Pennsylvania Department of Environmental Protection

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0028576**
Facility Type	**Municipal**	APS ID	**751150**
Major / Minor	**Major**	Authorization ID	**1412474**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Abington Regional Wastewater Authority**	Facility Name	**Abington Regional Wastewater Authority Wastewater Treatment Plant**
Applicant Address	200 Northern Boulevard	Facility Address	200 Northern Boulevard
	Chinchilla, PA 18410-0199		Chinchilla, PA 18410-0199
Applicant Contact	Lauren Elliott, Director	Facility Contact	Lauren Elliott, Director
Applicant Phone	(570) 587-2830	Facility Phone	(570) 587-2830
Client ID	288106	Site ID	252703
Ch 94 Load Status	Not Overloaded	Municipality	South Abington Township
Connection Status	No Limitations	County	Lackawanna
Date Application Received	September 26, 2022	EPA Waived?	No
Date Application Accepted	October 7, 2022	If No, Reason	Major Facility, Significant CB Discharge

Purpose of Application: Renewal of NPDES permit for discharge of treated sewage.

Summary of Review

The applicant is requesting the renewal of an NPDES permit to discharge an annual average flow of 3.34 MGD of treated sewage into Leggetts Creek, a Trout-Stocking, Migratory Fish (TSF, MF) receiving stream in State Water Plan Basin 5-A (Lackawanna 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. This stream segment is designated as a naturally reproducing trout stream as per PA Fish & Boat Commission. This discharge is not expected to affect public water supplies.

The wastewater treatment plant (WWTP) serves the Borough of Clarks Summit, Borough of Clarks Green, a portion of South Abington Township, and a portion of Glenburn Township. The design hydraulic capacity of the WWTP is 5.91 MGD. Effluent limits for Outfall 001 are based on the design flow of 3.34 MGD.

Limitations for pH, $CBOD_5$, Total Suspended Solids (TSS), and Fecal Coliform are technology-based and carried over from the previous permit.

Limitations for Dissolved Oxygen (DO) and Total Copper are water quality-based and carried over from the previous permit.

Per current Standard Operating Procedures for Publicly Owned Treatment Plants, the raw sewage influent monitoring/reporting for TSS and BOD_5 has been maintained in the permit.

WQM modeling recommended stricter summertime limitations for Ammonia-Nitrogen (1.63 mg/L monthly average, 3.26 mg/L IMAX). Wintertime monitoring/reporting for Ammonia-Nitrogen has also been updated to three times the new summertime limitations (4.89 mg/L monthly average, 9.78 mg/L IMAX). eDMR data from the past year confirms the facility should be able to meet these new limits at the permit effective date. eDMR data can be seen on pages 5-7 of this fact sheet.

Approve	Deny	Signatures	Date
X		Allison Seyfried Zukosky / Project Manager	August 28, 2025
X		Edward Dudick, P.E. / Engineer Manager	August 29, 2025

Summary of Review

The previous permit did not contain Total Residual Chlorine (TRC) limitations because UV Disinfection is utilized at the treatment plant. In the event the facility uses chlorine for cleaning purposes or as a back-up disinfection option, an IMAX water quality-based limitation (0.085 mg/L) has been added to the permit and is to be sampled "daily when discharging" (see requirements under Part C.V.E).

Sewage discharges now require monitoring and reporting for E. Coli. A monitoring frequency of 1/month for design flows >= 1 MGD, 1/quarter for design flows >= 0.05 and < 1 MGD, 1/year for design flows of 0.002 – 0.05 MGD will be utilized.

Pollutant sampling results submitted with the permit application were entered into the Toxic Management Spreadsheet (TMS). The TMS recommended limits for Total Aluminum and Free Cyanide and monitoring/reporting for Total Manganese, Total Silver, and Total Zinc. The permittee was given the opportunity to conduct a minimum of 10 additional effluent samples for these parameters. The permittee collected 10 additional samples during November 2024 through January 2025 and provided the results to the Department via email. These updated results were used to re-run the modeling. The modeling indicated the monitoring/reporting should still be established for Total Aluminum, Free Cyanide, Total Manganese, and Total Zinc. Monitoring/reporting was also recommended for Total Copper; however, the permit already had limitations established for Total Copper

Therefore, the quarterly monitoring/reporting for Total Zinc and Total Aluminum has been maintained and quarterly monitoring/reporting has been added for Free Cyanide and Total Manganese. The monitoring/reporting for Total Iron has been removed because the TMS did not recommend limitations or monitoring/reporting.

The Total Copper monitoring frequency has been updated to 1/week to be consistent with the recommended frequencies found in Table 6-3 of DEP's Technical Guidance for the Development and Specification of Effluent Limitations (Document No. 362-0400-001).

This is a Phase 1 Chesapeake Bay facility with annual mass limits for Total Nitrogen and Total Phosphorus. The monitoring/reporting for Total Kjeldahl Nitrogen (TKN), Nitrate-Nitrite as N, and Ammonia-Nitrogen has been maintained in this permit. The maximum nutrient loads (cap loads) for TN and TP for this facility of 66,483 lbs/yr and 8,310 lbs/yr, respectively, have also been carried over in this permit.

This type of facility has been identified by the EPA as being a potential source of PFAS. PFAS monitoring requirements have been added in Part A and described further in Part C. IV. The permittee shall monitor for PFOA, PFOS, HFPO-DA and PFBS quarterly at Outfall 001. The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detect results at or below Quantitation Limits of 4.0 ng/L for PFOA, 3.7 ng/L for PFOS, 3.5 ng/L for PFBS and 6.4 ng/L for HFPO-DA. When monitoring is discontinued, permittees must enter a No Discharge Indicator (NODI) Code of "GG" on DMRs.

Results for Whole Effluent Toxicity (WET) testing for the previous permit term showed no endpoint failures for chronic survival and reproduction data for *Ceriodaphnia dubia*, and chronic survival and growth data for *Pimephales promelas.* The standard Part C condition, Whole Effluent Toxicity – No Permit Limits, has been used in this renewal. WET testing shall be conducted annually during the upcoming permit cycle, at a minimum. The permittee must generate chronic survival and reproduction data for *Ceriodaphnia dubia*, and chronic survival and growth data for *Pimephales promelas*. The permittee shall perform testing using the following dilution series: 22%, 45%, 89%, 95%, and 100% effluent, with a control, where 89% effluent is the facility-specific Target In-Stream Waste Concentration (TIWC). The dilution series was obtained by using the updated $Q_{7\text{-}10}$ flow and design flow. The toxicity limitations have been removed from the permit due to new information that was not previously known.

The most recent DEP Wole Effluent Toxicity Analysis Spreadsheets have been included in the Fact Sheet for reference. The WET information/calculations can be seen starting on page 9.

There are no representative stream gages in the vicinity of the outfall. USGS StreamStats was used to model the flow. River Mile Index (RMI) values were obtained using the Department's eMapPA, drainage areas were delineated using USGS's StreamStats interactive map, and elevations were obtained using the elevation profile tool on StreamStats. Modeling can be seen starting on page 13 of this fact sheet.

Review of the recently submitted Chapter 94 report (dated March 28, 2025) for the treatment plant shows that there were no hydraulic or organic overloads in the past 5 years and there are no projected overloads in the next 5 years.

Summary of Review

The existing permit expired on March 31, 2023 and the application for renewal was received on time.

There are currently no open violations for this client that warrant withholding issuance of this permit.

Sludge use and disposal description and location(s): As per the permittee's NPDES Renewal Application, sludge is hauled to the Keystone Sanitary Landfill in Dunmore & Troop Boroughs, PA by Waste Management.

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)	3.34
Latitude	41º 28' 5.47"	Longitude	-75º 40' 15.43"
Quad Name	Scranton	Quad Code	0740
Wastewater Description:	Sewage Effluent		
Receiving Waters	Leggetts Creek (TSF)	Stream Code	28525
NHD Com ID	65630021	RMI	3.10
Drainage Area	13.2 mi^2	Yield (cfs/mi^2)	0.046
Q_{7-10} Flow (cfs)	0.613	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1,006.69	Slope (ft/ft)	-
Watershed No.	5-A	Chapter 93 Class.	TSF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	PATHOGENS, SILTATION		
Source(s) of Impairment	URBAN RUNOFF/STORM SEWERS, URBAN RUNOFF/STORM SEWERS		
TMDL Status	-	Name	-
Nearest Downstream Public Water Supply Intake	Danville Borough Water Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	122.58	Distance from Outfall (mi)	~ 77

Treatment Facility Summary

Treatment Facility Name: Abington Regional Wastewater Authority WWTP

WQM Permit No.	Issuance Date
3512403	August 17, 2012

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with P/N removal	Extended Aeration	Ultraviolet	3.34

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
5.91	5,770	Not Overloaded	Aerobic Digestion	Hauled/Landfill

Compliance History

DMR Data for Outfall 001 (from July 1, 2024 to June 30, 2025)

Parameter	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24
Flow (MGD) Average Monthly	2.52	3.45	1.95	2.23	1.85	1.85	2.31	1.75	1.17	1.36	2.46	1.12
Flow (MGD) Daily Maximum	5.16	7.93	3.24	4.05	4.08	5.56	6.14	5.04	1.61	2.04	6.58	1.67
pH (S.U.) Instantaneous Minimum	6.58	6.51	6.62	6.37	6.40	6.41	6.37	6.58	6.75	7.17	6.85	6.79
pH (S.U.) Instantaneous Maximum	7.12	7.13	7.02	6.96	7.00	7.00	6.91	7.46	7.38	7.64	7.64	7.25
DO (mg/L) Instantaneous Minimum	8.00	8.83	8.98	9.05	9.62	9.66	9.16	9.48	10.12	9.84	9.10	7.20
CBOD5 (lbs/day) Average Monthly	< 144	< 148	< 107	< 112	< 104	< 82	< 105	< 81	< 62	68	123	60
CBOD5 (lbs/day) Weekly Average	< 204	< 200	< 140	< 149	< 283	< 114	< 139	< 152	< 78	82	203	93
CBOD5 (mg/L) Average Monthly	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	7.0
CBOD5 (mg/L) Weekly Average	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0	8.5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	1347	1405	1410	1989	2096	2116	1958	2538	1566	1598	784	1443
BOD5 (mg/L) Raw Sewage Influent Average Monthly	36	39	58	70	98	108	77	123	98	88	37	86
TSS (lbs/day) Average Monthly	133	232	123	112	156	108	116	95	< 52	57	170	46
TSS (lbs/day) Raw Sewage Influent Average Monthly	1200	2251	1492	1803	1415	1462	2824	1423	1033	1300	1024	1671
TSS (lbs/day) Weekly Average	204	320	190	155	382	140	209	230	< 65	69	347	55

TSS (mg/L) Average Monthly	5.0	10.0	7.0	6.0	8.0	8.0	7.0	6.0	< 5.0	< 5.0	< 5.0	5.0
TSS (mg/L) Raw Sewage Influent Average Monthly	32	60	60	60	61	71	108	73	64	69	42	97
TSS (mg/L) Weekly Average	6.0	12.5	12.5	7.5	12.5	10.5	9.0	9.0	< 5.0	< 5.0	6.0	6.0
Fecal Coliform (No./100 ml) Average Monthly	10	8.0	5.0	12	11	12	7.0	6.0	6.0	9	15	7.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	104.6	21.1	12.2	75.4	272.3	461.1	39.3	96	23.1	32.3	198.9	50.4
Nitrate-Nitrite (mg/L) Average Monthly	6.02	4.33	5.46	3.48	4.29	6.72	7.29	4.75	3.17	3.27	4.11	4.19
Nitrate-Nitrite (lbs) Total Monthly	4193	3362	2622	1935	1854	2715	3785	2031	1002	1156	2412	1243
Total Nitrogen (mg/L) Average Monthly	7.14	6.25	7.02	4.73	6.25	8.11	8.39	6.06	4.37	4.67	5.19	5.58
Total Nitrogen (lbs) Effluent Net Total Monthly	4993	5077	3345	2657	2772	3257	4384	2527	1377	1648	3078	1647
Total Nitrogen (lbs) Total Monthly	4993	5077	3345	2657	2772	3257	4384	2527	1377	1648	3078	1641
Total Nitrogen (lbs) Effluent Net Total Annual										47778		
Total Nitrogen (lbs) Total Annual										47778		
Ammonia (lbs/day) Average Monthly	< 5.0	16	< 3.60	4.0	11	3.0	< 3.0	< 2.7	< 2.0	5.0	< 4.0	< 2.0
Ammonia (mg/L) Average Monthly	< 0.2	0.60	< 0.20	0.25	0.54	0.23	< 0.2	< 0.2	< 0.2	0.39	< 0.2	< 0.2
Ammonia (lbs) Total Monthly	< 142	497	< 96	137	302	91	< 107	< 80	< 63	< 141	< 120	< 64
Ammonia (lbs) Total Annual										1643		
TKN (mg/L) Average Monthly	1.12	1.92	1.56	1.25	1.96	1.39	1.10	1.32	1.21	1.40	1.08	1.39
TKN (lbs) Total Monthly	801	1715	723	722	918	542	599	496	375	492	666	398

Total Phosphorus (mg/L) Average Monthly	0.539	0.577	0.412	0.197	0.31	0.375	0.279	1.04	1.067	0.639	0.453	1.35
Total Phosphorus (lbs) Effluent Net Total Monthly	354	473	183	114	136	145	143	339	333	214	290	392
Total Phosphorus (lbs) Total Monthly	354	473	183	114	136	145	143	339	333	214	290	392
Total Phosphorus (lbs) Effluent Net Total Annual										2504		
Total Phosphorus (lbs) Total Annual										2504		
Total Aluminum (lbs/day) Average Quarterly	4.58			5.81			1.65			2.52		
Total Aluminum (mg/L) Average Quarterly	0.24			0.45			0.18			0.44		
Total Copper (lbs/day) Average Monthly	0.15	0.21	0.06	0.08	0.06	0.12	0.12	0.07	0.06	0.05	0.09	0.04
Total Copper (lbs/day) Daily Maximum	0.18	0.22	0.08	0.09	0.07	0.14	0.13	0.08	0.08	0.06	0.14	0.05
Total Copper (mg/L) Average Monthly	0.005	0.008	0.0036	0.005	0.0051	0.0076	0.0079	0.0065	0.006	0.004	0.005	0.005
Total Copper (mg/L) Daily Maximum	0.005	0.008	0.0044	0.005	0.0056	0.0079	0.0091	0.0075	0.006	0.005	0.007	0.005
Total Iron (lbs/day) Average Quarterly	0.045			0.78			0.37			0.29		
Total Iron (mg/L) Average Quarterly	0.86			0.06			0.04			0.05		
Total Zinc (lbs/day) Average Quarterly	0.05			0.91			0.55			0.35		
Total Zinc (mg/L) Average Quarterly	0.95			0.07			0.06			0.06		
Chronic WET - Ceriodaphnia Survival (TUc) Daily Maximum	1.0			GG			GG			GG		
Chronic WET - Ceriodaphnia Reproduction (TUc) Daily Maximum	1.0			GG			GG			GG		

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 3.34
Latitude 41º 28' 4.00" **Longitude** -75º 40' 16.00"
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
$CBOD_5$	25.0	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40.0	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
	50.0	IMAX	-	92a.47
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	-	92a.47
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)
E. Coli (No./100 ml)	Report	IMAX	-	92a.61

Water Quality-Based Limitations

The following limitations were determined through water quality modeling:

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	6.0	Minimum	Previous Modeling/Permit
Total Residual Chlorine	0.085	IMAX	TRC Calculation Spreadsheet
Ammonia-Nitrogen Nov 1 - Apr 30	4.89	Average Monthly	WQM 7.0
	9.78	IMAX	
Ammonia-Nitrogen May 1 - Oct 31	1.63	Average Monthly	
	3.26	IMAX	
Copper, Total	0.016	Average Monthly	Previous Modeling/Permit
	0.032	Daily Maximum	
Aluminum, Total	Report	Average Quarterly	Toxic Modeling Spreadsheet (TMS)
		Daily Maximum	
Cyanide, Free	Report	Average Quarterly	
		Daily Maximum	
Manganese, Total	Report	Average Quarterly	
		Daily Maximum	
Zinc, Total	Report	Average Quarterly	
		Daily Maximum	
PFOA (ng/L)	Report	Average Quarterly	PFAs Monitoring Requirement – EPA Recommendation
PFOS (ng/L)			
PFBS (ng/L)			
HFPO-DA (ng/L)			

Anti-Backsliding

Limitations were not made less stringent unless new information not previously known was provided.

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: **Annually (2017-2025)**

The dilution series used for the tests was: 100%, 90%, 80%, 40%, and 20%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 80%.

Summary of Four Most Recent Test Results

TST Data Analysis

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

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
July 1, 2025	Pass	Pass	Pass	Pass
May 28, 2024	Pass	Pass	Pass	Pass
August 21, 2023	Pass	Pass	Pass	Pass
July 5, 2022	Pass	Pass	Pass	Pass
August 9, 2021	Pass	Pass	Pass	Pass
July 20, 2020	Pass	Pass	Pass	Pass
March 25, 2019	Pass	Pass	Pass	Pass
July 5, 2018	Pass	Pass	Pass	Pass
March 28, 2017	Pass	Pass	Pass	Pass

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

Is there reasonable potential for an excursion above water quality standards based on the results of these tests? (*NOTE – In general, reasonable potential is determined anytime there is at least one test failure in the previous four tests).*

☐ **YES** ☒ **NO**

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

Acute Partial Mix Factor (PMFa): **1.0** Chronic Partial Mix Factor (PMFc): **1.0**

1. **Determine IWC – Acute (IWCa)**:

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

   [(3.34 MGD x 1.547) / ((0.613 cfs x 1.0) + (3.34 MGD x 1.547))] x 100 = **89.39%**

   Is IWCa < 1%? ☐ **YES** ☒ **NO**

   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)**

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

[(3.34 MGD x 1.547) / ((0.613 cfs x 1.0) + (3.34 MGD x 1.547))] x 100 = **89.39%**

3. Determine Dilution Series

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

Dilution Series = 100%, 95%, 89%, 45%, and 22%.

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:

N/A

WET Summary and Evaluation

Facility Name	Abington Regional Wastewater Authority
Permit No.	PA0028576
Design Flow (MGD)	3.34
Q_{7-10} Flow (cfs)	0.613
PMF_a	1
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	6/24/25	5/21/24	8/21/23	7/5/22
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	6/24/25	5/21/24	8/22/23	7/5/22
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	6/24/25	5/21/24	8/22/23	7/5/22
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	6/24/25	5/21/24	8/22/23	7/5/22
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**89** % Effluent
Dilution Series	**22, 45, 89, 95, 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)	80%
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Abington Regional Wastewater Authority

Permit No.: PA0028576

Replicate No.	Test Completion Date 8/24/2025 Control	TIWC	Test Completion Date 5/21/2024 Control	TIWC
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11				
12				
13				
14				
15				
Mean	1.000	1.000	1.000	1.000
Std Dev.	0.000	0.000	0.000	0.000
# Replicates	10	10	10	10
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 8/21/2023 Control	TIWC	Test Completion Date 7/5/2022 Control	TIWC
1	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	0	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11				
12				
13				
14				
15				
Mean	1.000	1.000	0.900	1.000
Std Dev.	0.000	0.000	0.316	0.000
# Replicates	10	10	10	10
T-Test Result				
Deg. of Freedom				
Critical T Value				
Pass or Fail	PASS		PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.8
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Abington Regional Wastewater Authority

Permit No.: PA0028576

Replicate No.	Test Completion Date 8/24/2025 Control	TIWC	Test Completion Date 5/21/2024 Control	TIWC
1	43	40	38	37
2	36	38	35	44
3	39	46	38	37
4	21	16	31	31
5	20	41	39	40
6	37	37	25	38
7	33	37	30	42
8	37	44	45	40
9	38	45	34	35
10	38	33	28	35
11				
12				
13				
14				
15				
Mean	34.200	37.700	34.100	37.900
Std Dev.	7.842	8.642	5.859	3.784
# Replicates	10	10	10	10
T-Test Result	3.6747		8.7210	
Deg. of Freedom	18		17	
Critical T Value	0.8647		0.8633	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 8/22/2023 Control	TIWC	Test Completion Date 7/5/2022 Control	TIWC
1	41	43	39	35
2	38	48	39	43
3	47	47	37	38
4	40	52	35	39
5	42	49	40	40
6	23	38	38	40
7	39	39	43	42
8	45	37	35	40
9	38	45	33	35
10	49	37	43	42
11				
12				
13				
14				
15				
Mean	40.000	43.100	38.000	39.200
Std Dev.	7.228	5.607	3.399	2.936
# Replicates	10	10	10	10
T-Test Result	5.3124		8.7011	
Deg. of Freedom	17		17	
Critical T Value	0.8633		0.8633	
Pass or Fail	PASS		PASS	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.8
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Abington Regional Wastewater Authority

Permit No.: PA0028576

Replicate No.	Test Completion Date 8/24/2025 Control	TIWC	Test Completion Date 5/21/2024 Control	TIWC
1	10	10	10	10
2	10	10	10	10
3	9	10	10	10
4	10	10	10	10
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	9.750	10.000	10.000	10.000
Std Dev.	0.500	0.000	0.000	0.000
# Replicates	4	4	4	4
T-Test Result	12.5523			
Deg. of Freedom	3			
Critical T Value	0.7649			
Pass or Fail	PASS			

Replicate No.	Test Completion Date 8/22/2023 Control	TIWC	Test Completion Date 7/5/2022 Control	TIWC
1	10	10	10	10
2	10	9	10	10
3	10	10	10	10
4	10	10	10	10
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	10.000	9.750	10.000	10.000
Std Dev.	0.000	0.500	0.000	0.000
# Replicates	4	4	4	4
T-Test Result	7.8643			
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)	0.8
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Abington Regional Wastewater Authority

Permit No.: PA0028576

Replicate No.	Test Completion Date 8/24/2025 Control	TIWC	Test Completion Date 5/21/2024 Control	TIWC
1	0.317	0.428	0.371	0.483
2	0.328	0.355	0.389	0.464
3	0.301	0.347	0.397	0.339
4	0.394	0.373	0.381	0.421
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.335	0.375	0.385	0.427
Std Dev.	0.041	0.038	0.011	0.064
# Replicates	4	4	4	4
T-Test Result	5.2938		4.2885	
Deg. of Freedom	5		3	
Critical T Value	0.7267		0.7649	
Pass or Fail	PASS		PASS	

Replicate No.	Test Completion Date 8/15/2023 Control	TIWC	Test Completion Date 6/28/2022 Control	TIWC
1	0.38	0.391	0.451	0.386
2	0.365	0.419	0.433	0.429
3	0.392	0.383	0.407	0.412
4	0.353	0.383	0.442	0.425
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
Mean	0.373	0.389	0.433	0.413
Std Dev.	0.017	0.023	0.019	0.019
# Replicates	4	4	4	4
T-Test Result	8.2730		7.3178	
Deg. of Freedom	5		5	
Critical T Value	0.7267		0.7267	
Pass or Fail	PASS		PASS	

Modeling Using USGS StreamStats:

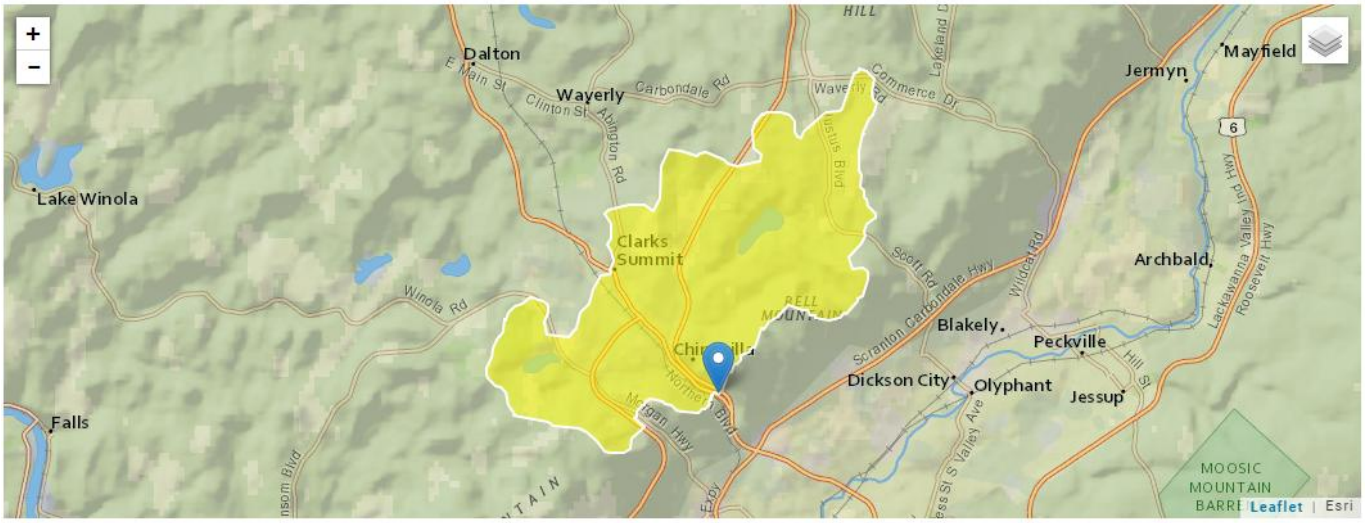
At Outfall 001 on Leggetts Creek:

RMI	Elevation (ft)	Drainage Area (mi²)	$Q_{7\text{-}10}$ Flow (cfs)
3.10	1,006.69	13.2	0.613

$$Low\ Flow\ Yield\ using\ StreamStats = \frac{0.613\ ft^3/sec}{13.2\ mi^2} = \mathbf{0.046}\ \frac{\boldsymbol{ft^3/sec}}{\boldsymbol{mi^2}}$$

StreamStats Report

Region ID:	PA
Workspace ID:	PA20241016142313553000
Clicked Point (Latitude, Longitude):	41.46825, -75.67087
Time:	2024-10-16 10:23:36 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	13.2	square miles

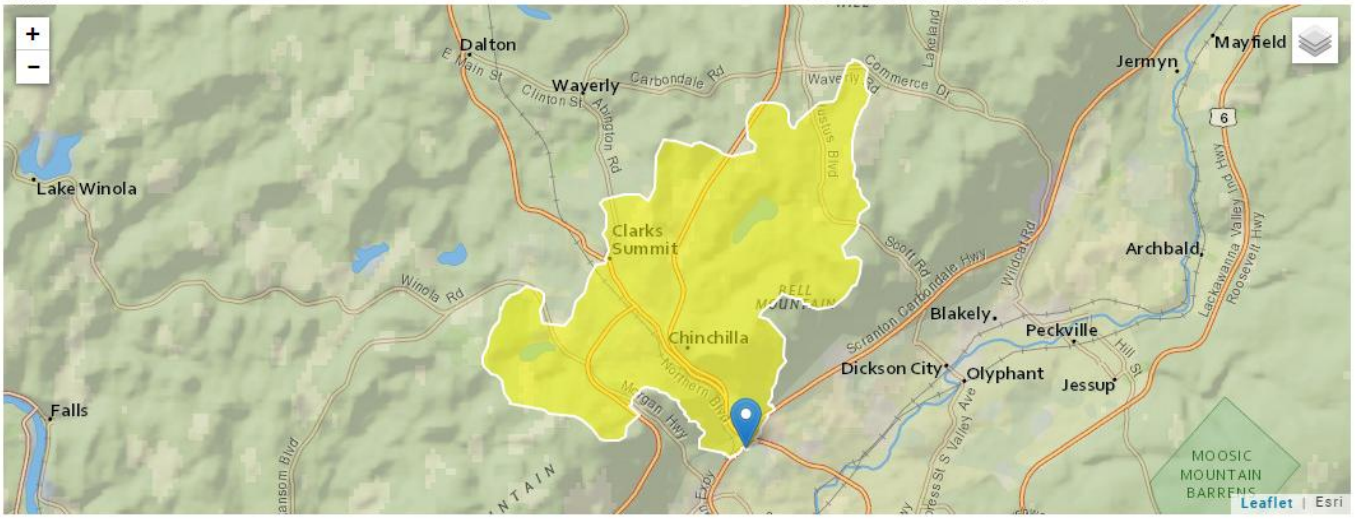
Statistic	Value	Unit
7 Day 2 Year Low Flow	1.45	ft^3/s
30 Day 2 Year Low Flow	2.03	ft^3/s
7 Day 10 Year Low Flow	0.613	ft^3/s

At confluence with Unnamed Tributary to Leggetts Creek (28528):

RMI	Elevation (ft)	Drainage Area (mi^2)
1.97	844.07	14.7

StreamStats Report

Region ID:	PA
Workspace ID:	PA20241016143106612000
Clicked Point (Latitude, Longitude):	41.45455, -75.66196
Time:	2024-10-16 10:31:30 -0400



Parameter Code	Parameter Name	Value	Units
DRNAREA	Drainage Area	14.7	square miles

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
05A	28525	LEGGETTS CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
3.100	Abington Auth	PA0028576	3.340	CBOD5	25		
				NH3-N	1.63	3.26	
				Dissolved Oxygen			5

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.613	= Q stream (cfs)	0.5	= CV Daily
3.34	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.057	1.3.2.iii	WLA cfc = 0.048
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.021	5.1d	LTA_cfc = 0.028

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.026	AFC
		INST MAX LIMIT (mg/l) = 0.085	

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...
	...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...
	...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: Abington Regional Wastewater Authority | NPDES Permit No.: PA0028576 | Outfall No.: 001

Evaluation Type: Major Sewage / Industrial Waste | Wastewater Description: Treated Sewage

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
3.34	185	6						

	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		7.83									
	Chloride (PWS)	mg/L		362									
	Bromide	mg/L	<	0.0464									
	Sulfate (PWS)	mg/L		36.2									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		318									
	Total Antimony	µg/L	<	1									
	Total Arsenic	µg/L	<	1									
	Total Barium	µg/L		60.2									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		139									
	Total Cadmium	µg/L	<	0.152									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L	<	0.25									
	Total Cobalt	µg/L		1									
	Total Copper	µg/L		7.3571									
	Free Cyanide	µg/L		1.2									
	Total Cyanide	µg/L		15									
	Dissolved Iron	µg/L		29									
	Total Iron	µg/L		58.462									
	Total Lead	µg/L		0.23									
	Total Manganese	µg/L		117									
	Total Mercury	µg/L	<	0.1									
	Total Nickel	µg/L		4.08									
	Total Phenols (Phenolics) (PWS)	µg/L	<	2									
	Total Selenium	µg/L	<	5									
	Total Silver	µg/L		0.16									
	Total Thallium	µg/L	<	1									
	Total Zinc	µg/L		59.8									
	Total Molybdenum	µg/L		11.5									
	Acrolein	µg/L	<	0.339									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.241									
	Benzene	µg/L	<	0.166									
	Bromoform	µg/L	<	0.102									

Group 3	Carbon Tetrachloride	µg/L	<	0.0997									
	Chlorobenzene	µg/L		0.167									
	Chlorodibromomethane	µg/L	<	0.224									
	Chloroethane	µg/L	<	0.171									
	2-Chloroethyl Vinyl Ether	µg/L	<	2									
	Chloroform	µg/L	<	1.15									
	Dichlorobromomethane	µg/L	<	0.151									
	1,1-Dichloroethane	µg/L	<	0.172									
	1,2-Dichloroethane	µg/L	<	0.127									
	1,1-Dichloroethylene	µg/L	<	0.244									
	1,2-Dichloropropane	µg/L	<	0.137									
	1,3-Dichloropropylene	µg/L	<	0.338									
	1,4-Dioxane	µg/L	<	2.4									
	Ethylbenzene	µg/L	<	0.172									
	Methyl Bromide	µg/L	<	0.596									
	Methyl Chloride	µg/L	<	0.473									
	Methylene Chloride	µg/L	<	0.285									
	1,1,2,2-Tetrachloroethane	µg/L	<	0.162									
	Tetrachloroethylene	µg/L	<	0.447									
	Toluene	µg/L	<	0.238									
	1,2-trans-Dichloroethylene	µg/L	<	0.196									
	1,1,1-Trichloroethane	µg/L	<	0.189									
	1,1,2-Trichloroethane	µg/L	<	0.172									
	Trichloroethylene	µg/L	<	0.186									
	Vinyl Chloride	µg/L	<	0.219									
Group 4	2-Chlorophenol	µg/L	<	1.15									
	2,4-Dichlorophenol	µg/L	<	1.15									
	2,4-Dimethylphenol	µg/L	<	1.15									
	4,6-Dinitro-o-Cresol	µg/L	<	2.87									
	2,4-Dinitrophenol	µg/L	<	2.87									
	2-Nitrophenol	µg/L	<	1.15									
	4-Nitrophenol	µg/L	<	1.15									
	p-Chloro-m-Cresol	µg/L	<	1.15									
	Pentachlorophenol	µg/L	<	2.87									
	Phenol	µg/L	<	1.15									
	2,4,6-Trichlorophenol	µg/L	<	1.15									
Group 5	Acenaphthene	µg/L	<	1.15									
	Acenaphthylene	µg/L	<	1.15									
	Anthracene	µg/L	<	1.15									
	Benzidine	µg/L	<	17.2									
	Benzo(a)Anthracene	µg/L	<	1.15									
	Benzo(a)Pyrene	µg/L	<	1.15									
	3,4-Benzofluoranthene	µg/L	<	1.15									
	Benzo(ghi)Perylene	µg/L	<	1.15									
	Benzo(k)Fluoranthene	µg/L	<	1.15									
	Bis(2-Chloroethoxy)Methane	µg/L	<	1.15									
	Bis(2-Chloroethyl)Ether	µg/L	<	1.15									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	1.15									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.87									
	4-Bromophenyl Phenyl Ether	µg/L	<	1.15									
	Butyl Benzyl Phthalate	µg/L	<	2.87									
	2-Chloronaphthalene	µg/L	<	1.15									
	4-Chlorophenyl Phenyl Ether	µg/L	<	1.15									
	Chrysene	µg/L	<	1.15									
	Dibenzo(a,h)Anthrancene	µg/L	<	1.15									
	1,2-Dichlorobenzene	µg/L	<	0.191									
	1,3-Dichlorobenzene	µg/L	<	0.187									
	1,4-Dichlorobenzene	µg/L	<	0.224									
	3,3-Dichlorobenzidine	µg/L	<	1.15									
	Diethyl Phthalate	µg/L	<	1.15									
	Dimethyl Phthalate	µg/L	<	1.15									
	Di-n-Butyl Phthalate	µg/L	<	1.15									
	2,4-Dinitrotoluene	µg/L	<	1.15									

2,6-Dinitrotoluene	µg/L	<	1.15									
Di-n-Octyl Phthalate	µg/L	<	2.87									
1,2-Diphenylhydrazine	µg/L	<	1.15									
Fluoranthene	µg/L	<	1.15									
Fluorene	µg/L	<	1.15									
Hexachlorobenzene	µg/L	<	1.15									
Hexachlorobutadiene	µg/L	<	0.229									
Hexachlorocyclopentadiene	µg/L	<	1.15									
Hexachloroethane	µg/L	<	1.15									
Indeno(1,2,3-cd)Pyrene	µg/L	<	1.15									
Isophorone	µg/L	<	1.15									
Naphthalene	µg/L	<	0.329									
Nitrobenzene	µg/L	<	1.15									
n-Nitrosodimethylamine	µg/L	<	1.15									
n-Nitrosodi-n-Propylamine	µg/L	<	1.15									
n-Nitrosodiphenylamine	µg/L	<	1.15									
Phenanthrene	µg/L	<	1.15									
Pyrene	µg/L	<	1.15									
1,2,4-Trichlorobenzene	µg/L	<	0.238									

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Abington Regional Wastewater Authority, NPDES Permit No. PA0028576, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Leggetts Creek** No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	028252	3.1	1006.69	13.2			Yes
End of Reach 1	028252	1.97	844.07	14.7			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	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	3.1	0.046										100	7		
End of Reach 1	1.97	0.046													

Q_h

Location	RMI	LFY (cfs/mi²)	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	3.1														
End of Reach 1	1.97														

☑ AFC	CCT (min): 0.075	PMF: 1	Analysis Hardness (mg/l): 176.06	Analysis pH: 6.04			
☑ CFC	CCT (min): 0.075	PMF: 1	Analysis Hardness (mg/l): 176.06	Analysis pH: 6.04			
☑ THH	CCT (min): 0.075	PMF: 1	Analysis Hardness (mg/l): N/A	Analysis pH: N/A			
☑ CRL	CCT (min): 1.101	PMF: 1	Analysis Hardness (mg/l): N/A	Analysis pH: 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	750	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	16.9	CFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	Report	Report	Report	Report	Report	µg/L	4.47	THH	Discharge Conc > 25% WQBEL (no RP)
Total Manganese	Report	Report	Report	Report	Report	µg/L	1,118	THH	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	193	AFC	Discharge Conc > 10% WQBEL (no RP)

Phase 3 WIP Wastewater Supplement
Revised, April 2, 2025

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0027081	3	Lackawanna River Basin Sewer Authority	11/7/2016	11/30/2021	10/1/2011	12,786	-	1,705	0.423	0.426
PA0027090	1	Lackawanna River Basin Sewer Authority	8/15/2016	8/31/2021	10/1/2011	127,852	-	17,047	0.556	0.506
PA0027171	1	Bloomsburg Municipal Authority	2/21/2023	2/29/2028	10/1/2010	78,355	-	10,447	0.805	0.483
PA0027189	1	Lower Allen Township Authority	5/25/2022	5/31/2027	10/1/2015	114,154		15,221	0.805	0.483
PA0027197	1	Harrisburg AWTF	11/21/2024	11/30/2029	10/1/2012	688,575	-	91,810	0.798	0.502
PA0027316	1	Lebanon City Authority	9/26/2022	9/30/2027	10/1/2012	146,117	-	19,482	0.685	0.483
PA0027324	1	Shamokin-Coal Township Joint Sanitary Authority	12/16/2020	12/31/2025	10/1/2012	127,852	-	17,047	0.784	0.454
PA0027405	1	Ephrata Borough Authority	7/28/2021	7/31/2026	10/1/2012	79,049	-	9,881	0.629	0.558
PA0027553	2	Pine Creek Municipal Authority	10/22/2015	8/31/2016	10/1/2011	23,744	-	3,166	0.789	0.388
PA0028088	3	Brown Township Municipal Authority	1/10/2022	1/31/2027	10/1/2014	10,959	-	1,461	0.835	0.416
PA0028142	1	Fort Indiantown Gap	11/7/2011	11/30/2016	10/1/2005	24,353	-	3,044	0.776	0.463
PA0028266	3	Troy Borough	10/26/2016	10/31/2021	10/1/2011	7,306	-	974	0.706	0.420
PA0028347	3	Martinsburg Borough	7/26/2022	7/31/2027	10/1/2013	12,785	-	1,705	0.649	0.519
PA0028461	3	Mifflinburg Borough Municipal Authority	4/6/2022	4/30/2027	10/1/2011	25,570	-	3,409	0.806	0.408
PA0028576	1	Abington Regional WW Authority	3/9/2018	3/31/2023	10/1/2014	66,483	-	8,310	0.486	0.379
PA0028592	3	Bonneauville Borough	8/28/2024	8/31/2029	1/1/2009	9,741	-	1,218	0.567	0.720
PA0028631	3	Emporium Borough (Mid-Cameron Authority)	5/26/2021	5/31/2026	10/1/2011	17,100	-	2,140	0.399	0.279
PA0028673	3	Gallitzin Borough	8/6/2020	8/31/2025	10/1/2016	7,306	-	974	0.486	0.347
PA0028681	2	Kelly Township Municipal Authority	4/5/2022	4/30/2027	10/1/2011	68,492	-	9,132	0.816	0.461
PA0028738	2	Ralpho Township Municipal Authority	8/24/2021	8/31/2026	10/1/2011	13,132	-	1,751	0.784	0.454
PA0028886	3	Quarryville Borough Authority	2/26/2020	2/28/2025	10/1/2014	7,306	-	974	0.493	0.553
PA0029106	2	Greenfield Township Municipal Authority	9/7/2021	9/30/2026	10/1/2012	14,612	-	1,948	0.763	0.519


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