

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

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0203777
 APS ID 1065652
 Authorization ID 1400105

Applicant and Facility Information

Applicant Name	<u>Ductmate Industries</u>	Facility Name	<u>Ductmate Industries STP</u>
Applicant Address	<u>1502 Industrial Drive</u> <u>Monongahela, PA 15063</u>	Facility Address	<u>1502 Industrial Drive</u> <u>Monongahela, PA 15063</u>
Applicant Contact	<u>Alvin Jefferson</u>	Facility Contact	<u>Aaron Serene</u>
Applicant Phone	<u>(724) 543-2288</u>	Facility Phone	<u>724-543-2288</u>
Client ID	<u>163138</u>	Site ID	<u>253276</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Forward Township</u>
Connection Status		County	<u>Allegheny</u>
Date Application Received	<u>June 21, 2022</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>June 23, 2022</u>	If No, Reason	
Purpose of Application	<u>NPDES permit renewal.</u>		

Summary of Review

The PA Department of Environmental Protection (PADEP/Department) received an NPDES permit renewal application from CWM Environmental on behalf of Ductmate Industries (permittee) for permittee's Ductmate Industries STP (facility) on June 21, 2022. The facility is a minor non-municipal STP with an average design flow of 0.006 MGD. The treated effluent is discharged into Monongahela River in state watershed 19-C, classified as WWF. The current permit will expire on December 31, 2022. The terms and conditions are automatically extended since the renewal application was received at least 180 days prior to the expiration date. Renewal NPDES permit applications under Clean Water program are not covered by PADEP's PDG per 021-2100-001.


This fact sheet is developed in accordance with 40 CFR §124.56.

Changes in this renewal: E. Coli monitoring is added.

Sludge use and disposal description and location(s): Liquid sludge is hauled off to AVJSA WWTP.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
√		Reza H. Chowdhury, E.I.T. / Project Manager 	October 20, 2022
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	10/21/2022

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.006
Latitude	40° 11' 42"	Longitude	-79° 53' 47"
Quad Name	Monongahela	Quad Code	1706
Wastewater Description: Sewage Effluent			
Receiving Waters	Monongahela River (WWF)	Stream Code	37185
NHD Com ID	99409244	RMI	33.78
Drainage Area	5,230 mi ²	Yield (cfs/mi ²)	0.096
Q ₇₋₁₀ Flow (cfs)	502.08	Q ₇₋₁₀ Basis	Please see below
Elevation (ft)	728.9	Slope (ft/ft)	
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use	WWF	Existing Use Qualifier	Ch. 93
Exceptions to Use	N-Navigation	Exceptions to Criteria	None
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status	Final	Name	Monongahela River TMDL
Background/Ambient Data		Data Source	
pH (SU)	7.9		WQN_0732, median Jul-Sep, 2010-2019
Temperature (°C)	25.39		WQN_0732, median Jul-Sep, 2010-2019
Hardness (mg/L)	124		WQN_0732, median Jul-Sep, 2010-2019
Other:			
Nearest Downstream Public Water Supply Intake	PA American Water Company-Pittsburgh		
PWS Waters	Monongahela River	Flow at Intake (cfs)	
PWS RMI	25.85	Distance from Outfall (mi)	7.93

Changes Since Last Permit Issuance: None

Other Comments:

Streamflow:

The nearest USGS StreamGage (gage number 3075070) data was analyzed to determine the low flow statistics at the discharge point. USGS's web based watershed delineation tool StreamStats (accessible at <https://streamstats.usgs.gov/ss/>, accessed on October 18, 2022) was utilized to determine the drainage area at discharge point. The StreamStats report shows the drainage area at the discharge point is 5,230 mi². Data from the streamgage shows Q₇₋₁₀, Q₁₋₁₀, and Q₃₀₋₁₀ to be 512 cfs, 354 cfs, and 688 cfs, respectively for the reporting year 1935-2008. The drainage area at this streamgage was found to be 5,340 mi². These values were obtained from the latest USGS streamflow report ⁽¹⁾.

Q₇₋₁₀ runoff rate (low flow yield): 512 cfs/5340 mi² or 0.096 cfs/mi²

Q₇₋₁₀ at Outfall 001: 0.096 * 5230 or 502.08 cfs

Q₃₀₋₁₀:Q₇₋₁₀: 688/512 or 1.34

Q₁₋₁₀:Q₇₋₁₀: 354/512 or 0.69

(1) Stuckey, M.H., Roland, M.A., 2011, Selected streamflow statistics for streamgage locations in and near Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2011-1070, PP 18, PP 31.

DEP's SOP (BPNPSM-PMT-033, revised Oct 1, 2020) section II.B.4 states that where a facility is eligible for technology-based limits of CBOD₅ exceeding 25 mg/l, application managers will evaluate a WQBEL for CBOD₅ as follows:

- a. *Model the discharge using Toxics Management Spreadsheet (TMS)*
- b. *Multiply the acute partial mix factor by the Q₇₋₁₀ of the receiving waters*
- c. *Run the WQM 7.0 model using the adjusted Q₇₋₁₀ and apply the WQBEL 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 CBOD₅ using BPJ, if the CBOD₅ limit is a WQBEL*

The attached TMS model suggested an acute Partial Mixing Factor (PMFa) of 2.6%. A partial mixing factor, according to DEP's technical guidance (391-2000-011), 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. U.S. The revised Q₇₋₁₀ will be **502.08 * 0.026 or 13.05 cfs.**

PWS Intake:

The nearby downstream PWS intake is PA American Company Pittsburgh in Monongahela River which is approximately 7.93 miles downstream of discharge point. Due to the distance, dilution of Monongahela River, and effluent limitations, it is expected that the discharge will not adversely impact the PWS intake.

Wastewater Characteristics:

A pH of 7.45 (median July- September 2021-2022), default temperature of 25°C (Default per 391-2000-007), and default Hardness value of 100 mg/l will be used for modeling, if needed.

Background data:

The nearby WQN station is WQN0732 on Monongahela River at Elizabeth. Stream data was analyzed from this station for the reporting period 2010 through 2019 during July-September. This resulted in a median pH of 7.9, stream temperature of 25.38°C, and stream hardness of 124 mg/l.

Monongahela River PCB TMDL:

Monongahela River has an EPA approved TMDL for PCBs. However, no WLA was assigned to any point source discharger.

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. The receiving streams are designated as Warm Water Fishes (WWF.) No High-Quality stream or Exceptional Value water is impacted by this discharge; therefore, no Antidegradation Analysis is performed for the discharge.

Treatment Facility Summary				
Treatment Facility Name: Ductmate STP				
WQM Permit No.	Issuance Date			
8928-S A-2	06/01/2021			
8928-SA-1	02/14/2020			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Hypochlorite	0.006
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.006	10	Not Overloaded	Aerobic Digestion	Other WWTP

Treatment Plant Description

Ductmate Industries STP is a minor STP that treats sewage generated only from Ductmate Industries, located in Forward Township, Allegheny County. Sewage enters STP through sewage drain and passes through comminutor in lower pit. It then is pumped up to splitter box where settling agent is added. Approximately 1/4th of sewage is diverted to aeration and remaining is returned to lower pit to control sewage flow through plant. Sewage then passes to settling tank where 2nd settling agent is added as needed before sewage passes through to settling tank. settling tank returns a portion of sewage back to aeration tank through return piping system. The remaining portion of sewage passes over weir plates in settling tank and is sent to discharge tank after chlorination and dechlorination. Disinfected sewage is then discharged into Monongahela River.

The following wastewater treatment chemicals are used:

Wastewater Treatment Chemical	Purpose	Maximum Usage Rate	Units
Soda Ash	pH adjustment	as needed	briquettes
Delpac 2020	Help solids flock together and drop to bottom of settling tank	0.849	ML/Min
PlantPro Settling Agent	Help solids flock together and drop to bottom of settling tank	0.0777	ML/Min

Liquid sludge is hauled-off to AVJSA WWTP in Cheswick, PA. Per the most recent inspection conducted by ACHD on April 20, 2022, the treatment plant consists of the following treatment units:

1. One muffin monster
2. One aeration tank
3. One Imhoff tank
4. One chlorine contact tank
5. One dechlor tank
6. Two tablet feeders
7. Two blowers
8. Two submersible pumps
9. Two skimmers, and
10. One sludge holding tank.

Compliance History

DMR Data for Outfall 001 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
Flow (MGD) Average Monthly	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002
pH (S.U.) Daily Minimum	7.4	7.4	6.9	6.8	7.2	7.2	6.9	7.0	6.9	7.3	7.2	7.2
pH (S.U.) Daily Maximum	7.8	8.0	8.0	7.1	7.8	7.8	7.3	7.5	7.4	8.1	7.6	7.7
DO (mg/L) Daily Minimum	6.77	7.27	6.27	6.75	6.54	7.16	7.15	6.98	7.01	7.33	7.03	6.92
TRC (mg/L) Average Monthly	0.06	0.10	0.04	0.12	0.15	0.02	0.03	0.02	0.03	0.07	0.28	0.13
TRC (mg/L) IMAX	0.18	0.59	0.13	0.48	1.32	0.03	0.06	0.03	0.15	0.27	0.71	0.28
CBOD5 (mg/L) Average Monthly	27.65	6.40	7.65	10.30	17.10	12.75	5.80	9.90	8.80	21.30	5.40	5.75
CBOD5 (mg/L) IMAX	60.90	6.50	10.20	12.60	23.0	15.70	8.10	14.50	9.20	46.00	7.80	7.0
TSS (mg/L) Average Monthly	26.50	19.0	16.0	12.0	14.0	11.50	10.50	15.50	14.0	15.0	8.0	9.50
TSS (mg/L) IMAX	28.0	24.0	21.0	14.0	20.0	12.00	11.00	17.0	16.0	21.0	10.0	10.0
Fecal Coliform (No./100 ml) Geometric Mean	70.00	2.0	1.0	1.0	1.0	1.0	1.0	2.0	8	6.0	1.0	17
Fecal Coliform (No./100 ml) IMAX	2420	2.0	1.0	1.0	1.0	1.0	1.0	2.0	14	6.0	1.0	276
Total Nitrogen (mg/L) Daily Maximum									39.9			
Ammonia (mg/L) Average Monthly	21.075	25.5	3.85	27.45	32.0	11.18	3.975	1.69	9.97	5.66	4.14	0.16
Total Phosphorus (mg/L) IMAX									7.47			
Total Copper (mg/L) Raw Sewage Influent Daily Maximum			0.07			0.06			0.06			0.72
Total Mercury (mg/L) Raw Sewage Influent Daily Maximum			< 0.0002			0.0002			< 0.0010			< 0.0010
Total Zinc (mg/L) Raw Sewage Influent Daily Maximum			0.26			0.40			0.42			0.72

Compliance History

Effluent Violations for Outfall 001, from: October 1, 2021 To: August 31, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
CBOD5	08/31/22	Avg Mo	27.65	mg/L	25.0	mg/L
CBOD5	08/31/22	IMAX	60.90	mg/L	50.0	mg/L
Fecal Coliform	08/31/22	IMAX	2420	No./100 ml	1000	No./100 ml

Other Comments: The submitted Non-Compliance Report form stated that the CBOD5 violations were due to low solids in the aeration tank. The Fecal Coliform exceedance was due to increased demand of chlorine within the WWTP. The cause was identified and resolved.

Summary of Inspections:

April 20, 2022: CEI conducted by ACHD. Fecal Coliform IMAX violation noted in May 2021. Construction of the sludge wasting tank was completed and had been placed into service. During the time of inspection, there appeared to be a problem with the sludge return. The return appeared to be clear and likely obstructed. The Facility Engineer was coordinating with the operator to have the clarifier pumped out and inspected or repaired.

Existing Limits

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		
Flow (MGD)	0.006	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	3/week	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	3/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Copper, Total Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Mercury, Total Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Zinc, Total Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>0.006</u>
Latitude <u>40° 11' 42.00"</u>	Longitude <u>-79° 53' 47.00"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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

The above effluent limitations are consistent with current permit. WQM 7.0 modeling wasn't conducted due to the fact that the discharge is into a very large stream and dilution is very large even at Q₇₋₁₀ condition.

Ammonia-Nitrogen:

PADEP's SOP states that if an average monthly warm period limit of 25 mg/l is acceptable, generally a year-round monitoring for ammonia-nitrogen, at a minimum, will be established. This is an existing requirement and will be continued.

CBOD₅:

Due to large dilution, existing 25 mg/l as average monthly limit will still be protective and will be carried over.

Dissolved Oxygen (DO):

The existing permit has a minimum DO of 4.0 mg/l. The SOP BCW-PMT-033 recommends a minimum DO limit of 4.0 mg/l based on BPJ to ensure adequate operation and maintenance where there is no water quality concerns. It is recommended that the existing limit will be carried over.

Toxics:

Since the design flow is <0.1 MGD, this facility isn't required to report any toxics that would otherwise be required to report. However, the previous permit required influent Total Copper, Total Mercury, and Total Zinc monitoring due to their unusual presence in the influent. The Part C of the permit required the permittee to submit a Pollution Reduction Plan to ACHD within three (3) years of permit issuances. The PRP report required that the permittee shall

- (a) identify the sources of the pollutants.
- (b) describe those measures that were tried after the permit effective date and their effectiveness in eliminating or reducing the pollutants; and
- (c) describe and submit schedules for those measures that will be put into effect.

The permittee submitted a letter on October 18, 2022 to ACHD that listed all DMR sample results for those three metals. The permittee claimed that since the sample results of those three metals were consistently lower than the Safe Drinking Water program's Maximum Contaminant Levels, further investigation has not been required. The 2017 permit addressed this issue. The final permit fact sheet addendum clearly stated that the metals weren't a concern for the receiving stream, since there is a large dilution. But it was stated that a sewage treatment plant that isn't receiving any industrial waste shouldn't have those metals at that high concentration. It was suspected that there might be some industrial waste

comingling with the sewage and making its way into the treatment plant. The purpose of the part C condition in the previous permit was to require the permittee to identify the source of those metals, identify remedial measures to eliminate or reduce their concentration, and a schedule to implement those measures. Since the facility didn't provide a PRP as required by the permit, the permittee will be required to submit the PRP within **one** year from permit effective date. In addition, the quarterly influent monitoring for Total Copper, Total Mercury, and Total Zinc monitoring will remain in the permit. The following are the sample results submitted by the permittee in their October 18, 2022 letter:

DUCTMATE					
SAMPLE ID #	DATE - TIME	LOCATION	Copper (mg/L)	Mercury (mg/L)	Zinc (mg/L)
22G2702-01	7/27/2022 15:40	Influent Grab	0.09	0.0002	0.27
22E2641-01	5/20/2022 15:02	Influent Grab	0.07	0.0002	0.26
22B1660-01	2/10/2022 15:15	Influent Grab	0.06	0.0002	0.4
21K2120-01	11/17/2021 15:30	Influent Grab	0.06	0.001	0.42
21G1812-01	7/14/2021 14:20	Influent Grab	0.72	0.001	0.72
21E2348-01	5/24/2021 13:10	Influent Grab	0.05	0.001	0.28
21B2200-01	2/24/2021 14:30	Influent Grab	0.04	0.001	0.16
20L1513-01	12/8/2020 13:25	Influent Grab	0.04	0.001	0.2
20I1328-01	9/2/2020 14:50	Influent Grab	0.12	0.001	0.76
20E2514-01	5/20/2020 15:10	Influent Grab	0.03	0.001	0.23
20B1927-01	2/17/2020 14:30	Influent Grab	0.04	0.001	0.1
19J0998-01	10/2/2019 14:30	Influent Grab	0.04	0.001	0.18
19H1582-01	8/8/2019 13:15	Influent Grab	0.06	0.001	0.22
19E0827-01	5/1/2019 16:00	Influent Grab	0.08	0.001	0.49
19A0523-01	1/2/2019 15:00	Influent Grab	0.06	0.001	0.18
18K0881-01	11/7/2018 14:40	Influent Grab	0.07	0.001	0.28
18I2220-01	9/26/2018 14:55	Influent Grab	0.05	0.001	0.09
18F1706-02	6/19/2018 14:00	Influent Grab	0.02	0.001	0.02
18C1550-03	3/22/2018 17:20	Influent Grab	0.02	0.001	0.06
Average			0.0905	0.0009	0.2800
Min			0.0200	0.0002	0.0200
Max			0.7200	0.0010	0.7600
MCL			1.3	0.002	5

Additional Considerations

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 § 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. These are the existing limits that will be carried over in this renewal.

E. Coli:

DEP's SOP titled "Establishing Effluent Limitations for Individual Sewage Permits (BCW-PMT-033, revised March 24, 2021) recommends annual E. Coli monitoring for all dischargers with flow between 0.002 MGD to 0.05 MGD. This is also supported by Pa Code 25 §92a.61. This requirement will be applied from this permit term.

pH:
The TBEL for pH is above 6.0 and below 9.0 S.U. (40 CFR §133.102(c), Pa Code 25 § 95.2(1), and Pa Code 25 § 92a.47) which are existing limits and will be carried over.

Total Suspended Solids (TSS):
There is no water quality criterion for TSS. The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment, 25 Pa. Code § 92a.47 and 40CFR 133.102(b). These limits are same as existing limits and will be carried over.

Total Residual Chlorine (TRC):
Pa Code 25 § 92a.47-48 requires an average monthly limit of 0.5 mg/l and IMAX of 1.6 mg/l. These are existing limits and will be carried over.

Flow:
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii), Pa Code 25 § 92a.27 and § 92a.61.

Best Professional Judgement (BPJ):

Total Nitrogen:
PADEP's SOP BCW-PMT-033 suggests monitoring requirement, at a minimum, for facilities with design flow greater than 2,000 GPD. TN monitoring is also required under Pa Code 25 § 92a.61. This requirement is applied for all facilities meeting the flow criteria. This is an existing requirement and will be carried over.

Total Phosphorus:
PADEP's SOP BCW-PMT-033 suggests monitoring requirement, at a minimum, for facilities with design flow greater than 2,000 GPD. TP monitoring is also required under Pa Code 25 § 92a.61. This requirement is applied for all facilities meeting the flow criteria. This is an existing requirement and will be carried over.

Monitoring Frequency and Sample Types:
Otherwise specified above, the monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using best professional judgment (BPJ).

Anti-Backsliding
The proposed limits are at least as stringent as are in existing permit, unless otherwise stated; therefore, anti-backsliding is not applicable.

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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	0.006	XXX	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	3/week	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	3/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Copper Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
Total Mercury Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Zinc Raw Sewage Influent	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

Compliance Sampling Location: At Outfall 001

Other Comments: None

Tools and References Used to Develop Permit	
<input type="checkbox"/>	WQM for Windows Model (see Attachment [redacted])
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	TRC Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment [redacted])
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
<input type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 385-2000-011, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
<input type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
<input type="checkbox"/>	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
<input type="checkbox"/>	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
<input type="checkbox"/>	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
<input type="checkbox"/>	Design Stream Flows, 391-2000-023, 9/98.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP: [redacted]
<input type="checkbox"/>	Other: [redacted]