pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0024121**
Facility Type	**Non-Municipal**	APS ID	**1076854**
Major / Minor	**Major**	Authorization ID	**1419611**

Applicant and Facility Information

Applicant Name	**Aqua PA Wastewater Inc.**	Facility Name	**Aqua PA Media STP**
Applicant Address	762 W Lancaster Avenue	Facility Address	635 S. Ridley Creek Road
	Bryn Mawr, PA 19010		Media, PA 19063
Applicant Contact	Todd Duerr	Facility Contact	Kyle Roberts
Applicant Phone	(610) 520-6384	Facility Phone	(610) 520-6384
Client ID	62614	Site ID	452222
Ch 94 Load Status	Not Overloaded	Municipality	Upper Providence Township
Connection Status	No Limitations	County	Delaware
Date Application Received	December 2, 2022	EPA Waived?	No
Date Application Accepted		If No, Reason	Major Facility

Purpose of Application: Permit Renewal

Summary of Review

The applicant requests renewal of an NPDES permit to discharge treated sewage from Aqua PA Media STP.

The municipalities served by the facility are: Borough of Media, Upper Providence Township and Middletown Township (Elwynn Institute).

The treatment processes consist of raw sewage screening with mechanical screen, followed by a primary sludge degritter, twin primary settling tanks in parallel, biological wastewater treatment using an activated sludge system followed by twin secondary clarifiers and UV disinfection prior to discharge. Poly aluminum chloride is used for phosphorus removal and anoxic denitrification is used for nitrogen removal.

A WQM permit no. 2317403 was issued on 2/22/2018 to increase the design hydraulic capacity of the STP from 1.8 mgd to 2.2 mgd. No upgrades to the facility are proposed.

The current wastewater treatment chemicals listed in the application are Sodium Hydroxide, Magnesium Hydroxide, Polymer, Poly Aluminum Chloride and Sodium Bicarbonate.

No industrial users are connected to the sewer system. Based on the review of DMRs the discharge is in compliance with the effluent limitations in the permit. No comments were received from Operations Section.

Influent monitoring for CBOD5, TSS and BOD5 are recommended for the draft permit to check compliance with the 85% removal requirement and Chapter 94 requirement. These are consistent with the requirements of similar discharges in the area.

Approve	Deny	Signatures	Date
X		*Sara Abraham* Sara Reji Abraham, E.I.T. / Project Manager	April 13, 2023
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	04/17/2023

Summary of Review

At the last permit renewal, Copper WQBEL was calculated, and monitoring was included based on a WER study conducted in 2014. This WER based criterion will not be used to develop WQBELs in subsequent permits. According to DEP SOP, a Part C condition is established in the draft permit that requires site specific data collection and provide an option to conduct a new site-specific criteria study (SSCS). The new SSCC for Copper must be conducted using the Biotic Ligand Model.

Sludge use and disposal description and location(s): dewatered sludges are disposed of via land application as Class B Biosolids or hauled by truck to a permitted landfill / other WWTPs for disposal.

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.

Act 14 Notifications:

Upper Providence Township - October 5, 2022
Delaware County - October 5, 2022

Permit Conditions:

A. No Stormwater
B. Acquire Necessary Property Rights
C. Proper Sludge Disposal
D. Chlorine Optimization
E. Operator Notification
F. TMDL/WLA Analysis
G. Fecal Coliform Reporting
H. Solids Management
I. WET Testing
J. Stormwater Outfalls Requirement
K. Site Specific Criteria Study

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	1.8
Latitude	39º 54' 47.81"	Longitude	-75º 24' 0.01"
Quad Name	Media	Quad Code	1942
Wastewater Description:	Treated Sewage Effluent		
Receiving Waters	Ridley Creek (TSF, MF)	Stream Code	00621
NHD Com ID	25607080	RMI	6.85
Drainage Area	30.8 mi^2		
Q_{7-10} Flow (cfs)	4.5*	Q_{7-10} Basis	Previous fact sheet
Watershed No.	3-G	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	cause unknown, flow regime modification, siltation		
Source(s) of Impairment	urban runoff/storm sewers		

* as with previous fact sheet, Q7-10 is based on Media Water Filtration Plant being required to allow 4.5 cfs to pass by at all times (DRBC Docket D-85-29CP dated 12/18/95)

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	002	Design Flow (MGD)	0
Latitude	39º 54' 48.73"	Longitude	-75º 24' 1.49"
Quad Name	Media	Quad Code	1942
Wastewater Description:	Stormwater		
Receiving Waters	Ridley Creek	Stream Code	00621
NHD Com ID	25607080	RMI	6.85
Watershed No.	3-G	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	Cause Unknown, Siltation, Water/Flow Variability		
Source(s) of Impairment	Urban Runoff/Storm Sewers		

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	003	Design Flow (MGD)	0
Latitude	39º 54' 48.38"	Longitude	-75º 24' 0.76"
Quad Name	Media	Quad Code	1942
Wastewater Description:	Stormwater		
Receiving Waters	Ridley Creek	Stream Code	00621
NHD Com ID	25607080	RMI	6.85
Watershed No.	3-G	Chapter 93 Class.	TSF, MF
Assessment Status	Impaired		
Cause(s) of Impairment	Cause Unknown, Siltation, Water/Flow Variability		
Source(s) of Impairment	Urban Runoff/Storm Sewers		

Treatment Facility Summary

Treatment Facility Name: Aqua PA Media STP

WQM Permit No.	Issuance Date
2303402	06/27/2003
2308401	03/21/2008
2312402	03/22/2012
2317403	02/22/2018

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary with Ammonia Reduction	Activated Sludge	Ultraviolet	1.8

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
2.2	3060	Not Overloaded	Anaerobic Digestion	Land Application

Compliance History

DMR Data for Outfall 001 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
Flow (MGD) Average Monthly	1.3265	1.2965	1.2642	1.29	1.3874	1.4156	1.42	1.23	1.317	1.255	1.251	1.254
Flow (MGD) Daily Maximum	2.139	2.129	1.4760	1.51	1.8220	2.1270	2.66	1.491	1.76	1.693	1.441	1.521
pH (S.U.) Instantaneous Minimum	6.02	6.56	6.92	6.97	6.72	6.99	6.82	6.91	6.84	6.61	7.00	7.12
pH (S.U.) Instantaneous Maximum	7.56	7.55	7.41	7.13	7.14	7.29	7.31	7.18	7.11	7.28	7.34	7.62
DO (mg/L) Instantaneous Minimum	9.69	6.65	6.75	6.92	7.1	7.08	7.63	7.89	8.15	9.33	10.6	9.45
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) Instantaneous Maximum	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	< 22	< 27.52	< 24	25.42	< 42.01	< 28.04	28	25.05	51	31	< 28.2	< 28
CBOD5 (lbs/day) Weekly Average	< 24	< 40.85	< 27	< 36.34	89.12	< 45.95	38	33.63	133	48	< 62.2	< 58
CBOD5 (mg/L) Average Monthly	< 2	< 2.36	< 2.21	< 2.33	< 3.8	< 2.49	2.07	2.47	4.56	3.0	< 2.7	< 2.6
CBOD5 (mg/L) Weekly Average	< 2	< 2.7	< 2.57	< 3.3	8.35	< 4.2	2.3	3.8	12	4.8	< 5.84	< 5.4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	3765	3948	2538	3495	2997	2961	2239	2661.72	2961	2427	2150	2530
BOD5 (mg/L) Raw Sewage Influent Average Monthly	339	355	239	319	263	259	166.28	253.4	268	234	205	234
TSS (lbs/day) Average Monthly	14	17.01	< 16	< 11.58	< 8.11	< 9.65	33	53.85	49	28	19.1	< 14

TSS (lbs/day) Raw Sewage Influent Average Monthly	2593	2342	683	482	475	1227	1164	954.72	1237	1087	1010	592
TSS (lbs/day) Weekly Average	25	24.16	26	15.94	11.39	23.78	42	232.76	83	49	44.8	< 24
TSS (mg/L) Average Monthly	1.29	1.47	< 1.49	< 1.05	< 0.73	< 0.87	2.5	5.09	4.35	2.7	1.8	< 1.3
TSS (mg/L) Raw Sewage Influent Average Monthly	232	218	64	44	42	107	87	92.89	110.13	104	96	55
TSS (mg/L) Weekly Average	2.2	1.6	2.4	1.4	1.6	2.2	3.8	21	7	4.4	4.2	< 2.2
Total Dissolved Solids (mg/L) Average Quarterly		616.0			402.0			634.0			480.0	
Total Dissolved Solids (mg/L) Daily Maximum		616.0			402.0			634.0			480.0	
Fecal Coliform (No./100 ml) Geometric Mean	< 4.04	33.17	30.17	18	18.85	13.81	< 1.71	1.79	2	< 4	< 4	25
Fecal Coliform (No./100 ml) Instantaneous Maximum	20	75.00	66.00	39	39.00	31.00	4	4	6	29	12	61
Total Nitrogen (mg/L) Average Monthly	< 28.6	< 19.09	< 16.32	< 10.6	< 14.43	< 5.46	7.51	4.88	< 11.05	< 25.16	24.56	< 17.15
Ammonia (lbs/day) Average Monthly	< 6	< 5.65	< 5.33	< 5.48	< 5.69	< 5.70	7	< 6.8	6	< 5.2	< 5.2	< 5.56
Ammonia (mg/L) Average Monthly	< 0.5	< 0.50	< 0.50	< 0.50	< 0.5	< 0.5	0.5	< 0.5	< 0.53	< 0.5	< 0.5	< 0.51
Total Phosphorus (lbs/day) Average Monthly	1.52	2.97	2.07	2.64	3.26	30.06	34.12	34.43	28.1	41.67	42.1	49
Total Phosphorus (mg/L) Average Monthly	0.14	0.26	0.19	0.24	0.28	2.75	3.35	3.5	2.55	4.15	4.1	4.6
Total Copper (mg/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	< 0.01
Free Cyanide (mg/L) Average Quarterly		< 0.001			< 0.01			0.005			< 0.004	

Dichlorobromo-methane (mg/L) Average Quarterly		< 0.0005			< 0.0005			0.05			< 0.5	
Chronic WET - Ceriodaphnia Survival (TUc) Daily Maximum		GG			GG			GG			GG	
Chronic WET - Ceriodaphnia Reproduction (TUc) Daily Maximum		GG			GG			GG			GG	
Chronic WET - Pimephales Survival (TUc) Daily Maximum		GG			GG			GG			GG	
Chronic WET - Pimephales Growth (TUc) Daily Maximum		GG			GG			GG			GG	

DMR Data for Outfall 002 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
pH (S.U.) Daily Maximum											8.04	
CBOD5 (mg/L) Daily Maximum											18.5	
COD (mg/L) Daily Maximum											176	
TSS (mg/L) Daily Maximum											788	
Oil and Grease (mg/L) Daily Maximum											< 5	
Fecal Coliform (No./100 ml) Daily Maximum											137	
TKN (mg/L) Daily Maximum											3.2	
Total Phosphorus (mg/L) Daily Maximum											2.1	

Dissolved Iron (mg/L) Daily Maximum											35	

DMR Data for Outfall 003 (from November 1, 2021 to October 31, 2022)

Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
pH (S.U.) Daily Maximum											8.42	
CBOD5 (mg/L) Daily Maximum											87.5	
COD (mg/L) Daily Maximum											150	
TSS (mg/L) Daily Maximum											732	
Oil and Grease (mg/L) Daily Maximum											6	
Fecal Coliform (No./100 ml) Daily Maximum											> 241960	
TKN (mg/L) Daily Maximum											33	
Total Phosphorus (mg/L) Daily Maximum											4.5	
Dissolved Iron (mg/L) Daily Maximum											178	

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.8
Latitude 39º 54' 53.65" **Longitude** -75º 23' 55.55"
Wastewater Description: Treated 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)

Water Quality-Based Limitations

The following limitations were determined:

Parameter	Limit (mg/l)	SBC	Basis/Comments
CBOD5 (5/1 to 10/31)	15	Average Monthly	WQM model
CBOD5 (11/1 to 4/30)	25	Average Monthly	Seasonal limits
TSS	30	Average Monthly	Secondary Treatment/DRBC
NH3-N (5/1 to 10/31)	2	Average Monthly	WQM model
NH3-N (11/1 to 4/30)	6	Average Monthly	Seasonal limits
TRC*	0.3/1.0	Avg. Monthly/Inst.Max.	Existing limit/Previous Spreadsheet
UV Transmittance	Report	Daily Minimum	Existing limit/SOP
Total Nitrogen	Report	Average Monthly	Data collection
Total Phosphorus	1.0	Average Monthly	BPJ
Dissolved Oxygen	5.0	Inst. Min.	WQM model
Fecal Coliform	200/1000	Geo.Mean/Inst.Max.	DRBC/Chapter92
PH	6.0 to 9.0 Std. units all the times		Chapter 95
TDS	1000	Average Quarterly	DRBC
E-Coli**	Report	Inst. Max.	SOP

* Keeping TRC limit in the permit due to the usage of chlorine for cleaning purposes or as a back up to the UV disinfection.

** E. Coli monitoring is included in the draft permit according to the DEP SOP guidance (Chapter 92.a.61). This is a new requirement and is consistent with the requirements of other similar discharges in the area.

All the above requirements except E-Coli are similar to the requirements in the existing permit.

Anti-Backsliding

N/A

A "Reasonable Potential Analysis" using DEP's Toxic Management Spreadsheet (TMS) determined the following parameters are of concern:

Parameter	Limit (mg/l)	SBC	Model	Comment
Total Copper	Report	Average Monthly	TMS	Existing parameter
Free Cyanide*	10.5	Average Monthly	TMS	New limit
Total Zinc	Report	Average Monthly	TMS	New parameter

* Based on the review of the past sampling results this limit is achievable and no need of a compliance schedule to be included in the permit.

**Based on the analysis, there is no reasonable potential for the Dichlorobromomethane, and the parameter monitoring is eliminated from the permit.

See the below attached WQM and TMS report:

A criteria modifier of 4.6 (based on a WER study in 2014), stream hardness of 117 mg/l and discharge hardness of 179 mg/l are used in the TMS model run.

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
03G	621	RIDLEY CREEK	6.850	98.50	30.80	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	0.100	0.00	4.50	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Media STP	PA0024121	0.0000	0.0000	1.8000	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	15.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	2.00	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
03G	621	RIDLEY CREEK	4.800	75.00	33.30	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	0.100	0.00	7.65	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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
03G	621	RIDLEY CREEK

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												
6.850	4.50	0.00	4.50	2.7846	0.00217	.703	36.98	52.64	0.28	0.447	21.91	7.00
Q1-10 Flow												
6.850	2.88	0.00	2.88	2.7846	0.00217	NA	NA	NA	0.24	0.514	22.46	7.00
Q30-10 Flow												
6.850	6.12	0.00	6.12	2.7846	0.00217	NA	NA	NA	0.31	0.399	21.56	7.00

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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		

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03G	621	RIDLEY CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
6.850	1.800	21.911	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
36.978	0.703	52.638	0.280
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
6.97	1.141	0.76	0.811
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.003	6.053	Tsivoglou	5
Reach Travel Time (days)			
0.447			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.045	6.59	0.74	6.84
0.089	6.24	0.71	6.74
0.134	5.90	0.69	6.69
0.179	5.58	0.66	6.68
0.223	5.28	0.64	6.71
0.268	4.99	0.62	6.75
0.313	4.72	0.59	6.80
0.357	4.46	0.57	6.86
0.402	4.22	0.55	6.93
0.447	3.99	0.53	7.01

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WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03G	621	RIDLEY CREEK

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
6.850	Media STP	8.1	4	8.1	4	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
6.850	Media STP	1.71	2	1.71	2	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)		
6.85	Media STP	15	15	2	2	5	5	0	0

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WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03G	621	RIDLEY CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
6.850	Media STP	PA0024121	0.000	CBOD5	15		
				NH3-N	2	4	
				Dissolved Oxygen			5

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Discharge Information

Instructions | Discharge | Stream

Facility: **Aqua PA Media STP** NPDES Permit No.: **PA0024121** Outfall No.: **001**

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

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
1.8	179	7						

					0 if left blank		0.6 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	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		634									
	Chloride (PWS)	mg/L		180									
	Bromide	mg/L	<	0.1									
	Sulfate (PWS)	mg/L		59.6									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		70									
	Total Antimony	µg/L		1									
	Total Arsenic	µg/L		1									
	Total Barium	µg/L		43									
	Total Beryllium	µg/L	<	1									
	Total Boron	µg/L		300									
	Total Cadmium	µg/L	<	0.1									
	Total Chromium (III)	µg/L		2.1									
	Hexavalent Chromium	µg/L		0.78									
	Total Cobalt	µg/L		0.5									
	Total Copper	µg/L		20								4.6	
	Free Cyanide	µg/L		6									
	Total Cyanide	µg/L		11									
	Dissolved Iron	µg/L		30									
	Total Iron	µg/L		30									
	Total Lead	µg/L		1									
	Total Manganese	µg/L		7									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L		4.1									
	Total Phenols (Phenolics) (PWS)	µg/L		2									
	Total Selenium	µg/L		1									
	Total Silver	µg/L	<	0.3									
	Total Thallium	µg/L	<	0.2									
	Total Zinc	µg/L		37									
	Total Molybdenum	µg/L	<	3									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	2									
	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	<	0.5									
	Chloroethane	µg/L	<	0.5									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L	<	0.5									
	Dichlorobromomethane	µg/L	<	0.5									
	1,1-Dichloroethane	µg/L	<	0.5									
	1,2-Dichloroethane	µg/L	<	0.5									
	1,1-Dichloroethylene	µg/L	<	0.5									
	1,2-Dichloropropane	µg/L	<	0.5									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	5									
	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	<	10									
	2,4-Dichlorophenol	µg/L	<	10									
	2,4-Dimethylphenol	µg/L	<	10									
	4,6-Dinitro-o-Cresol	µg/L	<	10									
	2,4-Dinitrophenol	µg/L	<	10									
	2-Nitrophenol	µg/L	<	10									
	4-Nitrophenol	µg/L	<	10									
	p-Chloro-m-Cresol	µg/L	<	10									
	Pentachlorophenol	µg/L	<	10									
	Phenol	µg/L	<	10									
	2,4,6-Trichlorophenol	µg/L	<	10									
Group 5	Acenaphthene	µg/L	<	2.5									
	Acenaphthylene	µg/L	<	2.5									
	Anthracene	µg/L	<	2.5									
	Benzidine	µg/L	<	50									
	Benzo(a)Anthracene	µg/L	<	2.5									
	Benzo(a)Pyrene	µg/L	<	2.5									
	3,4-Benzofluoranthene	µg/L	<	2.5									
	Benzo(ghi)Perylene	µg/L	<	2.5									
	Benzo(k)Fluoranthene	µg/L	<	2.5									
	Bis(2-Chloroethoxy)Methane	µg/L	<	5									
	Bis(2-Chloroethyl)Ether	µg/L	<	5									
	Bis(2-Chloroisopropyl)Ether	µg/L	<	5									
	Bis(2-Ethylhexyl)Phthalate	µg/L	<	5									
	4-Bromophenyl Phenyl Ether	µg/L	<	5									
	Butyl Benzyl Phthalate	µg/L	<	5									
	2-Chloronaphthalene	µg/L	<	5									
	4-Chlorophenyl Phenyl Ether	µg/L	<	5									
	Chrysene	µg/L	<	2.5									
	Dibenzo(a,h)Anthrancene	µg/L	<	2.5									
	1,2-Dichlorobenzene	µg/L	<	2.5									
	1,3-Dichlorobenzene	µg/L	<	0.5									
	1,4-Dichlorobenzene	µg/L	<	0.5									
	3,3-Dichlorobenzidine	µg/L	<	5									
	Diethyl Phthalate	µg/L	<	5									
	Dimethyl Phthalate	µg/L	<	5									
	Di-n-Butyl Phthalate	µg/L	<	5									
	2,4-Dinitrotoluene	µg/L	<	5									

	2,6-Dinitrotoluene	µg/L	<	5									
	Di-n-Octyl Phthalate	µg/L		11.5									
	1,2-Diphenylhydrazine	µg/L	<	5									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	2.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	0.5									
	Hexachlorocyclopentadiene	µg/L	<	5									
	Hexachloroethane	µg/L	<	5									
	Indeno(1,2,3-cd)Pyrene	µg/L	<	2.5									
	Isophorone	µg/L	<	5									
	Naphthalene	µg/L	<	0.5									
	Nitrobenzene	µg/L	<	5									
	n-Nitrosodimethylamine	µg/L	<	5									
	n-Nitrosodi-n-Propylamine	µg/L	<	5									
	n-Nitrosodiphenylamine	µg/L	<	5									
	Phenanthrene	µg/L	<	2.5									
	Pyrene	µg/L	<	2.5									
	1,2,4-Trichlorobenzene	µg/L	<	0.5									
Group 6	Aldrin	µg/L	<										
	alpha-BHC	µg/L	<										
	beta-BHC	µg/L	<										
	gamma-BHC	µg/L	<										
	delta BHC	µg/L	<										
	Chlordane	µg/L	<										
	4,4-DDT	µg/L	<										
	4,4-DDE	µg/L	<										
	4,4-DDD	µg/L	<										
	Dieldrin	µg/L	<										
	alpha-Endosulfan	µg/L	<										
	beta-Endosulfan	µg/L	<										
	Endosulfan Sulfate	µg/L	<										
	Endrin	µg/L	<										
	Endrin Aldehyde	µg/L	<										
	Heptachlor	µg/L	<										
	Heptachlor Epoxide	µg/L	<										
	PCB-1016	µg/L	<										
	PCB-1221	µg/L	<										
	PCB-1232	µg/L	<										
	PCB-1242	µg/L	<										
	PCB-1248	µg/L	<										
	PCB-1254	µg/L	<										
	PCB-1260	µg/L	<										
	PCBs, Total	µg/L	<										
	Toxaphene	µg/L	<										
	2,3,7,8-TCDD	ng/L	<										
Group 7	Gross Alpha	pCi/L											
	Total Beta	pCi/L	<										
	Radium 226/228	pCi/L	<										
	Total Strontium	µg/L	<										
	Total Uranium	µg/L	<										
	Osmotic Pressure	mOs/kg											

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Aqua PA Media STP, NPDES Permit No. PA0024121, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: _____ No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	000621	6.85	98.5	30.8			Yes
End of Reach 1	000621	4.8	75	33.3			Yes

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

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	6.85	0.1	4.5									117	7		
End of Reach 1	4.8	0.1	7.65												

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	6.85														
End of Reach 1	4.8														

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Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Aqua PA Media STP, NPDES Permit No. PA0024121, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.759 Analysis Hardness (mg/l): 144.85 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	1,669	
Total Antimony	0	0		0	1,100	1,100	2,448	
Total Arsenic	0	0		0	340	340	757	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	46,743	
Total Boron	0	0		0	8,100	8,100	18,029	
Total Cadmium	0	0		0	2.887	3.11	6.92	Chem Translator of 0.928 applied
Total Chromium (III)	0	0		0	771.788	2,442	5,436	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	36.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	211	
Total Copper	0	0		0	87.651	91.3	203	Chem Translator of 0.96 and Criteria Modifier of 4.6 applied
Free Cyanide	0	0		0	22	22.0	49.0	
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	96.442	131	291	Chem Translator of 0.737 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.67	Chem Translator of 0.85 applied
Total Nickel	0	0		0	640.639	642	1,429	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	6.084	7.16	15.9	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	145	
Total Zinc	0	0		0	160.403	164	365	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	6.68	

Acrylonitrile	0	0		0	650	650	1,447	
Benzene	0	0		0	640	640	1,425	
Bromoform	0	0		0	1,800	1,800	4,007	
Carbon Tetrachloride	0	0		0	2,800	2,800	6,232	
Chlorobenzene	0	0		0	1,200	1,200	2,671	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	40,065	
Chloroform	0	0		0	1,900	1,900	4,229	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	33,388	
1,1-Dichloroethylene	0	0		0	7,500	7,500	16,694	
1,2-Dichloropropane	0	0		0	11,000	11,000	24,484	
1,3-Dichloropropylene	0	0		0	310	310	690	
Ethylbenzene	0	0		0	2,900	2,900	6,455	
Methyl Bromide	0	0		0	550	550	1,224	
Methyl Chloride	0	0		0	28,000	28,000	62,324	
Methylene Chloride	0	0		0	12,000	12,000	26,710	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	2,226	
Tetrachloroethylene	0	0		0	700	700	1,558	
Toluene	0	0		0	1,700	1,700	3,784	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	15,136	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	6,678	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	7,566	
Trichloroethylene	0	0		0	2,300	2,300	5,119	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,246	
2,4-Dichlorophenol	0	0		0	1,700	1,700	3,784	
2,4-Dimethylphenol	0	0		0	660	660	1,469	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	178	
2,4-Dinitrophenol	0	0		0	660	660	1,469	
2-Nitrophenol	0	0		0	8,000	8,000	17,807	
4-Nitrophenol	0	0		0	2,300	2,300	5,119	
p-Chloro-m-Cresol	0	0		0	160	160	356	
Pentachlorophenol	0	0		0	8.723	8.72	19.4	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	1,024	
Acenaphthene	0	0		0	83	83.0	185	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	668	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.11	
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	66,775	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	10,016	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	601	
Butyl Benzyl Phthalate	0	0		0	140	140	312	

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	1,825	
1,3-Dichlorobenzene	0	0		0	350	350	779	
1,4-Dichlorobenzene	0	0		0	730	730	1,625	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	8,903	
Dimethyl Phthalate	0	0		0	2,500	2,500	5,565	
Di-n-Butyl Phthalate	0	0		0	110	110	245	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	3,561	
2,6-Dinitrotoluene	0	0		0	990	990	2,204	
1,2-Diphenylhydrazine	0	0		0	15	15.0	33.4	
Fluoranthene	0	0		0	200	200	445	
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	22.3	
Hexachlorocyclopentadiene	0	0		0	5	5.0	11.1	
Hexachloroethane	0	0		0	60	60.0	134	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	22,258	
Naphthalene	0	0		0	140	140	312	
Nitrobenzene	0	0		0	4,000	4,000	8,903	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	37,839	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	668	
Phenanthrene	0	0		0	5	5.0	11.1	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	289	

☑ *CFC* CCT (min): 26.069 PMF: 1 Analysis Hardness (mg/l): 140.7 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	576	
Total Arsenic	0	0		0	150	150	392	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	10,726	
Total Boron	0	0		0	1,600	1,600	4,186	
Total Cadmium	0	0		0	0.312	0.35	0.91	Chem Translator of 0.895 applied
Total Chromium (III)	0	0		0	98.029	114	298	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	27.2	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	49.7	
Total Copper	0	0		0	55.154	57.5	150	Chem Translator of 0.96 and Criteria Modifier of 4.6 applied

Free Cyanide	0	0		0	5.2	5.2	13.6	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	3,924	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	3.642	4.91	12.9	Chem Translator of 0.741 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	2.37	Chem Translator of 0.85 applied
Total Nickel	0	0		0	69.425	69.6	182	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	13.1	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	34.0	
Total Zinc	0	0		0	157.777	160	419	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	7.85	
Acrylonitrile	0	0		0	130	130	340	
Benzene	0	0		0	130	130	340	
Bromoform	0	0		0	370	370	968	
Carbon Tetrachloride	0	0		0	560	560	1,465	
Chlorobenzene	0	0		0	240	240	628	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	9,156	
Chloroform	0	0		0	390	390	1,020	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	8,110	
1,1-Dichloroethylene	0	0		0	1,500	1,500	3,924	
1,2-Dichloropropane	0	0		0	2,200	2,200	5,755	
1,3-Dichloropropylene	0	0		0	61	61.0	160	
Ethylbenzene	0	0		0	580	580	1,517	
Methyl Bromide	0	0		0	110	110	288	
Methyl Chloride	0	0		0	5,500	5,500	14,388	
Methylene Chloride	0	0		0	2,400	2,400	6,278	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	549	
Tetrachloroethylene	0	0		0	140	140	366	
Toluene	0	0		0	330	330	863	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	3,662	
1,1,1-Trichloroethane	0	0		0	610	610	1,596	
1,1,2-Trichloroethane	0	0		0	680	680	1,779	
Trichloroethylene	0	0		0	450	450	1,177	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	288	
2,4-Dichlorophenol	0	0		0	340	340	889	
2,4-Dimethylphenol	0	0		0	130	130	340	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	41.9	
2,4-Dinitrophenol	0	0		0	130	130	340	
2-Nitrophenol	0	0		0	1,600	1,600	4,186	
4-Nitrophenol	0	0		0	470	470	1,230	

p-Chloro-m-Cresol	0	0		0	500	500	1,308	
Pentachlorophenol	0	0		0	6.693	6.69	17.5	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	238	
Acenaphthene	0	0		0	17	17.0	44.5	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	154	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.26	
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	15,696	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	2,381	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	141	
Butyl Benzyl Phthalate	0	0		0	35	35.0	91.6	
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	419	
1,3-Dichlorobenzene	0	0		0	69	69.0	181	
1,4-Dichlorobenzene	0	0		0	150	150	392	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	2,093	
Dimethyl Phthalate	0	0		0	500	500	1,308	
Di-n-Butyl Phthalate	0	0		0	21	21.0	54.9	
2,4-Dinitrotoluene	0	0		0	320	320	837	
2,6-Dinitrotoluene	0	0		0	200	200	523	
1,2-Diphenylhydrazine	0	0		0	3	3.0	7.85	
Fluoranthene	0	0		0	40	40.0	105	
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	5.23	
Hexachlorocyclopentadiene	0	0		0	1	1.0	2.62	
Hexachloroethane	0	0		0	12	12.0	31.4	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	5,494	
Naphthalene	0	0		0	43	43.0	112	
Nitrobenzene	0	0		0	810	810	2,119	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	8,895	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	154	
Phenanthrene	0	0		0	1	1.0	2.62	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	68.0	

☑ ***THH*** CCT (min): 26.069 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	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	14.6	
Total Arsenic	0	0		0	10	10.0	26.2	
Total Barium	0	0		0	2,400	2,400	6,278	
Total Boron	0	0		0	3,100	3,100	8,110	
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	10.5	
Dissolved Iron	0	0		0	300	300	785	
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	2,616	
Total Mercury	0	0		0	0.050	0.05	0.13	
Total Nickel	0	0		0	610	610	1,596	
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	0.63	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	7.85	
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	262	
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	14.9	
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	86.3	
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	178	

Methyl Bromide	0	0		0	100	100.0	262	
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	149	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	262	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	26,160	
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	78.5	
2,4-Dichlorophenol	0	0		0	10	10.0	26.2	
2,4-Dimethylphenol	0	0		0	100	100.0	262	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	5.23	
2,4-Dinitrophenol	0	0		0	10	10.0	26.2	
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	10,464	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	183	
Anthracene	0	0		0	300	300	785	
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	523	
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	0.26	
2-Chloronaphthalene	0	0		0	800	800	2,093	
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	2,616	
1,3-Dichlorobenzene	0	0		0	7	7.0	18.3	
1,4-Dichlorobenzene	0	0		0	300	300	785	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	1,570	
Dimethyl Phthalate	0	0		0	2,000	2,000	5,232	
Di-n-Butyl Phthalate	0	0		0	20	20.0	52.3	
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	52.3	
Fluorene	0	0		0	50	50.0	131	
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	10.5	
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	88.9	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	26.2	
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	52.3	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.18	

☑ *CRL* CCT (min): 21.940 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	0.66	
Benzene	0	0		0	0.58	0.58	6.34	
Bromoform	0	0		0	7	7.0	76.5	
Carbon Tetrachloride	0	0		0	0.4	0.4	4.37	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	8.75	
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	10.4	
1,2-Dichloroethane	0	0		0	9.9	9.9	108	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	9.84	
1,3-Dichloropropylene	0	0		0	0.27	0.27	2.95	
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	219	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	2.19	
Tetrachloroethylene	0	0		0	10	10.0	109	
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	6.01	
Trichloroethylene	0	0		0	0.6	0.6	6.56	
Vinyl Chloride	0	0		0	0.02	0.02	0.22	
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	0.33	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	16.4	
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	0.001	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.011	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.001	

3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.011	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.11	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	0.33	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	3.5	
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	1.31	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.001	
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	0.55	
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	0.55	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	0.55	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	0.33	
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	0.0009	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.11	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	1.09	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.011	
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	0.008	
n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.055	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	36.1	
Phenanthrene	0	0		0	N/A	N/A	N/A	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	130	AFC	Discharge Conc > 10% WQBEL (no RP)

Free Cyanide	0.16	0.25	10.5	16.3	26.2	µg/L	10.5	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	234	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	1,070	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	14.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	26.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	6,278	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	4,186	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.91	µg/L	Discharge Conc < TQL
Total Chromium (III)	298	µg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	23.2	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	49.7	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	785	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	3,924	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	12.9	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	2,616	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.13	µg/L	Discharge Conc < TQL
Total Nickel	182	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	13.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	10.2	µg/L	Discharge Conc < TQL
Total Thallium	0.63	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	4.28	µg/L	Discharge Conc < TQL
Acrylonitrile	0.66	µg/L	Discharge Conc < TQL
Benzene	6.34	µg/L	Discharge Conc < TQL
Bromoform	76.5	µg/L	Discharge Conc < TQL
Carbon Tetrachloride	4.37	µg/L	Discharge Conc < TQL
Chlorobenzene	262	µg/L	Discharge Conc ≤ 25% WQBEL

Chlorodibromomethane	8.75	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	9,156	µg/L	Discharge Conc < TQL
Chloroform	14.9	µg/L	Discharge Conc < TQL
Dichlorobromomethane	10.4	µg/L	Discharge Conc < TQL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	108	µg/L	Discharge Conc < TQL
1,1-Dichloroethylene	86.3	µg/L	Discharge Conc < TQL
1,2-Dichloropropane	9.84	µg/L	Discharge Conc < TQL
1,3-Dichloropropylene	2.95	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	178	µg/L	Discharge Conc < TQL
Methyl Bromide	262	µg/L	Discharge Conc < TQL
Methyl Chloride	14,388	µg/L	Discharge Conc < TQL
Methylene Chloride	219	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	2.19	µg/L	Discharge Conc < TQL
Tetrachloroethylene	109	µg/L	Discharge Conc < TQL
Toluene	149	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	262	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	1,596	µg/L	Discharge Conc < TQL
1,1,2-Trichloroethane	6.01	µg/L	Discharge Conc < TQL
Trichloroethylene	6.56	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.22	µg/L	Discharge Conc < TQL
2-Chlorophenol	78.5	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	26.2	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	262	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	5.23	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	26.2	µg/L	Discharge Conc < TQL
2-Nitrophenol	4,186	µg/L	Discharge Conc < TQL
4-Nitrophenol	1,230	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	228	µg/L	Discharge Conc < TQL
Pentachlorophenol	0.33	µg/L	Discharge Conc < TQL
Phenol	10,464	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	16.4	µg/L	Discharge Conc < TQL
Acenaphthene	44.5	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	785	µg/L	Discharge Conc < TQL
Benzidine	0.001	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.011	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.001	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.011	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.11	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	0.33	µg/L	Discharge Conc < TQL

Bis(2-Chloroisopropyl)Ether	523	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	3.5	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	141	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.26	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	2,093	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	1.31	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.001	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	419	µg/L	Discharge Conc ≥ 25% WQBEL
1,3-Dichlorobenzene	18.3	µg/L	Discharge Conc < TQL
1,4-Dichlorobenzene	392	µg/L	Discharge Conc < TQL
3,3-Dichlorobenzidine	0.55	µg/L	Discharge Conc < TQL
Diethyl Phthalate	1,570	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	1,308	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	52.3	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	0.55	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	0.55	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	0.33	µg/L	Discharge Conc < TQL
Fluoranthene	52.3	µg/L	Discharge Conc < TQL
Fluorene	131	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.0009	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.11	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	2.62	µg/L	Discharge Conc < TQL
Hexachloroethane	1.09	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.011	µg/L	Discharge Conc < TQL
Isophorone	88.9	µg/L	Discharge Conc < TQL
Naphthalene	112	µg/L	Discharge Conc < TQL
Nitrobenzene	26.2	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.008	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.055	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	36.1	µg/L	Discharge Conc < TQL
Phenanthrene	2.62	µg/L	Discharge Conc < TQL
Pyrene	52.3	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.18	µg/L	Discharge Conc < TQL

evelopment of Effluent Limitations

Outfall No.	002	**Design Flow (MGD)**	0
Latitude	39º 54' 50.00"	**Longitude**	-75º 24' 1.00"
Wastewater Description:	Stormwater		

Outfall No.	003	**Design Flow (MGD)**	0
Latitude	39º 54' 52.00"	**Longitude**	-75º 23' 58.00"
Wastewater Description:	Stormwater		

The following parameters in the existing permit are recommended to continue in the draft permit for stormwater outfalls: pH, CBOD5, COD, TSS, Oil & Grease, Fecal Coliform, TKN, Total Phosphorus, and Iron Dissolved. Benchmark values for COD and TSS are included in Part C of the permit. This requirement is consistent with the requirements for other similar dischargers in the area.

Whole Effluent Toxicity (WET)

For Outfall 001, ☐ **Acute** ☒ **Chronic** WET Testing was completed:

☐ For the permit renewal application (4 tests).
☐ Quarterly throughout the permit term.
☐ Quarterly throughout the permit term and a TIE/TRE was conducted.
☒ Other: Annually throughout the permit term

The dilution series used for the tests was: 100%, 69%, 38%, 19%, and 10%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 38%.

Summary of Four Most Recent Test Results

WET Summary and Evaluation

Facility Name	Aqua PA Media STP
Permit No.	PA0024121
Design Flow (MGD)	1.8
Q_{7-10} Flow (cfs)	4.5
PMF_a	0.759
PMF_c	1

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	Endpoint	2/11/19	3/16/20	3/16/21	3/22/22
Ceriodaphnia	Survival	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	Endpoint	2/11/19	3/16/20	3/16/21	3/22/22
Ceriodaphnia	Reproduction	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	Endpoint	2/12/19	3/17/20	3/16/21	3/21/23
Pimephales	Growth	Pass	Pass	Pass	Pass

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	Endpoint	2/12/19	3/17/20	3/16/21	3/21/23
Pimephales	Survival	Pass	Pass	Pass	Pass

Reasonable Potential? NO

Permit Recommendations

Test Type	Chronic
TIWC	38 % Effluent
Dilution Series	10, 19, 38, 69, 100 % Effluent
Permit Limit	None
Permit Limit Species	

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

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

The standard WET condition based on the DEP WET SOP is incorporated in Part C of the draft permit.

*WET test conducted on 3/15/2022 had PMSD above the upper limit for the P. Promelas growth test and hence the test was invalid. March 2023 retest was acceptable and used for review.

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.3	XXX	1.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	375	600	XXX	25	40 Wkly Avg	50	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	225	375	XXX	15	25 Wkly Avg	30	2/week	24-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Suspended Solids	450	675	XXX	30	45 Wkly Avg	60	2/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/week	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	Daily Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Dissolved Solids	15012 Avg Qrtly	30024 Daily Max	XXX	1000.0 Avg Qrtly	2000.0	2500	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	90	XXX	XXX	6.0	XXX	12	2/week	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	30	XXX	XXX	2.0	XXX	4	2/week	24-Hr Composite
Total Phosphorus	15	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Copper, Total	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Cyanide, Free	0.16	0.25 Daily Max	XXX	0.011	0.016	0.026	1/month	Grab
Zinc, Total	Report Avg Qrtly	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Toxicity, Chronic - Ceriodaphnia Survival (TUc)	XXX	XXX	XXX	XXX	Report	XXX	See Permit	24-Hr Composite
Toxicity, Chronic - Ceriodaphnia Reproduction (TUc)	XXX	XXX	XXX	XXX	Report	XXX	See Permit	24-Hr Composite
Toxicity, Chronic - Pimephales Survival (TUc)	XXX	XXX	XXX	XXX	Report	XXX	See Permit	24-Hr Composite
Toxicity, Chronic - Pimephales Growth (TUc)	XXX	XXX	XXX	XXX	Report	XXX	See Permit	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

Outfall 002, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Proposed Effluent Limitations and Monitoring Requirements

Outfall 003, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Chemical Oxygen Demand (COD)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Suspended Solids	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Iron, Dissolved	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab