

Application Type Renewal
 Facility Type Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0043583
 APS ID 1051672
 Authorization ID 1376207

Applicant and Facility Information

Applicant Name	<u>Hartley Township Municipal Authority</u>	Facility Name	<u>Hartley Township Municipal Authority Wastewater Treatment Plant</u>
Applicant Address	<u>PO Box 175 Laurelton, PA 17835-0175</u>	Facility Address	<u>588 Pick Road Laurelton, PA 17835-0175</u>
Applicant Contact	<u>Kris Diehl</u>	Facility Contact	<u>Kris Diehl</u>
Applicant Phone	<u>(570) 922-0004</u>	Facility Phone	<u>(570) 922-0004</u>
Client ID	<u>44902</u>	Site ID	<u>248669</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Hartley Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Union</u>
Date Application Received	<u>November 9, 2021</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>November 18, 2021</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of an existing NPDES permit for the discharge of treated sewage.</u>		

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.

Approve	Deny	Signatures	Date
X		<i>Derek S. Garner</i> Derek S. Garner / Project Manager	August 30, 2022
X		<i>Nicholas W. Hartranft</i> Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	August 30, 2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.2</u>
Latitude	<u>40° 52' 17.53"</u>	Longitude	<u>-77° 11' 18.61"</u>
Quad Name	<u>Beavertown</u>	Quad Code	<u>486</u>

Wastewater Description: Sewage Effluent

Receiving Waters	<u>Laurel Run</u>	Stream Code	<u>18157</u>
NHD Com ID	<u>54963829</u>	RMI	<u>0.1</u>
Drainage Area	<u>20.1</u>	Yield (cfs/mi ²)	<u>0.147</u>
Q ₇₋₁₀ Flow (cfs)	<u>2.95</u>	Q ₇₋₁₀ Basis	<u>Streamgage No. 01555000</u>
Elevation (ft)	<u>608</u>	Slope (ft/ft)	<u>n/a</u>
Watershed No.	<u>6-A</u>	Chapter 93 Class.	<u>CWF</u>
Existing Use	<u>EV</u>	Existing Use Qualifier	<u>RBP – Antridegradation</u>
Exceptions to Use	<u>n/a</u>	Exceptions to Criteria	<u>n/a</u>

Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u>n/a</u>		
Source(s) of Impairment	<u>n/a</u>		
TMDL Status	<u>n/a</u>	Name	<u>n/a</u>

Nearest Downstream Public Water Supply Intake	<u>SUEZ Water</u>		
PWS Waters	<u>Susquehanna River</u>	Flow at Intake (cfs)	<u>2,360</u>
PWS RMI	<u>76.73</u>	Distance from Outfall (mi)	<u>67.88</u>

Treatment Facility Summary

Original construction and operation of the Hartley Township Municipal Authority (“HTMA”) Wastewater Treatment Plant (“WWTP”) is covered under WQM Permit No. 6072402, issued May 16, 1972. The permit approved an extended aeration treatment plant with chlorine disinfection and a sludge holding tank. The permit was amended on June 21, 2019 to include a sodium bisulfite dechlorination unit to help meet more stringent total residual chlorine effluent limits in the NPDES permit.

The treatment plant has an average annual design flow and hydraulic capacity of 0.2 MGD and a 304 lb/day organic capacity.

Wasted sludge disposed of at the Kelly Township WWTP. No hauled-in wastes are anticipated within the next five years.

Compliance History

The following effluent violations occurred during the existing permit's term:

Noncompliance Date	Parameter	Sample Value	Violation Condition	Permit Value	Unit	SBC
5/28/2020	Total Residual Chlorine	0.06	>	0.02	mg/L	IMAX
6/29/2021	Fecal Coliform	2419.6	>	1000	No./100 ml	IMAX
6/29/2021	Fecal Coliform	309	>	200	No./100 ml	Geometric Mean
8/31/2021	Total Suspended Solids	104	>	75	lbs/day	Weekly Average
4/28/2022	CBOD5	83.0	>	65	lbs/day	Weekly Average
6/28/2022	Fecal Coliform	2419.6	>	1000	No./100 ml	IMAX
6/28/2022	Fecal Coliform	366	>	200	No./100 ml	Geometric Mean

A corrective action plan, dated March 21, 2022, is in place to deal with inflow/infiltration related issues.

There are no open violations associated with the permittee.

Development of Effluent Limitations

Outfall No. 001 Design Flow (MGD) 0.2
 Latitude 40° 52' 17.20" Longitude -77° 11' 19.10"
 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	0.02	IMAX	-	92a.48(b)(3)

Water Quality-Based Limitations

DEP models in-stream conditions to determine if WQBELs are appropriate. Models were created using WQM 7.0 v1.0b for CBOD5, ammonia-N and dissolved oxygen and the Toxics Management Spreadsheet ("TMS") for toxics.

The water quality model WQM 7.0 v1.0b is used to determine the WQBELs for dissolved oxygen, CBOD5 and ammonia-n (NH3-N) based on a multiple-discharge analysis, if applicable. The model assumes complete and instantaneous mixing with the receiving surface water. The reach chosen to model the in-stream characteristics is appropriate as a recovery in dissolved oxygen levels is demonstrated. The modeling output is as follows:

Parameter	Discharge Conc. (mg/l)	Effluent Limitations		
		30 Day Average (mg/l)	Maximum (mg/l)	Minimum (mg/l)
CBOD5	25	25		
NH3-N	13	13	26	
Dissolved Oxygen	3			3

Unlike WQM 7.0 v1.0b, TMS is a single discharge model that does not assume instantaneous mixing with the receiving surface water upon discharge, but instead, assigns a partial mixing factor based upon surface water and discharge characteristics. Maximum concentrations for pollutants reported in the effluent testing section of the application were entered into the TMS to determine if the pollutant requires limit or monitoring requirements. The modeling output is as follows:

Pollutants	Governing WQBEL	Units	Comments
Total Copper	0.093	mg/l	Discharge Conc ≤ 10% WQBEL
Total Lead	33.6	mg/l	Discharge Conc ≤ 10% WQBEL
Total Zinc	797	mg/l	Discharge Conc ≤ 10% WQBEL

The above output indicates no limits or monitoring requirements are necessary to protect the receiving water.

All modeling input/output data is attached.

Best Professional Judgment (BPJ) Limitations

It is recommended to continue the use of seasonal limits for ammonia-n. Applying a multiplier of three to the limits for cold weather months is appropriate, because 1) dilution between the discharge and the receiving surface water is generally greater than warm weather months, and 2) biological treatment efficiency is reduced. Only a monitoring requirement is necessary during the cold-weather months since applying a factor of three would result in a limit greater than the typical ammonia-n concentration of sewage treated to secondary standard. This approach is consistent with the recommendations in DEP guidance *Determining Water Quality-Based Effluent Limits (391-2000-003, 5/9/03)*.

Existing monitoring requirements for dissolved oxygen will be retained to continue to help characterize the effluent.

Existing influent monitoring for BOD5 and TSS will be retained to help with Chapter 94 reporting purposes.

A quarterly reporting requirement for E. Coli is proposed per the 2017 Triennial Review of Water Quality Standards, published in the PA Bulletin on July 11, 2020.

Chesapeake Bay Considerations

Pennsylvania’s Phase 3 Watershed Implementation Plan (“WIP”) Wastewater Supplement (Revised, July 29, 2022) identifies the HTMA WWTP as a Phase 4 facility (average annual design flow ≥ 0.2 MGD and < 0.4 MGD) per the Supplement to Phase 3 of Pennsylvania’s Watershed Implementation Plan (“WIP”). The WIP requires all Phase 4 facilities to monitor for total nitrogen (“TN”) and total phosphorus (“TP”) throughout the permit term at a frequency of no less than monthly. Accordingly, the existing monitoring requirements for TN and TP will remain in the permit.

Anti-Backsliding

No limits or monitoring requirements are proposed to be made less stringent. Anti-backsliding regulations should not impact the development of the permit.

Existing Effluent Limitations and Monitoring Requirements

The existing effluent limitations and monitoring requirements are as follows:

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	XXX	XXX	0.02	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	41	65	XXX	25.0	40.0	50	1/week	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	50	75	XXX	30.0	45.0	60	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	1/week	8-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
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	Report	Report	XXX	Report	Report	XXX	1/week	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	21	31	XXX	13.0	19.0	25	1/week	8-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Compliance Sampling Location: Outfall 001

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)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	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
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	XXX	XXX	0.02	1/day	Grab
CBOD5	41	65	XXX	25.0	40.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	50	75	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	Report	Report	XXX	Report	Report	XXX	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	21	31	XXX	13.0	19.0	25	1/week	8-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite

Compliance Sampling Location: Outfall 001

Input Data WQM 7.0

	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
	18157	LAUREL RUN	0.100	590.00	20.10	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	pH	Stream Temp	pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.147	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.50	0.00	0.00
Q1-10		2.80	0.00	0.000	0.000							
Q30-10		3.35	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
HTMA WWTP	PA0043583	0.2000	0.2000	0.2000	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	13.00	0.00	0.00	0.70

Input Data WQM 7.0

	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
	18157	LAUREL RUN	0.000	586.00	20.11	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.147	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.50	0.00	0.00
Q1-10		2.80	0.00	0.000	0.000							
Q30-10		3.35	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	0.00	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

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
06A		18157				LAUREL RUN						
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												
0.100	2.95	0.00	2.95	.3094	0.00758	.618	24.22	39.17	0.22	0.028	20.47	6.53
Q1-10 Flow												
0.100	2.80	0.00	2.80	.3094	0.00758	NA	NA	NA	0.21	0.029	20.50	6.53
Q30-10 Flow												
0.100	3.35	0.00	3.35	.3094	0.00758	NA	NA	NA	0.23	0.026	20.42	6.53

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.83	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.35	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	6		

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
06A	18157	LAUREL RUN

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
0.100	HTMA WWTP	21.5	26	21.5	26	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
0.100	HTMA WWTP	2.06	13	2.06	13	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
0.10	HTMA WWTP	25	25	13	13	3	3	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
06A	18157	LAUREL RUN		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>		<u>Analysis pH</u>
0.100	0.200	20.474		6.529
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>		<u>Reach Velocity (fps)</u>
24.219	0.618	39.170		0.218
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>		<u>Reach Kn (1/days)</u>
4.18	0.842	1.23		0.726
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>		<u>Reach DO Goal (mg/L)</u>
7.746	15.868	Tsivoglou		6
<u>Reach Travel Time (days)</u>	Subreach Results			
0.028	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.003	4.17	1.23	7.78
	0.006	4.16	1.23	7.81
	0.008	4.15	1.22	7.84
	0.011	4.14	1.22	7.87
	0.014	4.13	1.22	7.89
	0.017	4.12	1.22	7.92
	0.020	4.11	1.21	7.94
	0.022	4.10	1.21	7.97
	0.025	4.09	1.21	7.99
	0.028	4.08	1.21	8.01

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
06A		18157		LAUREL RUN			
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)
0.100	HTMA WWTP	PA0043583	0.200	CBOD5	25		
				NH3-N	13	26	
				Dissolved Oxygen			3

Discharge Information

Instructions
Discharge
Stream

Facility: HTMA WWTP NPDES Permit No.: PA0043583 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
0.2	100	7						

Discharge Pollutant	Units	Max Discharge Conc	0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
			Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Copper	mg/L	0.00412									
Total Lead	mg/L	0.00143									
Total Zinc	mg/L	0.015									

Stream / Surface Water Information

HTMA WWTP, NPDES Permit No. PA0043583, 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 (mi ²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	018157	0.1	590	20.1			Yes
End of Reach 1	018157	0	586	20.2			Yes

Q₇₋₁₀

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.1	0.147										100	7		
End of Reach 1	0	0.147													

Q_n

Location	RMI	LFY (cfs/mi ²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.1														
End of Reach 1	0														

Model Results

HTMA WWTP, NPDES Permit No. PA0043583, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

All Inputs Results Limits

Hydrodynamics

Wasteload Allocations

AFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	145	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	847	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	1,243	Chem Translator of 0.978 applied

CFC

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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	98.4	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	33.6	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	1,264	Chem Translator of 0.986 applied

THH

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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 Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

CRL

CCT (min):

PMF:

Analysis Hardness (mg/l):

Analysis pH:

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 Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

Recommended WQBELs & Monitoring Requirements

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

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 Copper	0.093	mg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	33.6	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	797	µg/L	Discharge Conc ≤ 10% WQBEL