Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0026034**
Facility Type	**Municipal**	APS ID	**1097783**
Major / Minor	**Major**	Authorization ID	**1456556**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Johnstown Redevelopment Authority**	Facility Name	**Dornick Point WWTP**
Applicant Address	416 Main Street, Suite 200	Facility Address	241 Asphalt Road
	Johnstown, PA 15901-1828		Johnstown, PA 15906-1128
Applicant Contact	Michael Grandinetti	Facility Contact	Mike Sabo
Applicant Phone	(814) 535-6564	Facility Phone	(814) 539-4877
Client ID	226956	Site ID	263650
Ch 94 Load Status	Not Overloaded	Municipality	West Taylor Township
Connection Status		County	Cambria
Date Application Received	September 28, 2023	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility, Pretreatment

Purpose of Application: Application for the renewal of an NPDES permit for the discharge of treated Sewage.

Summary of Review

Introduction

The Authority has applied for the renewal of NPDES Permit No. PA0026034, which was previously issued on March 5, 2019, and expired on March 31, 2024.

Facility Overview

WQM Permit No. for the sewage treatment facilities is 1169401, and it was later amended through 7) authorized plant construction with a rated annual average design flow & design hydraulic capacity of 12.0 MGD, and a design organic capacity of 20,400 lbs./day.

The treatment process consists of mechanical screening, aerated grit removal, high purity oxygen activated sludge aeration with Integrated Fixed-Film Activated Sludge (IFAS), and final clarification, sodium hypochlorite disinfection, and dechlorination. The resulting effluent discharges to the Conemaugh River, which is designated as a Warm Water Fishery (WWF) per 25 Pa. Chapter 93 Designated Use, and is located in State Watershed 18-D.

The application identifies Outfall 001, as the only active outfall associated with this permit, which authorizes the discharge of treated sewage effluent.

The application identifies multiple active Sanitary Sewer Overflows (SSOs) within the collection system. The Authority is operating under an approved COA with the Department to manage and eliminate these SSOs. The 2nd Amendment to the 2009 COA was executed in June 2022.

Approve	Deny	Signatures	Date
X		William C. Mitchell, E.I.T. / Project Manager	August 8, 2025
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	August 8, 2025

Summary of Review

EPA-Administered Pretreatment Program Requirements

The EPA Administers a National Pretreatment Program as a part of the National Pollutant Discharge Elimination System (NPDES) administration. The goal of the National Pretreatment Program is to prevent the introduction of pollutants to Publicly Owned Treatment Works (POTWs) that will interfere with the operation of the POTW, pass through the POTW untreated, thereby improving opportunities to recycle and reclaim municipal and industrial wastewaters and sludges. The general pretreatment regulations that require certain POTWs to establish a local pretreatment program can be found at 40 CFR Part 403.8(a).

The Authority is already enrolled in the pretreatment program so the Part C condition "Pretreatment Program Implementation" will again be included in the permit. The Industrial User Information Section of the Application indicates the WWTP receives flow from industrial users, commercial users, and municipal landfills. Pollutant Groups 1 through 6 were analyzed based upon the types of waste accepted at the WWTP.

Summary of Changes Since Last Permit Issuance

- Part C, Schedule of Compliance, added to ensure final ammonia-nitrogen limitations will be achieved
- *E. Coli* monitoring added
- Quarterly PFOA, PFOS, PFBS, and HFPO-DA monitoring added
- Total arsenic monitoring added, as sampling did not meet TQL
- Total copper and total zinc monitoring added
- Limitations for free cyanide and dissolved iron added
- Revised Part C, POTW Pretreatment Program Implementation, language added
- Revised Part C, Whole Effluent Toxicity, language revised (annual Chronic WET testing required and updates were made to the Dilution Series & TIWC) added

Sludge use and disposal description and location(s): Sewage sludge or biosolids from this facility are currently being managed under beneficial use permit No. PAG-086103, issued by the Department on January 17, 2019. Locations of sites used for land application are attached to the application.

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)	12.0
Latitude	40º 21' 52.00"	Longitude	-78º 57' 13.00"
Quad Name	Johnstown	Quad Code	1614
Wastewater Description:	Sewage Effluent		
Receiving Waters	Conemaugh River (WWF)	Stream Code	43832
NHD Com ID	123720366	RMI	48.86
Drainage Area	702	Yield (cfs/mi^2)	0.09658
Q_{7-10} Flow (cfs)	67.8	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1129	Slope (ft/ft)	0.001
Watershed No.	18-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use	NONE	Exceptions to Criteria	NONE
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	Buffalo Township Municipal Authority - Freeport		
PWS Waters	Allegheny River	Flow at Intake (cfs)	2,390
PWS RMI	29.4	Distance from Outfall (mi)	76

Changes Since Last Permit Issuance: Elevation, Slope, DA, Q7/10 Flow, and Yield updated with current data taken from USGS StreamStats (Attachment 1).

Other Comments:

Kiskiminetas-Conemaugh River Watershed TMDL

A TMDL for the Kiskiminetas-Conemaugh River Watershed ("Kiski-Conemaugh TMDL") was completed on January 29, 2010, for the control of acid mine drainage pollutants: aluminum, iron, manganese, sediment and pH. In accordance with 40 CFR § 122.44(d)(1)(vii)(B), when developing WQBELs, the permitting authority shall ensure that effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation (WLA) for the discharge prepared by the State and approved by EPA pursuant to 40 CFR § 130.7. The Dornick Point WWTP was assigned WLAs for aluminum, iron, and manganese by the Kiski-Conemaugh TMDL. Therefore, pursuant to § 122.44(d)(1)(vii)(B), WQBELs will be imposed at Outfall 001. Only aluminum, iron, and manganese WQBELs are imposed because the TMDL does not establish WLAs for sediment or pH. The TMDL used a surrogate approach for both of those constituents by which reductions of in-stream concentrations of aluminum, iron, and manganese would result in acceptable reductions of sediment and mitigation of acidic pH.

The TMDL's allocated concentrations for aluminum, iron, and manganese are equivalent to the most stringent water quality criteria for those pollutants and those criteria will be imposed as end-of-pipe limits at Outfall 001. The methods used to implement water quality criteria are described in 25 Pa. Code §§ 96.3 and 96.4. Also, DEP's *Water Quality Toxics Management Strategy* (Doc. No. 361-2000-003) addresses design conditions in detail (Table 1 in that document), including the appropriate durations to assign to water quality criteria. The design duration for Criteria Maximum Concentration (CMC) criteria is 1 hour (acute). The design duration for Criteria Continuous Concentration (CCC) criteria is 4 days (chronic). The design duration for Threshold Human Health (THH) criteria is 30 days (chronic). The design duration for Cancer Risk Level (CRL) criteria is 70 years (chronic).

The 750 µg/L aluminum criterion in 25 Pa. Code § 93.8c is a CMC (acute) criterion. Therefore, 750 µg/L is imposed as a maximum daily limit. There is no CCC criterion for aluminum necessitating the imposition of a more stringent average monthly limit. Imposing 750 µg/L as both a maximum daily and average monthly limit is protective of water quality uses.

The 1.5 mg/L iron criterion is given as a 30-day average in 25 Pa. Code § 93.7(a). Therefore, 1.5 mg/L is imposed as an average monthly limit and the maximum daily effluent limit is calculated using a multiplier of two times the average monthly limit based on DEP's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (Doc. No. 362-0400-001, Chapter 3, pp. 15 – 16).

The 1 mg/L potable water supply criterion for manganese in 25 Pa. Code § 93.7(a) is a human health criterion (chronic). Per Table 1 of the *Water Quality Toxics Management Strategy*, the duration for a THH criterion is 30 days. Therefore, an average monthly effluent limit of 1 mg/L is imposed, and the maximum daily effluent limit is calculated using a multiplier of two times the average monthly limit consistent with the technical guidance cited above for iron.

Since the allocated concentrations are equivalent to water quality criteria, the Dornick Point WWTP's compliance with concentration limits for aluminum, iron, and manganese will not result in excursions above water quality criteria and the permit will be consistent with the TMDL's WLAs. Consequently, the TMDL's load limits are not required. The TMDL's WLAs and the applicable WQBELs are summarized in the table below.

TMDL Effluent Limits for Outfall 001

Pollutant	Average Monthly (mg/L)	Maximum Daily (mg/L)
Aluminum, Total	0.75	0.75
Iron, Total	1.5	3.0
Manganese, Total	1.0	2.0

Effluent concentrations (as reported in the renewal application and eDMRs) for aluminum, iron and manganese were less than the proposed WQBELs found in the table above. The existing TMDL WQBELs will take effect upon permit issuance.

Treatment Facility Summary

Treatment Facility Name: Dornick Pt WWTP

WQM Permit No.	Issuance Date
1169401	04/03/1969
1169401 A-1	08/15/2005
1169401 A-2	12/06/2006
1169401 A-3	03/06/2008
1169401 A-4	02/05/2015
1169401 A-5	08/10/2016
1169401 A-6	05/23/2017
1169401 A-7	10/23/2018

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	High Purity Oxygen Activated Sludge Aeration	Sodium Hypochlorite and Dechlorination	12.0

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
12.0	20,400	Not Overloaded	Sludge holding tank and centrifuge for dewatering	Land Applied under PAG-08

Changes Since Last Permit Issuance: None

Other Comments: N/A

Compliance History

Operations Compliance Check Summary Report

Facility: DORNICK PT WWTP

NPDES Permit No.: PA00026034

Compliance Review Period: 4/1/20-4/11/25

Inspection Summary:

INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	INSPECTION COMMENT
04/09/2025	Routine/Partial Inspection	No Violations Noted	
01/30/2025	Biosolids Processor Compliance Eval Insp	No Violations Noted	
01/30/2025	Compliance Evaluation	Violation(s) Noted	
01/29/2025	Administrative/File Review	No Violations Noted	Review of eDMRs and Chapter 94 report for CEI IR
01/17/2024	Biosolids Processor Compliance Eval Insp	No Violations Noted	
01/17/2024	Administrative/File Review	No Violations Noted	Adminstrative file review of eDMRs for CEI IR
01/17/2024	Compliance Evaluation	Violation(s) Noted	
11/09/2023	Routine/Partial Inspection	No Violations Noted	
02/02/2023	Compliance Evaluation	Violation(s) Noted	
02/02/2023	Administrative/File Review	No Violations Noted	Administrative review of eDMRs March 2022 - January 2023
08/16/2022	Routine/Partial Inspection	No Violations Noted	
07/01/2022	Administrative/File Review	Violation(s) Noted	
03/31/2022	Biosolids Processor Compliance Eval Insp	No Violations Noted	
03/21/2022	Administrative/File Review	No Violations Noted	Administrative file review of eDMRs June 2021 - February 2022
03/21/2022	Compliance Evaluation	No Violations Noted	
03/15/2022	Routine/Partial Inspection	No Violations Noted	
09/23/2021	Compliance Evaluation	Violation(s) Noted	
09/23/2021	Compliance Evaluation	No Violations Noted	

Violation Summary:

VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
01/30/2025	92A.44	NPDES - Violation of effluent limits in Part A of permit	02/06/2025
01/17/2024	92A.44	NPDES - Violation of effluent limits in Part A of permit	01/22/2024
02/02/2023	92A.44	NPDES - Violation of effluent limits in Part A of permit	03/04/2023
07/01/2022	CSL201	CSL - Unauthorized, unpermitted discharge of sewage to waters of the Commonwealth	4/11/2025
09/23/2021	92A.44	NPDES - Violation of effluent limits in Part A of permit	09/28/2021

Open Violations by Client ID:

No open violations for Client ID 226956

Enforcement Summary:

ENF TYPE	ENF TYPE DESC	EXECUTED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE	ENF COMMENT
NOV	Notice of Violation	02/06/2025	92A.44	Administrative Close Out	02/06/2025	
NOV	Notice of Violation	01/22/2024	92A.44	Administrative Close Out	01/22/2024	
NOV	Notice of Violation	03/04/2023	92A.44	Administrative Close Out	04/11/2025	
COA	Consent Order and Agreement	06/30/2022	CSL201			Second Amendment to 2009 COA
NOV	Notice of Violation	09/28/2021	92A.44	Administrative Close Out	07/12/2022	
NOV	Notice of Violation	04/02/2020	92A.44	Administrative Close Out	07/05/2022	

Effluent Violation Summary:

MON PD	PARAMETER	REPORTED VALUE	PERMIT LIMIT	UNIT	STAT_BASE_CODE
Feb-25	Fecal Coliform	12100	10000	No./100 ml	Daily Maximum
Oct-24	Ammonia-Nitrogen	19.9	17	mg/L	Average Monthly
Sep-24	Ammonia-Nitrogen	17.3	17	mg/L	Average Monthly
Jul-24	Ammonia-Nitrogen	18.3	17	mg/L	Average Monthly
Jun-24	Ammonia-Nitrogen	20.4	17	mg/L	Average Monthly
May-24	Ammonia-Nitrogen	18.2	17	mg/L	Average Monthly
Jul-23	Fecal Coliform	12100	1000	No./100 ml	Daily Maximum
Oct-22	Ammonia-Nitrogen	19	17	mg/L	Average Monthly
Sep-22	Ammonia-Nitrogen	18	17	mg/L	Average Monthly
Jul-22	Ammonia-Nitrogen	19	17	mg/L	Average Monthly

Oct-20	Ammonia-Nitrogen	20	17	mg/L	Average Monthly
Sep-20	Ammonia-Nitrogen	20	17	mg/L	Average Monthly
Aug-20	Ammonia-Nitrogen	< 20.0	17	mg/L	Average Monthly
Mar-20	Fecal Coliform	48392	10000	No./100 ml	Daily Maximum

Unauthorized Discharges:

Unauthorized discharges were reported during the following monitoring periods. Comments for each monitoring period stated, “the influent gate was throttled back because of hydraulic overload at the plant. Causing raw sewage to be bypassed. Work is continuing within the collection system to rectify the I & I problems.”

Aug-24	Dec-22	Jul-21	Aug-20
Jun-24	Nov-22	Jun-21	Jul-20
Apr-24	Oct-22	May-21	May-20
Mar-24	Aug-22	Apr-21	Apr-20
Feb-24	Jun-22	Mar-21	Mar-20
Jan-24	May-22	Feb-21	
Dec-23	Apr-22	Jan-21	
Nov-23	Feb-22	Dec-20	
Aug-23	Jan-22	Nov-20	
May-23	Dec-21	Oct-20	
Mar-23	Oct-21	Sep-20	
Feb-23	Sep-21		
Jan-23	Aug-21		

Compliance Status:

There are currently no open violations for JRA. 2nd Amendment to 2009 COA was executed in June 2022.

Completed by: Amanda Illar **Completed date:** 4/11/25

Compliance History

DMR Data for Outfall 001 (from June 1, 2024 to May 31, 2025)

Parameter	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24
Flow (MGD) Average Monthly	6.3	5.0	4.1	7.1	3.3	4.4	3.3	2.2	2.5	3.0	2.4	2.8
Flow (MGD) Daily Maximum	11.1	9.9	7.2	12.1	6.3	11.4	8.4	3.6	4.0	9.5	3.9	4.2
pH (S.U.) Minimum	6.0	6.3	6.2	6.3	6.3	6.3	6.3	6.3	6.1	6.2	6.1	6.0
pH (S.U.) Maximum	6.5	6.6	6.6	7.1	7.1	6.9	6.8	6.7	6.6	6.6	6.6	6.6
DO (mg/L) Minimum	4.5	4.7	6.4	6.1	6.2	5.7	5.7	5.8	5.7	4.7	5.2	5.1
TRC (mg/L) Average Monthly	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.2
TRC (mg/L) Instantaneous Maximum	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5
CBOD5 (lbs/day) Average Monthly	801	717	671	786	516	367	249	193	200	329	345	415
CBOD5 (lbs/day) Weekly Average	855	1035	747	756	790	540	350	225	289	474	592	593
CBOD5 (mg/L) Average Monthly	14.6	17.2	20.7	12.7	18.6	9.5	9.1	10.3	9.5	12.8	17.1	17.8
CBOD5 (mg/L) Weekly Average	15.2	25.5	28.1	12.8	26.2	12.5	12.6	12.7	10.6	14.7	26.4	21.9
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	12853	9555	9948	12784	7602	8099	8361	7133	7507	9489	8614	8956
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	57888	19792	21494	29363	15809	24720	18705	12442	11068	36604	20491	19594
BOD5 (mg/L) Raw Sewage Influent Average Monthly	241.13	267.83	298.90	220.09	273.36	225.65	352.83	390.39	377.20	391.52	429.25	383.47
BOD5 (mg/L) Raw Sewage Influent Weekly Average	304.57	436.43	360.86	226.71	362.14	273.86	426.57	471.14	448.14	464.00	478.99	448.29

TSS (lbs/day) Average Monthly	1012	732	672	900	512	502	339	229	228	413	419	293
TSS (lbs/day) Raw Sewage Influent Average Monthly	8935	11509	6076	8834	6232	5808	8374	6788	6273	10816	7594	6447
TSS (lbs/day) Raw Sewage Influent Daily Maximum	24720	96410	15346	32544	15112	12880	37980	27339	13811	67904	15718	30019
TSS (lbs/day) Weekly Average	1109	1088	802	937	847	778	575	257	289	558	762	457
TSS (mg/L) Average Monthly	18.3	16.6	20.6	14.1	18.4	13.2	12.1	12.5	11.0	15.7	21.3	16.8
TSS (mg/L) Raw Sewage Influent Average Monthly	167.23	326.77	179.35	138.79	228.77	165.68	388.20	372.90	311.43	410.03	381.48	262.47
TSS (mg/L) Raw Sewage Influent Weekly Average	215.14	899.43	224.00	184.57	289.14	225.43	515.43	556.86	402.43	886.14	429.00	339.43
TSS (mg/L) Weekly Average	20.4	24.3	29.4	15.6	23.1	14.1	12.7	14.4	12.1	19.0	35.7	19.0
Fecal Coliform (No./100 ml) Geometric Mean	6	6	6	7	5	7	6	5	7	6	8	6
Fecal Coliform (No./100 ml) Daily Maximum	42	20	26	12100	5	128	49	16	32	26	319	16
Total Nitrogen (mg/L) Daily Maximum			1.90			16.2			16.8			16.9
Ammonia (lbs/day) Average Monthly	515	604	624	786	668	717	474	369	351	411	363	476
Ammonia (lbs/day) Weekly Average	575	713	854	810	977	867	616	422	361	570	453	592
Ammonia (mg/L) Average Monthly	10.4	16.2	18.6	13.8	24.0	20.6	18.6	19.9	17.3	16.9	18.3	20.4
Ammonia (mg/L) Weekly Average	12.2	20.5	20.0	16.3	27.9	23.0	22.3	23.5	18.8	19.6	20.9	21.9
Total Phosphorus (mg/L) Daily Maximum			0.560			0.632			0.658			0.681
Total Aluminum (lbs/day) Average Monthly	1	1	1	2	1	1	1	1	1	1	3	1

Total Aluminum (mg/L) Average Monthly	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.06	0.05	0.05	0.13	0.04
Total Aluminum (mg/L) Daily Maximum	0.04	0.03	0.04	0.04	0.03	0.04	0.06	0.12	0.07	0.06	0.47	0.04
Total Iron (lbs/day) Average Monthly	9	7	9	9	5	6	7	11	7	7	8	6
Total Iron (mg/L) Average Monthly	0.2	0.2	0.3	0.2	0.2	0.1	0.3	0.5	0.3	0.4	0.4	0.3
Total Iron (mg/L) Daily Maximum	0.3	0.3	0.4	0.2	0.3	0.2	0.4	1.0	0.3	0.4	1.1	0.3
Total Manganese (lbs/day) Average Monthly	4	6	3	6	5	3	2	3	7	2	2	3
Total Manganese (mg/L) Average Monthly	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.1	0.1	0.1
Total Manganese (mg/L) Daily Maximum	0.1	0.3	0.1	0.1	0.5	0.1	0.1	0.2	0.8	1.5	0.1	0.2

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 12.0
Latitude 40º 21' 52.00" **Longitude** -78º 57' 13.00"
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	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: The discharge was evaluated using WQM 7.0 Version 1.1 (Attachment 2 & 3) and TRC_CALC (Attachment 6) to evaluate $CBOD_5$, Ammonia Nitrogen, Dissolved Oxygen, and TRC. The above technology based effluent limitations are appropriate for $CBOD_5$ (Nov 1 – Apr 30), TSS, pH, Fecal Coliform, and TRC.

Water Quality-Based Limitations

A "Reasonable Potential Analysis" (Attachment 4 - TMS Version 1.4) determined the following parameters were candidates for monitoring and/or limitations: Total Arsenic, Total Copper, Free Cyanide, Dissolved Iron, Total Iron, and Total Zinc.

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Free Cyanide (ug/L)	17.0	Average Monthly	TMS Version 1.4
Dissolved Iron	1.27	Average Monthly	TMS Version 1.4
Ammonia-Nitrogen May 1 - Oct 31	8.61	Average Monthly	WQM 7.0 Version 1.1

Comments:

The recommended limits for Free Cyanide and Dissolved Iron are greater than the reported concentrations (Application Pollutant Group Sampling) for these two pollutants, and therefore, a compliance schedule is not necessary.

The TMS Model recommended monitoring be established for Total Copper and Total Zinc, as the discharge concentration of these pollutants is greater than 10% of the governing WQBELs (no RP). Please note that monitoring was recommended for Total Arsenic, as application sampling did not meet the Department's TQL of 3.0 ug/L.

Since ammonia-nitrogen WQBELs are calculated for the summer period, winter limits are evaluated also. Pursuant to DEP's Ammonia Guidance, WQBELs for the winter period are set by multiplying the summer limits by three, unless modeling indicates that more stringent WQBELs are needed for winter. Winter period modeling indicates that a technology-based limit of 25 mg/L (default in model) is appropriate and will apply from Nov 1 through Apr 30.

DMR data confirms that the applicant cannot comply with the revised ammonia-nitrogen limits, which are based upon updated Ammonia Criteria and Q7/10 flow. The Authority will be given one year from the permit effective date to comply with new ammonia-nitrogen limits. In the interim the existing seasonal ammonia-nitrogen limit will be imposed. Part C, Schedule of Compliance, has been added to the permit.

Best Professional Judgment (BPJ) Limitations

Comments: A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L will be established based on BPJ to ensure adequate operation and maintenance (Section I.A, Note 6, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits).

A Seasonal Ammonia-Nitrogen (Nov 1 – Apr 30) limit of 25.0 mg/L will be established based on BPJ, as this number is more restrictive than using the summer limit multiplier of 3, discussed in the DEP's Ammonia Guidance.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

Due to anti-backsliding, the previously permitted limits seasonal ammonia-nitrogen limitations of 11 mg/L (summer) and 25.0 mg/L (winter) will be re-imposed. These limits were based upon regulations, guidance, and models that were valid at the time of permit issuance.

The facility is not seeking to revise the previously permitted effluent limits.

Per- and Polyfluoroalkyl Substances (PFAS)

In February 2024, DEP implemented a new monitoring initiative for PFAS consistent with an EPA memorandum that provides guidance to states for addressing PFAS discharges. PFAS are a family of thousands of synthetic organic chemicals that contain a chain of strong carbon-fluorine bonds. Many PFAS are highly stable, water- and oil-resistant, and exhibit other properties that make them useful in a variety of consumer products and industrial processes. PFAS are resistant to biodegradation, photooxidation, direct photolysis, and hydrolysis and do not readily degrade naturally; thus, many PFAS accumulate over time. According to the United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR), the environmental persistence and mobility of some PFAS, combined with decades of widespread use, have resulted in their presence in surface water, groundwater, drinking water, rainwater, soil, sediment, ice caps, outdoor and indoor air, plants, animal tissue, and human blood serum across the globe. ATSDR also reported that exposure to certain PFAS can lead to adverse human health impacts Due to their durability, toxicity, persistence, and pervasiveness, PFAS have emerged as potentially significant pollutants of concern.

In accordance with Section II.G of DEP's "Standard Operating Procedure (SOP) for Clean Water Program – Establishing Effluent Limitations for Individual Sewage Permits" [SOP No. BCW-PMT-033] and under the authority of 25 Pa. Code § 92a.61(b), DEP has determined that monitoring for a subset of common/well-studied PFAS including Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Perfluorobutanesulfonic acid (PFBS), and Hexafluoropropylene oxide dimer acid (HFPO-DA) is necessary to help understand the extent of environmental contamination by PFAS in the Commonwealth and the extent to which point source dischargers are contributors. SOP BCW-PMT-033 directs permit writers to consider special monitoring requirements for PFOA, PFOS, PFBS, and HFPO-DA in the following instances:

a. If sampling that is completed as part of the permit renewal application reveals a detection of PFOA, PFOS, HFPO-DA or PFBS (any of these compounds), the application manager will establish a quarterly monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds) in the permit.

b. If sampling that is completed as part of the permit renewal application demonstrates non-detect values at or below the Target QLs for PFOA, PFOS, HFPO-DA and PFBS (all of these compounds in a minimum of 3 samples), the application manager will establish an annual monitoring requirement for PFOA, PFOS, HFPO-DA and PFBS in the permit.

c. In all cases the application manager will include a condition in the permit that the permittee may cease monitoring for PFOA, PFOS, HFPO-DA and PFBS when the permittee reports non-detect values at or below the Target QL for four consecutive monitoring periods for each PFAS parameter that is analyzed. Use the following language: The permittee may discontinue monitoring for PFOA, PFOS, HFPO-DA, and PFBS if the results in 4 consecutive monitoring periods indicate non-detects 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 should enter a No Discharge Indicator (NODI) Code of “GG” on DMRs.

The Authority’s application was submitted before the NPDES permit application forms were updated to require sampling for PFOA, PFOS, PFBS, and HFPO-DA. Also, according to EPA’s guidance, The Authority receives waste from one of the industries EPA expects to be a source for PFAS (landfill leachate), and therefore, quarterly reporting of PFOA, PFOS, PFBS, and HFPO-DA will be required consistent with Section II.G of SOP BCW-PMT-033 and under the authority of 25 Pa. Code § 92a.61(b).

As stated in Section II.G.3 of SOP BCW-PMT-0332, if non-detect values at or below DEP’s Target QLs are reported for four consecutive monitoring periods (i.e., four consecutive quarterly results), then the monitoring may be discontinued. Footnote (3) has been added to Part A of the NPDES Permit, which further discusses monitoring and reporting requirements.

Additional Considerations

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (Document No. 386-0400-001).

For POTWs, mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N. In general, average monthly mass loading limits will be established for $CBOD_5$, TSS, NH_3-N, and where necessary Total P and Total N, and average weekly mass loading limits will be established for $CBOD_5$ and TSS. Mass loading limits will also be established for toxic pollutants with effluent concentration limits (Section IV, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits).

For POTWs with design flows greater than 2,000 GPD and for non-municipal sewage facilities that service municipalities or portions thereof, the application manager will establish influent BOD_5 and TSS monitoring in the permit using the same frequency and sample type as is used for other effluent parameters (Section IV.E.8, SOP No BCW-PWT-002, New and Reissuance Sewage Individual NPDES Permit Applications).

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/month for design flows >= 1 MGD per 25 Pa. Code § 92a.061 and Section I.A, Note 12, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). The discharge is to waters not impaired for nutrients. A 1/quarter monitoring requirement for Total N & Total P has been added to the permit per 25 Pa. Code § 92a.61 and Section I.A, Note 7 & 8, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits.

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%, 60%, 30%, 10%, and 5%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 0.1.

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, Attachment 5).

Test Date	*Ceriodaphnia* Results (Pass/Fail)		*Pimephales* Results (Pass/Fail)	
	Survival	Reproduction	Survival	Growth
11/9/2020	PASS	PASS	PASS	PASS
5/18/2021	PASS	PASS	PASS	PASS
5/17/2022	PASS	PASS	PASS	PASS
10/31/2023	PASS	PASS	PASS	PASS

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

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

☐ **YES** ☒ **NO**

Comments: N/A

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

Acute Partial Mix Factor (PMFa): **0.129** Chronic Partial Mix Factor (PMFc): **0.892**

1. Determine IWC – Acute (IWCa):

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

[(12.0 MGD x 1.547) / ((67.8 cfs x 0.129) + (12 MGD x 1.547))] x 100 = **68.17%**

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 Test Required**

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

TIWCa = IWCa / 0.3 = 100**%**

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

(Q_d x 1.547) / (Q_{7-10} x PMFc) + (Q_d x 1.547)

[(12 MGD x 1.547) / ((67.8 cfs x .892) + (12 MGD x 1.547))] x 100 = **23.48%**

Please note that Department's WET Analysis Spreadsheet recommends a TIWCc of 23% Effluent be established in Part C of the permit.

3. Determine Dilution Series

Dilution Series = 100%, 62%, 23%, 12%, and 6%.

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

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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through End of 12th Month.

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	Maximum	Instant. Maximum		
Ammonia-Nitrogen Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	50	1/day	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	1700	XXX	XXX	17.0	XXX	34	1/day	24-Hr Composite

Compliance Sampling Location: 001

Other Comments: N/A

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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Beginning of 13th Month 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	Maximum	Instant. Maximum		
Ammonia-Nitrogen Nov 1 - Apr 30	2500	XXX	XXX	25.0	XXX	50.0	1/day	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	860	XXX	XXX	8.61	XXX	17.22	1/day	24-Hr Composite

Compliance Sampling Location: 001

Other Comments: N/A

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" (386-0400-001), 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)	Required
	Average Monthly	Weekly Average	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/shift	Grab
CBOD5 Nov 1 - Apr 30	2500	4000	XXX	25.0	40.0 Wkly Avg	50	1/day	24-Hr Composite
CBOD5 May 1 - Oct 31	2200	3300	XXX	22.0	33.0 Wkly Avg	44	1/day	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report Wkly Avg	XXX	1/day	24-Hr Composite
TSS	3000	4500	XXX	30.0	45.0 Wkly Avg	60	1/day	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report Wkly Avg	XXX	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Aluminum	75	75 Daily Max	XXX	0.75	0.75	XXX	1/week	24-Hr Composite
Total Arsenic (ug/L)	Report	Report Daily Max	XXX	Report	Report	XXX	1/month	24-Hr Composite
Total Copper (ug/L)	Report	Report Daily Max	XXX	Report	Report	XXX	1/month	24-Hr Composite
Free Cyanide (ug/L)	1.7	2.66 Daily Max	XXX	17.0	26.6	42.6	1/week	24-Hr Composite
Dissolved Iron	128	199 Daily Max	XXX	1.27	1.99	3.19	1/week	24-Hr Composite
Total Iron	150	300 Daily Max	XXX	1.5	3.0	XXX	1/week	24-Hr Composite
Total Manganese	100	200 Daily Max	XXX	1.0	2.0	XXX	1/week	24-Hr Composite
Total Zinc (ug/L)	Report	Report Daily Max	XXX	Report	Report	XXX	1/month	24-Hr Composite
PFOA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFOS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
PFBS (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab
HFPO-DA (ng/L)	XXX	XXX	XXX	XXX	Report	XXX	1/quarter	Grab

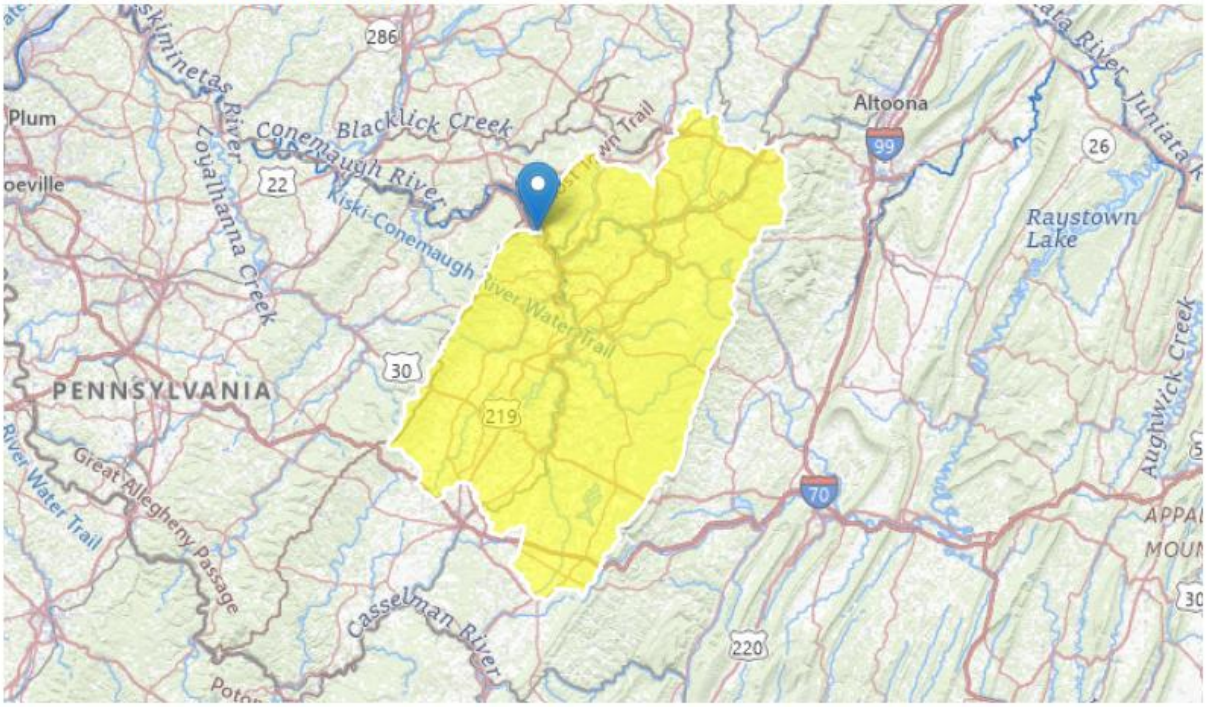
Compliance Sampling Location: 001

Other Comments: N/A

Attachment 1 – USGS StreamStats Report

StreamStats Report - PA0026034

Region ID: PA
Workspace ID: PA20250603120825969000
Clicked Point (Latitude, Longitude): 40.36324, -78.95258
Time: 2025-06-03 08:08:50 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	702	square miles
ELEV	Mean Basin Elevation	2103	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	702	square miles	2.33	1720
ELEV	Mean Basin Elevation	2103	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	113	ft^3/s	43	43
30 Day 2 Year Low Flow	148	ft^3/s	38	38
7 Day 10 Year Low Flow	67.8	ft^3/s	54	54
30 Day 10 Year Low Flow	81.3	ft^3/s	49	49
90 Day 10 Year Low Flow	112	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Attachment 2 – WQM 7.0 Version 1.1 – Summer Period

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18C	43832	CONEMAUGH RIVER	**48.860**	1129.00	702.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.097	0.00	0.00	0.000	0.000	10.0	186.30	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Dornick Point	PA0026034	12.0000	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.38	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18C	43832	CONEMAUGH RIVER	**45.020**	1101.00	707.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.097	0.00	0.00	0.000	0.000	10.0	227.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
48.860	67.80	0.00	67.80	18.564	0.00138	.913	186.3	204.13	0.51	0.462	23.93	7.00
Q1-10 Flow												
48.860	43.39	0.00	43.39	18.564	0.00138	NA	NA	NA	0.42	0.556	23.50	7.00
Q30-10 Flow												
48.860	92.21	0.00	92.21	18.564	0.00138	NA	NA	NA	0.58	0.402	24.16	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
48.860	Dornick Point	12.54	41.84	12.54	41.84	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
48.860	Dornick Point	1.44	8.61	1.44	8.61	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
48.86	Dornick Point	22.44	22.44	8.61	8.61	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
48.860	12.000	23.925	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
186.300	0.913	204.132	0.508
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.39	0.912	1.85	0.947
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.224	3.591	Tsivoglou	5
Reach Travel Time (days)			
0.462			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.046	6.08	1.77	6.66
0.092	5.78	1.70	6.21
0.139	5.50	1.62	5.87
0.185	5.22	1.55	5.61
0.231	4.97	1.49	5.42
0.277	4.72	1.42	5.29
0.323	4.49	1.36	5.21
0.370	4.27	1.30	5.17
0.416	4.06	1.25	5.16
0.462	3.86	1.19	5.17

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

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)
48.860	Dornick Point	PA0026034	12.000	CBOD5	22.44		
				NH3-N	8.61	17.22	
				Dissolved Oxygen			3

Attachment 3 – WQM 7.0 Version 1.1 – Winter Period

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18C	43832	CONEMAUGH RIVER	**48.860**	1129.00	702.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.193	0.00	0.00	0.000	0.000	10.0	186.30	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Dornick Point	PA0026034	12.0000	0.0000	0.0000	0.000	15.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	12.80	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
18C	43832	CONEMAUGH RIVER	**41.800**	1069.00	723.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.193	0.00	0.00	0.000	0.000	10.0	219.00	0.00	5.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
48.860	135.56	0.00	135.56	18.564	0.00161	1.168	186.3	159.55	0.71	0.609	6.20	7.00
Q1-10 Flow												
48.860	86.76	0.00	86.76	18.564	0.00161	NA	NA	NA	0.57	0.754	6.76	7.00
Q30-10 Flow												
48.860	184.36	0.00	184.36	18.564	0.00161	NA	NA	NA	0.83	0.522	5.91	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
48.860	Dornick Point	24.1	50	24.1	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
48.860	Dornick Point	4.36	25	4.36	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
48.86	Dornick Point	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
48.860	12.000	6.205	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
186.300	1.168	159.550	0.708
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.77	0.859	3.01	0.242
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
11.620	3.835	Tsivoglou	5
Reach Travel Time (days)			
0.609			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.061	4.64	2.97	11.11
0.122	4.51	2.92	11.11
0.183	4.39	2.88	11.11
0.244	4.27	2.84	11.06
0.304	4.15	2.80	11.00
0.365	4.04	2.76	10.96
0.426	3.93	2.72	10.94
0.487	3.82	2.68	10.92
0.548	3.72	2.64	10.92
0.609	3.61	2.60	10.92

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18C	43832	CONEMAUGH RIVER

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)
48.860	Dornick Point	PA0026034	12.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3

Attachment 4 – TMS Version 1.4

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Dornick Point WWTP** NPDES Permit No.: **PA0026034** 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
12	100	7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		450									
	Chloride (PWS)	mg/L		115									
	Bromide	mg/L		0.802									
	Sulfate (PWS)	mg/L		65.9									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		33									
	Total Antimony	µg/L		0.7									
	Total Arsenic	µg/L	<	10									
	Total Barium	µg/L		28									
	Total Beryllium	µg/L	<	0.4									
	Total Boron	µg/L		485									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L	<	5									
	Hexavalent Chromium	µg/L	<	0.1									
	Total Cobalt	µg/L		3									
	Total Copper	µg/L		4									
	Free Cyanide	µg/L		12									
	Total Cyanide	µg/L	<	5									
	Dissolved Iron	µg/L		1220									
	Total Iron	µg/L		1590									
	Total Lead	µg/L	<	0.3									
	Total Manganese	µg/L		162									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		0.001									
	Total Phenols (Phenolics) (PWS)	µg/L	<	2.94									
	Total Selenium	µg/L		1									
	Total Silver	µg/L	<	0.2									
	Total Thallium	µg/L	<	0.05									
	Total Zinc	µg/L		37									
	Total Molybdenum	µg/L		15									
	Acrolein	µg/L	<	1									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	0.5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	0.5									

Group 3	Carbon Tetrachloride	µg/L	<	0.5										
	Chlorobenzene	µg/L	<	0.5										
	Chlorodibromomethane	µg/L	<	0.4										
	Chloroethane	µg/L	<	0.5										
	2-Chloroethyl Vinyl Ether	µg/L	<	0.5										
	Chloroform	µg/L		4										
	Dichlorobromomethane	µg/L	<	0.4										
	1,1-Dichloroethane	µg/L	<	0.5										
	1,2-Dichloroethane	µg/L	<	0.5										
	1,1-Dichloroethylene	µg/L	<	0.4										
	1,2-Dichloropropane	µg/L	<	0.5										
	1,3-Dichloropropylene	µg/L	<	0.5										
	1,4-Dioxane	µg/L	<	0.49										
	Ethylbenzene	µg/L	<	0.5										
	Methyl Bromide	µg/L	<	0.5										
	Methyl Chloride	µg/L	<	0.5										
	Methylene Chloride	µg/L	<	0.5										
	1,1,2,2-Tetrachloroethane	µg/L	<	0.5										
	Tetrachloroethylene	µg/L	<	0.5										
	Toluene	µg/L	<	0.5										
	1,2-trans-Dichloroethylene	µg/L	<	0.5										
	1,1,1-Trichloroethane	µg/L	<	0.5										
	1,1,2-Trichloroethane	µg/L	<	0.5										
	Trichloroethylene	µg/L	<	0.5										
	Vinyl Chloride	µg/L	<	0.5										
Group 4	2-Chlorophenol	µg/L	<	0.98										
	2,4-Dichlorophenol	µg/L	<	0.98										
	2,4-Dimethylphenol	µg/L	<	0.98										
	4,6-Dinitro-o-Cresol	µg/L	<	5.64										
	2,4-Dinitrophenol	µg/L	<	2.94										
	2-Nitrophenol	µg/L	<	0.98										
	4-Nitrophenol	µg/L	<	2.94										
	p-Chloro-m-Cresol	µg/L	<	1.2										
	Pentachlorophenol	µg/L	<	0.98										
	Phenol	µg/L	<	2.94										
	2,4,6-Trichlorophenol	µg/L	<	0.98										
Group 5	Acenaphthene	µg/L	<	0.98										
	Acenaphthylene	µg/L	<	0.98										
	Anthracene	µg/L	<	0.98										
	Benzidine	µg/L	<	4.9										
	Benzo(a)Anthracene	µg/L	<	0.98										
	Benzo(a)Pyrene	µg/L	<	0.98										
	3,4-Benzofluoranthene	µg/L	<	1.26										
	Benzo(ghi)Perylene	µg/L	<	0.98										
	Benzo(k)Fluoranthene	µg/L	<	0.98										
	Bis(2-Chloroethoxy)Methane	µg/L	<	0.98										
	Bis(2-Chloroethyl)Ether	µg/L	<	0.98										
	Bis(2-Chloroisopropyl)Ether	µg/L	<	0.98										
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	2.94										
	4-Bromophenyl Phenyl Ether	µg/L	<	0.98										
	Butyl Benzyl Phthalate	µg/L	<	2.94										
	2-Chloronaphthalene	µg/L	<	0.98										
	4-Chlorophenyl Phenyl Ether	µg/L	<	0.98										
	Chrysene	µg/L	<	0.98										
	Dibenzo(a,h)Anthrancene	µg/L	<	0.98										
	1,2-Dichlorobenzene	µg/L	<	0.98										
	1,3-Dichlorobenzene	µg/L	<	0.98										
	1,4-Dichlorobenzene	µg/L	<	0.98										
	3,3-Dichlorobenzidine	µg/L	<	0.98										
	Diethyl Phthalate	µg/L	<	0.98										
	Dimethyl Phthalate	µg/L	<	0.98										
	Di-n-Butyl Phthalate	µg/L	<	2.94										
	2,4-Dinitrotoluene	µg/L	<	0.98										

	2,6-Dinitrotoluene	µg/L	<	0.98										
	Di-n-Octyl Phthalate	µg/L	<	1.2										
	1,2-Diphenylhydrazine	µg/L	<	0.98										
	Fluoranthene	µg/L	<	0.98										
	Fluorene	µg/L	<	0.98										
	Hexachlorobenzene	µg/L	<	0.98										
	Hexachlorobutadiene	µg/L	<	0.5										
	Hexachlorocyclopentadiene	µg/L	<	0.98										
	Hexachloroethane	µg/L	<	0.98										
	Indeno(1,2,3-cd)Pyrene	µg/L	<	0.98										
	Isophorone	µg/L	<	0.98										
	Naphthalene	µg/L	<	0.98										
	Nitrobenzene	µg/L	<	0.98										
	n-Nitrosodimethylamine	µg/L	<	0.98										
	n-Nitrosodi-n-Propylamine	µg/L	<	0.98										
	n-Nitrosodiphenylamine	µg/L	<	0.98										
	Phenanthrene	µg/L	<	0.98										
	Pyrene	µg/L	<	0.98										
	1,2,4-Trichlorobenzene	µg/L	<	0.5										
Group 6	Aldrin	µg/L	<	0.0072										
	alpha-BHC	µg/L	<	0.025										
	beta-BHC	µg/L	<	0.025										
	gamma-BHC	µg/L	<	0.025										
	delta BHC	µg/L		0.072										
	Chlordane	µg/L	<	0.012										
	4,4-DDT	µg/L	<	0.05										
	4,4-DDE	µg/L	<	0.05										
	4,4-DDD	µg/L	<	0.05										
	Dieldrin	µg/L	<	0.005										
	alpha-Endosulfan	µg/L	<	0.026										
	beta-Endosulfan	µg/L	<											
	Endosulfan Sulfate	µg/L	<	0.011										
	Endrin	µg/L	<	0.05										
	Endrin Aldehyde	µg/L	<	0.05										
	Heptachlor	µg/L	<	0.025										
	Heptachlor Epoxide	µg/L	<	0.011										
	PCB-1016	µg/L	<	0.25										
	PCB-1221	µg/L	<	0.25										
	PCB-1232	µg/L	<	0.25										
	PCB-1242	µg/L	<	0.25										
	PCB-1248	µg/L	<	0.25										
	PCB-1254	µg/L	<	0.25										
	PCB-1260	µg/L	<	0.25										
	PCBs, Total	µg/L	<											
	Toxaphene	µg/L	<	0.5										
	2,3,7,8-TCDD	ng/L	<											
Group 7	Gross Alpha	pCi/L												
	Total Beta	pCi/L	<											
	Radium 226/228	pCi/L	<											
	Total Strontium	µg/L	<											
	Total Uranium	µg/L	<											
	Osmotic Pressure	mOs/kg												

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Dornick Point WWTP, NPDES Permit No. PA0026034, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Conemaugh River**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	043832	48.86	1129	702			Yes
End of Reach 1	043832	45.02	1101	707			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	48.86	0.09658			10	186.3						100	7		
End of Reach 1	45.02	0.09658			10	227						100	7		

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	48.86														
End of Reach 1	45.02														

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Toxics Management Spreadsheet
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Model Results

Dornick Point WWTP, NPDES Permit No. PA0026034, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
48.86	67.80		67.80	18.564	0.001	0.913	186.3	10.	0.508	0.462	904.89
45.02	68.28		68.28206					10.000			

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
48.86	296.13		296.13	18.564	0.001	1.612	186.3	115.565	1.048	0.224	553.814
45.02	297.97		297.97								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.129 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	1,103	
Total Antimony	0	0		0	1,100	1,100	1,617	
Total Arsenic	0	0		0	340	340	500	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	30,875	
Total Boron	0	0		0	8,100	8,100	11,909	
Total Cadmium	0	0		0	2.014	2.13	3.14	Chem Translator of 0.944 applied
Total Chromium (III)	0	0		0	569.763	1,803	2,651	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	24.0	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	140	
Total Copper	0	0		0	13.439	14.0	20.6	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	32.3	

Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	64.581	81.6	120	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	2.42	Chem Translator of 0.85 applied
Total Nickel	0	0		0	468.236	469	690	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	3.217	3.78	5.56	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	95.6	
Total Zinc	0	0		0	117.180	120	176	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	4.41	
Acrylonitrile	0	0		0	650	650	956	
Benzene	0	0		0	640	640	941	
Bromoform	0	0		0	1,800	1,800	2,646	
Carbon Tetrachloride	0	0		0	2,800	2,800	4,117	
Chlorobenzene	0	0		0	1,200	1,200	1,764	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	26,464	
Chloroform	0	0		0	1,900	1,900	2,793	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	22,053	
1,1-Dichloroethylene	0	0		0	7,500	7,500	11,027	
1,2-Dichloropropane	0	0		0	11,000	11,000	16,172	
1,3-Dichloropropylene	0	0		0	310	310	456	
Ethylbenzene	0	0		0	2,900	2,900	4,264	
Methyl Bromide	0	0		0	550	550	809	
Methyl Chloride	0	0		0	28,000	28,000	41,166	
Methylene Chloride	0	0		0	12,000	12,000	17,643	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	1,470	
Tetrachloroethylene	0	0		0	700	700	1,029	
Toluene	0	0		0	1,700	1,700	2,499	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	9,997	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	4,411	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	4,999	
Trichloroethylene	0	0		0	2,300	2,300	3,382	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	823	
2,4-Dichlorophenol	0	0		0	1,700	1,700	2,499	
2,4-Dimethylphenol	0	0		0	660	660	970	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	118	
2,4-Dinitrophenol	0	0		0	660	660	970	
2-Nitrophenol	0	0		0	8,000	8,000	11,762	
4-Nitrophenol	0	0		0	2,300	2,300	3,382	
p-Chloro-m-Cresol	0	0		0	160	160	235	
Pentachlorophenol	0	0		0	8.723	8.72	12.8	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	676	

Acenaphthene	0	0		0	83	83.0	122	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	441	
Benzo(a)Anthracene	0	0		0	0.5	0.5	0.74	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	30,000	30,000	44,107	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	6,616	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	397	
Butyl Benzyl Phthalate	0	0		0	140	140	206	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	820	820	1,206	
1,3-Dichlorobenzene	0	0		0	350	350	515	
1,4-Dichlorobenzene	0	0		0	730	730	1,073	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	5,881	
Dimethyl Phthalate	0	0		0	2,500	2,500	3,676	
Di-n-Butyl Phthalate	0	0		0	110	110	162	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	2,352	
2,6-Dinitrotoluene	0	0		0	990	990	1,456	
1,2-Diphenylhydrazine	0	0		0	15	15.0	22.1	
Fluoranthene	0	0		0	200	200	294	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	10	10.0	14.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	7.35	
Hexachloroethane	0	0		0	60	60.0	88.2	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	14,702	
Naphthalene	0	0		0	140	140	206	
Nitrobenzene	0	0		0	4,000	4,000	5,881	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	24,994	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	441	
Phenanthrene	0	0		0	5	5.0	7.35	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	191	
Aldrin	0	0		0	3	3.0	4.41	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	0.95	0.95	1.4	
Chlordane	0	0		0	2.4	2.4	3.53	
4,4-DDT	0	0		0	1.1	1.1	1.62	
4,4-DDE	0	0		0	1.1	1.1	1.62	

4,4-DDD	0	0		0	1.1	1.1	1.62	
Dieldrin	0	0		0	0.24	0.24	0.35	
alpha-Endosulfan	0	0		0	0.22	0.22	0.32	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.086	0.086	0.13	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.52	0.52	0.76	
Heptachlor Epoxide	0	0		0	0.5	0.5	0.74	
Toxaphene	0	0		0	0.73	0.73	1.07	

☑ ***CFC*** CCT (min): 720 PMF: 0.892 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	937	
Total Arsenic	0	0		0	150	150	639	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	17,457	
Total Boron	0	0		0	1,600	1,600	6,812	
Total Cadmium	0	0		0	0.246	0.27	1.15	Chem Translator of 0.909 applied
Total Chromium (III)	0	0		0	74.115	86.2	367	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	44.3	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	80.9	
Total Copper	0	0		0	8.956	9.33	39.7	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	22.1	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	6,978	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.517	3.18	13.5	Chem Translator of 0.791 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	3.86	Chem Translator of 0.85 applied
Total Nickel	0	0		0	52.007	52.2	222	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	21.2	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	55.4	
Total Zinc	0	0		0	118.139	120	510	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	12.8	
Acrylonitrile	0	0		0	130	130	554	
Benzene	0	0		0	130	130	554	
Bromoform	0	0		0	370	370	1,575	
Carbon Tetrachloride	0	0		0	560	560	2,384	
Chlorobenzene	0	0		0	240	240	1,022	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	

2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	14,902	
Chloroform	0	0		0	390	390	1,661	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	13,199	
1,1-Dichloroethylene	0	0		0	1,500	1,500	6,387	
1,2-Dichloropropane	0	0		0	2,200	2,200	9,367	
1,3-Dichloropropylene	0	0		0	61	61.0	260	
Ethylbenzene	0	0		0	580	580	2,470	
Methyl Bromide	0	0		0	110	110	468	
Methyl Chloride	0	0		0	5,500	5,500	23,418	
Methylene Chloride	0	0		0	2,400	2,400	10,219	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	894	
Tetrachloroethylene	0	0		0	140	140	596	
Toluene	0	0		0	330	330	1,405	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	5,961	
1,1,1-Trichloroethane	0	0		0	610	610	2,597	
1,1,2-Trichloroethane	0	0		0	680	680	2,895	
Trichloroethylene	0	0		0	450	450	1,916	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	468	
2,4-Dichlorophenol	0	0		0	340	340	1,448	
2,4-Dimethylphenol	0	0		0	130	130	554	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	68.1	
2,4-Dinitrophenol	0	0		0	130	130	554	
2-Nitrophenol	0	0		0	1,600	1,600	6,812	
4-Nitrophenol	0	0		0	470	470	2,001	
p-Chloro-m-Cresol	0	0		0	500	500	2,129	
Pentachlorophenol	0	0		0	6.693	6.69	28.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	387	
Acenaphthene	0	0		0	17	17.0	72.4	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	251	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.43	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	6,000	6,000	25,547	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	3,875	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	230	
Butyl Benzyl Phthalate	0	0		0	35	35.0	149	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	

1,2-Dichlorobenzene	0	0		0	160	160	681	
1,3-Dichlorobenzene	0	0		0	69	69.0	294	
1,4-Dichlorobenzene	0	0		0	150	150	639	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	3,406	
Dimethyl Phthalate	0	0		0	500	500	2,129	
Di-n-Butyl Phthalate	0	0		0	21	21.0	89.4	
2,4-Dinitrotoluene	0	0		0	320	320	1,362	
2,6-Dinitrotoluene	0	0		0	200	200	852	
1,2-Diphenylhydrazine	0	0		0	3	3.0	12.8	
Fluoranthene	0	0		0	40	40.0	170	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	2	2.0	8.52	
Hexachlorocyclopentadiene	0	0		0	1	1.0	4.26	
Hexachloroethane	0	0		0	12	12.0	51.1	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	8,941	
Naphthalene	0	0		0	43	43.0	183	
Nitrobenzene	0	0		0	810	810	3,449	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	14,476	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	251	
Phenanthrene	0	0		0	1	1.0	4.26	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	111	
Aldrin	0	0		0	0.1	0.1	0.43	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0043	0.004	0.018	
4,4-DDT	0	0		0	0.001	0.001	0.004	
4,4-DDE	0	0		0	0.001	0.001	0.004	
4,4-DDD	0	0		0	0.001	0.001	0.004	
Dieldrin	0	0		0	0.056	0.056	0.24	
alpha-Endosulfan	0	0		0	0.056	0.056	0.24	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	0.036	0.036	0.15	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.0038	0.004	0.016	
Heptachlor Epoxide	0	0		0	0.0038	0.004	0.016	
Toxaphene	0	0		0	0.0002	0.0002	0.0009	

☑ ***THH*** CCT (min): 720 PMF: 0.892 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	23.8	
Total Arsenic	0	0		0	10	10.0	42.6	
Total Barium	0	0		0	2,400	2,400	10,219	
Total Boron	0	0		0	3,100	3,100	13,199	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	17.0	
Dissolved Iron	0	0		0	300	300	1,277	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	4,258	
Total Mercury	0	0		0	0.050	0.05	0.21	
Total Nickel	0	0		0	610	610	2,597	
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	1.02	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	12.8	
Acrylonitrile	0	0		0	N/A	N/A	N/A	
Benzene	0	0		0	N/A	N/A	N/A	
Bromoform	0	0		0	N/A	N/A	N/A	
Carbon Tetrachloride	0	0		0	N/A	N/A	N/A	
Chlorobenzene	0	0		0	100	100.0	426	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	5.7	5.7	24.3	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	N/A	N/A	N/A	
1,1-Dichloroethylene	0	0		0	33	33.0	141	
1,2-Dichloropropane	0	0		0	N/A	N/A	N/A	
1,3-Dichloropropylene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	68	68.0	290	
Methyl Bromide	0	0		0	100	100.0	426	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	N/A	N/A	N/A	

1,1,2,2-Tetrachloroethane	0	0		0	N/A	N/A	N/A	
Tetrachloroethylene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	57	57.0	243	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	426	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	42,578	
1,1,2-Trichloroethane	0	0		0	N/A	N/A	N/A	
Trichloroethylene	0	0		0	N/A	N/A	N/A	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	30	30.0	128	
2,4-Dichlorophenol	0	0		0	10	10.0	42.6	
2,4-Dimethylphenol	0	0		0	100	100.0	426	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	8.52	
2,4-Dinitrophenol	0	0		0	10	10.0	42.6	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	N/A	N/A	N/A	
Phenol	0	0		0	4,000	4,000	17,031	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	298	
Anthracene	0	0		0	300	300	1,277	
Benzidine	0	0		0	N/A	N/A	N/A	
Benzo(a)Anthracene	0	0		0	N/A	N/A	N/A	
Benzo(a)Pyrene	0	0		0	N/A	N/A	N/A	
3,4-Benzofluoranthene	0	0		0	N/A	N/A	N/A	
Benzo(k)Fluoranthene	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroethyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Chloroisopropyl)Ether	0	0		0	200	200	852	
Bis(2-Ethylhexyl)Phthalate	0	0		0	N/A	N/A	N/A	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	0.1	0.1	0.43	
2-Chloronaphthalene	0	0		0	800	800	3,406	
Chrysene	0	0		0	N/A	N/A	N/A	
Dibenzo(a,h)Anthrancene	0	0		0	N/A	N/A	N/A	
1,2-Dichlorobenzene	0	0		0	1,000	1,000	4,258	
1,3-Dichlorobenzene	0	0		0	7	7.0	29.8	
1,4-Dichlorobenzene	0	0		0	300	300	1,277	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	2,555	
Dimethyl Phthalate	0	0		0	2,000	2,000	8,516	
Di-n-Butyl Phthalate	0	0		0	20	20.0	85.2	
2,4-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
2,6-Dinitrotoluene	0	0		0	N/A	N/A	N/A	
1,2-Diphenylhydrazine	0	0		0	N/A	N/A	N/A	
Fluoranthene	0	0		0	20	20.0	85.2	

Fluorene	0	0		0	50	50.0	213	
Hexachlorobenzene	0	0		0	N/A	N/A	N/A	
Hexachlorobutadiene	0	0		0	N/A	N/A	N/A	
Hexachlorocyclopentadiene	0	0		0	4	4.0	17.0	
Hexachloroethane	0	0		0	N/A	N/A	N/A	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	34	34.0	145	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	42.6	
n-Nitrosodimethylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	N/A	N/A	N/A	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	20	20.0	85.2	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.3	
Aldrin	0	0		0	N/A	N/A	N/A	
alpha-BHC	0	0		0	N/A	N/A	N/A	
beta-BHC	0	0		0	N/A	N/A	N/A	
gamma-BHC	0	0		0	4.2	4.2	17.9	
Chlordane	0	0		0	N/A	N/A	N/A	
4,4-DDT	0	0		0	N/A	N/A	N/A	
4,4-DDE	0	0		0	N/A	N/A	N/A	
4,4-DDD	0	0		0	N/A	N/A	N/A	
Dieldrin	0	0		0	N/A	N/A	N/A	
alpha-Endosulfan	0	0		0	20	20.0	85.2	
Endosulfan Sulfate	0	0		0	20	20.0	85.2	
Endrin	0	0		0	0.03	0.03	0.13	
Endrin Aldehyde	0	0		0	1	1.0	4.26	
Heptachlor	0	0		0	N/A	N/A	N/A	
Heptachlor Epoxide	0	0		0	N/A	N/A	N/A	
Toxaphene	0	0		0	N/A	N/A	N/A	

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

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	

Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	1.02	
Benzene	0	0		0	0.58	0.58	9.83	
Bromoform	0	0		0	7	7.0	119	
Carbon Tetrachloride	0	0		0	0.4	0.4	6.78	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	13.6	
2-Chloroethyl Vinyl Ether	0	0		0	N/A	N/A	N/A	
Chloroform	0	0		0	N/A	N/A	N/A	
Dichlorobromomethane	0	0		0	0.95	0.95	16.1	
1,2-Dichloroethane	0	0		0	9.9	9.9	168	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	15.3	
1,3-Dichloropropylene	0	0		0	0.27	0.27	4.58	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Methyl Bromide	0	0		0	N/A	N/A	N/A	
Methyl Chloride	0	0		0	N/A	N/A	N/A	
Methylene Chloride	0	0		0	20	20.0	339	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	3.39	
Tetrachloroethylene	0	0		0	10	10.0	170	
Toluene	0	0		0	N/A	N/A	N/A	
1,2-trans-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,1,1-Trichloroethane	0	0		0	N/A	N/A	N/A	
1,1,2-Trichloroethane	0	0		0	0.55	0.55	9.32	
Trichloroethylene	0	0		0	0.6	0.6	10.2	
Vinyl Chloride	0	0		0	0.02	0.02	0.34	
2-Chlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dichlorophenol	0	0		0	N/A	N/A	N/A	
2,4-Dimethylphenol	0	0		0	N/A	N/A	N/A	

4,6-Dinitro-o-Cresol	0	0		0	N/A	N/A	N/A	
2,4-Dinitrophenol	0	0		0	N/A	N/A	N/A	
2-Nitrophenol	0	0		0	N/A	N/A	N/A	
4-Nitrophenol	0	0		0	N/A	N/A	N/A	
p-Chloro-m-Cresol	0	0		0	N/A	N/A	N/A	
Pentachlorophenol	0	0		0	0.030	0.03	0.51	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	25.4	
Acenaphthene	0	0		0	N/A	N/A	N/A	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	0.0001	0.0001	0.002	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.017	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.002	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.017	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.17	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.51	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	5.42	
4-Bromophenyl Phenyl Ether	0	0		0	N/A	N/A	N/A	
Butyl Benzyl Phthalate	0	0		0	N/A	N/A	N/A	
2-Chloronaphthalene	0	0		0	N/A	N/A	N/A	
Chrysene	0	0		0	0.12	0.12	2.03	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.002	
1,2-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,3-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
1,4-Dichlorobenzene	0	0		0	N/A	N/A	N/A	
3,3-Dichlorobenzidine	0	0		0	0.05	0.05	0.85	
Diethyl Phthalate	0	0		0	N/A	N/A	N/A	
Dimethyl Phthalate	0	0		0	N/A	N/A	N/A	
Di-n-Butyl Phthalate	0	0		0	N/A	N/A	N/A	
2,4-Dinitrotoluene	0	0		0	0.05	0.05	0.85	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.85	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.51	
Fluoranthene	0	0		0	N/A	N/A	N/A	
Fluorene	0	0		0	N/A	N/A	N/A	
Hexachlorobenzene	0	0		0	0.00008	0.00008	0.001	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.17	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	1.7	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.017	
Isophorone	0	0		0	N/A	N/A	N/A	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	N/A	N/A	N/A	
n-Nitrosodimethylamine	0	0		0	0.0007	0.0007	0.012	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.085	

n-Nitrosodiphenylamine	0	0		0	3.3	3.3	55.9	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	
Aldrin	0	0		0	0.0000008	8.00E-07	0.00001	
alpha-BHC	0	0		0	0.0004	0.0004	0.007	
beta-BHC	0	0		0	0.008	0.008	0.14	
gamma-BHC	0	0		0	N/A	N/A	N/A	
Chlordane	0	0		0	0.0003	0.0003	0.005	
4,4-DDT	0	0		0	0.00003	0.00003	0.0005	
4,4-DDE	0	0		0	0.00002	0.00002	0.0003	
4,4-DDD	0	0		0	0.0001	0.0001	0.002	
Dieldrin	0	0		0	0.000001	0.000001	0.00002	
alpha-Endosulfan	0	0		0	N/A	N/A	N/A	
Endosulfan Sulfate	0	0		0	N/A	N/A	N/A	
Endrin	0	0		0	N/A	N/A	N/A	
Endrin Aldehyde	0	0		0	N/A	N/A	N/A	
Heptachlor	0	0		0	0.000006	0.000006	0.0001	
Heptachlor Epoxide	0	0		0	0.00003	0.00003	0.0005	
Toxaphene	0	0		0	0.0007	0.0007	0.012	

☑ ***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 Arsenic	Report	Report	Report	Report	Report	µg/L	42.6	THH	Discharge Conc > 10% WQBEL (no RP)
Total Copper	Report	Report	Report	Report	Report	µg/L	14.0	AFC	Discharge Conc > 10% WQBEL (no RP)
Free Cyanide	1.7	2.66	17.0	26.6	42.6	µg/L	17.0	THH	Discharge Conc ≥ 50% WQBEL (RP)
Dissolved Iron	128	199	1,277	1,993	3,193	µg/L	1,277	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Iron	Report	Report	Report	Report	Report	µg/L	6,978	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	120	AFC	Discharge Conc > 10% WQBEL (no RP)

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

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

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable

Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Aluminum	750	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	23.8	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	10,219	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	6,812	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	1.15	µg/L	Discharge Conc < TQL
Total Chromium (III)	367	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	16.3	µg/L	Discharge Conc < TQL
Total Cobalt	80.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Total Lead	13.5	µg/L	Discharge Conc < TQL
Total Manganese	4,258	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.21	µg/L	Discharge Conc < TQL
Total Nickel	222	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	Discharge Conc < TQL
Total Selenium	21.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	3.78	µg/L	Discharge Conc < TQL
Total Thallium	1.02	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	3.0	µg/L	Discharge Conc < TQL
Acrylonitrile	1.02	µg/L	Discharge Conc < TQL
Benzene	9.83	µg/L	Discharge Conc < TQL
Bromoform	119	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	6.78	µg/L	Discharge Conc < TQL
Chlorobenzene	426	µg/L	Discharge Conc < TQL
Chlorodibromomethane	13.6	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	14,902	µg/L	Discharge Conc < TQL
Chloroform	24.3	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	16.1	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	168	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	141	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	15.3	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	4.58	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	290	µg/L	Discharge Conc < TQL
Methyl Bromide	426	µg/L	Discharge Conc < TQL
Methyl Chloride	23,418	µg/L	Discharge Conc < TQL
Methylene Chloride	339	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	3.39	µg/L	Discharge Conc < TQL
Tetrachloroethylene	170	µg/L	Discharge Conc < TQL
Toluene	243	µg/L	Discharge Conc < TQL

1,2-trans-Dichloroethylene	426	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	2,597	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	9.32	µg/L	Discharge Conc < TQL
Trichloroethylene	10.2	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.34	µg/L	Discharge Conc < TQL
2-Chlorophenol	128	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	42.6	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	426	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	8.52	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	42.6	µg/L	Discharge Conc < TQL
2-Nitrophenol	6,812	µg/L	Discharge Conc < TQL
4-Nitrophenol	2,001	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	160	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.51	µg/L	Discharge Conc < TQL
Phenol	17,031	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	25.4	µg/L	Discharge Conc < TQL
Acenaphthene	72.4	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	1,277	µg/L	Discharge Conc < TQL
Benzidine	0.002	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.017	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.002	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.017	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.17	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.51	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	852	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	5.42	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	230	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.43	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	3,406	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	2.03	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.002	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	681	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	29.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	639	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	0.85	µg/L	Discharge Conc < TQL
Diethyl Phthalate	2,555	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	2,129	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	85.2	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.85	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.85	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS

1,2-Diphenylhydrazine	0.51	µg/L	Discharge Conc < TQL
Fluoranthene	85.2	µg/L	Discharge Conc < TQL
Fluorene	213	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.001	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.17	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	4.26	µg/L	Discharge Conc < TQL
Hexachloroethane	1.7	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.017	µg/L	Discharge Conc < TQL
Isophorone	145	µg/L	Discharge Conc < TQL
Naphthalene	140	µg/L	Discharge Conc ≤ 25% WQBEL
Nitrobenzene	42.6	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.012	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.085	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	55.9	µg/L	Discharge Conc < TQL
Phenanthrene	4.26	µg/L	Discharge Conc < TQL
Pyrene	85.2	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.3	µg/L	Discharge Conc < TQL
Aldrin	0.00001	µg/L	Discharge Conc < TQL
alpha-BHC	0.007	µg/L	Discharge Conc < TQL
beta-BHC	0.14	µg/L	Discharge Conc < TQL
gamma-BHC	0.95	µg/L	Discharge Conc < TQL
delta BHC	N/A	N/A	No WQS
Chlordane	0.005	µg/L	Discharge Conc < TQL
4,4-DDT	0.0005	µg/L	Discharge Conc < TQL
4,4-DDE	0.0003	µg/L	Discharge Conc < TQL
4,4-DDD	0.002	µg/L	Discharge Conc < TQL
Dieldrin	0.00002	µg/L	Discharge Conc < TQL
alpha-Endosulfan	0.22	µg/L	Discharge Conc < TQL
Endosulfan Sulfate	85.2	µg/L	Discharge Conc < TQL
Endrin	0.086	µg/L	Discharge Conc < TQL
Endrin Aldehyde	4.26	µg/L	Discharge Conc < TQL
Heptachlor	0.0001	µg/L	Discharge Conc < TQL
Heptachlor Epoxide	0.0005	µg/L	Discharge Conc < TQL
PCB-1016	N/A	N/A	No WQS
PCB-1221	N/A	N/A	No WQS
PCB-1232	N/A	N/A	No WQS
PCB-1242	N/A	N/A	No WQS
PCB-1248	N/A	N/A	No WQS
PCB-1254	N/A	N/A	No WQS
PCB-1260	N/A	N/A	No WQS
Toxaphene	0.0009	µg/L	Discharge Conc < TQL

Attachment 5 – DEP WET Analysis Spreadsheet

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Dornick Point WWTP

Permit No.: PA0026304

Test Completion Date: 11/9/2020

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 5/18/2021

Replicate No.	Control	TIWC
1	0	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	0.900	1.000
Std Dev.	0.316	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 5/16/2022

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

Test Completion Date: 10/30/2023

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10

T-Test Result
Deg. of Freedom
Critical T Value
Pass or Fail: **PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.1
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Dornick Point WWTP

Permit No.: PA0026304

Test Completion Date: 11/9/2020

Replicate No.	Control	TIWC
1	34	28
2	35	37
3	35	39
4	26	36
5	41	37
6	38	34
7	29	40
8	23	37
9	40	32
10	28	26
11		
12		
13		
14		
15		
Mean	32.900	34.600
Std Dev.	6.118	4.624
# Replicates	10	10

T-Test Result	4.8181
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 5/18/2021

Replicate No.	Control	TIWC
1	33	32
2	39	36
3	34	38
4	30	36
5	31	33
6	35	29
7	24	28
8	34	33
9	26	38
10	14	18
11		
12		
13		
14		
15		
Mean	30.000	32.100
Std Dev.	7.118	6.027
# Replicates	10	10

T-Test Result	3.7706
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 5/16/2022

Replicate No.	Control	TIWC
1	20	39
2	35	30
3	45	40
4	38	42
5	40	43
6	39	37
7	41	44
8	37	42
9	35	42
10	22	41
11		
12		
13		
14		
15		
Mean	35.200	40.000
Std Dev.	8.053	4.055
# Replicates	10	10

T-Test Result	5.9120
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

Test Completion Date: 10/30/2023

Replicate No.	Control	TIWC
1	24	32
2	25	30
3	33	27
4	23	30
5	31	30
6	26	35
7	23	30
8	30	32
9	30	29
10	19	29
11		
12		
13		
14		
15		
Mean	26.400	30.400
Std Dev.	4.427	2.171
# Replicates	10	10

T-Test Result	8.4500
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	**PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Dornick Point WWTP

Permit No.: PA0026304

Test Completion Date: 11/10/2020

Replicate No.	Control	TIWC
1	0.9	1
2	1	1
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.975	1.000
Std Dev.	0.050	0.000
# Replicates	4	4

T-Test Result	26.1497
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Test Completion Date: 5/18/2021

Replicate No.	Control	TIWC
1	1	1
2	1	0.9
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.975
Std Dev.	0.000	0.050
# Replicates	4	4

T-Test Result	17.8623
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	PASS

Test Completion Date: 5/17/2022

Replicate No.	Control	TIWC
1	0.9	0.9
2	1	1
3	0.7	1
4	0.7	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.825	0.950
Std Dev.	0.150	0.058
# Replicates	4	4

T-Test Result	8.4303
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	PASS

Test Completion Date: 10/31/2023

Replicate No.	Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	4	4

T-Test Result	
Deg. of Freedom	
Critical T Value	
Pass or Fail	PASS

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.1
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Dornick Point WWTP

Permit No.: PA0026304

Test Completion Date: 11/10/2020

Replicate No.	Control	TIWC
1	0.42	0.474
2	0.465	0.478
3	0.446	0.439
4	0.446	0.486
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.444	0.469
Std Dev.	0.018	0.021
# Replicates	4	4

T-Test Result	10.8961
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 5/18/2021

Replicate No.	Control	TIWC
1	0.316	0.296
2	0.267	0.258
3	0.28	0.266
4	0.238	0.262
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.275	0.271
Std Dev.	0.032	0.017
# Replicates	4	4

T-Test Result	4.2992
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 5/17/2022

Replicate No.	Control	TIWC
1	0.337	0.2933
2	0.3556	0.366
3	0.268	0.342
4	0.247	0.298
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.302	0.325
Std Dev.	0.053	0.035
# Replicates	4	4

T-Test Result	3.7279
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 10/31/2023

Replicate No.	Control	TIWC
1	0.479	0.491
2	0.458	0.466
3	0.421	0.455
4	0.398	0.469
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.439	0.470
Std Dev.	0.036	0.015
# Replicates	4	4

T-Test Result	9.0488
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

WET Summary and Evaluation

Facility Name	Dornick Point WWTP
Permit No.	PA0026034
Design Flow (MGD)	12
Q_{7-10} Flow (cfs)	67.8
PMF_a	0.129
PMF_c	0.892

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	11/9/20	5/18/21	5/16/22	10/30/23
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	11/9/20	5/18/21	5/16/22	10/30/23
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	11/10/20	5/18/21	5/17/22	10/31/23
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	11/10/20	5/18/21	5/17/22	10/31/23
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**23** % Effluent
Dilution Series	**6, 12, 23, 62, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

Attachment 6 – TRC_CALC

PA0026034_TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

67.8	= Q stream (cfs)	0.5	= CV Daily
12	= 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 = 1.184	1.3.2.iii	WLA cfc = 1.147
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.441	5.1d	LTA_cfc = 0.667

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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)**