pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0021717**
Facility Type	**Municipal**	APS ID	**276406**
Major / Minor	**Minor**	Authorization ID	**1312101**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Marietta Donegal Joint Authority**	Facility Name	**Marietta Donegal Joint Authority WWTP**
Applicant Address	111 East Market Street	Facility Address	50 Furnace Road
	Marietta, PA 17547-1831		Marietta, PA 17547-1831
Applicant Contact	Steve Shireman	Facility Contact	Austin Flanagan
Applicant Phone	(717) 426-1650	Facility Phone	(717) 426-1650
Client ID	65329	Site ID	251483
Ch 94 Load Status	Not Overloaded	Municipality	Marietta Borough
Connection Status	No Limitations	County	Lancaster
Date Application Received	April 21, 2020	EPA Waived?	No
Date Application Accepted	June 11, 2020	If No, Reason	Significant CB Discharge
Purpose of Application	NPDES RENEWAL.		

Summary of Review

Marietta Donegal Joint Authority (MDJA) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued on September 22, 2015 and became effective on October 1, 2015. The permit expired on September 30, 2020 but the terms and conditions of the permit have been administratively extended since that time. On March 12, 2021, MDJA submitted an amendment application requesting the existing organic design capacity to be increased from 1,405 lbs BOD5/day to 2,800 lbs BOD5/day. While a separate IRR will be prepared for a WQM permit amendment, DEP decided to process the NPDES amendment and renewal applications simultaneously.

Based on the review, it is recommended that the permit be drafted.

Sludge use and disposal description and location(s): Sludge is treated by aerobic digesters (2) and a belt filter press prior to hauled off site for land application (PAG03601).

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

Approve	Deny	Signatures	Date
X		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	September 13, 2021
X		Maria D. Bebenek for Daniel W. Martin Daniel W. Martin, P.E. / Environmental Engineer Manager	September 15, 2021
X		Maria D. Bebenek Maria D. Bebenek, P.E. / Program Manager	September 15, 2021

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.750
Latitude	40° 03’ 23”	Longitude	76° 32’ 07”
Quad Name	Columbia West	Quad Code	1833
Wastewater Description:	Sewage		
Receiving Waters	Susquehanna River	Stream Code	06685
NHD Com ID	57464477	RMI	30.16
Drainage Area	25,900 sq. mi.	Yield (cfs/mi^2)	0.123
Q_{7-10} Flow (cfs)	3,330	Q_{7-10} Basis	StreamStats
Elevation (ft)	227	Slope (ft/ft)	
Watershed No.	7-G	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Tentatively Impaired		
Cause(s) of Impairment	PCB		
Source(s) of Impairment	Source Unknown		
TMDL Status	Pending	Name	
Nearest Downstream Public Water Supply Intake	Columbia Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	27.80	Distance from Outfall (mi)	2.36

Drainage Area
The discharge is to Susquehanna River at RM 30.16. A drainage area upstream of the discharge point is estimated to be 25,900 sq.mi. according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 3,330 cfs at the point of discharge.

Susquehanna River
Under 25 Pa Code §93.9o, Susquehanna River is designated as warm water fishes and supported migratory fishes. No special protection water is impacted by this discharge. DEP’s latest integrated water quality report finalized in 2020 shows this part of Susquehanna River is currently unassessed for aquatic life but is impaired for PCBs due to unknown sources for fish consumption.

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the neared downstream public water supply intake is Columbia Water Company, located on the Susquehanna River, approximately 2.36 miles from the discharge. Given the nature and dilution, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Marietta Donegal Joint Authority WWTP				
WQM Permit No.	**Issuance Date**			
3604401	9/2011			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Phosphorus Reduction	Sequencing Batch Reactor	Ultraviolet	0.750
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.750	1408 (existing); 2,800 (new)	Not Overloaded	Belt Filtration	Land Application

MDJA owns and operates a sanitary wastewater treatment facility located at 50 Furnace Road, Marietta PA 17547. The facility serves the areas of Marietta Brough (50%) and East Donegal Township (50%). All sewer systems are 100% separated. The facility utilizes a sequencing batch reactor (SBR) activated sludge treatment process consisting of an influent pump station, bar screen, SBRs (2), UV disinfection and outfall structure.

Sludge is treated by aerobic digesters (2) and a belt filter press prior to hauled off site for land application (PAG03601).

The system incorporates the chemical addition of ferric chloride (for phosphorus removal).

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR is presented on the next page.
Summary of Inspections:	08/10/2021: Tracy Tomtishen, DEP Water Quality Specialist, conducted a routine inspection. A number of noncompliance issues were explained in the report. 01/22/2021: Tracy Tomtishen conducted a Chesapeake Bay Cap Load Compliance Evaluation and noted some errors made by the permittee when reporting monthly sample results. 04/28/2020: Tracy Tomtishen conducted an administrative inspection to determine current status of operations. No issues were noted at the time of inspection.
Other Comments:	A number of effluent violations have been reported since last permit reissuance. These violations are identified on page 7 of this fact sheet. DEP's database shows there is no open violation associated with this facility or permittee.

Effluent Data

DMR Data for Outfall 001 (from August 1, 2020 to July 31, 2021)

Parameter	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20
Flow (MGD) Average Monthly	0.555	0.549	0.632	0.658	0.643	0.597	0.587	0.599	0.559	0.555	0.554	0.577
Flow (MGD) Daily Maximum	0.604	0.583	0.715	0.754	0.778	0.917	0.666	0.982	0.657	0.652	0.613	0.754
pH (S.U.) Minimum	7.4	7.4	7.4	7.4	7.3	6.9	6.8	7.2	6.8	7.0	7.1	6.7
pH (S.U.) Maximum	7.9	7.7	7.7	7.7	7.6	7.7	7.9	7.6	7.5	7.4	7.5	7.5
DO (mg/L) Minimum	7.6	7.8	8.0	8.6	8.5	8.7	9.4	8.2	7.9	7.7	7.3	7.4
CBOD5 (lbs/day) Average Monthly	< 11	< 11	< 11	51	29	42	< 11	< 10	< 10	< 9	< 9	< 10
CBOD5 (lbs/day) Weekly Average	16	12	13	120	42	110	14	< 10	< 10	< 9	< 10	12
CBOD5 (mg/L) Average Monthly	< 2.4	< 2.4	< 2.2	9.4	5.6	8.4	< 2.4	< 2.0	< 2.0	< 2	< 2	< 2.2
CBOD5 (mg/L) Weekly Average	3.4	2.8	2.4	21.9	8.6	21.6	3	< 2.0	< 2.0	< 2	< 2	2.6
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	937	978	1042	1063	1196	1496	1348	1846	2042	1189	1127	1087
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	991	1149	1342	1309	1393	2019	1586	3311	2854	1708	1439	1277
BOD5 (mg/L) Raw Sewage Influent Average Monthly	203	218	198	198	225	310	295	388	424	260	243	233
TSS (lbs/day) Average Monthly	< 36	< 25	< 24	79	72	57	< 21	< 20	< 20	< 18	< 19	< 19
TSS (lbs/day) Raw Sewage Influent Average Monthly	1024	1294	910	1358	1462	1198	1592	2079	2169	1871	1664	1645
TSS (lbs/day) Raw Sewage Influent Daily Maximum	1333	1827	1042	1596	1750	1317	2179	3153	4019	2059	2203	1994
TSS (lbs/day) Weekly Average	74	37	35	102	115	86	27	20	25	< 19	< 19	< 19
TSS (mg/L) Average Monthly	< 7.7	< 5.6	< 4.6	14.7	13.9	12	< 4.6	< 4.1	< 4.2	< 4	< 4	< 4

Parameter	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20
TSS (mg/L) Raw Sewage Influent Average Monthly	222	289	172	253	278	250	348	434	459	409	358	352
TSS (mg/L) Weekly Average	16	8.0	6.4	19.2	21.2	18	5.6	4.4	4.8	< 4	< 4	4
Fecal Coliform (CFU/100 ml) Geometric Mean	10	< 5	26	621	97	835	124	19	< 11	3	5	29
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	33	18	208	20000	654	11300	267	63	43	5	16	208
UV Intensity (mW/cm²) Minimum	4.28	4.97	4.09	4.23	4.91	5.0	7.57	7.38	7.16	7.19	6.87	6.6
UV Intensity (mW/cm²) Average Monthly	4.90	5.52	5.94	5.17	5.32	7.16	7.66	7.62	7.81	7.28	7.07	6.84
Nitrate-Nitrite (mg/L) Average Monthly	< 4.11	< 2.75	4.56	< 1.96	< 3.02	< 3.38	< 3	2.41	2.24	2.25	2.86	2.27
Nitrate-Nitrite (lbs) Total Monthly	< 588	< 372	743	< 318	< 495	< 486	< 427	354	310	315	391	339
Total Nitrogen (mg/L) Average Monthly	5.0	3.7	5.84	5.55	10.61	5.38	3.87	3.54	3.14	3.43	6.18	3.3
Total Nitrogen (lbs) Effluent Net Total Monthly	715	500	953	901	1696	759	554	518	435	480	866	491
Total Nitrogen (lbs) Total Monthly	715	500	953	901	1696	759	554	518	435	480	866	491
Total Nitrogen (lbs) Effluent Net Total Annual											6068	
Total Nitrogen (lbs) Total Annual											< 6068	
Ammonia (mg/L) Average Monthly	< 0.1	< 0.10	< 0.1	< 1.0	< 5.3	< 0.26	< 0.15	< 0.19	< 0.12	0.26	< 0.12	< 0.1
Ammonia (lbs) Total Monthly	< 14	< 14	< 16	< 163	< 829	< 36	< 23	< 28	< 17	< 36	< 16	< 15
Ammonia (lbs) Total Annual											< 329	
TKN (mg/L) Average Monthly	0.89	< 0.94	1.29	< 3.59	7.6	< 2.0	< 0.87	< 1.13	0.9	1.18	3.32	< 1.03
TKN (lbs) Total Monthly	127	< 128	211	< 582	1201	< 273	< 127	< 164	125	165	476	< 152

Parameter	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20	AUG-20
Total Phosphorus (lbs/day) Average Monthly	4.0	6.0	11.0	7.0	5.0	4.0	3.0	2.0	3.0	2.0	4.0	5.0
Total Phosphorus (mg/L) Average Monthly	0.77	1.43	2.17	1.35	0.95	0.75	0.56	0.47	0.59	0.52	0.8	0.98
Total Phosphorus (lbs) Effluent Net Total Monthly	110	193	353	220	155	103	82	68	81	73	110	145
Total Phosphorus (lbs) Total Monthly	110	193	353	220	155	103	82	68	81	73	110	145
Total Phosphorus (lbs) Effluent Net Total Annual											1443	
Total Phosphorus (lbs) Total Annual											1443	

Effluent Violations

DATE	PARAMETER	SAMPLE VALUE	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
03/01/2016	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
04/01/2016	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
05/01/2016	Fecal Coliform	2400	1000	CFU/100 ml	Instantaneous Maximum
10/01/2016	Fecal Coliform	10600	10000	CFU/100 ml	Instantaneous Maximum
02/01/2017	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
03/01/2017	Fecal Coliform	2436	2000	CFU/100 ml	Geometric Mean
02/01/2018	Fecal Coliform	6699	2000	CFU/100 ml	Geometric Mean
02/01/2018	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
03/01/2018	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
04/01/2018	Fecal Coliform	13500	10000	CFU/100 ml	Instantaneous Maximum
10/01/2018	Total Phosphorus (Total Load, lbs)	< 2071	1826	lbs	Total Annual
03/01/2019	Fecal Coliform	15600	10000	CFU/100 ml	Instantaneous Maximum
05/01/2019	Fecal Coliform	2800	1000	CFU/100 ml	Instantaneous Maximum
08/01/2019	Fecal Coliform	202	200	CFU/100 ml	Geometric Mean
09/01/2019	Fecal Coliform	224	200	CFU/100 ml	Geometric Mean
09/01/2019	Fecal Coliform	1500	1000	CFU/100 ml	Instantaneous Maximum
05/01/2020	Fecal Coliform	4200	1000	CFU/100 ml	Instantaneous Maximum
06/01/2020	Fecal Coliform	2700	1000	CFU/100 ml	Instantaneous Maximum
02/01/2021	Fecal Coliform	11300	10000	CFU/100 ml	Instantaneous Maximum
04/01/2021	Fecal Coliform	20000	10000	CFU/100 ml	Instantaneous Maximum
05/01/2021	Total Phosphorus	2.17	2.0	mg/L	Average Monthly
08/01/2021	Fecal Coliform	4600	1000	CFU/100 ml	Instantaneous Maximum

Existing Effluent Limits and Monitoring Requirements

These tables below summarize effluent limits and monitoring requirements specified in the current permit.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	Report	XXX	XXX	1/day	Recorded
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	24-Hr Composite
CBOD5	156	250 Wkly Avg	XXX	25	40	50	1/week	24-Hr Composite
Total Suspended Solids	188	281 Wkly Avg	XXX	30	45	60	1/week	24-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Phosphorus	12.5	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite

Parameter (1)	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum (2) Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite

Parameter [1]	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum [2] Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	13,698	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,826	XXX	XXX	XXX	1/month	Calculation

Development of Effluent Limitations and Monitoring Requirements

Outfall No. 001 **Design Flow (MGD)** .75
Latitude 40º 3' 24.33" **Longitude** -76º 32' 8.12"
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 facility utilizes UV disinfection; therefore, total residual chlorine (TRC) effluent limitation is not applicable. These limitations apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen
WQM 7.0 is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. DEP recently updated this model (ver. 1.1) to include new ammonia criteria that has been approved by US EPA as part of the 2017 Triennial Review. A model output indicates that existing limits are still protective of water quality. No changes are therefore recommended.

Toxics
As the facility is considered a minor sewage facility, a limited toxic data is required to be reported in the application. DEP's Toxics Management Spreadsheet was still utilized for those toxics that have been reported in the application. The spreadsheet recommends a routine monitoring for Total Copper as the effluent concentration is greater than 10% of the WQBEL recommended by the spreadsheet. A routine monitoring for Total Copper is therefore recommended.

Best Professional Judgment (BPJ) Limitations

A minimum DO limit of 5.0 mg/L is a DO water quality criterion found in 25 Pa. Code § 93.7(a). This limit is included in the existing NPDES permit based BPJ. It is still recommended to include this limit in the draft permit to ensure that the facility continues to achieve compliance with DEP water quality standards.

Historically, an average monthly Total Phosphorus limit of 2.0 mg/L was recommended in NPDES permits, per DEP phosphorus guidance 391-2000-018, to control phosphorus effluent levels for any facilities that are expected to contribute 0.25% or more of the total phosphorus loading of the entire basin. DEP has previously determined that this facility meets the criteria and the limit has been continuously imposed in the permit. Therefore, it is still recommended to maintain this

limit in the draft permit to ensure that this facility does not contribute to adverse water quality impacts. Also, the existing average monthly mass loading limit is based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

DEP's Standard Operating Procedure (SOP no. BPNPSM-PMT-033) recommends a routine monitoring of Ultraviolet (UV) transmittance or intensity when the facility is utilizing an UV disinfection system in lieu of chlorination. Presumably, this recommendation was implemented as a part of the proper operation and maintenance requirement specified in Part B of the NPDES permit, requesting permittees to demonstrate the effectiveness of UV disinfection system. This is a reasonable approach and has been assigned to other facilities equipped with similar technology. Accordingly, UV monitoring is recommended for this permit renewal.

Additional Consideration

Stormwater Requirements
The current permit contains Part C conditions pertaining to stormwater requirements. However, this facility has a design flow less than 1.0 MGD and is therefore not subject to stormwater requirements under 40 CFR§122.26 (b)(14)(ix). The existing stormwater requirements will be removed from the permit.

Total Dissolved Solids
Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern in several major watersheds in the Commonwealth. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Bromide has been linked to formation of disinfection byproducts at increased levels in public water systems. In addition, as a consequence of actions associated with Triennial Review 13, the Environmental Quality Board has directed DEP to collect additional data related to sulfate, chloride, and 1,4-dioxane. Furthermore, in an August 2013 letter from Jon Capacasa of the Region III Water Protection Program to DEP, EPA has expressed concern related to bromide and the importance of monitoring all point sources for bromide when it may be present.

Based on these concerns and under the authority of § 92a.61, DEP has determined it should implement increased monitoring in NPDES permits for these parameters: TDS, sulfate, chloride, bromide, and 1,4-dioxane. As part of this implementation, the following permitting guidance was recommended by DEP Bureau of Clean Water:

For point source discharges and upon issuance or reissuance of an individual NPDES permit:

- *Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*

- *Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*

- *Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

The application reported TDS of 1,220 mg/L. Therefore, the requirement to monitor for TDS, Sulfate, Chloride and Bromide is recommended.

E. Coli Monitoring
DEP's SOP No. BCW-PMT-033 recommends under 25 Pa Code §92a.61 a routine monitoring for E. Coli in all new and reissued permits. Since the facility has the design flow of 0.75 MGD, a quarterly monitoring will be included in the permit.

Chesapeake Bay Total Maximum Daily Load (TMDL)
DEP's current Supplement to Phase III Watershed Implementation Plan (WIP) lists this facility as a significant Phase 3 facility. The WIP also provides the following table for Marietta Donegal Joint Authority WWTP:

NPDES Permit No.	Phase	Facility	Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TP Cap Load (lbs/yr)
PA0021717	2	Marietta-Donegal Joint Authority	9/22/2015	9/30/2020	10/1/2012	13,698	1,826

The facility is currently meeting their cap loads; accordingly, no interim monitoring requirement is necessary and existing cap loads remain unchanged and will still be in effect at the issuance of the final permit.

Sampling Frequency & Sample Type
Unless specified otherwise in this fact sheet, all sample types and monitoring frequencies will remain unchanged.

Flow Monitoring
Flow monitoring remains unchanged and is recommended by the permit guidance and is also required by 25 PA Code §§ 92a.27 and 92a.61.

Influent Monitoring
As a result of negotiation with EPA, influent monitoring of TSS and BOD5 are required for any POTWs; therefore, existing influent monitoring requirements will remain in the draft permit. The sample type has changed from 24-hour composite to 8-hr composite to be consistent with the existing frequency for TSS and CBOD5 in the effluent.

Mass Loading Limitation
All mass loading effluent limitations recommended in the draft permit are concentration-based, calculated using a formula: design flow (MGD) x concentration limit (mg/L) x conversion factor of 8.34.

Anti-Backsliding
Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit unless any exceptions addressed by DEP in this fact sheet.

Class A Wild Trout Streams
No Class A Wild Trout Fishery is impacted by this discharge.

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	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5	156	250	XXX	25	40	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	188	281	XXX	30	45	60	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Intensity (mW/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

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	Weekly Average	Instant. Maximum		
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	12.5	XXX	XXX	2.0	XXX	4	2/week	24-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Copper	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite
Total Dissolved Solids	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite
Sulfate	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite
Bromide	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite
Chloride	Report	Report Daily Max	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, to comply with Pennsylvania's Chesapeake Bay Tributary Strategy.

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

Parameter [1]	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum [2] Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Net Total Nitrogen	Report	13,698	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,826	XXX	XXX	XXX	1/month	Calculation

StreamStats Report

Region ID: PA
Workspace ID: PA20210913171556384000
Clicked Point (Latitude, Longitude): 40.05416, -76.53518
Time: 2021-09-13 13:16:30 -0400

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	25900	square miles
BSLOPD	Mean basin slope measured in degrees	8.1631	degrees
ROCKDEP	Depth to rock	4.5	feet
URBAN	Percentage of basin with urban development	2.8676	percent
PRECIP	Mean Annual Precipitation	40	inches
STRDEN	Stream Density -- total length of streams divided by drainage area	1.76	miles per square mile
CARBON	Percentage of area of carbonate rock	6.46	percent

Parameter Code	Parameter Description	Value	Unit
ELEV	Mean Basin Elevation	1334	feet
GLACIATED	Percentage of basin area that was historically covered by glaciers	45.6634	percent
FOREST	Percentage of area covered by forest	68.0731	percent

Low-Flow Statistics Parameters [3.3 Percent (851 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	25900	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	8.1631	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.5	feet	4.13	5.21
URBAN	Percent Urban	2.8676	percent	0	89

Low-Flow Statistics Parameters [42.8 Percent (11100 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	25900	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	40	inches	35	50.4
STRDEN	Stream Density	1.76	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.5	feet	3.32	5.65
CARBON	Percent Carbonate	6.46	percent	0	99

Low-Flow Statistics Parameters [6.2 Percent (1610 square miles) Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	25900	square miles	2.33	1720
ELEV	Mean Basin Elevation	1334	feet	898	2700
PRECIP	Mean Annual Precipitation	40	inches	38.7	47.9

Low-Flow Statistics Parameters [47.5 Percent (12300 square miles) Low Flow Region 5]

9/13/21, 1:22 PM StreamStats

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	25900	square miles	4.84	982
PRECIP	Mean Annual Precipitation	40	inches	33.1	47.1
GLACIATED	Percent of Glaciation	45.6634	percent	0	100
FOREST	Percent Forest	68.0731	percent	41	100

Low-Flow Statistics Disclaimers [3.3 Percent (851 square miles) Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [3.3 Percent (851 square miles) Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	9290	ft^3/s
30 Day 2 Year Low Flow	10300	ft^3/s
7 Day 10 Year Low Flow	7270	ft^3/s
30 Day 10 Year Low Flow	7650	ft^3/s
90 Day 10 Year Low Flow	8150	ft^3/s

Low-Flow Statistics Disclaimers [42.8 Percent (11100 square miles) Low Flow Region 2]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [42.8 Percent (11100 square miles) Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	5930	ft^3/s
30 Day 2 Year Low Flow	7000	ft^3/s
7 Day 10 Year Low Flow	4420	ft^3/s
30 Day 10 Year Low Flow	5210	ft^3/s
90 Day 10 Year Low Flow	6480	ft^3/s

Low-Flow Statistics Disclaimers [6.2 Percent (1610 square miles) Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [6.2 Percent (1610 square miles) Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	2410	ft^3/s
30 Day 2 Year Low Flow	2970	ft^3/s
7 Day 10 Year Low Flow	1450	ft^3/s
30 Day 10 Year Low Flow	1800	ft^3/s
90 Day 10 Year Low Flow	2470	ft^3/s

Low-Flow Statistics Disclaimers [47.5 Percent (12300 square miles) Low Flow Region 5]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [47.5 Percent (12300 square miles) Low Flow Region 5]

Statistic	Value	Unit
7 Day 2 Year Low Flow	3540	ft^3/s
30 Day 2 Year Low Flow	4470	ft^3/s
7 Day 10 Year Low Flow	2280	ft^3/s
30 Day 10 Year Low Flow	2980	ft^3/s
90 Day 10 Year Low Flow	3840	ft^3/s

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	4670	ft^3/s
30 Day 2 Year Low Flow	5640	ft^3/s
7 Day 10 Year Low Flow	3300	ft^3/s
30 Day 10 Year Low Flow	4010	ft^3/s
90 Day 10 Year Low Flow	5020	ft^3/s

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/)

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
07K	6685	SUSQUEHANNA RIVER	**30.160**	227.00	25900.00	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	0.123	0.00	0.00	0.000	0.000	0.0	0.00	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
Marietta Donega	PA0021717	0.7500	0.7500	0.7500	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	5.00	8.24	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
07K	6685	SUSQUEHANNA RIVER	**27.400**	225.50	26000.00	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	0.123	0.00	0.00	0.000	0.000	0.0	0.00	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
07K	6685	SUSQUEHANNA 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												
30.160	3185.70	0.00	3185.70	1.1602	0.00010	.709	2323.82	3275.9	1.93	0.087	25.00	7.00
Q1-10 Flow												
30.160	2038.85	0.00	2038.85	1.1602	0.00010	NA	NA	NA	1.51	0.112	25.00	7.00
Q30-10 Flow												
30.160	4332.55	0.00	4332.55	1.1602	0.00010	NA	NA	NA	2.30	0.073	25.00	7.00

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
30.160	0.750	25.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
2323.822	0.709	3275.903	1.933
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.006	0.01	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.242	1.045	Tsivoglou	5
Reach Travel Time (days)			
0.087			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.009	2.01	0.01	7.54
0.017	2.01	0.01	7.54
0.026	2.01	0.01	7.54
0.035	2.01	0.01	7.54
0.044	2.01	0.01	7.54
0.052	2.01	0.01	7.54
0.061	2.01	0.01	7.54
0.070	2.01	0.01	7.54
0.079	2.01	0.01	7.54
0.087	2.01	0.01	7.54

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		

Monday, September 13, 2021 Version 1.1 Page 1 of 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07K	6685	SUSQUEHANNA 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)
30.160	Marietta Donega	PA0021717	0.750	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

Monday, September 13, 2021 Version 1.1 Page 1 of 1

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: Marietta-Donegal Joint Authority WWTP NPDES Permit No.: PA0021717 Outfall No.: 001

Evaluation Type: Custom / Additives Wastewater Description: 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
0.75	100	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	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Copper	µg/L		37									
Total Zinc	µg/L		54									
Total Lead	µg/L	<	1									
Total Dissolved Solids (PWS)	mg/L		1220									
Sulfate (PWS)	mg/L		58.9									
Chloride (PWS)	mg/L		439									
Bromide	mg/L	<	1									

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Marietta-Donegal Joint Authority WWTP, NPDES Permit No. PA0021717, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: **Susquehanna River** 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	006685	30.16	227	25900			Yes
End of Reach 1	006685	27.4	225.5	26000			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	30.16	0.123										100	7		
End of Reach 1	27.4	0.123													

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	30.16														
End of Reach 1	27.4														

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Marietta-Donegal Joint Authority WWTP, NPDES Permit No. PA0021717, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.004 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 Copper	0	0		0	13.439	14.0	149	Chem Translator of 0.96 applied
Total Zinc	0	0		0	117.180	120	1,273	Chem Translator of 0.978 applied
Total Lead	0	0		0	64.581	81.6	868	Chem Translator of 0.791 applied
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	

☑ ***CFC*** CCT (min): 720 PMF: 0.024 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 Copper	0	0		0	8.956	9.33	632	Chem Translator of 0.96 applied
Total Zinc	0	0		0	118.139	120	8,111	Chem Translator of 0.986 applied
Total Lead	0	0		0	2.517	3.18	215	Chem Translator of 0.791 applied
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	

☑ ***THH*** CCT (min): 720 PMF: 0.024 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 Copper	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	

Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	

☑ ***CRL*** CCT (min): 720 PMF: 0.034 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 Copper	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	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	95.4	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 Zinc	816	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	N/A	N/A	Discharge Conc < TQL
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS

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