Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0043885**
Facility Type	**Municipal**	APS ID	**820028**
Major / Minor	**Major**	Authorization ID	**988603**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Greater Pottsville Area Sewer Authority**	Facility Name	**GPASA WWTP**
Applicant Address	401 N. Centre Street	Facility Address	1050 Route 61 South
	Pottsville, PA 17901		Pottsville, PA 17901
Applicant Contact	Timothy Yingling	Facility Contact	James Laux
Applicant Phone	(570) 622-0513	Facility Phone	(610) 451-9155
Client ID	87466	Site ID	256601
Ch 94 Load Status	See below	Municipality	Pottsville City
Connection Status	Legally Modified Connection Prohibition	County	Schuylkill
Date Application Received	July 3, 2013	EPA Waived?	No
Date Application Accepted	July 3, 2013	If No, Reason	Major Facility, Pretreatment

Purpose of Application: Renewal of NPDES permit.

Summary of Review

The applicant is requesting renewal of an NPDES permit to discharge 8.2 MGD of treated sewage to the Schuylkill River, a cold water and migratory fish (CWF/MF) designated receiving stream in state water plan basin 03-A (Upper Schuylkill River). As per the Department's current existing use list, the receiving stream does not have an existing use classification that is more protective than its designated use. The 2024 Integrated Water Quality Report lists this segment of the Schuylkill River as impaired for aquatic life as a result of acid mine drainage, habitat alterations from channelization, and flow regime modification from urban runoff / storm sewers. It's also considered impaired for recreation due to pathogens from unknown source(s), and impaired for fish consumption due to PCBs from unknown source(s).

The WWTP utilizes the secondary treatment activated sludge process and consists of a mechanical bar screen, a channel course grinder, a vortex grit removal unit, two primary clarifiers, four aeration tanks, four final clarifiers, and two chlorine contact tanks. Sludge handling operation facilities include two anaerobic digester units, a sludge thickening tank, a sludge storage tank, a gravity belt thickener, and a belt filter press.

TMDLs

This segment of the Schuylkill River is subject to the Final Upper Schuylkill Watershed TMDL for acid mine drainage, however, there are no waste load allocations (WLAs) assigned to this facility. The table below summarizes the water quality criteria for the receiving waters.

Approve	Deny	Signatures	Date
X		Brian Burden, E.I.T. / Project Manager	January 30, 2026
X		Edward Dudick, P.E. / Environmental Engineer Manager	February 2, 2026

Summary of Review

Table 3. Applicable Water Quality Criteria

Parameter	*Criterion Value (mg/l)*	*Total Recoverable/Dissolved*
Aluminum (Al)	0.75	Total Recoverable
Iron (Fe)	1.50	30-day average; Total
Manganese (Mn)	1.00	Total Recoverable
pH *	6.0-9.0	N/A

The highest reported concentrations submitted with the permit renewal application for the TMDL parameters at Outfall 001 are as follows: Total Aluminum – 0.075 mg/L, Total Iron – 0.364 mg/L, Total Manganese – 0.070 mg/L. Since January 2023, the minimum and maximum reported pH values on eDMR were 6.1 S.U. and 8.2 S.U., respectively. The reported concentrations are within the water quality criteria values. 1/year monitoring requirements for these parameters are included in this renewal.

This segment of the Schuylkill River is also subject to the Schuylkill River PCB TMDL. The PCB WLAs from Table B-1 of the TMDL are imaged below. The West End WWTP permitted under PA0043877 has been decommissioned and replaced by a pump station that conveys flows to the main WWTP.

Table B-1. PCB WLAs for Individual Point Source Facilities (excludes MS4s)

Model Segment	Point Source Facility Name	Permit Number	WLA (g/day)
A	GREATER POTTSVILLE SEWER AUTHORITY STP	PA0043885	1.16E-03
A	GREATER POTTSVILLE SEWER AUTHORITY STP	PA0043877	8.28E-05

The previously issued permit (effective January 1, 2009) included the following Part C special condition:

Summary of Review

TWELVE: On April 7, 2007, the U.S. Environmental Protection Agency (EPA) Region III established a Total Maximum Daily Load (TMDL) for PCBs for the Schuylkill River, which was listed on Pennsylvania's 1996 303(d) list of impaired streams as impaired due to the presence of elevated PCB concentrations found in fish tissue. PCBs are a group of synthetic chemicals that consist of 209 individual compounds (known as Congeners). The Schuylkill River PCB TMDL was established using a water quality criteria of 0.044 ng/l for PCBs.

Implementation of the TMDL requires that permitted facilities that discharge directly to the Schuylkill River conduct additional monitoring for PCBs using analytical Method 1668A. The results of PCB monitoring will be evaluated to determine whether further action is required on the part of the permitted facility. Based on the results of the PCB monitoring program, facilities may be required to develop and implement a PCB Waste Minimization and Reduction Program, also known as a Pollution Minimization Plan (PMP). For information on how to develop a PMP, go to the Delaware River Basin Commission (DRBC) website at http://www.state.nj.us/drbc/PMP_info.htm.

For the purpose of the Schuylkill River TMDL, this facility was allocated a waste load allocation of 0.00116 grams per day of PCBs. Phase I implementation of the TMDL requires that this facility collect and analyze two samples for PCBs utilizing Method 1668A during the first 12 months of this permit. Phase II implementation of the TMDL will involve the development and implementation of a PMP, if necessary. Upon review of the data collected in Phase I, individual facilities will be directed by the Department to commence Phase II development and implementation of a PMP.

This facility is required to collect and analyze two samples for PCBs utilizing Method 1668A within 12 months from the issuance of this permit. One sample shall be collected during a wet weather flow period, the second sample shall be collected during a dry flow period. The samples shall be collected from outfall 001. Sample collection techniques, identification analytical approaches and reporting requirements can be found at http://www.state.nj.us/drbc/PCB_info.htm

Within 15 months from the issuance of this permit, the facility shall submit the results of the PCB monitoring to the address listed below:

Commonwealth of Pennsylvania
Department of Environmental Protection
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711-0709

Effluent PCB results analyzed using Method 1668A were not located in DEP's files. Several PCB sample results analyzed using Method SW846-8082 were provided since the effective date of the previously issued permit, however, the quantitation limit of the analyses (1 µg/L) are much higher than the 0.044 ng/L (0.000044 µg/L) water quality criteria value and no useful data was obtained. This permit includes the template Part C.VIII condition for PCB monitoring. The permittee shall sample for Total PCBs twice per year utilizing EPA Method 1668A during this permit term. Each year, one sample shall be collected during dry weather flows; the other sample shall be collected during wet weather flows.

Implementation of the PCB TMDL will be completed in two phases. Phase I implementation of the TMDL requires that this facility collect and analyze two samples for PCBs utilizing Method 1668A during the first 12 months of this permit. Phase II implementation of the TMDL will involve the development and implementation of a Pollution Minimization Plan (PMP) based on the PCB monitoring results. Within 15 months from the issuance of this permit, the facility shall submit the results of the first year of PCB monitoring to DEP via Public Upload. Upon review of the data collected in Phase I, individual facilities may be directed by the DEP to commence Phase II involving development and implementation of a PMP (see Part C.VIII).

Limitations / Monitoring Requirements

The effluent limits for TSS, pH, and Fecal Coliform are technology-based and carried over from the previously issued permit. Technology-based IMAX limitations are added to the permit for Fecal Coliform to replace the previous IMAX requirement of "not greater than 1,000/100 mL in more than 10% of the samples tested" for the summertime limitations.

The $CBOD_5$, Dissolved Oxygen, and Total Lead limits are water quality-based and carried over. WQM 7.0 recommended slightly more stringent Ammonia-N limitations (5.39 mg/L summertime monthly average, 10.78 mg/L IMAX) and the TRC calculation spreadsheet recommended more stringent limitations for TRC (0.14 mg/L monthly average, 0.46 mg/L IMAX).

Summary of Review

The standard 3x multiplier was used to develop the revised wintertime Ammonia-N limitations. eDMR data shows the permittee can meet the more stringent limitations consistently, therefore, they will come into effect on the permit effective date.

For modeling inputs, river mile index (RMI) values were obtained from DEP's eMap, elevations were obtained from USGS StreamStats, and drainage areas were delineated using StreamStats. Data from stream gage 01468500 (Schuylkill River at Landingville, PA) was used to develop the Q_{7-10} and low flow yield (LFY). Partial mixing factors (PMFs) for TRC modeling were copied from the PMFs calculated in Toxics Management Spreadsheet (TMS) modeling.

The TMS was used to model pollutant data submitted with the permit renewal application and the following recommendations were made:

- Total Copper: The TMS recommends an average monthly limitation of 0.017 mg/L, which is more stringent than the current monthly average limitation of 0.031 mg/L. eDMR results from the previous two years show the new 0.017 mg/L limitations would have been consistently met, except on one occasion (October 2025 – 0.0234 mg/L). The new limitations will come into effect three years after the permit effective date. Part C.IX is added to the permit requiring the permittee to develop a Total Copper minimization plan for consistently meeting the revised limitations. The permittee has the option to collect site-specific data to revise the water quality-based limitations by updating the default modeling inputs.

- Total Lead: Monitoring/reporting requirements were recommended, therefore, the limitations from the previous renewal are carried over in this permit.

- Total Zinc: Monitoring/reporting requirements were recommended. Quarterly monitoring/reporting is added to the permit for Total Zinc.

- Acrylamide: The TMS recommended limitations, however, the analytical results submitted for Acrylamide were non-detect. Based on current guidance, since there's no target QL for Acrylamide and the results were non-detect, no monitoring requirements are included in the permit.

- Chlorodibromomethane: The TMS recommended a monthly average limitation of 7.25 µg/L. Several of the analytical results submitted with the permit renewal application exceeded this value. Part C.V is added to the permit requiring a Toxics Reduction Evaluation to be completed for Chlorodibromomethane and the limitations will come into effect three years after the permit effective date.

- Dichlorobromomethane: The TMS recommended a monthly average limitation of 8.61 µg/L. Several of the analytical results submitted with the permit renewal application exceeded this value. Part C.V is added to the permit requiring a Toxics Reduction Evaluation to be completed for Dichlorobromomethane and the limitations will come into effect three years after the permit effective date.

- Chloroform: The TMS recommended a monthly average limitation of 14.7 µg/L. Several of the analytical results submitted with the permit renewal application exceeded this value. Part C.V is added to the permit requiring a Toxics Reduction Evaluation to be completed for Chloroform and the limitations will come into effect three years after the permit effective date.

DRBC Docket 2002-041 CP-4 includes the following requirements to be added to the NPDES permit:

EFFLUENT TABLE C-2: DRBC Parameters Not Included in NPDES Permit

OUTFALL 001 (Discharging to Schuylkill River)		
PARAMETER	**LIMIT**	**MONITORING**
Total Dissolved Solids*	1,000 mg/l *	Quarterly
$CBOD_5$ (at 20° C) Influent	Monitor & Report Percent Removal	Monthly, paired with $CBOD_5$ effluent monitoring sample

Summary of Review

In addition to the influent $CBOD_5$ monitoring requirements, weekly influent TSS monitoring requirements are added to the permit as per DEP guidance documents. Monthly monitoring / reporting is also added to the permit for E. Coli, and quarterly monitoring / reporting requirements are added to the permit for Total Phosphorus, Total Nitrogen, Total Kjeldahl Nitrogen, and Nitrate-Nitrite as N, as per current guidance.

Stormwater Outfalls

Outfalls 002 through 008 are on-site stormwater only outfalls and are subject to the PAG-03 industrial stormwater permit Appendix J requirements. Semiannual monitoring / reporting for TSS, Oil & Grease, pH, Chemical Oxygen Demand (COD), Total Nitrogen, and Total Phosphorus are included in the permit for Outfalls 002 through 008. The permittee is authorized to discharge non-polluting stormwater from its site through the following outfalls:

Outfall No.	Latitude	Longitude	Description
002	40º 40' 25"	-76º 11' 12"	To Schuylkill River -CWF
003	40º 40' 27"	-76º 11' 13"	To Schuylkill River -CWF
004	40º 40' 30"	-76º 11' 15"	To Schuylkill River -CWF
005	40º 40' 32"	-76º 11' 16"	To Schuylkill River -CWF
006	40º 40' 34"	-76º 11' 17"	To Schuylkill River -CWF
007	40º 40' 38"	-76º 11' 20"	To Schuylkill River -CWF
008	40º 40' 40"	-76º 11' 21"	To Schuylkill River -CWF

The template Part C.VII condition for Requirements Applicable to Stormwater Outfalls is included in the permit. Annual stormwater inspection reports are required to be submitted to DEP by May 1st of each year.

Combined Sewer Overflow (CSO) Outfalls / Long Term Control Plan

The Authority operates 22 CSO diversion structures which are listed in the Part A CSO table. Fifty-six CSOs were originally part of the collection system before thirty-six were eliminated (and then two were added in that process).

The required Long-Term Control Plan (LTCP) is a document by which the permittee evaluates the existing combined sewer system (CSS) infrastructure and the hydraulic relationship between the CSS, wet weather, overflows and treatment capacity. Alternatives for reducing or eliminating overflows are evaluated and a plan to eventually meet water quality standards is selected. The three LTCP options are demonstrative, presumptive and total separation.

The LTCP discusses the Authority's choice of the presumptive approach for developing their plan. The presumptive approach must meet one of the following three criteria:

a.) No more than an average of [4,5,6] overflow events occur per year; or
b.) Not less than 85% by volume of the combined sewage collected in the CSS during rain events is treated or eliminated, or
c.) Not less than 85% by mass of the combined sewage collected in the CSS during rain events is treated or eliminated.

The LTCP chose to meet the water quality standards by option a.) of the presumptive approach and states: "*The GPASA has revised the CSO system (i.e., removing 36, refurbishing 20, and adding 2 new ones) such that the first criterion is met."*

It's not clear how the removal / refurbishing of some of the system's CSOs meets criteria a.) of the presumptive approach. Review of the monthly CSO discharge flow reports submitted with the eDMR reports shows many more than 4 discharge events over the previous year. As an example, the May 2025 report showed 17 days of discharges through CSO 013 from separate wet weather events. Over a one-year period (October 2024 – September 2025), CSO 013 discharged on 102 days.

Part C.II.C.1 of this permit includes a requirement to revise and submit to DEP the Authority's LTCP within two years of the permit effective date. Although the latest LTCP chose one of the three criteria from the presumptive approach as their chosen method used to implement their LTCP, the permittee may choose a different approved approach (demonstrative, presumptive, or total separation) for the required revised LTCP.

Summary of Review

In the Combined Sewer Overflows Part C condition for this renewal, the following language is included:

CSO Water Quality-Based Effluent Limit

The permittee shall comply with a minimum of one of the following under design conditions:

- *A planned control program that has been demonstrated to be adequate to meet the water quality-based requirements of the CWA ("demonstration approach"), or*
- *A minimum level of treatment that is presumed to meet the water quality-based requirements of the CWA, unless data indicate otherwise ("presumption approach"):*

  a. Eliminate or capture for treatment, or storage and subsequent treatment, at least 85% of the system-wide combined sewage volume collected in the combined sewer system during precipitation events under design conditions; or

  b. Discharge no more than an average of [4, 5, or 6] overflow events per year; or

  c. Eliminate or remove no less than the mass of the pollutants identified as causing water quality impairment, for the volumes that would be eliminated or captured for treatment under the 85% capture by volume approach.

- *E. coli monitoring must be included in Post-construction compliance monitoring (PCCM) plans to verify compliance with water quality standard and designated uses.*

Many CSO flow values reported with the monthly DMRs are repetitive values. As an example, the reported September 2025 CSO flow values for Outfall 011 are as follows:

- 9/4 - 0.002 MG (0.1 inches of rainfall in 24-hour period)
- 9/5 - 0.002 MG (0.2 inches of rainfall in 24-hour period)
- 9/6 - 0.002 MG (0.1 inches of rainfall in 24-hour period)
- 9/17 - 0.002 MG (0.1 inches of rainfall in 24-hour period)
- 9/23 - 0.002 MG (0.2 inches of rainfall in 24-hour period)
- 9/24 - 0.002 MG (0.85 inches of rainfall in 24-hour period)
- 9/25 - 0.002 MG (2.6 inches of rainfall in 24-hour period)

The September 2025 CSO flow values for Outfall 015 are as follows:

- 9/4 - 28.470 MG (0.1 inches of rainfall in 24-hour period)
- 9/5 - 28.470 MG (0.2 inches of rainfall in 24-hour period)
- 9/6 - 28.470 MG (0.1 inches of rainfall in 24-hour period)
- 9/17 - 28.470 MG (0.1 inches of rainfall in 24-hour period)
- 9/23 - 28.470 MG (0.2 inches of rainfall in 24-hour period)
- 9/24 - 28.470 MG (0.85 inches of rainfall in 24-hour period)
- 9/25 - 28.470 MG (2.6 inches of rainfall in 24-hour period)

Other CSO outfalls appear to have more accurate flow meters utilized for flow reporting. As an example, the September 2025 CSO flow values for Outfall 023 are as follows:

- 9/4 – 0.186 MG (0.1 inches of rainfall in 24-hour period)
- 9/5 – 0.043 MG (0.2 inches of rainfall in 24-hour period)
- 9/6 – 0.113 MG (0.1 inches of rainfall in 24-hour period)
- 9/17 – 0.341 MG (0.1 inches of rainfall in 24-hour period)
- 9/23 – 0.361 MG (0.2 inches of rainfall in 24-hour period)
- 9/24 – 0.332 MG (0.85 inches of rainfall in 24-hour period)
- 9/25 – 0.882 MG (2.6 inches of rainfall in 24-hour period)

Summary of Review

The revised LTCP shall include descriptions of how flows are measured at each CSO outfall (see Part C.II.C.1.).

Whole Effluent Toxicity (WET)

DEP's regional biologist reviewed the WET tests for August 2012, November 2012, January 2013, and April 2013. All chronic tests for both species passed except for the Ceriodaphnia reproduction test for January 2013. The NOEC of 25% was below the target in-stream waste concentration (TIWC) OF 39%. The re-test conducted during February 2013 passed.

The previously issued permit didn't include the TIWC in the required dilution series. The January 2013 Ceriodaphnia reproduction test failed at a waste concentration of 50% and passed at a concentration of 25%. Since the TIWC falls between those values, it's not clear if reasonable potential was determined. This permit includes the standard template Part C language for WET testing with no permit limitations.

Industrial Pretreatment Program

The permittee continues operation of an Industrial Pretreatment Program (IPP). Three significant users (SIUs) are currently connected to the system and permitted under the IPP:

- Honeywell International, Inc. (SIC code 3081 – Unsupported Plastics, Film and Sheet) - 312 GPD average daily flow discharged to West End PS before conveyance to WWTP.
- D.G. Yuengling & Son, Inc. Pottsville (SIC code 2082 – Malt Beverages) – 70,905 GPD average daily flow to WWTP.
- D.G. Yuengling & Son, Inc. Mill Creek (SIC code 2082 – Malt Beverages) – 127,831 GPD average daily flow to WWTP.

The template Part C.III condition for POTW pretreatment program implementation is included in this renewal.

Chapter 94 Reporting

The permittee shall comply with the requirements of Chapter 94, Municipal Wasteload Management. The permittee shall submit a complete and accurate Wasteload Management Annual Report to the Department by March 31st of each year. The report shall contain the information under Section 94.12 of the Department's wasteload management regulations, Title 25, Chapter 94. There are no current or project hydraulic/organic overloads at the WWTP as indicated on the latest Chapter 94 report (received 3/31/2025).

Portions of the City of Pottsville remain under a sewer connection prohibition as of the Department's November 18, 2015 Act 537 Planning approval Letter, including all of Mount Carbon Borough, portions of Pottsville City, and portions of North Manheim Township. As per the planning letter, *"In recognition of the Authority's commitment to fully implement the proposed CAP, DEP hereby grants a sewer connection allocation of 64 Equivalent Dwelling Units (EDUs). This allocation shall be administered and disbursed by the Authority for use within the Borough of Mount Carbon and the portions of the City of Pottsville and North Manheim Township that will remain under a sewer connection prohibition."* As of 3/31/2025, none of the 64 EDUs have been allocated.

Sludge use and disposal description and location(s): The most recent Chapter 94 report states from January 1, 2024 to December 31, 2024, Disposal Management Services, Inc hauled 790.86 wet tons of dewatered sludge and 121.67 wet tons of grit and bar screenings to the Commonwealth Environmental Systems Landfill.

WQM Modeling.pdf
TMS PA0043885.pdf
TRC Calculation.pdf
Watershed Information.pdf
WET Dilution Series.pdf
CSO Outfall Locations.pdf
2002-041 CP-4.pdf
PCB TMDL.pdf
Upper Schuylkill River AMD TMDL.pdf

Summary of Review

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	8.2
Latitude	40º 40' 33"	Longitude	-76º 11' 15"
Quad Name	Pottsville	Quad Code	1336
Wastewater Description:	Sewage Effluent		

Receiving Waters	Schuylkill River (CWF, MF)	Stream Code	833
NHD Com ID	133228594	RMI	122.65
Drainage Area	60.9 mi^2	Yield (cfs/mi^2)	0.33
Q_{7-10} Flow (cfs)	20.097	Q_{7-10} Basis	Gage 01468500
Elevation (ft)	588	Slope (ft/ft)	0.004
Watershed No.	3-A	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Habitat Alterations, Metals, Polychlorinated Biphenyls (PCBs), Siltation		
Source(s) of Impairment	Acid Mine Drainage, Channelization, Highway/Road/Bridge Runoff (Non-Construction Related), Unknown Source(s), Urban Runoff / Storm Sewers		
TMDL Status	Final	Name	PCB TMDL for the Schuylkill River & Upper Schuylkill River Watershed TMDL for Acid Mine Drainage Affected Segments

Background/Ambient Data		Data Source
pH (SU)	7	Default
Temperature (°C)	20	Default
Hardness (mg/L)	100	Default
Other:	-	-

Nearest Downstream Public Water Supply Intake	Pottstown Borough Water Authority		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	-
PWS RMI	57	Distance from Outfall (mi)	~65.5

Treatment Facility Summary

Treatment Facility Name: Pottsville WWTP

WQM Permit No.	Issuance Date
5404401	5/7/2004

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Sodium Hypochlorite (chlorination) / Sodium Bisulfite (dechlorination)	8.2

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
8.2	14,635	No Overloads	Belt Thickener / Belt Filter Press	Landfill

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 8.2
Latitude 40º 40' 33" **Longitude** -76º 11' 15"
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
Total Suspended Solids	30.0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45.0	Average Weekly	133.102(b)(2)	92a.47(a)(2)
	60.0	IMAX	-	-
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)
	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)
	10,000 / 100 mL	IMAX	-	92a.47(a)(5)

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/L)	SBC	Model
$CBOD_5$	20.0	Average Monthly	Previous Modeling
	30.0	Average Weekly	
	40.0	IMAX	
Ammonia-N (5/1 – 10/31)	5.39	Average Monthly	2026 WQM 7.0
	10.78	IMAX	
Ammonia-N (11/1 – 4/30)	16.17	Average Monthly	
	32.34	IMAX	
Dissolved Oxygen	5.0	Minimum	Previous Modeling
Total Residual Chlorine	0.14	Average Monthly	2026 TRC Calculation Spreadsheet
	0.46	IMAX	
Total Copper	0.017	Average Monthly	2026 Toxics Management Spreadsheet
	0.034	Daily Maximum	
Total Lead	0.012	Average Monthly	Previous Modeling
	0.018	Daily Maximum	
Chlorodibromomethane	0.007	Average Monthly	2026 Toxics Management Spreadsheet
	0.014	Daily Maximum	
Dichlorobromomethane	0.008	Average Monthly	2026 Toxics Management Spreadsheet
	0.016	Daily Maximum	
Chloroform	0.014	Average Monthly	2026 Toxics Management Spreadsheet
	0.028	Daily Maximum	
Total Dissolved Solids	1,000	Average Quarterly	DRBC Docket 2002-041 CP-4

Comments: The Chlorodibromomethane, Dichlorobromomethane, Chloroform, and revised Total Copper limitations will come into effect 3 years after the permit effective date.

Anti-Backsliding

No limitations were removed from the permit or made less stringent.

Pennsylvania Department of Environmental Protection

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **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%, 50%, 25%, 12.5%, and 6.25%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: **N/A** (see above).

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

	***Ceriodaphnia* Results (% Effluent)**			***Pimephales* Results (% Effluent)**			
Test Date	**NOEC Survival**	**NOEC Reproduction**	**LC50**	**NOEC Survival**	**NOEC Growth**	**LC50**	**Pass? ***
8/2012	100	100	100	100	100	100	Yes
11/2012	100	100	100	100	100	100	Yes
2/2013	50	25	100	100	100	100	No
4/2013	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**

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

Acute Partial Mix Factor (PMFa): **0.581** Chronic Partial Mix Factor (PMFc): **1**

1. **Determine IWC – Acute (IWCa)**:

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

   [(8.2 MGD x 1.547) / ((20.097 cfs x 0.581) + (8.2 MGD x 1.547))] x 100 = **52%**

   12.685 / 11.676 + 12.685 24.361 32.782

   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: N/A

   Type of Test for Permit Renewal: **Chronic**

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

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

   [(8.2 MGD x 1.547) / ((20.097 cfs x 1) + (8.2 MGD x 1.547))] x 100 = **39%**

3. **Determine Dilution Series**

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

Dilution Series = 100%, 70%, 39%, 20%, and 10%.

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).

N/A

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

See discussion above.