40	28	33.8	-78	00	8.9	Onsite Rain Garden Overflow to Juniata River	WWF, MF	

Permit application indicated that there are no open tanks and chemical spills are unlikely in the vicinity of Storm Water outfalls. Stormwater near chemical tanks drain to headworks or contain sumps that must be pumped out. Structural control measures include duckbill check valve, rip rap, and sump pump. 40 CFR § 122.26(b)(14)(ix) indicated that any treatment facility treating domestic sewage and have a design flow of >1.0 MGD are required to have coverage under Stormwater general permit, PAG03. The activities under SIC code 4952 is covered under PAG03 Appendix J. Even though the application indicated that outfall 009 discharges to onsite rain garden, there is a potential that it may overflow and discharge to nearby stream. Therefore, it is recommended that this renewal will include monitoring requirements as specified in Appendix J of PAG03.

Development of Effluent Limitations

Outfall No. 008 **Design Flow (MGD)** 0
Latitude 40º 28' 33.90" **Longitude** -78º 0' 9.50"
Wastewater Description: Stormwater

Outfall No. 009 **Design Flow (MGD)** 0
Latitude 40º 28' 33.80" **Longitude** -78º 0' 8.90"
Wastewater Description: Stormwater

DEP's "Authorization to discharge under the NPDES General Permit for discharges of Stormwater Associated with Industrial Activity" (document ID: 3850-PM-BCW0083d, revised 9/2016) Appendix J (additional facilities) requires monitoring of the following parameters:

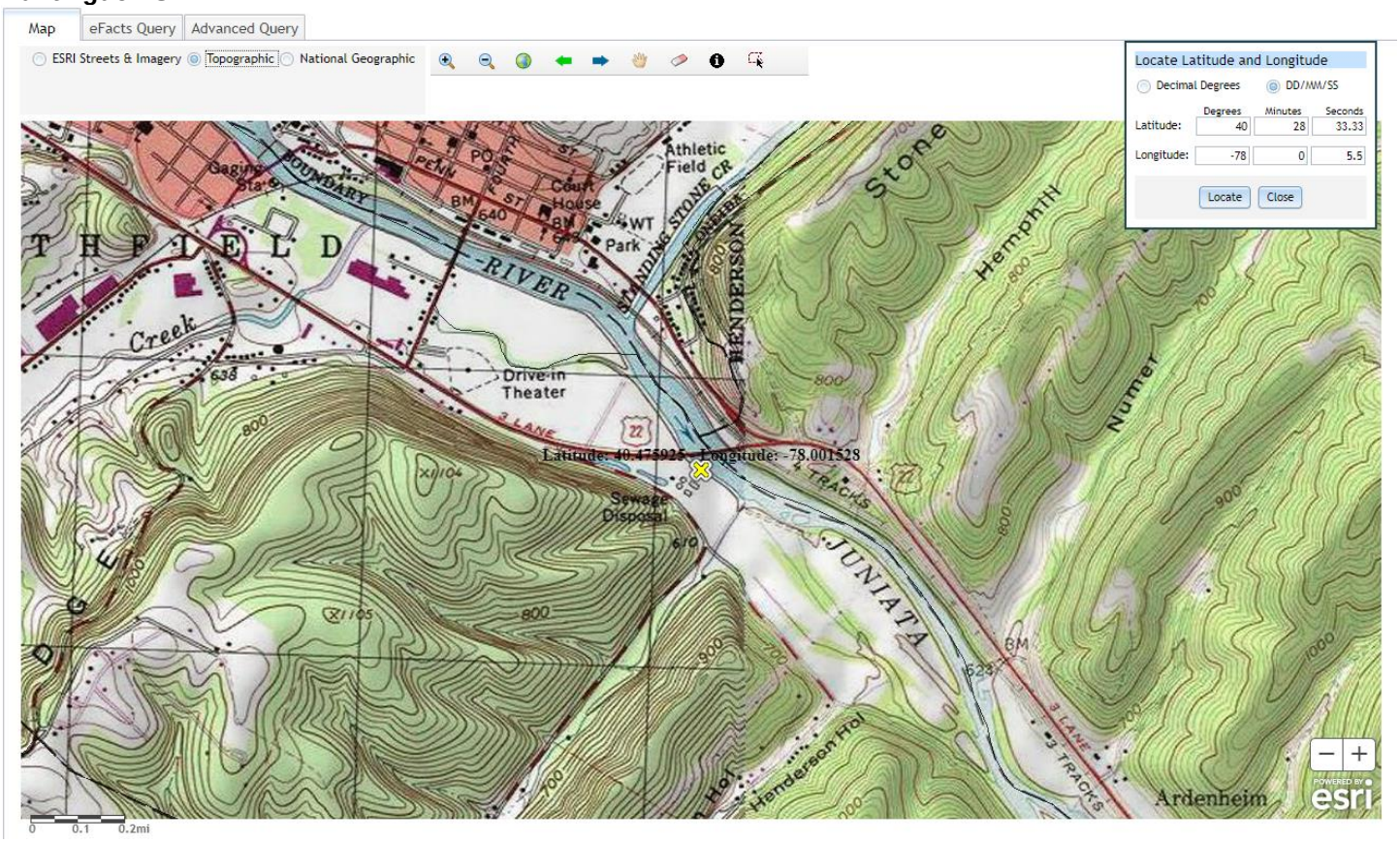
Parameter	Monitoring Requirements (1)		Benchmark Values
	Minimum Measurement Frequency (2)	Sample Type	
Total Suspended Solids (TSS) (mg/l)	1/6 months	Grab	100
Oil and Grease (mg/l)	1/6 months	Grab	30

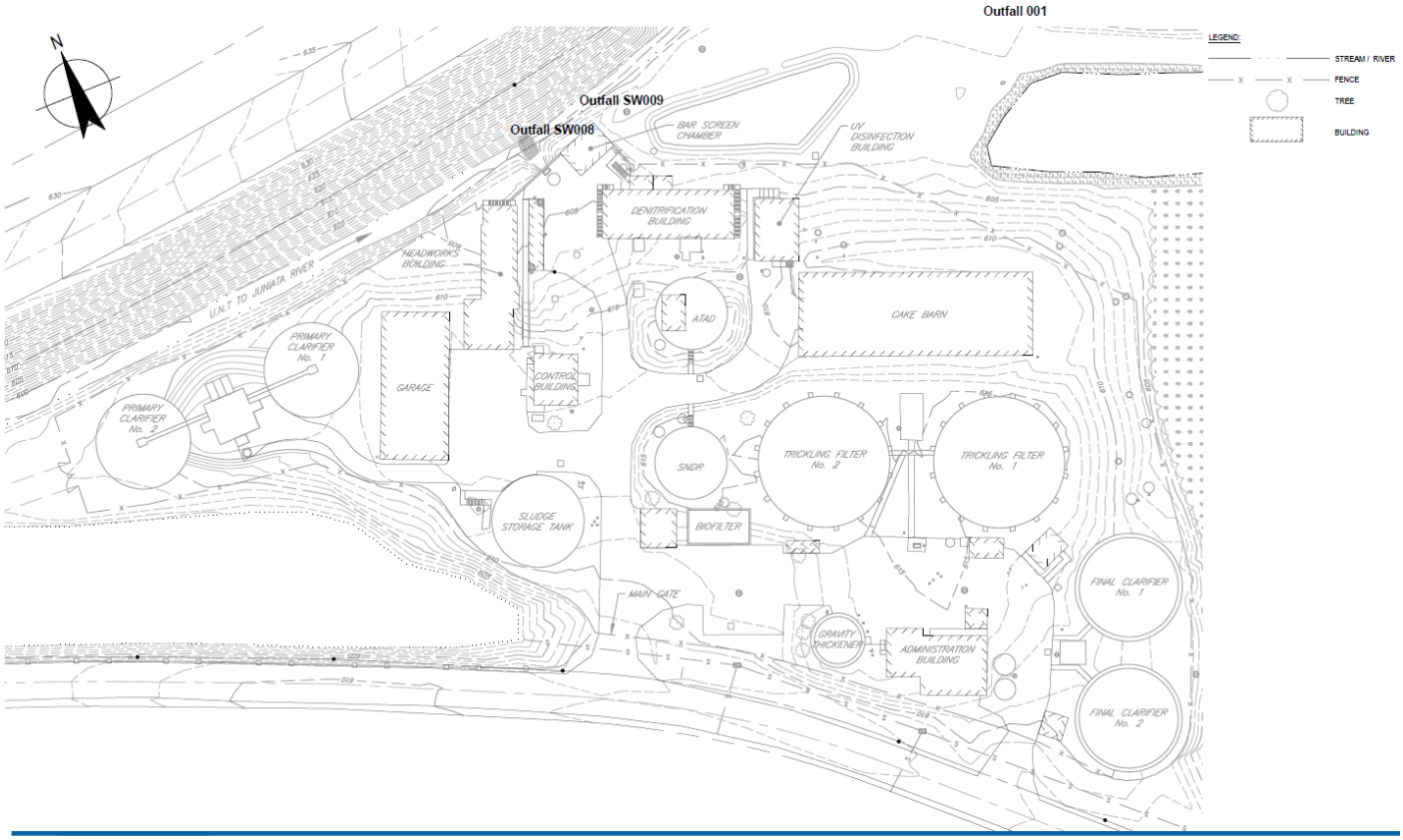
Footnotes:

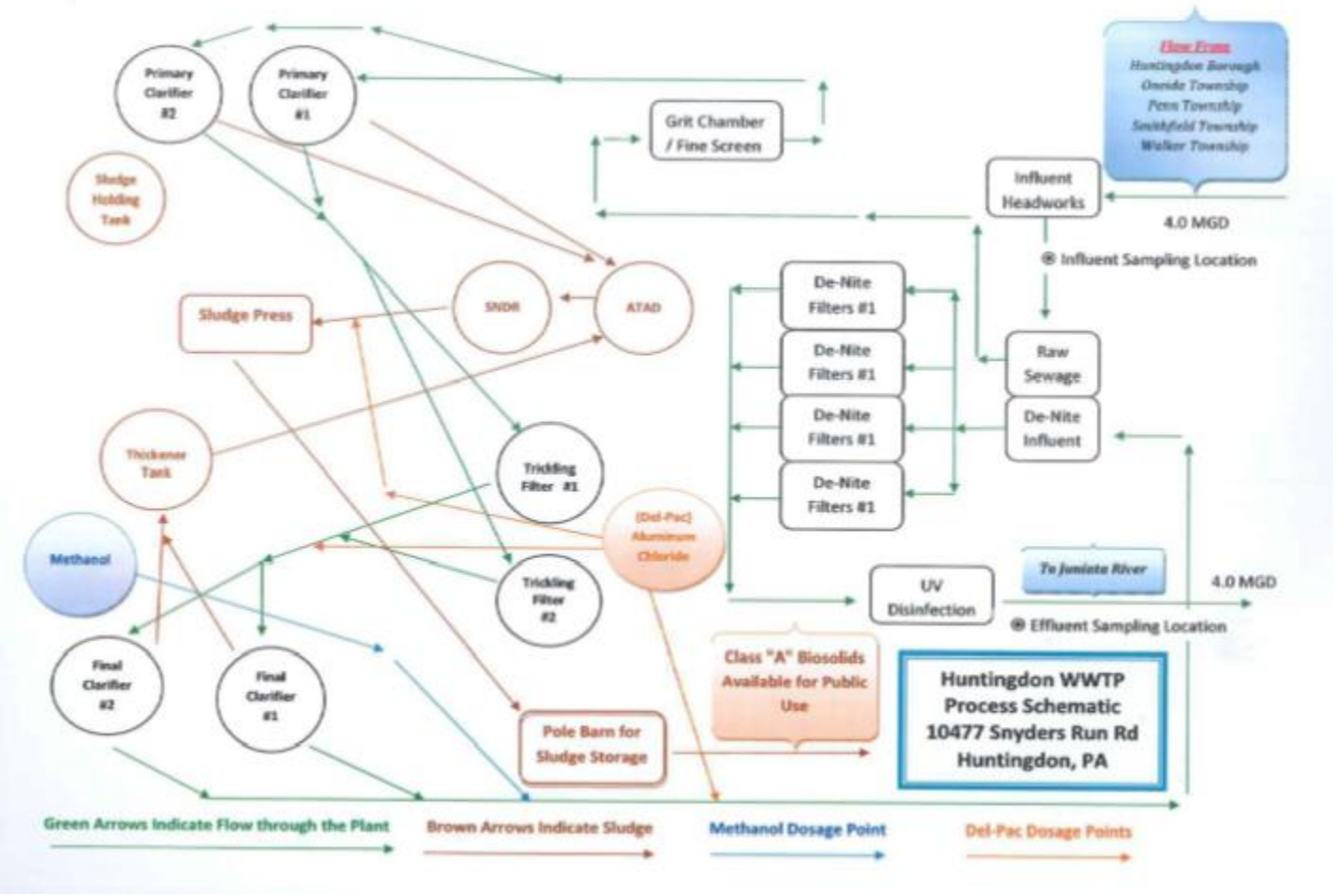
(1) In accordance with Part C V.B, the permittee shall conduct additional monitoring if specified by DEP in the letter authorizing permit coverage or other correspondence.

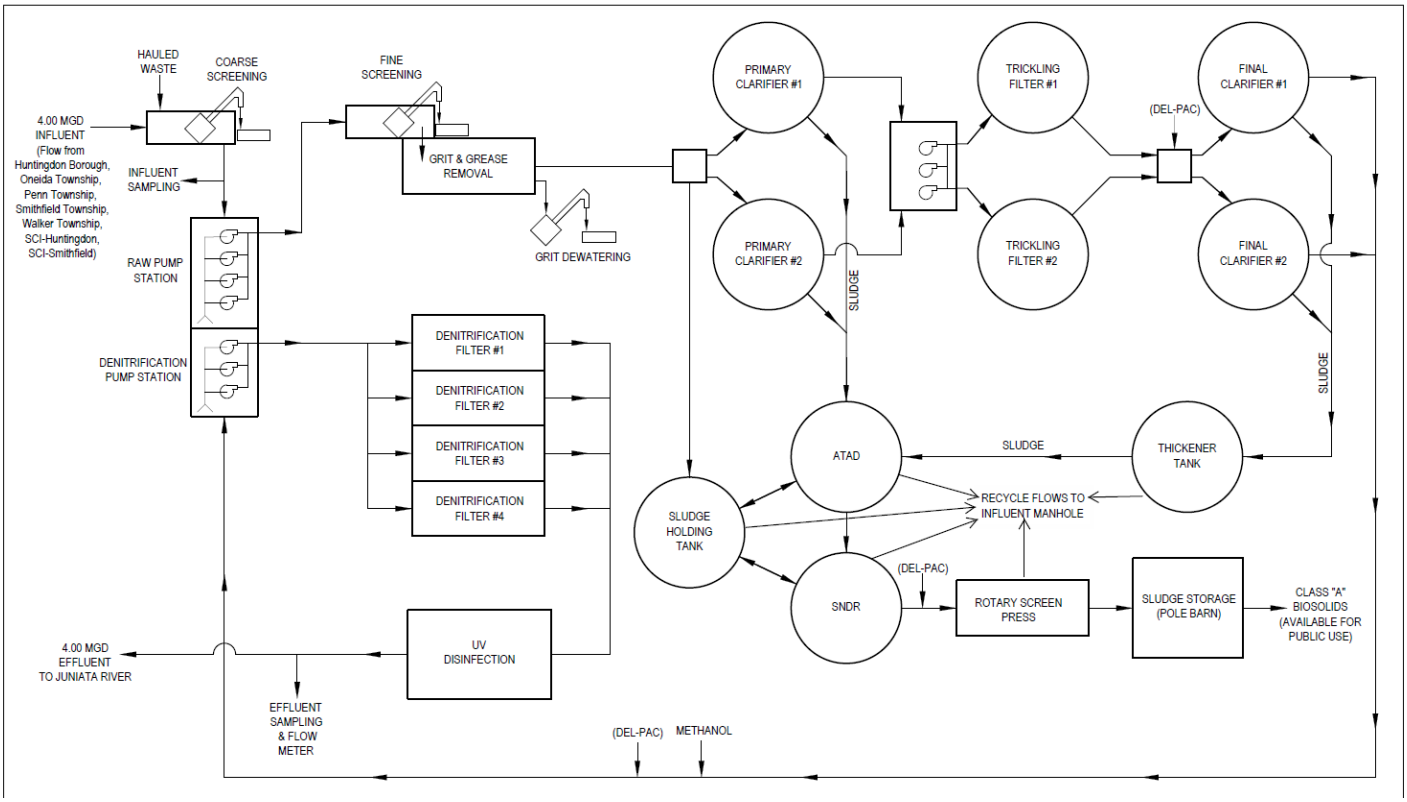
(2) This is the minimum number of sampling events required. Permittees are encouraged to perform more than the minimum number of sampling events.

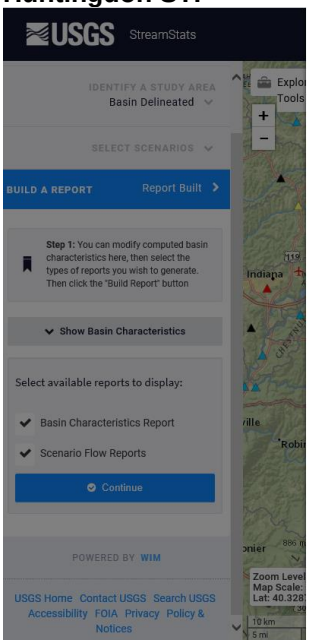
The permittee must monitor and report analytical results for the parameters listed above on Discharge Monitoring Reports (DMRs) for representative outfalls, subject to footnotes provided. The benchmark values listed above are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan. The benchmark values will be included in Part C of the permit.


Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude: 40 28 33.33
Longitude: -78 0 5.5
Locate
Close
Latitude: 40.475925 Longitude: -78.001528
Drive-in Theater
Sewage Disposal
Athletic Field
Court House
Park
Gaging Sta
Creek
RIVER
JUNIATA
HENDERSON
Hemphill
Numer
Stone
Henderson Hol
Ardenheim
3 LANE
4 TRACKS
0 0.1 0.2mi


Outfall 001
Outfall SW009
Outfall SW008
LEGEND:
STREAM / RIVER
FENCE
TREE
BUILDING
BAR SCREEN CHAMBER
UV DISINFECTION BUILDING
DENITRIFICATION BUILDING
HEADWORKS BUILDING
U.N.T TO JUNIATA RIVER
PRIMARY CLARIFIER No. 1
PRIMARY CLARIFIER No. 2
GARAGE
CONTROL BUILDING
ATAD
CAKE BARN
SNDR
TRICKLING FILTER No. 2
TRICKLING FILTER No. 1
SLUDGE STORAGE TANK
BIOFILTER
MAIN GATE
GRAVITY THICKENER
ADMINISTRATION BUILDING
FINAL CLARIFIER No. 1
FINAL CLARIFIER No. 2


Primary Clarifier #2
Primary Clarifier #1
Sludge Holding Tank
Grit Chamber / Fine Screen
Flow From
Huntingdon Borough
Oneida Township
Penn Township
Smithfield Township
Walker Township
Influent Headworks
4.0 MGD
Influent Sampling Location
Sludge Press
SNDR
ATAD
De-Nite Filters #1
De-Nite Filters #1
De-Nite Filters #1
De-Nite Filters #1
Raw Sewage
De-Nite Influent
Thickener Tank
Trickling Filter #1
[Del-Pac] Aluminum Chloride
Methanol
Trickling Filter #2
UV Disinfection
To Juniata River
4.0 MGD
Effluent Sampling Location
Final Clarifier #2
Final Clarifier #1
Class "A" Biosolids Available for Public Use
Huntingdon WWTP
Process Schematic
10477 Snyders Run Rd
Huntingdon, PA
Pole Barn for Sludge Storage
Green Arrows Indicate Flow through the Plant
Brown Arrows Indicate Sludge
Methanol Dosage Point
Del-Pac Dosage Points


HAULED WASTE
COARSE SCREENING
FINE SCREENING
4.00 MGD INFLUENT (Flow from Huntingdon Borough, Oneida Township, Penn Township, Smithfield Township, Walker Township, SCI-Huntingdon, SCI-Smithfield)
INFLUENT SAMPLING
GRIT & GREASE REMOVAL
GRIT DEWATERING
RAW PUMP STATION
DENITRIFICATION PUMP STATION
DENITRIFICATION FILTER #1
DENITRIFICATION FILTER #2
DENITRIFICATION FILTER #3
DENITRIFICATION FILTER #4
PRIMARY CLARIFIER #1
PRIMARY CLARIFIER #2
TRICKLING FILTER #1
TRICKLING FILTER #2
(DEL-PAC)
FINAL CLARIFIER #1
FINAL CLARIFIER #2
SLUDGE
SLUDGE
ATAD
SLUDGE
THICKENER TANK
SLUDGE HOLDING TANK
RECYCLE FLOWS TO INFLUENT MANHOLE
(DEL-PAC)
SNDR
ROTARY SCREEN PRESS
SLUDGE STORAGE (POLE BARN)
CLASS "A" BIOSOLIDS (AVAILABLE FOR PUBLIC USE)
4.00 MGD EFFLUENT TO JUNIATA RIVER
UV DISINFECTION
EFFLUENT SAMPLING & FLOW METER
(DEL-PAC)
METHANOL



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	979	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.79	miles per square mile
ROCKDEP	Depth to rock	4.7	feet
CARBON	Percentage of area of carbonate rock	29.93	percent

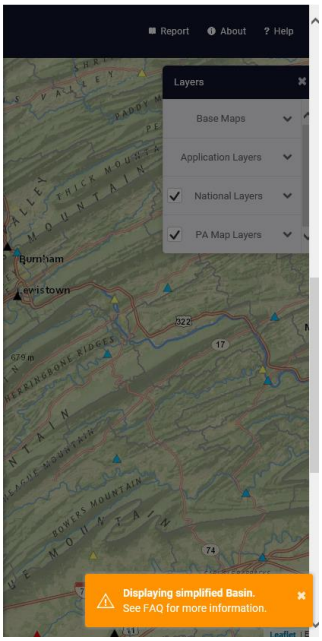
Low-Flow Statistics Parameters [100.0 Percent (979 square miles) Low Flow Region 2]

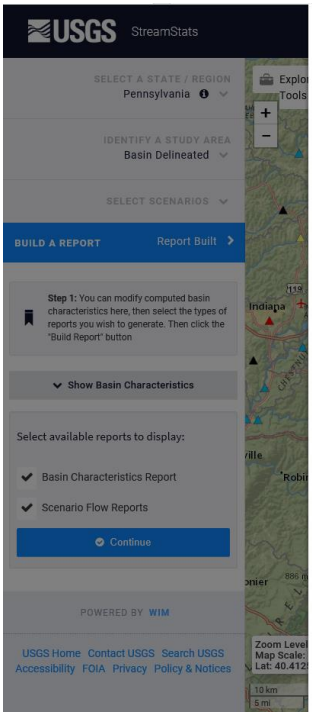
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	979	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.79	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.7	feet	3.32	5.65
CARBON	Percent Carbonate	29.93	percent	0	99

Low-Flow Statistics Flow Report [100.0 Percent (979 square miles) Low Flow Region 2]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	207	ft^3/s	38	38
30 Day 2 Year Low Flow	244	ft^3/s	33	33
7 Day 10 Year Low Flow	142	ft^3/s	51	51
30 Day 10 Year Low Flow	167	ft^3/s	46	46
90 Day 10 Year Low Flow	205	ft^3/s	36	36





Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	991	square miles
PRECIP	Mean Annual Precipitation	39	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.8	miles per square mile
ROCKDEP	Depth to rock	4.7	feet
CARBON	Percentage of area of carbonate rock	29.58	percent

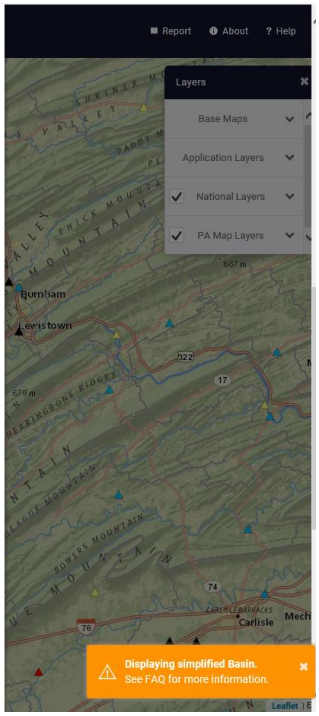
Low-Flow Statistics Parameters [100.0 Percent (990 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	991	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	39	inches	35	50.4
STRDEN	Stream Density	1.8	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.7	feet	3.32	5.65
CARBON	Percent Carbonate	29.58	percent	0	99

Low-Flow Statistics Flow Report [100.0 Percent (990 square miles) Low Flow Region 2]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	208	ft^3/s	38	38
30 Day 2 Year Low Flow	245	ft^3/s	33	33
7 Day 10 Year Low Flow	143	ft^3/s	51	51
30 Day 10 Year Low Flow	167	ft^3/s	46	46
90 Day 10 Year Low Flow	206	ft^3/s	36	36



rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
93.220	Huntingdon WWTP	PA0026191	4.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
93.220	Huntingdon WWT	16.34	50	16.34	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
93.220	Huntingdon WWT	1.87	25	1.87	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
93.22	Huntingdon WWTP	25	25	25	25	5	5	0	0

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rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
93.220	4.000	20.202	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach W/DRatio**	**Reach Velocity (fps)**
205.104	1.129	181.608	0.661
Reach CBODU (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.93	0.474	1.01	0.711
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.112	3.724	Tsivoglou	6
Reach Travel Time (days)			
0.175			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.017	2.91	1.00	8.08
0.035	2.88	0.99	8.06
0.052	2.86	0.97	8.04
0.070	2.83	0.96	8.02
0.087	2.81	0.95	8.00
0.105	2.79	0.94	7.99
0.122	2.76	0.93	7.97
0.140	2.74	0.92	7.96
0.157	2.72	0.90	7.95
0.175	2.69	0.89	7.94

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
12B	11414	JUNIATA RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
93.220	146.85	0.00	146.85	6.188	0.00120	1.129	205.1	181.61	0.66	0.175	20.20	7.00
Q1-10 Flow												
93.220	93.98	0.00	93.98	6.188	0.00120	NA	NA	NA	0.52	0.222	20.31	7.00
Q30-10 Flow												
93.220	199.72	0.00	199.72	6.188	0.00120	NA	NA	NA	0.78	0.148	20.15	7.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
12B	11414	JUNIATA RIVER	93.220	597.00	979.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	W/D Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.150	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Huntingdon WWTP	PA0026191	4.0000	4.0000	4.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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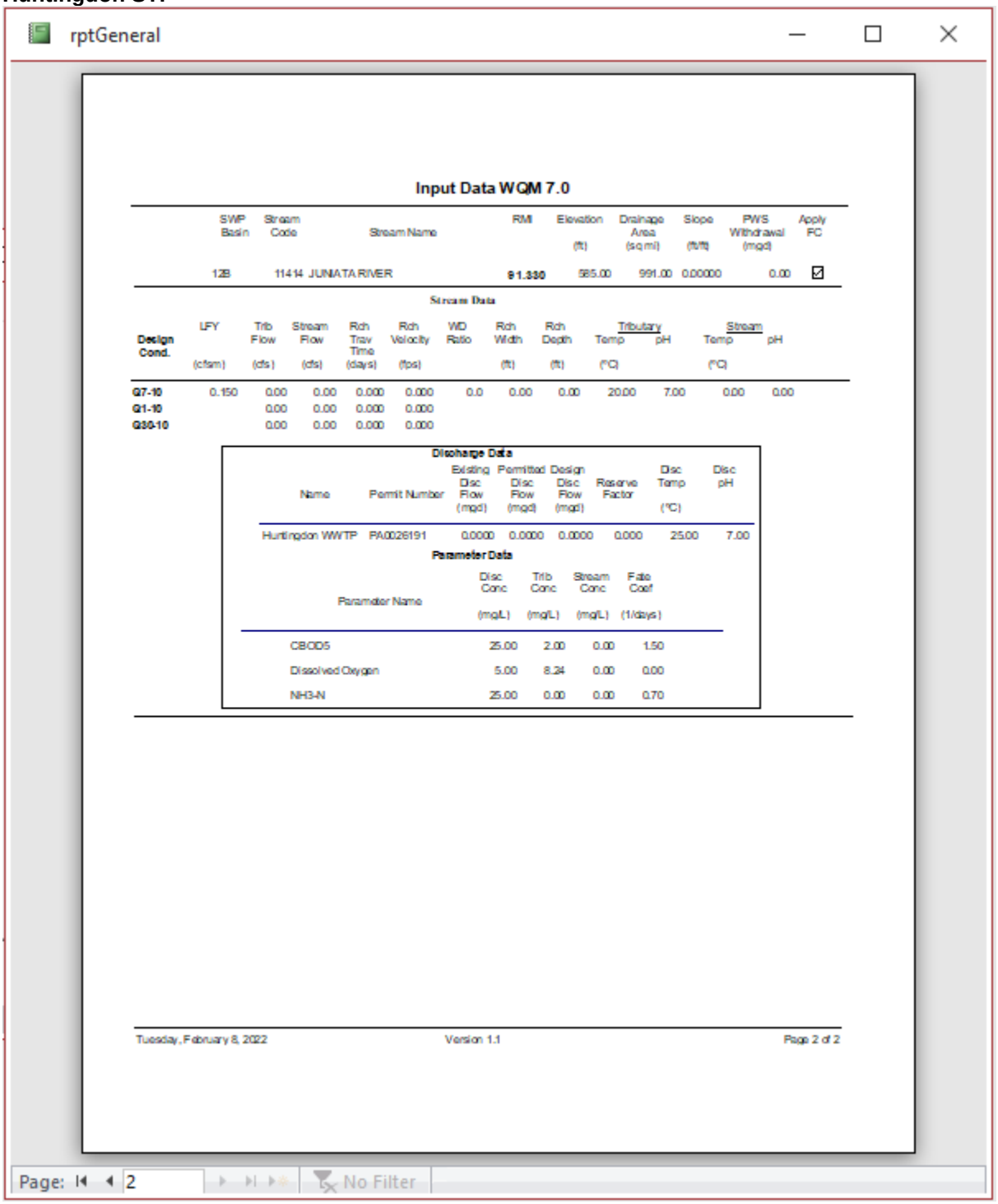
rptGeneral
Input Data WQM 7.0
SWP Basin
Stream Code
Stream Name
RMI
Elevation (ft)
Drainage Area (sq mi)
Slope (ft/ft)
PWS Withdrawal (mgd)
Apply FC
12B
11414 JUNIATA RIVER
81.330
585.00
991.00
0.00000
0.00
Stream Data
Design Cond.
LFY (cfsm)
Trib Flow (cfs)
Stream Flow (cfs)
Rch Trav Time (days)
Rch Velocity (fps)
WD Ratio
Rch Width (ft)
Rch Depth (ft)
Tributary Temp (°C)
Tributary pH
Stream Temp (°C)
Stream pH
Q7-10 0.150 0.00 0.00 0.000 0.000 0.0 0.00 0.00 20.00 7.00 0.00 0.00
Q1-10 0.00 0.00 0.000 0.000
Q30-10 0.00 0.00 0.000 0.000
Discharge Data
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (°C)
Disc pH
Huntingdon WWTP PA0026191 0.0000 0.0000 0.0000 0.000 25.00 7.00
Parameter Data
Parameter Name
Disc Conc (mg/L)
Trib Conc (mg/L)
Stream Conc (mg/L)
Fate Coef (1/days)
CBOD5 25.00 2.00 0.00 1.50
Dissolved Oxygen 5.00 8.24 0.00 0.00
NH3-N 25.00 0.00 0.00 0.70
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Existing Effluent Limitations and Monitoring Requirements

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	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	9.0 Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	830	1330	XXX	25.0	40.0	50	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	1000.0	1500.0	XXX	30.0	45.0	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
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 intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded

Existing Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

Outfall 001

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum 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	73,058.0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	9,741.0	XXX	XXX	XXX	XXX	1/month	Calculation

Existing Effluent Limitations and Monitoring Requirements

Outfall 008

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Existing Effluent Limitations and Monitoring Requirements

Outfall 009,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	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
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
$CBOD_5$	830.0	1,330.0 Wkly Avg.	XXX	25.0	40.0	50.0	2/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	1,000.0	1,500.0 Wkly Avg.	XXX	30.0	45.0	60.0	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Aluminum (ug/L)	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Copper (ug/L)	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Mercury (ug/L)	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum 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	73,058.0	XXX	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	9,741.0	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: At discharge from facility

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 008, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 009, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 008, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

Proposed Effluent Limitations and Monitoring Requirements

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

Outfall 009, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Grab

Compliance Sampling Location:

Other Comments:

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Huntingdon Borough** NPDES Permit No.: **PA0026191** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
4	206	8.9						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteria Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		540									
	Chloride (PWS)	mg/L		253									
	Bromide	mg/L	<	0.116									
	Sulfate (PWS)	mg/L		37.1									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		455									
	Total Antimony	µg/L		0.149									
	Total Arsenic	µg/L		2.6									
	Total Barium	µg/L		56.8									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L		107									
	Total Cadmium	µg/L		0.123									
	Total Chromium (III)	µg/L	<	1.99									
	Hexavalent Chromium	µg/L		0.25									
	Total Cobalt	µg/L		0.439									
	Total Copper	µg/L		7.42									
	Free Cyanide	µg/L		7									
	Total Cyanide	µg/L		10									
	Dissolved Iron	µg/L		59									
	Total Iron	µg/L		220									
	Total Lead	µg/L		1.08									
	Total Manganese	µg/L		29.7									
	Total Mercury	µg/L		0.104									
	Total Nickel	µg/L		2.97									
	Total Phenols (Phenolics) (PWS)	µg/L		25									
	Total Selenium	µg/L		2.2									
	Total Silver	µg/L	<	0.274									
	Total Thallium	µg/L		0.1									
	Total Zinc	µg/L		29.7									
	Total Molybdenum	µg/L		2.8									
	Acrolein	µg/L	<	1.95									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	1									
	Benzene	µg/L	<	0.43									
	Bromoform	µg/L	<	0.34									

Group 3	Carbon Tetrachloride	µg/L	<	0.51										
	Chlorobenzene	µg/L		0.21										
	Chlorodibromomethane	µg/L	<	0.39										
	Chloroethane	µg/L	<	0.51										
	2-Chloroethyl Vinyl Ether	µg/L	<	4										
	Chloroform	µg/L	<	0.51										
	Dichlorobromomethane	µg/L	<	0.32										
	1,1-Dichloroethane	µg/L	<	0.42										
	1,2-Dichloroethane	µg/L	<	0.39										
	1,1-Dichloroethylene	µg/L	<	0.33										
	1,2-Dichloropropane	µg/L	<	0.42										
	1,3-Dichloropropylene	µg/L	<	0.33										
	1,4-Dioxane	µg/L	<	2.9										
	Ethylbenzene	µg/L	<	0.27										
	Methyl Bromide	µg/L	<	0.46										
	Methyl Chloride	µg/L	<	0.36										
	Methylene Chloride	µg/L	<	0.45										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.36										
	Tetrachloroethylene	µg/L	<	0.39										
	Toluene	µg/L	<	0.33										
	1,2-trans-Dichloroethylene	µg/L	<	0.39										
	1,1,1-Trichloroethane	µg/L	<	0.38										
	1,1,2-Trichloroethane	µg/L	<	0.24										
	Trichloroethylene	µg/L	<	0.46										
	Vinyl Chloride	µg/L	<	0.46										
Group 4	2-Chlorophenol	µg/L	<	1										
	2,4-Dichlorophenol	µg/L	<	1										
	2,4-Dimethylphenol	µg/L	<	1										
	4,6-Dinitro-o-Cresol	µg/L	<	5										
	2,4-Dinitrophenol	µg/L	<	5										
	2-Nitrophenol	µg/L	<	1										
	4-Nitrophenol	µg/L	<	1										
	p-Chloro-m-Cresol	µg/L	<	1										
	Pentachlorophenol	µg/L	<	5										
	Phenol	µg/L	<	1										
	2,4,6-Trichlorophenol	µg/L	<	1										
Group 5	Acenaphthene	µg/L	<	1										
	Acenaphthylene	µg/L	<	1										
	Anthracene	µg/L	<	1										
	Benzidine	µg/L	<	5										
	Benzo(a)Anthracene	µg/L	<	1										
	Benzo(a)Pyrene	µg/L	<	1										
	3,4-Benzofluoranthene	µg/L	<	1										
	Benzo(ghi)Perylene	µg/L	<	1										
	Benzo(k)Fluoranthene	µg/L	<	1										
	Bis(2-Chloroethoxy)Methane	µg/L	<	1										
	Bis(2-Chloroethyl)Ether	µg/L	<	1										
	Bis(2-Chloroisopropyl)Ether	µg/L		1										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	1										
	4-Bromophenyl Phenyl Ether	µg/L	<	1										
	Butyl Benzyl Phthalate	µg/L	<	1.9										
	2-Chloronaphthalene	µg/L	<	1										
	4-Chlorophenyl Phenyl Ether	µg/L	<	1										
	Chrysene	µg/L	<	1										
	Dibenzo(a,h)Anthrancene	µg/L	<	1										
	1,2-Dichlorobenzene	µg/L	<	0.32										
	1,3-Dichlorobenzene	µg/L	<	0.17										
	1,4-Dichlorobenzene	µg/L	<	0.15										
	3,3-Dichlorobenzidine	µg/L	<	1										
	Diethyl Phthalate	µg/L	<	1										
	Dimethyl Phthalate	µg/L	<	1										
	Di-n-Butyl Phthalate	µg/L	<	1										
	2,4-Dinitrotoluene	µg/L	<	1										

	2,6-Dinitrotoluene	µg/L	<	1										
	Di-n-Octyl Phthalate	µg/L	<	1										
	1,2-Diphenylhydrazine	µg/L	<	1										
	Fluoranthene	µg/L	<	1										
	Fluorene	µg/L	<	1										
	Hexachlorobenzene	µg/L	<	1										
	Hexachlorobutadiene	µg/L	<	0.27										
	Hexachlorocyclopentadiene	µg/L	<	1										
	Hexachloroethane	µg/L	<	1										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	1										
	Isophorone	µg/L	<	1										
	Naphthalene	µg/L	<	0.25										
	Nitrobenzene	µg/L	<	1										
	n-Nitrosodimethylamine	µg/L	<	1										
	n-Nitrosodi-n-Propylamine	µg/L	<	1										
	n-Nitrosodiphenylamine	µg/L	<	1										
	Phenanthrene	µg/L	<	1										
	Pyrene	µg/L	<	1										
	1,2,4-Trichlorobenzene	µg/L	<	0.17										
Group 6	Aldrin	µg/L	<											
	alpha-BHC	µg/L	<											
	beta-BHC	µg/L	<											
	gamma-BHC	µg/L	<											
	delta BHC	µg/L	<											
	Chlordane	µg/L	<											
	4,4-DDT	µg/L	<											
	4,4-DDE	µg/L	<											
	4,4-DDD	µg/L	<											
	Dieldrin	µg/L	<											
	alpha-Endosulfan	µg/L	<											
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<											
	Endrin	µg/L	<											
	Endrin Aldehyde	µg/L	<											
	Heptachlor	µg/L	<											
	Heptachlor Epoxide	µg/L	<											
	PCB-1016	µg/L	<											
	PCB-1221	µg/L	<											
	PCB-1232	µg/L	<											
	PCB-1242	µg/L	<											
	PCB-1248	µg/L	<											
	PCB-1254	µg/L	<											
	PCB-1260	µg/L	<											
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<											
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

Permit No. PA0026191

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Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Huntingdon Borough, NPDES Permit No. PA0026191, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Juniata River**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	011414	93.22	597	979			Yes
End of Reach 1	011414	91.33	585	991			Yes

$Q_{7\text{-}10}$

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	93.22	0.15										100	7		
End of Reach 1	91.33	0.15													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	93.22														
End of Reach 1	91.33														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Huntingdon Borough, NPDES Permit No. PA0026191, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.108 Analysis Hardness (mg/l): 129.66 Analysis pH: 7.14

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	2,680	
Total Antimony	0	0		0	1,100	1,100	3,931	
Total Arsenic	0	0		0	340	340	1,215	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	75,042	
Total Boron	0	0		0	8,100	8,100	28,945	
Total Cadmium	0	0		0	2.592	2.78	9.93	Chem Translator of 0.933 applied
Total Chromium (III)	0	0		0	704.843	2,231	7,971	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	58.2	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	339	
Total Copper	0	0		0	17.166	17.9	63.9	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	78.6	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	85.591	114	406	Chem Translator of 0.753 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	5.89	Chem Translator of 0.85 applied
Total Nickel	0	0		0	583.322	584	2,089	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	5.029	5.92	21.1	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	232	
Total Zinc	0	0		0	146.031	149	534	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	10.7	

Acrylonitrile	0	0		0	650	650	2,323	
Benzene	0	0		0	640	640	2,287	
Bromoform	0	0		0	1,800	1,800	6,432	
Carbon Tetrachloride	0	0		0	2,800	2,800	10,006	
Chlorobenzene	0	0		0	1,200	1,200	4,288	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	64,321	
Chloroform	0	0		0	1,900	1,900	6,789	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	53,601	
1,1-Dichloroethylene	0	0		0	7,500	7,500	26,801	
1,2-Dichloropropane	0	0		0	11,000	11,000	39,307	
1,3-Dichloropropylene	0	0		0	310	310	1,108	
Ethylbenzene	0	0		0	2,900	2,900	10,363	
Methyl Bromide	0	0		0	550	550	1,965	
Methyl Chloride	0	0		0	28,000	28,000	100,055	
Methylene Chloride	0	0		0	12,000	12,000	42,881	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	3,573	
Tetrachloroethylene	0	0		0	700	700	2,501	
Toluene	0	0		0	1,700	1,700	6,075	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	24,299	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	10,720	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	12,150	
Trichloroethylene	0	0		0	2,300	2,300	8,219	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	2,001	
2,4-Dichlorophenol	0	0		0	1,700	1,700	6,075	
2,4-Dimethylphenol	0	0		0	660	660	2,358	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	286	
2,4-Dinitrophenol	0	0		0	660	660	2,358	
2-Nitrophenol	0	0		0	8,000	8,000	28,587	
4-Nitrophenol	0	0		0	2,300	2,300	8,219	
p-Chloro-m-Cresol	0	0		0	160	160	572	
Pentachlorophenol	0	0		0	10.046	10.0	35.9	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	1,644	
Acenaphthene	0	0		0	83	83.0	297	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	1,072	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.79	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	107,202	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	16,080	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	965	
Butyl Benzyl Phthalate	0	0		0	140	140	500	

2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	2,930	
1,3-Dichlorobenzene	0	0		0	350	350	1,251	
1,4-Dichlorobenzene	0	0		0	730	730	2,609	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	14,294	
Dimethyl Phthalate	0	0		0	2,500	2,500	8,934	
Di-n-Butyl Phthalate	0	0		0	110	110	393	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	5,717	
2,6-Dinitrotoluene	0	0		0	990	990	3,538	
1,2-Diphenylhydrazine	0	0		0	15	15.0	53.6	
Fluoranthene	0	0		0	200	200	715	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	35.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	17.9	
Hexachloroethane	0	0		0	60	60.0	214	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	35,734	
Naphthalene	0	0		0	140	140	500	
Nitrobenzene	0	0		0	4,000	4,000	14,294	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	60,748	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	1,072	
Phenanthrene	0	0		0	5	5.0	17.9	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	465	

☑ *CFC* CCT (min): 720 PMF: 0.751 Analysis Hardness (mg/l): 105.63 Analysis pH: 7.02

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	4,142	
Total Arsenic	0	0		0	150	150	2,824	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	77,199	
Total Boron	0	0		0	1,600	1,600	30,127	
Total Cadmium	0	0		0	0.256	0.28	5.31	Chem Translator of 0.907 applied
Total Chromium (III)	0	0		0	77.515	90.1	1,697	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	196	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	358	
Total Copper	0	0		0	9.385	9.78	184	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	5.2	5.2	97.9	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	37,097	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.671	3.41	64.2	Chem Translator of 0.783 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	17.1	Chem Translator of 0.85 applied
Total Nickel	0	0		0	54.473	54.6	1,029	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	93.9	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	245	
Total Zinc	0	0		0	123.750	126	2,363	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	56.5	
Acrylonitrile	0	0		0	130	130	2,448	
Benzene	0	0		0	130	130	2,448	
Bromoform	0	0		0	370	370	6,967	
Carbon Tetrachloride	0	0		0	560	560	10,544	
Chlorobenzene	0	0		0	240	240	4,519	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	65,902	
Chloroform	0	0		0	390	390	7,343	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	58,370	
1,1-Dichloroethylene	0	0		0	1,500	1,500	28,244	
1,2-Dichloropropane	0	0		0	2,200	2,200	41,424	
1,3-Dichloropropylene	0	0		0	61	61.0	1,149	
Ethylbenzene	0	0		0	580	580	10,921	
Methyl Bromide	0	0		0	110	110	2,071	
Methyl Chloride	0	0		0	5,500	5,500	103,560	
Methylene Chloride	0	0		0	2,400	2,400	45,190	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	3,954	
Tetrachloroethylene	0	0		0	140	140	2,636	
Toluene	0	0		0	330	330	6,214	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	26,361	
1,1,1-Trichloroethane	0	0		0	610	610	11,486	
1,1,2-Trichloroethane	0	0		0	680	680	12,804	
Trichloroethylene	0	0		0	450	450	8,473	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	2,071	
2,4-Dichlorophenol	0	0		0	340	340	6,402	
2,4-Dimethylphenol	0	0		0	130	130	2,448	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	301	
2,4-Dinitrophenol	0	0		0	130	130	2,448	
2-Nitrophenol	0	0		0	1,600	1,600	30,127	
4-Nitrophenol	0	0		0	470	470	8,850	

p-Chloro-m-Cresol	0	0		0	500	500	9,415	
Pentachlorophenol	0	0		0	7.707	7.71	145	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	1,713	
Acenaphthene	0	0		0	17	17.0	320	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	1,111	
Benzo(a)Anthracene	0	0		0	0.1	0.1	1.88	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	112,974	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	17,134	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	1,017	
Butyl Benzyl Phthalate	0	0		0	35	35.0	659	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	160	160	3,013	
1,3-Dichlorobenzene	0	0		0	69	69.0	1,299	
1,4-Dichlorobenzene	0	0		0	150	150	2,824	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	15,063	
Dimethyl Phthalate	0	0		0	500	500	9,415	
Di-n-Butyl Phthalate	0	0		0	21	21.0	395	
2,4-Dinitrotoluene	0	0		0	320	320	6,025	
2,6-Dinitrotoluene	0	0		0	200	200	3,766	
1,2-Diphenylhydrazine	0	0		0	3	3.0	56.5	
Fluoranthene	0	0		0	40	40.0	753	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	37.7	
Hexachlorocyclopentadiene	0	0		0	1	1.0	18.8	
Hexachloroethane	0	0		0	12	12.0	226	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	39,541	
Naphthalene	0	0		0	43	43.0	810	
Nitrobenzene	0	0		0	810	810	15,252	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	64,019	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	1,111	
Phenanthrene	0	0		0	1	1.0	18.8	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	490	

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☑ ***THH*** CCT (min): 720 PMF: 0.751 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	105	
Total Arsenic	0	0		0	10	10.0	188	
Total Barium	0	0		0	2,400	2,400	45,190	
Total Boron	0	0		0	3,100	3,100	58,370	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	75.3	
Dissolved Iron	0	0		0	300	300	5,649	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	18,829	
Total Mercury	0	0		0	0.050	0.05	0.94	
Total Nickel	0	0		0	610	610	11,486	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	4.52	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	56.5	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	1,883	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	621	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	1,280	

Methyl Bromide	0	0		0	100	100.0	1,883	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	
1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	1,073	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	1,883	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	188,291	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	565	
2,4-Dichlorophenol	0	0		0	10	10.0	188	
2,4-Dimethylphenol	0	0		0	100	100.0	1,883	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	37.7	
2,4-Dinitrophenol	0	0		0	10	10.0	188	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	75,316	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	1,318	
Anthracene	0	0		0	300	300	5,649	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	3,766	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	1.88	
2-Chloronaphthalene	0	0		0	800	800	15,063	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	18,829	
1,3-Dichlorobenzene	0	0		0	7	7.0	132	
1,4-Dichlorobenzene	0	0		0	300	300	5,649	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	11,297	
Dimethyl Phthalate	0	0		0	2,000	2,000	37,658	
Di-n-Butyl Phthalate	0	0		0	20	20.0	377	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	

2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	377	
Fluorene	0	0		0	50	50.0	941	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	75.3	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	640	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	188	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	377	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	1.32	

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	

Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	5.7	
Benzene	0	0		0	0.58	0.58	55.1	
Bromoform	0	0		0	7	7.0	665	
Carbon Tetrachloride	0	0		0	0.4	0.4	38.0	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	76.0	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	542	
Dichlorobromomethane	0	0		0	0.95	0.95	90.3	
1,2-Dichloroethane	0	0		0	9.9	9.9	941	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	85.5	
1,3-Dichloropropylene	0	0		0	0.27	0.27	25.7	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	1,901	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	19.0	
Tetrachloroethylene	0	0		0	10	10.0	950	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	52.3	
Trichloroethylene	0	0		0	0.6	0.6	57.0	
Vinyl Chloride	0	0		0	0.02	0.02	1.9	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	
4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	2.85	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	143	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.01	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.095	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.01	

3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.095	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.95	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	2.85	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	30.4	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	11.4	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.01	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	4.75	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	4.75	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	4.75	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	2.85	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.008	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.95	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	9.5	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.095	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.067	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.48	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	314	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Aluminum	Report	Report	Report	Report	Report	µg/L	1,718	AFC	Discharge Conc > 10% WQBEL (no RP)

Total Copper	Report	Report	Report	Report	Report	µg/L	41.0	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Mercury	Report	Report	Report	Report	Report	µg/L	0.94	THH	Discharge Conc > 10% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Antimony	105	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	188	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	45,190	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	18,552	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	5.31	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	1,697	µg/L	Discharge Conc < TQL
Hexavalent Chromium	37.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	218	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	50.4	µg/L	Discharge Conc ≤ 25% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	5,649	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	37,097	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	64.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	18,829	µg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	1,029	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	93.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	13.6	µg/L	Discharge Conc < TQL
Total Thallium	4.52	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	342	µg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	6.87	µg/L	Discharge Conc < TQL
Acrylonitrile	5.7	µg/L	Discharge Conc < TQL
Benzene	55.1	µg/L	Discharge Conc < TQL
Bromoform	665	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	38.0	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorobenzene	1,883	µg/L	Discharge Conc ≤ 25% WQBEL
Chlorodibromomethane	76.0	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	41,227	µg/L	Discharge Conc < TQL
Chloroform	542	µg/L	Discharge Conc ≤ 25% WQBEL

Dichlorobromomethane	90.3	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	941	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	621	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	85.5	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	25.7	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	1,280	µg/L	Discharge Conc < TQL
Methyl Bromide	1,260	µg/L	Discharge Conc < TQL
Methyl Chloride	64,131	µg/L	Discharge Conc < TQL
Methylene Chloride	1,901	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	19.0	µg/L	Discharge Conc < TQL
Tetrachloroethylene	950	µg/L	Discharge Conc < TQL
Toluene	1,073	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	1,883	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	6,871	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	52.3	µg/L	Discharge Conc < TQL
Trichloroethylene	57.0	µg/L	Discharge Conc < TQL
Vinyl Chloride	1.9	µg/L	Discharge Conc < TQL
2-Chlorophenol	565	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	188	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	1,512	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	37.7	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	188	µg/L	Discharge Conc < TQL
2-Nitrophenol	18,323	µg/L	Discharge Conc < TQL
4-Nitrophenol	5,268	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	366	µg/L	Discharge Conc < TQL
Pentachlorophenol	2.85	µg/L	Discharge Conc < TQL
Phenol	75,316	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	143	µg/L	Discharge Conc < TQL
Acenaphthene	190	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	5,649	µg/L	Discharge Conc < TQL
Benzidine	0.01	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.095	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.01	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.095	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.95	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	2.85	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	3,766	µg/L	Discharge Conc ≤ 25% WQBEL
Bis(2-Ethylhexyl)Phthalate	30.4	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	618	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	1.88	µg/L	Discharge Conc < TQL

2-Chloronaphthalene	15,063	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	11.4	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.01	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	1,878	µg/L	Discharge Conc < TQL
1,3-Dichlorobenzene	132	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	1,672	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	4.75	µg/L	Discharge Conc < TQL
Diethyl Phthalate	9,162	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	5,726	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	252	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	4.75	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	4.75	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	2.85	µg/L	Discharge Conc < TQL
Fluoranthene	377	µg/L	Discharge Conc < TQL
Fluorene	941	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.008	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.95	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	11.5	µg/L	Discharge Conc < TQL
Hexachloroethane	9.5	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.095	µg/L	Discharge Conc < TQL
Isophorone	640	µg/L	Discharge Conc < TQL
Naphthalene	321	µg/L	Discharge Conc < TQL
Nitrobenzene	188	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.067	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.48	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	314	µg/L	Discharge Conc < TQL
Phenanthrene	11.5	µg/L	Discharge Conc < TQL
Pyrene	377	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	1.32	µg/L	Discharge Conc < TQL

321 Washington Street,
Huntingdon, Pennsylvania 16652
United States
www.ghd.com

Our ref: 11222367

June 07, 2021

Ms. Hillary Le
PADEP - Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17101-8200

Borough of Huntingdon NPDES Permit No. PA0026191 Renewal – Eliminate CSO No. 002

Dear Ms. Le,

On behalf of the Borough of Huntingdon we wish to inform you that per your May 25, 2021 email correspondence, the Borough has taken steps to permanently eliminate Combined Sewer Overflow (CSO) No. 002 from service. CSO 002 is the outfall to the Juniata River from Regulator No. 1. The outfall from Regulator No. 1 has been closed (sluice gate has been in a closed position) for about the last 10 years and the Borough does not intend on placing the outfall back in service.

To permanently take CSO 002 out of service the Borough has removed the sluice gate valve operator with the sluice gate valve in the closed position.

Enclosed are photographs showing the following:

1. The before condition – the outfall slice gate valve in the closed position with the operator for the sluice gate in place (CSO-002-before-1 and CSO-002-before-2).
2. The after condition - the outfall sluice gate valve in the closed position with operator removed (CSO-002-after-1 and CSO-002-after-2).

Based on the above, we request that CSO 002 be removed as a designated outfall in the upcoming renewal of NPDES Permit No. PA0026191.

If you have any questions or require any additional information or verification, please feel free to contact us.

Regards

Kevin J. Nester, PE
Project Manager
+1 814 643-8260
kevin.nester@ghd.com

March 27, 2017

Ms. Sarah Wriglesworth
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200

Dear Ms. Wriglesworth,

Re: Borough of Huntingdon
Combined Sewer Overflow Long Term Control Plan Update

As a result of the September 6, 2016 Combined Sewer System Inspection, DEP requested that the Borough revise its Combined Sewer Overflow Long Term Control Plan as follows:

- Update the combined sewer system map to show:
  - The area encompassed by each combined sewer basin.
  - The sanitary sewer basins tributary to each combined sewer basin.
  - The major trunk sewers and interceptors.
  - The outfall numbers.
- Update the Long-Term Control Plan Operations Plan to include how the De-Nitrification filter and the Trickling Filter bypasses are used.
- Update the Plan regarding current regulator operations.

The Borough has incorporated the requested revisions into the CSO mapping. Attached please find the map entitled "Combined Sewer System by Sewer Shed" for your information and review.

Regarding the other requested updates to the Huntingdon Borough CSO Long Term Control Plan we offer the following:

- **Operation of the Denitrification Filters and their Impact on the Combined Sewer Overflows**:

  The denitrification filters were placed into operation at the Huntingdon Wastewater Treatment Plant in 2011. The denitrification filters consist of 4 units each capable of treating 1.475 mgd of secondary effluent. Thus the denitrification filter process is able to treat 5.9 mgd of secondary effluent prior to ultraviolet disinfection. Secondary effluent flows in excess of 5.9mgd, are diverted directly to the ultraviolet disinfection system ((bypassing the denitrification filters) and then to discharge.

  The filters are normally operated in the semi-automatic mode. In semi-automatic all filter functions are automatic with the exception of backwashing. The backwashing function remains a manual function.

  The benefit of operating in the semi-automatic mode is that during wet weather no filters units are taken off line for backwashing. This maximizes the secondary effluent flow that receives treatment in the denitrification filters.

A denitrification filter operation that remains automatic in the semi-automatic mode is called a filter bump. During a bump, a filter is taken off line briefly to purge accumulated nitrogen gas built up in the filter. A bump occurs once every four hours for each filter cell. When a bump occurs the total filtering capacity is briefly reduced and a diversion could occur around the Denitrification Filters due to the reduced treatment capacity. However the bumps are very short (approximately 16 minutes in duration). Please note that since the implementation of the Cap Load TN Limits the Huntingdon Wastewater Treatment Plant has consistently complied with the Annual Total Nitrogen Cap Load Limits.

Thus the Borough of Huntingdon Wastewater Treatment Plant staff follows the following procedure when anticipating wet weather.

- Monitor the weather report daily.
- In advance of a wet weather event backwash all denitrification filter cells.
- Throughout the wet weather event operate the filters in the semi-automatic mode and refrain from backwashing filter units.
- When a wet weather event ceases and flows return to normal, backwash all four filter cells and return to normal operation.

- **Operation of the Trickling Filter Pump Station**:

The Trickling Filter Pump Station is equipped with three vertical turbine pumps. Each pump is capable of conveying 4000 gpm of forward sewage and recycle flow. The mode of operation is that two pumps are operating at all times supplying flow to both Trickling Filters. The third pump, the high level pump, is activated via a float switch. Should a wet weather event be such that the flow exceeds the capacity of Trickling Filter Pumps, the excess flow is diverted to the secondary clarifiers and subsequently to the denitrification filters, UV disinfection, and discharge. With each pump being able to convey approximately 4,000 gpm the Trickling Filter Pump Station is able to convey 12,000 gpm of flow (forward and recycle) to the Trickling Filters before the flow diversion is activated. This translates to 17.3 mgd forward and recycle flows.

- **Current Regulator Operations**:

Regarding the operation of Regulator No. 1, the Borough keeps this Regulator closed at all times. This directs all sewage flow arriving at Regulator No. 1 to the wastewater treatment plant for treatment and discharge. The existing outfall pipe to the Juniata River is long and partially submerged, thus there are times, due to the level of the Juniata River that false readings are indicated, however, with Regulator No. 1 closed at all times, no combined sewage is being discharged.

With respect to Regulator No. 2 located uptown near the old ice plant, the Borough keeps it open at all times. The capability exists to close Regulator No.2, however, the Borough has found that this increases the risk of sewage backups into homes.
Please note that the above operations approach for Regulators No. 1 & 2 has not caused the Borough to fail to meet the Presumptive Test of capturing for treatment at least 85% of the combined sewage during wet weather events every year.

In addition to the above, updates to the following sections of the Huntingdon Borough Combined Sewer Overflow Long Term Control Plan include:

- **1.1.2.3 - Sewer Separation**

  Since the completion and approval of the original Combined Sewer Overflow Long Term Control Plan in 1999 (copy enclosed), the Borough has completed improvements to their sewage collection system.

  In 2012 the Borough completed the construction of the Combined Sewer Overflow Separation project. This project separated the known combined sewers located in the 2nd Street and 5th Street Combined Sewer Sheds and resulted in the elimination of the 5th Street Combined Sewer Overflow.

  In 2015 the Borough completed the City League Field Sewer Replacement Project. This project separated the combined sewers in area of the City League Field parking lot. Storm water from this area is not diverted to Stone Creek via an 18" diameter outfall rather than it being conveyed to Regulator No.1.

  The Borough will continue to separate their remaining combined sewers as funding become available.

- **1.1.2.6 - Flow Diversion**

  The Borough investigated the possibility of diverting combined sewage between Regulator No. 1 and Regulator No. 2 drainage basins. These evaluations lead to the construction of the Allegheny Street Combined Sewer Overflow project. The project was completed in 2005 and involved the installation of a 48" diameter sewer in 4th Street that conveys storm water primarily to the Juniata River. Because the 4th Street Combined Sewer Outfall to the Juniata River was diverted to the 48" sewer because the outfall to the Juniata River that crossed under the railroad tracks had collapsed. The 48" diameter sewer discharges to the Juniata River adjacent to CSO Outfall 002.

- **1.1.3 - Storage Technologies**

  The Borough has fine-tuned the operation of their combined sewer system since the original Long Term Control Plan was completed and submitted in March 1999. With the exception of the 5th Street Diversion Chamber which has been eliminated, weirs at all diversion chambers have been raised to the maximum level possible so that the collection system will store as much combined sewage as possible before an overflow is activated. In addition, as previously mentioned, the Borough has separated the combined sewage in the Second Street, Fifth Street, and City League Field Parking Lot areas.

An explanation is in order regarding the combined sewers that remain in effect in the downtown area of the Borough. Recently, the Borough completed the separation of combined sewers in Second Street and Fifth Street as well as in the City League Baseball Field Parking Lot. This essentially has eliminated all combined sewers tributary to the existing 21" diameter interceptor sewer in Allegheny Street with the exception of the combined sewers in Fourth Street and relief flow from the 7th Street CSO sewer shed.

At 4th Street sewage is normally discharged to the 21" interceptor sewer in Allegheny Street. When the combined sewer diversion structure, located at 4th and Allegheny Streets is activated, combined sewage

is diverted to the 48" diameter sewer in Allegheny Street. In addition to the combined sewage from 4th Street, the 48-inch diameter sewer conveys storm water (collected along Allegheny Street from 4th Street to Stone Creek) to the Juniata River. The discharge point for this 48" sewer is adjacent to CSO 002.

In addition to the combined sewage from 4th Street, the only combined sewage entering into the 21-inch diameter interceptor sewer in Allegheny Street comes from the Seventh Street combined sewer shed. During times of very high flow, the combined sewers in the 7th Street sewer shed divert flow in excess of what CSO 004 can convey to the Juniata River to the 21" diameter interceptor at 6th and Allegheny Streets. The 21" diameter interceptor sewer conveys sewage to Regulator 1. Since the Borough keeps Regulator 1 closed at all times, this excess combined sewage from the 7th Street combined sewer shed and the combined sewage from the 4th Street combined sewer shed are conveyed to the Wastewater Treatment Plant for treatment and discharge.

We hope that this update to the Borough of Huntingdon Combined Sewer Overflow Long Term Control Plan satisfies any concerns you may have. If you have any questions or require any additional information, please do not hesitate to contact us. Or we will be happy to meet with you to discuss any questions or concerns you have at your convenience.

Sincerely,
GHD Inc.

Kevin J. Nester, PE
Project Manager

Enclosure

cc: William Wheeler (w/enclosure)
Huntingdon Borough (w/enclosure)
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Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 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: BPNPSM-PMT-033, revised on March 22, 2021.
☒	Other: CB Phase 2 WIP