pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0027138**
Facility Type	**Municipal**	APS ID	**1079971**
Major / Minor	**Major**	Authorization ID	**1425264**

Applicant and Facility Information

Applicant Name	**Sharon City Sanitary Authority**	Facility Name	**Sharon STP**
Applicant Address	155 West Connelly Boulevard, Suite 5	Facility Address	504 Riverside Drive
	Sharon, PA 16146-1774		Sharon, PA 16146
Applicant Contact	Molly Campbell, WWTP Supervisor (enviro16146@gmail.com)	Facility Contact	Molly Campbell, WWTP Supervisor (enviro16146@gmail.com)
Applicant Phone	(724) 983-3250, ext. 4	Facility Phone	(724) 983-3250, ext. 4
Client ID	268393	Site ID	244071
Ch 94 Load Status	Not Overloaded	Municipality	Sharon City
Connection Status	No Limitations	County	Mercer
Date Application Received	January 30, 2023	EPA Waived?	No
Date Application Accepted	February 1, 2023	If No, Reason	Major Facility, Pretreatment
Purpose of Application	Renewal of an NPDES Permit for an existing discharge of treated sanitary wastewater from a Major Municipal STP.		

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:
- A. Stormwater into sewers
- B. Right of way
- C. Solids handling
- D. Ultraviolet (UV) Disinfection Equipment

SPECIAL CONDITIONS:
- II. POTW Pretreatment Program Implementation
- III. Solids Management
- IV. Whole Effluent Toxicity (WET)
- V. Requirements Applicable to Stormwater Outfalls

There are no open violations in efacts associated with the subject Client ID (268393) as of 7/2/2025.

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Project Manager	7/2/2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	7/7/2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	8.66
Latitude	41º 13' 23.0"	Longitude	-80º 30' 49.0"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		

Receiving Waters	Shenango River (WWF)*	Stream Code	35482
NHD Com ID	130034020	RMI	27.6
Drainage Area	608	Yield (cfs/mi^2)	0.24
Q_{7-10} Flow (cfs)	145.9	Q_{7-10} Basis	calculated
Elevation (ft)	838	Slope (ft/ft)	0.0009
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Metals, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final**	Name	Shenango River

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - New Castle		
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	5.1	Distance from Outfall (mi)	22

* - This discharge flows to the Shenango River. Similar to the previous renewal, and the NPDES Permits for Hermitage and Farrell, mussels were not evaluated since studies have shown there are no mussels in the Shenango River near these dischargers.

** - This discharge is not included in the Shenango River TMDL for PCB/Chlordane. There are four potential cleanup sites, with the only known location of PCB contaminated sediment being the former Westinghouse facility. Soils at the site were cleaned up between 2001 and 2002, storm sewer cleanup occurred in 2004 and the Shenango River was cleaned up in 2005. No monitoring or limits will be added for PCB or Chlordane with this renewal.

Sludge use and disposal description and location(s): All sludge is disposed of at the Carbon Limestone Landfill in Lowellville, Ohio.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 8.66 MGD of treated sewage from an existing Publicly Owned Treatment Works (POTW) in Sharon City, Mercer County.

Treatment permitted under WQM Permit 4306402 consists of the following: Two manual bar screens, one mechanically-cleaned bar screen, four forced vortex grit removers, a primary clarifier, two trickling filters, two solids contact aeration basins, three secondary clarifiers, and ultraviolet (UV) light disinfection. Sludge is handled through four aerated sludge holding tanks, a sludge thickening centrifuge, and a sludge dewatering centrifuge.

A high flow bypass at the STP was installed during upgrades in 2009. Once the EQ tank has completely filled, excess flow goes to the EQ overflow chamber. EQ overflow first flows to the Primary Effluent pump station. Once the EQ overflow reaches its maximum, flow goes directly to the UV disinfection system. This bypass has occurred 15 times in the last 5 years.

1. Streamflow:

Shenango River at Shenango River Reservoir Dam (1967-1992):

Q_{7-10}:	141.9	cfs	(Base dam flow)
Drainage Area:	584	sq. mi.	(USGS StreamStats)
Yieldrate:	0.24	cfsm	calculated

Shenango River at Outfall 001:

Yieldrate:	0.24	cfsm	calculated above
Drainage Area:	608	sq. mi.	(USGS StreamStats)
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	145.9	cfs	calculated

2. Wasteflow:

Maximum discharge: 8.66 MGD = 13.4 cfs

Runoff flow period: 24 hours Basis: Runoff flow for municipal STPs

The calculated stream flow (Q7-10) is greater than 3 times the permitted discharge flow. In accordance with the SOP, the treatment requirements in document number 391-2000-014, titled, “Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers”, dated April 12, 2008, were not evaluated for this facility.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, E. Coli, Total Phosphorus, Total Nitrogen, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

The measurement frequency will remain as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)
10/01 - 04/30:	2,000/100ml	(monthly average geometric mean)
	10,000/100ml	(instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/month.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 1.0 MGD.

e. Total Phosphorus

Chapter 96.5 does not apply. The previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61. However, the monitoring frequency will be reduced from 1/month to 1/year since the receiving stream is not impaired by nutrients, per the SOP.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61. However, the monitoring frequency will be reduced from 1/month to 1/year since the receiving stream is not impaired by nutrients, per the SOP.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used:	7.5	Standard Units (S.U.)
	Basis:	eDMR data from previous 12 months
Discharge temperature:	25°C	(default value used in the absence of data)
Median stream pH to be used:	7.0	Standard Units (S.U.)
	Basis:	default value used in the absence of data
Stream Temperature:	25˚C	(default value used for WWF modeling)

Background NH_3-N concentration: 0.1 mg/l

Basis: Default value

Calculated NH_3-N Summer limits: 10.9 mg/l (monthly average)
21.8 mg/l (instantaneous maximum)

Calculated NH_3-N Winter limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer limits above (see Attachment 2). The winter limits are calculated as three times the summer limits, but since the technology-based limits would govern, they will be used. The calculated limits are more restrictive than in the previous permit. Based on eDMR data, the more restrictive limits are attainable so they will be added to this renewal without a compliance schedule.

h. $CBOD_5$

Median discharge pH to be used: 7.5 Standard Units (S.U.)

Basis: eDMR data from previous 12 months

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

Calculated $CBOD_5$ limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer limits above (see Attachment 2). The calculated limits are the same as in the previous permit, so they will be retained.

i. Influent Total Suspended Solids and BOD_5

Monitoring for these two parameters will be retained as recommended in the SOP for POTWs, as authorized under Chapter 92a.61.

j. Dissolved Oxygen (DO)

The technology-based minimum of 4.0 mg/l is recommended by the WQ Model (see Attachment 2) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61. This is the same as the previous permit and will be retained.

The measurement frequency will remain as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

k. Disinfection

☒ Ultraviolet (UV) light monitoring

☐ Total Residual Chlorine (TRC) limits: _____ mg/l (monthly average)
_____ mg/l (instantaneous maximum)

Basis: Per the SOP, UV Intensity (µw/cm²) reporting will be added with this renewal.

The measurement frequency will be set as 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

4. Reasonable Potential Analysis for Receiving Stream:

A Reasonable Potential Analysis was performed in accordance with State practices for Outfall 001 using the Department's Toxics Management Spreadsheet (see Attachment 3).

Result: The discharge concentrations for the following parameters were found to be greater than 10% of the calculated WQBELs:

Parameter	Discharge Conc. (µg/l)	WQBEL (µg/l)	%WQBEL
Total Aluminum	<200	1041	>10%
Total Antimony	<30	50.9	>50%
Total Arsenic	<2190	90.8	>50%
Total Cadmium	<5	2.16	>50%
Hexavalent Chromium	<150	22.6	>50%
Total Copper	<150	23.5	>50%
Total Lead	<7	23.1	>10%
Total Selenium	<20	45.3	>10%
Total Silver	<4	7.43	>50%
Total Thallium	<25	2.18	>50%
Total Zinc	52	197	>10%
Acrolein	<5	4.17	>50%
Vinyl Chloride	<0.5	0.88	>50%
Benzo(a)Anthracene	<5	0.044	>50%
Hexachlorobutadiene	<5	0.44	>50%

Per the SOP, a Pre-Draft Survey Letter (see Attachment 4) was emailed on October 11, 2023 to provide the Permittee a chance to sample for the parameters above at the target QLs to determine if they are indeed present since the QLs used was higher than the target QLs.

The sample results were received on January 4, 2024 (see Attachment 4). The Department's Toxics Management Spreadsheet was revised (see Attachment 5) and the following parameters were found to be greater than 10% of the calculated WQBELs:

Parameter	Discharge Conc. (µg/l)	WQBEL (µg/l)	%WQBEL
Total Copper	12.9	23.5	>50%
Total Zinc	52.0	197.0	>10%

Per the SOP, since the maximum discharge concentration for Total Copper was greater than 50% of the calculated WQBEL, a new limit will be added. Since the new limit is attainable, a compliance schedule will not be added.

Also, per the SOP, since the maximum discharge concentration for Total Zinc was greater than 10% of the calculated WQBELs, 1/quarter monitoring will be set with the NPDES Permit renewal.

The previous monitoring for Total Cadmium, Total Lead, and Total Phenolics was removed based on the results of the Toxics Management Spreadsheet.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Department's Toxics Management Spreadsheet does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate).

Nearest Downstream potable water supply (PWS): PA American Water Company - New Castle

Distance downstream from the point of discharge: 22.0 miles

Parameter	PWS Criteria (mg/l)	Discharge Maximum (mg/l)
TDS	500	549
Chloride	250	195
Bromide	1.0	<1.0
Sulfate	250	58

Result: Since none of the parameters are discharged at a concentration significantly greater than the criteria at the PWS, no limits or monitoring are necessary as significant dilution is available.

6. Industrial Users (under EPA-approved pretreatment program):

User Name	Total Wastewater Flow
Sunbelt Solomon Transformer	1,400 gpd
Ellwood Crankshaft	258 gpd
Dean Dairy Fluid, LLC	155,000 gpd
Sharpsville Container, LLC	3,980 gpd
River Road Landfill - Waste Management of PA	45,227 gpd
Sharon Coating, LLC	43,800 gpd

7. Flow Information:

The Sharon STP receives 69% of its flow from the City of Sharon, 12% from the Borough of Sharpsville, 10% from the South Pymatuning Township, 8% from the City of Hermitage, and 1% from Trumbull County in Ohio.

All source municipalities are 100% separate sewer systems.

8. Antibacksliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

9. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - Toxics Management Spreadsheet (Pre-Survey)

Attachment 3 - Pre-Draft Survey Letter and Response

Attachment 4 - Toxics Management Spreadsheet (Post-Survey)

Attachment 5 - Wet Analysis Spreadsheet

(The Attachments above can be found at the end of this document)

Whole Effluent Toxicity (WET)

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

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

The dilution series used for the tests was: **4%, 9%, 30%, 60%, and 100%**
The Target Instream Waste Concentration (TIWC) was: **9%**

Summary of Four Most Recent Test Results (see Attachment 6)

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

☐ **YES** ☒ **NO**

Evaluation for the Renewed Permit (see Attachment 6)

Acute Partial Mix Factor (PMFa): **0.107** Chronic Partial Mix Factor (PMFc): **0.742**

Type of Test for Permit Renewal: **Chronic**

Target IWC: **11%**

Dilution Series: **3%, 6%, 11%, 56%, and 100%**

WET Limits

Has reasonable potential been determined? ☐ YES ☒ NO

Will WET limits be established in the permit? ☐ YES ☒ NO **- Per Special Condition III.B.2 in the previous NPDES Permit, the WETT limits were replaced by monitoring during the previous permit. Since no reasonable potential was calculated with this renewal, no WETT monitoring or limits will be required with this renewal.**

If WET limits will be established, identify the species and the limit values for the permit (TU): **N/A**

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits: **N/A**

Compliance History

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

Parameter	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24
Flow (MGD) Average Monthly	7.48	6.68	4.73	6.05	4.6	5.99	4.78	3.7	3.9	4.09	3.84	3.95
Flow (MGD) Weekly Average	10.91	8.46	6.46	7.21	7.75	7.37	6.13	4.65	6.14	6.7	4.52	4.24
pH (S.U.) Minimum	7.4	7.5	7.6	7.5	7.6	7.6	7.6	7.6	7.5	7.5	7.4	7.5
pH (S.U.) Maximum	7.7	7.8	7.8	7.8	7.9	7.9	7.9	7.8	7.7	7.8	7.7	7.8
DO (mg/L) Minimum	8.7	9.6	10.5	11.4	10.7	8.4	8.7	8.3	7.7	7.9	7.3	8.0
CBOD5 (lbs/day) Average Monthly	374	237	195	357	319	315	258	167	262	126	177	161
CBOD5 (lbs/day) Weekly Average	441	366	288	410	486	404	357	257	342	212	221	191
CBOD5 (mg/L) Average Monthly	6	4	5	7	8	6	7	5	9	4	5	5
CBOD5 (mg/L) Weekly Average	9	5	5	8	9	6	8	7	11	4	5	5
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	3797	4399	3737	3682	4223	4406	4471	3730	3873	3690	5510	4662
BOD5 (mg/L) Raw Sewage Influent Average Monthly	87	111	134	95	156	127	191	212	222	176	206	171
TSS (lbs/day) Average Monthly	2063	785	372	824	899	972	954	797	1722	670	733	759
TSS (lbs/day) Raw Sewage Influent Average Monthly	4259	4163	2840	2742	3565	3432	3828	3173	3907	3681	5544	4302
TSS (lbs/day) Weekly Average	2712	1625	547	1022	1350	1143	1078	1075	2259	799	924	888
TSS (mg/L) Average Monthly	36	14	9	16	24	20	25	27	65	21	23	23
TSS (mg/L) Raw Sewage Influent Average Monthly	94	97	102	69	129	95	164	179	207	158	205	157
TSS (mg/L) Weekly Average	59	23	10	19	27	22	29	36	95	28	30	25

Fecal Coliform (No./100 ml) Geometric Mean	28	< 9	8	23	24	25	23	33	> 19	< 6	> 6	20
Fecal Coliform (No./100 ml) Instantaneous Maximum	488.5	410.6	55.7	613.1	81.3	166.4	547.5	866.4	> 2419.6	133.4	> 2419.6	920.8
Total Nitrogen (mg/L) Average Monthly	13.458	20.6	11.13	11.23	13.12	7.86	13.32	17.9	22.62	16.24	14.44	15.38
Ammonia (lbs/day) Average Monthly	< 14							< 9	< 14	< 8	< 11	< 9
Ammonia (mg/L) Average Monthly	< 0.22	< 0.2	< 0.36	< 0.21	< 0.27	< 0.22	< 0.29	< 0.27	< 0.39	< 0.23	< 0.31	< 0.25
Total Phosphorus (mg/L) Average Monthly	2.37	1.61	1.83	1.49	2.18	0.664	1.98	1.65	3.24	2.81	2.85	3.54
Total Cadmium (mg/L) Average Quarterly			< 0.0016			< 0.00500			< 0.0033			< 0.00500
Total Copper (mg/L) Average Quarterly			0.0143			0.01345			0.0106			0.0171
Total Lead (mg/L) Average Quarterly			< 0.00339			0.0018			< 0.0115			0.00273
Total Phenolics (mg/L) Average Quarterly			< 0.01			< 0.0055			< 0.0055			0.0060
Chronic WET - Pimephales Survival (TUc) Daily Maximum			GG			1.0			GG			GG
Chronic WET - Pimephales Growth (TUc) Daily Maximum			GG			1.0			GG			GG

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
CBOD5	1806.0	2889.0	XXX	25.0	40.0	50	1/day	24-Hr Composite
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/day	24-Hr Composite
TSS	2167.0	3250.0	XXX	30.0	45.0	60	1/day	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/day	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/day	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/day	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/month	Grab
UV Intensity (µw/cm²)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/day	Metered
Total Nitrogen	XXX	XXX	XXX	Report Annl Avg	Report Daily Max	XXX	1/year	24-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	1/day	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)	Required
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Ammonia May 1 - Oct 31	939.0	XXX	XXX	13.0	XXX	26	1/day	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Annl Avg	Report Daily Max	XXX	1/year	24-Hr Composite
Total Copper (ug/L)	1.6	2.5	XXX	23.5	35.2	47	1/month	24-Hr Composite
Total Zinc (ug/L)	Report Avg Qrtly	Report Daily Max	XXX	Report Avg Qrtly	Report Daily Max	XXX	1/quarter	Grab

Compliance Sampling Location: at Outfall 001, after ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for influent BOD5 and influent Total Suspended Solids is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for E. Coli, UV Intensity, Total Nitrogen, and Total Phosphorus is based on Chapter 92a.61. Monitoring for Total Zinc is based on Chapter 92a.61. The limits for Total Copper are water quality-based on Chapter 16.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0.00
Latitude	41º 13' 27.8"	Longitude	-80º 30' 44.5"
Quad Name	-	Quad Code	-
Wastewater Description:	Stormwater		
Receiving Waters	Shenango River (WWF)	Stream Code	35482
NHD Com ID	130034020	RMI	-
Drainage Area	-	Yield (cfs/mi^2)	-
Q_{7-10} Flow (cfs)	-	Q_{7-10} Basis	-
Elevation (ft)	-	Slope (ft/ft)	-
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired**		
Cause(s) of Impairment	Metals, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Shenango River

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - New Castle		
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	5.1	Distance from Outfall (mi)	22.0

Changes since the last permit issuance: None

** - This discharge is not included in the Shenango River TMDL for PCB/Chlordane. There are four potential cleanup sites, with the only known location of PCB contaminated sediment being the former Westinghouse facility. Soils at the site were cleaned up between 2001 and 2002, storm sewer cleanup occurred in 2004 and the Shenango River was cleaned up in 2005. No monitoring or limits will be added for PCB or Chlordane with this renewal.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0.00
Latitude	41º 13' 23.5"	Longitude	-80º 30' 47.0"
Quad Name	-	Quad Code	-
Wastewater Description:	Stormwater		
Receiving Waters	Shenango River (WWF)	Stream Code	35482
NHD Com ID	130034020	RMI	-
Drainage Area	-	Yield (cfs/mi^2)	-
Q_{7-10} Flow (cfs)	-	Q_{7-10} Basis	-
Elevation (ft)	-	Slope (ft/ft)	-
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired**		
Cause(s) of Impairment	Metals, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Shenango River

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - New Castle		
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	5.1	Distance from Outfall (mi)	22.0

Changes since the last permit issuance: None

** - This discharge is not included in the Shenango River TMDL for PCB/Chlordane. There are four potential cleanup sites, with the only known location of PCB contaminated sediment being the former Westinghouse facility. Soils at the site were cleaned up between 2001 and 2002, storm sewer cleanup occurred in 2004 and the Shenango River was cleaned up in 2005. No monitoring or limits will be added for PCB or Chlordane with this renewal.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	004	Design Flow (MGD)	0.00
Latitude	41º 13' 22.9"	Longitude	-80º 30' 49.3"
Quad Name	-	Quad Code	-
Wastewater Description:	Stormwater		
Receiving Waters	Shenango River (WWF)	Stream Code	35482
NHD Com ID	130034020	RMI	-
Drainage Area	-	Yield (cfs/mi^2)	-
Q_{7-10} Flow (cfs)	-	Q_{7-10} Basis	-
Elevation (ft)	-	Slope (ft/ft)	-
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired**		
Cause(s) of Impairment	Metals, Polychlorinated Biphenyls (PCBs)		
Source(s) of Impairment	Source Unknown		
TMDL Status	Final	Name	Shenango River

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - New Castle		
PWS Waters	Shenango River	Flow at Intake (cfs)	100
PWS RMI	5.1	Distance from Outfall (mi)	22.0

Changes since the last permit issuance: None

** - This discharge is not included in the Shenango River TMDL for PCB/Chlordane. There are four potential cleanup sites, with the only known location of PCB contaminated sediment being the former Westinghouse facility. Soils at the site were cleaned up between 2001 and 2002, storm sewer cleanup occurred in 2004 and the Shenango River was cleaned up in 2005. No monitoring or limits will be added for PCB or Chlordane with this renewal.

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20A	35482	SHENANGO 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)
27.600	Sharon STP	PA0027138	8.660	CBOD5	25		
				NH3-N	10.9	21.8	
				Dissolved Oxygen			4

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)
25.500	Farrell WWTP	PA0027227	3.570	CBOD5	25		
				NH3-N	14.77	29.54	
				Dissolved Oxygen			4

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)
22.950	Hermitage MA	PA0028487	7.700	CBOD5	25		
				NH3-N	14.77	29.54	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20A	35482	SHENANGO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
27.600	8.660	25.000	7.314
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
133.000	1.677	79.317	0.714
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.93	0.738	0.92	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.242	3.384	Tsivoglou	5
Reach Travel Time (days)			
0.180			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.018	3.87	0.90	7.14
0.036	3.80	0.88	7.05
0.054	3.74	0.87	6.96
0.072	3.68	0.85	6.88
0.090	3.62	0.84	6.82
0.108	3.56	0.82	6.75
0.126	3.50	0.81	6.70
0.144	3.44	0.79	6.65
0.162	3.39	0.78	6.60
0.180	3.33	0.76	6.56

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
25.500	12.230	25.000	7.284
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
133.000	1.884	70.599	0.741
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.82	0.721	1.09	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.594	2.076	Tsivoglou	5
Reach Travel Time (days)			
0.210			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.021	3.75	1.07	6.46
0.042	3.68	1.05	6.34
0.063	3.61	1.02	6.22
0.084	3.54	1.00	6.11
0.105	3.48	0.98	6.02
0.126	3.41	0.96	5.93
0.147	3.35	0.94	5.85
0.168	3.28	0.92	5.77
0.189	3.22	0.90	5.70
0.210	3.16	0.88	5.64

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20A	35482	SHENANGO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
22.950	19.930	25.000	7.265
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
133.000	2.151	61.826	0.776
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
4.20	0.411	1.53	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.762	4.055	O'Connor	5
Reach Travel Time (days)			
1.437			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.144	3.90	1.32	5.85
0.287	3.62	1.14	6.03
0.431	3.36	0.98	6.23
0.575	3.12	0.85	6.44
0.719	2.90	0.73	6.64
0.862	2.69	0.63	6.83
1.006	2.50	0.54	7.00
1.150	2.32	0.47	7.15
1.294	2.15	0.40	7.28
1.437	2.00	0.35	7.40

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		

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
20A	35482	SHENANGO RIVER	**27.600**	838.00	608.00	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	0.240	0.00	0.00	0.000	0.000	0.0	133.00	0.00	25.00	7.30	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
Sharon STP	PA0027138	8.6600	0.0000	0.0000	0.000	25.00	7.50

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	4.00	7.54	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
20A	35482	SHENANGO RIVER	**25.500**	828.00	695.00	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	0.240	0.00	0.00	0.000	0.000	0.0	133.00	0.00	25.00	7.30	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
Farrell WWTP	PA0027227	3.5700	0.0000	0.0000	0.000	25.00	6.80

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	4.00	7.54	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
20A	35482	SHENANGO RIVER	**22.950**	820.82	796.50	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	0.240	0.00	0.00	0.000	0.000	0.0	133.00	0.00	25.00	7.30	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
Hermitage MA	PA0028487	7.7000	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	4.00	7.54	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
20A	35482	SHENANGO RIVER	**4.700**	793.00	820.00	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	0.240	0.00	0.00	0.000	0.000	0.0	133.00	0.00	25.00	7.30	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	4.00	7.54	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
20A	35482	SHENANGO 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												
27.600	145.92	0.00	145.92	13.397	0.00090	1.677	133	79.32	0.71	0.180	25.00	7.31
25.500	166.80	0.00	166.80	18.9198	0.00053	1.884	133	70.6	0.74	0.210	25.00	7.28
22.950	191.16	0.00	191.16	30.8317	0.00029	2.151	133	61.83	0.78	1.437	25.00	7.26
Q1-10 Flow												
27.600	93.39	0.00	93.39	13.397	0.00090	NA	NA	NA	0.57	0.225	25.00	7.32
25.500	106.75	0.00	106.75	18.9198	0.00053	NA	NA	NA	0.60	0.262	25.00	7.28
22.950	122.34	0.00	122.34	30.8317	0.00029	NA	NA	NA	0.63	1.769	25.00	7.25
Q30-10 Flow												
27.600	198.45	0.00	198.45	13.397	0.00090	NA	NA	NA	0.84	0.153	25.00	7.31
25.500	226.85	0.00	226.85	18.9198	0.00053	NA	NA	NA	0.87	0.180	25.00	7.29
22.950	259.98	0.00	259.98	30.8317	0.00029	NA	NA	NA	0.90	1.236	25.00	7.27

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20A	35482	SHENANGO RIVER

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
27.600	Sharon STP	7.83	50	7.83	50	0	0
25.500	Farrell WWTP	8.49	50	8.28	50	0	0
22.950	Hermitage MA	8.42	50	8.56	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
27.600	Sharon STP	1.17	18.45	1.17	10.9	3	41
25.500	Farrell WWTP	1.19	25	1.18	14.77	3	41
22.950	Hermitage MA	1.19	25	1.19	14.77	3	41

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)		
27.60	Sharon STP	25	25	10.9	10.9	4	4	0	0
25.50	Farrell WWTP	25	25	14.77	14.77	4	4	0	0
22.95	Hermitage MA	25	25	14.77	14.77	4	4	0	0

Attachment 2

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Sharon STP** NPDES Permit No.: **PA0027138** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Major Municipal 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
8.66	181	7.5						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		549									
	Chloride (PWS)	mg/L		195									
	Bromide	mg/L	<	1									
	Sulfate (PWS)	mg/L		58									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L	<	200									
	Total Antimony	µg/L	<	30									
	Total Arsenic	µg/L	<	2190									
	Total Barium	µg/L		30									
	Total Beryllium	µg/L	<	0.3									
	Total Boron	µg/L		194									
	Total Cadmium	µg/L	<	5									
	Total Chromium (III)	µg/L	<	2									
	Hexavalent Chromium	µg/L	<	150									
	Total Cobalt	µg/L	<	4									
	Total Copper	µg/L	<	150									
	Free Cyanide	µg/L	<	1									
	Total Cyanide	µg/L	<	150									
	Dissolved Iron	µg/L	<	200									
	Total Iron	µg/L		985									
	Total Lead	µg/L	<	7									
	Total Manganese	µg/L		20									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	7									
	Total Phenols (Phenolics) (PWS)	µg/L		20									
	Total Selenium	µg/L	<	20									
	Total Silver	µg/L	<	4									
	Total Thallium	µg/L	<	25									
	Total Zinc	µg/L		52									
	Total Molybdenum	µg/L	<	10									
	Acrolein	µg/L	<	5									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L		0.74									
	Dichlorobromomethane	µg/L	<	1									
	1,1-Dichloroethane	µg/L	<	1									
	1,2-Dichloroethane	µg/L	<	1									
	1,1-Dichloroethylene	µg/L	<	1									
	1,2-Dichloropropane	µg/L	<	1									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	50									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L	<	1									
	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	<	1									
	1,1,2-Trichloroethane	µg/L	<	0.5									
	Trichloroethylene	µg/L	<	0.5									
	Vinyl Chloride	µg/L	<	10									
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	<	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	<	2.5									
	1,4-Dichlorobenzene	µg/L	<	2.5									
	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	<	5									
	1,2-Diphenylhydrazine	µg/L	<	5									
	Fluoranthene	µg/L	<	2.5									
	Fluorene	µg/L	<	2.5									
	Hexachlorobenzene	µg/L	<	5									
	Hexachlorobutadiene	µg/L	<	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		14.7									
	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 1.4, May 2023

Stream / Surface Water Information

Sharon STP, NPDES Permit No. PA0027138, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Shenango River**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	035482	27.6	838	608			Yes
End of Reach 1	035482	25.5	828	695			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	27.6	0.24										72	7		
End of Reach 1	25.5	0.24													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	27.6														
End of Reach 1	25.5														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Sharon STP, NPDES Permit No. PA0027138, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
27.6	145.92		145.92	13.397	0.0009	1.113	200.316	179.926	0.714	0.18	1307.856
25.5	166.80		166.8								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
27.6	578.66		578.66	13.397	0.0009	1.984	200.316	100.983	1.49	0.086	626.191
25.5	650.411		650.41								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.107 Analysis Hardness (mg/l): 122.31 Analysis pH: 7.16

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	1,625	
Total Antimony	0	0		0	1,100	1,100	2,383	
Total Arsenic	0	0		0	340	340	737	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	45,496	
Total Boron	0	0		0	8,100	8,100	17,548	
Total Cadmium	0	0		0	2.449	2.62	5.67	Chem Translator of 0.936 applied
Total Chromium (III)	0	0		0	671.944	2,126	4,607	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	35.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	206	
Total Copper	0	0		0	16.247	16.9	36.7	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	22	22.0	47.7	
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	80.360	106	229	Chem Translator of 0.762 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.57	Chem Translator of 0.85 applied
Total Nickel	0	0		0	555.219	556	1,205	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	4.548	5.35	11.6	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	141	
Total Zinc	0	0		0	138.985	142	308	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	6.5	
Acrylonitrile	0	0		0	650	650	1,408	
Benzene	0	0		0	640	640	1,387	
Bromoform	0	0		0	1,800	1,800	3,900	
Carbon Tetrachloride	0	0		0	2,800	2,800	6,066	
Chlorobenzene	0	0		0	1,200	1,200	2,600	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	38,996	
Chloroform	0	0		0	1,900	1,900	4,116	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	32,497	
1,1-Dichloroethylene	0	0		0	7,500	7,500	16,248	
1,2-Dichloropropane	0	0		0	11,000	11,000	23,831	
1,3-Dichloropropylene	0	0		0	310	310	672	
Ethylbenzene	0	0		0	2,900	2,900	6,283	
Methyl Bromide	0	0		0	550	550	1,192	
Methyl Chloride	0	0		0	28,000	28,000	60,661	
Methylene Chloride	0	0		0	12,000	12,000	25,998	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	2,166	
Tetrachloroethylene	0	0		0	700	700	1,517	
Toluene	0	0		0	1,700	1,700	3,683	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	14,732	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	6,499	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	7,366	
Trichloroethylene	0	0		0	2,300	2,300	4,983	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,213	
2,4-Dichlorophenol	0	0		0	1,700	1,700	3,683	
2,4-Dimethylphenol	0	0		0	660	660	1,430	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	173	
2,4-Dinitrophenol	0	0		0	660	660	1,430	
2-Nitrophenol	0	0		0	8,000	8,000	17,332	
4-Nitrophenol	0	0		0	2,300	2,300	4,983	
p-Chloro-m-Cresol	0	0		0	160	160	347	
Pentachlorophenol	0	0		0	10.294	10.3	22.3	

Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	997	
Acenaphthene	0	0		0	83	83.0	180	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	650	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.08	
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	64,994	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	9,749	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	585	
Butyl Benzyl Phthalate	0	0		0	140	140	303	
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	1,777	
1,3-Dichlorobenzene	0	0		0	350	350	758	
1,4-Dichlorobenzene	0	0		0	730	730	1,582	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	8,666	
Dimethyl Phthalate	0	0		0	2,500	2,500	5,416	
Di-n-Butyl Phthalate	0	0		0	110	110	238	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	3,466	
2,6-Dinitrotoluene	0	0		0	990	990	2,145	
1,2-Diphenylhydrazine	0	0		0	15	15.0	32.5	
Fluoranthene	0	0		0	200	200	433	
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	21.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	10.8	
Hexachloroethane	0	0		0	60	60.0	130	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	21,665	
Naphthalene	0	0		0	140	140	303	
Nitrobenzene	0	0		0	4,000	4,000	8,666	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	36,830	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	650	
Phenanthrene	0	0		0	5	5.0	10.8	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	282	

☑ ***CFC*** CCT (min): 720 PMF: 0.742 Analysis Hardness (mg/l): 84.002 Analysis pH: 7.03

Pollutants	Stream Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (ug/L)	Comments

Pollutants	Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(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	1,998	
Total Arsenic	0	0		0	150	150	1,362	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	37,234	
Total Boron	0	0		0	1,600	1,600	14,530	
Total Cadmium	0	0		0	0.218	0.24	2.16	Chem Translator of 0.916 applied
Total Chromium (III)	0	0		0	64.254	74.7	679	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	94.4	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	173	
Total Copper	0	0		0	7.716	8.04	73.0	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	47.2	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	17,838	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.081	2.55	23.1	Chem Translator of 0.816 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	8.23	Chem Translator of 0.85 applied
Total Nickel	0	0		0	44.875	45.0	409	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	45.3	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	118	
Total Zinc	0	0		0	101.917	103	939	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	27.2	
Acrylonitrile	0	0		0	130	130	1,181	
Benzene	0	0		0	130	130	1,181	
Bromoform	0	0		0	370	370	3,360	
Carbon Tetrachloride	0	0		0	560	560	5,086	
Chlorobenzene	0	0		0	240	240	2,180	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	31,785	
Chloroform	0	0		0	390	390	3,542	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	28,153	
1,1-Dichloroethylene	0	0		0	1,500	1,500	13,622	
1,2-Dichloropropane	0	0		0	2,200	2,200	19,979	
1,3-Dichloropropylene	0	0		0	61	61.0	554	
Ethylbenzene	0	0		0	580	580	5,267	
Methyl Bromide	0	0		0	110	110	999	
Methyl Chloride	0	0		0	5,500	5,500	49,948	
Methylene Chloride	0	0		0	2,400	2,400	21,796	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	1,907	

Tetrachloroethylene	0	0		0	140	140	1,271	
Toluene	0	0		0	330	330	2,997	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	12,714	
1,1,1-Trichloroethane	0	0		0	610	610	5,540	
1,1,2-Trichloroethane	0	0		0	680	680	6,175	
Trichloroethylene	0	0		0	450	450	4,087	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	999	
2,4-Dichlorophenol	0	0		0	340	340	3,088	
2,4-Dimethylphenol	0	0		0	130	130	1,181	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	145	
2,4-Dinitrophenol	0	0		0	130	130	1,181	
2-Nitrophenol	0	0		0	1,600	1,600	14,530	
4-Nitrophenol	0	0		0	470	470	4,268	
p-Chloro-m-Cresol	0	0		0	500	500	4,541	
Pentachlorophenol	0	0		0	7.897	7.9	71.7	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	826	
Acenaphthene	0	0		0	17	17.0	154	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	536	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.91	
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	54,489	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	8,264	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	490	
Butyl Benzyl Phthalate	0	0		0	35	35.0	318	
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	1,453	
1,3-Dichlorobenzene	0	0		0	69	69.0	627	
1,4-Dichlorobenzene	0	0		0	150	150	1,362	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	7,265	
Dimethyl Phthalate	0	0		0	500	500	4,541	
Di-n-Butyl Phthalate	0	0		0	21	21.0	191	
2,4-Dinitrotoluene	0	0		0	320	320	2,906	
2,6-Dinitrotoluene	0	0		0	200	200	1,816	
1,2-Diphenylhydrazine	0	0		0	3	3.0	27.2	
Fluoranthene	0	0		0	40	40.0	363	
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	18.2	
Hexachlorocyclopentadiene	0	0		0	1	1.0	9.08	
Hexachloroethane	0	0		0	12	12.0	109	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	19,071	
Naphthalene	0	0		0	43	43.0	391	
Nitrobenzene	0	0		0	810	810	7,356	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	30,877	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	536	
Phenanthrene	0	0		0	1	1.0	9.08	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	236	

☑ ***THH*** CCT (min): 720 PMF: 0.742 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	50.9	
Total Arsenic	0	0		0	10	10.0	90.8	
Total Barium	0	0		0	2,400	2,400	21,796	
Total Boron	0	0		0	3,100	3,100	28,153	
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	36.3	
Dissolved Iron	0	0		0	300	300	2,724	
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	9,082	
Total Mercury	0	0		0	0.050	0.05	0.45	
Total Nickel	0	0		0	610	610	5,540	
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	2.18	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	27.2	

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	908	
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	51.8	
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	300	
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	618	
Methyl Bromide	0	0		0	100	100.0	908	
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	518	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	908	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	90,815	
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	272	
2,4-Dichlorophenol	0	0		0	10	10.0	90.8	
2,4-Dimethylphenol	0	0		0	100	100.0	908	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	18.2	
2,4-Dinitrophenol	0	0		0	10	10.0	90.8	
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	36,326	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	636	
Anthracene	0	0		0	300	300	2,724	
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	1,816	

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	0.91	
2-Chloronaphthalene	0	0		0	800	800	7,265	
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	9,082	
1,3-Dichlorobenzene	0	0		0	7	7.0	63.6	
1,4-Dichlorobenzene	0	0		0	300	300	2,724	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	5,449	
Dimethyl Phthalate	0	0		0	2,000	2,000	18,163	
Di-n-Butyl Phthalate	0	0		0	20	20.0	182	
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	182	
Fluorene	0	0		0	50	50.0	454	
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	36.3	
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	309	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	90.8	
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	182	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.64	

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

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

Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	2.65	
Benzene	0	0		0	0.58	0.58	25.6	
Bromoform	0	0		0	7	7.0	309	
Carbon Tetrachloride	0	0		0	0.4	0.4	17.7	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	35.4	
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	42.0	
1,2-Dichloroethane	0	0		0	9.9	9.9	438	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	39.8	
1,3-Dichloropropylene	0	0		0	0.27	0.27	11.9	
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	884	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	8.84	
Tetrachloroethylene	0	0		0	10	10.0	442	
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	24.3	
Trichloroethylene	0	0		0	0.6	0.6	26.5	
Vinyl Chloride	0	0		0	0.02	0.02	0.88	
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	1.33	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	66.3	
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	0.004	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.044	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.004	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.044	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.44	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	1.33	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	14.1	
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	5.3	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.004	
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	2.21	
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	2.21	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	2.21	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	1.33	
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	0.004	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.44	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	4.42	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.044	
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	0.031	

n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.22	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	146	
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 Aluminum	Report	Report	Report	Report	Report	µg/L	1,041	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Antimony	3.67	5.73	50.9	79.3	127	µg/L	50.9	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Arsenic	6.56	10.2	90.8	142	227	µg/L	90.8	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Cadmium	0.16	0.24	2.16	3.37	5.4	µg/L	2.16	CFC	Discharge Conc ≥ 50% WQBEL (RP)
Hexavalent Chromium	1.63	2.55	22.6	35.3	56.6	µg/L	22.6	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Copper	1.7	2.65	23.5	36.7	58.8	µg/L	23.5	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Lead	Report	Report	Report	Report	Report	µg/L	23.1	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Selenium	Report	Report	Report	Report	Report	µg/L	45.3	CFC	Discharge Conc > 10% WQBEL (no RP)
Total Silver	0.54	0.84	7.43	11.6	18.6	µg/L	7.43	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Thallium	0.16	0.25	2.18	3.4	5.45	µg/L	2.18	THH	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	197	AFC	Discharge Conc > 10% WQBEL (no RP)
Acrolein	0.3	0.47	4.17	6.5	10.4	µg/L	4.17	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Vinyl Chloride	0.064	0.1	0.88	1.38	2.21	µg/L	0.88	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Benzo(a)Anthracene	0.003	0.005	0.044	0.069	0.11	µg/L	0.044	CRL	Discharge Conc ≥ 50% WQBEL (RP)
Hexachlorobutadiene	0.032	0.05	0.44	0.69	1.1	µg/L	0.44	CRL	Discharge Conc ≥ 50% WQBEL (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 Barium	21,796	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	11,248	µg/L	Discharge Conc ≤ 10% WQBEL
Total Chromium (III)	N/A	N/A	Discharge Conc < TQL
Total Cobalt	132	µg/L	Discharge Conc ≤ 10% WQBEL

Free Cyanide	30.5	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	2,724	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	17,838	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	9,082	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.45	µg/L	Discharge Conc < TQL
Total Nickel	409	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Molybdenum	N/A	N/A	No WQS
Acrylonitrile	2.65	µg/L	Discharge Conc < TQL
Benzene	25.6	µg/L	Discharge Conc < TQL
Bromoform	309	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	17.7	µg/L	Discharge Conc < TQL
Chlorobenzene	908	µg/L	Discharge Conc < TQL
Chlorodibromomethane	35.4	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	24,995	µg/L	Discharge Conc < TQL
Chloroform	51.8	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	42.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	438	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	300	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	39.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	11.9	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	618	µg/L	Discharge Conc < TQL
Methyl Bromide	764	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	38,881	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	884	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	8.84	µg/L	Discharge Conc < TQL
Tetrachloroethylene	442	µg/L	Discharge Conc < TQL
Toluene	518	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	908	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	4,166	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	24.3	µg/L	Discharge Conc < TQL
Trichloroethylene	26.5	µg/L	Discharge Conc < TQL
2-Chlorophenol	272	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	90.8	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	908	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	18.2	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	90.8	µg/L	Discharge Conc < TQL
2-Nitrophenol	11,109	µg/L	Discharge Conc < TQL
4-Nitrophenol	3,194	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	222	µg/L	Discharge Conc < TQL
Pentachlorophenol	1.33	µg/L	Discharge Conc < TQL

Phenol	36,326	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	66.3	µg/L	Discharge Conc < TQL
Acenaphthene	115	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	2,724	µg/L	Discharge Conc < TQL
Benzidine	0.004	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.004	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.044	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.44	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	1.33	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	1,816	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	14.1	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	375	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.91	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	7,265	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	5.3	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.004	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	1,139	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	63.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	1,014	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	2.21	µg/L	Discharge Conc < TQL
Diethyl Phthalate	5,449	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	3,472	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	153	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	2.21	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	2.21	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	1.33	µg/L	Discharge Conc < TQL
Fluoranthene	182	µg/L	Discharge Conc < TQL
Fluorene	454	µg/L	Discharge Conc < TQL
Hexachlorobenzene	0.004	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	6.94	µg/L	Discharge Conc < TQL
Hexachloroethane	4.42	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.044	µg/L	Discharge Conc < TQL
Isophorone	309	µg/L	Discharge Conc < TQL
Naphthalene	194	µg/L	Discharge Conc < TQL
Nitrobenzene	90.8	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.031	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.22	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	146	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	6.94	µg/L	Discharge Conc < TQL
Pyrene	182	µg/L	Discharge Conc < TQL

1,2,4-Trichlorobenzene	0.64	µg/L	Discharge Conc < TQL

Attachment 3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

October 11, 2023

Molly Campbell, WWTP Supervisor (enviro16146@gmail.com)
Sharon City Sanitary Authority
155 West Connelly Boulevard, Suite 5
Sharon, PA 16146-1774

Re: Draft NPDES Permit - Sewage
Sharon STP
Application No. PA0027138
Authorization ID No. 1425264
Sharon City, Mercer County

Dear Molly Campbell:

The Department of Environmental Protection (DEP) has reviewed your NPDES permit application and has reached a preliminary finding that new or more stringent water quality-based effluent limitations (WQBELs) for toxic pollutant(s) should be established in the permit. This finding is based on DEP's assessment that reasonable potential exists to exceed water quality criteria under Chapter 93 in the receiving waters during design flow conditions. The following WQBELs are anticipated based on the information available to DEP during its review:

Pollutant	Maximum Discharge Concentration (µg/L)	QL Used (µg/L)	Target QL (µg/L)	Proposed WQBELs	
				Average Monthly (µg/L)	Instantaneous Maximum (µg/L)
Total Aluminum	<200	10	10	1041	2082.00
Total Antimony	<30	2	2.0	50.9	101.80
Total Arsenic	<2190	3	3.0	90.8	181.60
Total Cadmium	<5	0.2	0.2	2.16	4.32
Hexavalent Chromium	<150	1	1.0	22.6	45.20
Total Copper	<150	4	4.0	23.5	47.00
Total Lead	<7	1	1.0	23.1	46.20
Total Selenium	<20	5	5.0	45.3	90.60
Total Silver	<4	0.4	0.4	7.43	14.86
Total Thallium	<25	2	2.0	2.18	4.36
Total Zinc	52	5	5.0	197	394.00
Acrolein	<5	5	2.0	4.17	8.34
Vinyl Chloride	<0.5	0.5	0.5	0.88	1.76

Northwest Regional Office
230 Chestnut Street | Meadville, PA 16335-3481 | 814.332.6942 | Fax 814.332.6121
www.dep.pa.gov

Benzo(a)Anthracene	<5	5	2.5	0.044	0.09
Hexachlorobutadiene	<5	5	0.5	0.44	0.88

Attached is a survey that DEP requests that you complete and return to DEP in 30 days. Completion of this survey will help DEP develop the draft NPDES permit and allow DEP to understand your current capabilities or plans to treat or control these pollutant(s). If you decide not to complete and return the survey, DEP will proceed with developing the draft NPDES permit based on all available information and certain assumptions. Your response to this notice does not constitute an official comment for DEP response but will be taken under consideration. When the draft NPDES permit is formally noticed in the *Pennsylvania Bulletin*, you may make official comments for DEP's further consideration and response.

The maximum discharge concentrations for many of the parameters were reported as less than, but they were much higher than the reported QLs used. There may have been an error in the reported maximum values.

In addition to completion of the survey, you may elect to collect a minimum of four (4) additional effluent samples, as 24-hour composites, and have the samples analyzed for the pollutant(s) identified above, using a quantitation limit (QL) that is no greater than the Target QLs identified in the permit application. The samples should be collected at least one week apart. If you elect this option, please check the appropriate box on the survey and return the survey to DEP. Review of your application will remain on hold until the additional sampling results are provided to DEP.

If you have any questions, please contact me at 814.332.6136.

Sincerely,

Stephen A. McCauley

Stephen A. McCauley, E.I.T.
Environmental Engineering Specialist
Clean Water Program

Enclosures

cc: Monitoring and Compliance
File

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Clean Water

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PRE-DRAFT PERMIT SURVEY FOR TOXIC POLLUTANTS

Permittee Name: **Sharon City Sanitary Authority** Permit No.: **PA0027138**

Pollutant(s) identified by DEP that may require WQBELs: Total Aluminum, Total Antimony, Total Arsenic, Total Cadmium, Hexavalent Chromium, Total Copper, Total Lead, Total Selenium, Total Silver, Total Thallium, Total Zinc, Acrolein, Vinyl Chloride, Benzo(a)Anthracene, Hexachlorobutadiene

Is the permittee aware of the source(s) of the pollutant(s)? ☐ Yes ☒ No ☐ Suspected

If Yes or Suspected, describe the known or suspected source(s) of pollutant(s) in the effluent.

Has the permittee completed any studies in the past to control or treat the pollutant(s)? ☐ Yes ☒ No

If Yes, describe prior studies and results:

Does the permittee believe it can achieve the proposed WQBELs now? ☐ Yes ☐ No ☒ Uncertain

If No, describe the activities, upgrades or process changes that would be necessary to achieve the WQBELs, if known.

Estimated date by which the permittee could achieve the proposed WQBELs: _____ ☒ Uncertain

Will the permittee conduct additional sampling for the pollutant(s) to supplement the application? ☒ Yes ☐ No

Check the appropriate box(es) below to indicate site-specific data that have been collected by the permittee in the past. If any of these data have not been submitted to DEP, please attach to this survey.

☐	Discharge pollutant concentration coefficient(s) of variability	Year(s) Studied:
☐	Discharge and background Total Hardness concentrations (metals)	Year(s) Studied:
☐	Background / ambient pollutant concentrations	Year(s) Studied:
☐	Chemical translator(s) (metals)	Year(s) Studied:
☐	Slope and width of receiving waters	Year(s) Studied:
☐	Velocity of receiving waters at design conditions	Year(s) Studied:
☐	Acute and/or chronic partial mix factors (mixing at design conditions)	Year(s) Studied:
☐	Volatilization rates (highly volatile organics)	Year(s) Studied:
☐	Site-specific criteria (e.g., Water Effect Ratio or related study)	Year(s) Studied:

Please submit this survey to the DEP regional office that is reviewing the permit application within 30 days of receipt.

[External] Re: Sharon City Sanitary Authority - Sharon STP (NPDES Permit No. PA0027138 - Auth ID No. 1425264)

Molly Campbell <enviro16146@gmail.com>
Tue 1/2/2024 1:25 PM
To:McCauley, Stephen <smccauley@pa.gov>
Cc:Todd Carenbauer <ssawwtp@gmail.com>

1 attachments (12 KB)
NPDES Renewal Re-Test Effluent 11-19 through 12-13.xlsx;

ATTENTION: *This email message is from an external sender. Do not open links or attachments from unknown senders. To report suspicious email, use the Report Phishing button in Outlook.*

Good Afternoon Mr. McCauley,
Here is the data for the 4 weeks of sampling on the Sharon STP effluent. If you require any additional information, please let me know.
Thank you,
Molly

On Fri, Nov 3, 2023 at 6:30 AM Molly Campbell <enviro16146@gmail.com> wrote:

> Good morning Mr. McCauley,
> Please find the Sharon Sanitary Authority WWTP (NPDES Permit No. PA0027138 - Auth ID No. 1425264) Pre-Draft Survey and WETT Analysis data. The Sharon Sanitary Authority plans to complete the 4 weeks worth of testing for the WQBELs listed in the cover letter tot the survey. Once all the data becomes available, I will forward it to you. If you need anything else from us in the meantime, please let us know.
> Thank you,
> Molly
>
> On Wed, Oct 11, 2023 at 8:56 AM McCauley, Stephen <smccauley@pa.gov> wrote:
>
> > This email is in regards to the permit renewal application for the Sharon City Sanitary Authority - Sharon STP (NPDES Permit No. PA0027138 - Auth ID No. 1425264).
> >
> > The attached WETT Analysis Spreadsheet needs to be completed for the latest 4 WET Tests that were performed.
> >
> > In addition, based on the Department's Standard Operating Procedure (SOP) for Sewage Individual NPDES Permit Applications, a Pre-Draft Survey Letter has been attached to this email. Please review the Pre-Draft Survey Letter, complete the included survey, and return the survey to me at this email.
> >
> > **Stephen A. McCauley, E.I.T.** | Environmental Engineering Specialist
> > Department of Environmental Protection
> > Clean Water Program | Northwest Regional Office
> > 230 Chestnut Street | Meadville, PA 16335
> > Phone: 814-332-6136 | Fax: 814-332-6121
> > www.dep.pa.gov

Pollutant	Maximum Discharge Concentration (µg/L)	QL Used (µg/L)	Target QL (µg/L)	Proposed WQBELs Average Monthly (µg/L)	Instantaneous Maximum (µg/L)
Total Aluminum	<200	10	10	1041	2082
Total Antimony	<30	2	2	50.9	101.8
Total Arsenic	<2190	3	3	90.8	181.6
Total Cadmium	<5	0.2	0.2	2.16	4.32
Hexavalent Chromium	<150	1	1	22.6	45.2
Total Copper	<150	4	4	23.5	47
Total Lead	<7	1	1	23.1	46.2
Total Selenium	<20	5	5	45.3	90.6
Total Silver	<4	0.4	0.4	7.43	14.86
Total Thallium	<25	2	2	2.18	4.36
Total Zinc	52	5	5	197	394
Acrolein	<5	5	2	4.17	8.34
Vinyl Chloride	<0.5	0.5	0.5	0.88	1.76
Benzo(a)Anthracene	<5	5	2.5	0.044	0.09
Hexachlorobutadiene	<5	5	0.5	0.44	0.88

Pollutant	11/19-20/2023 Maximum Discharge Concentration (µg/L)	11/28-29/2023 Maximum Discharge Concentration (µg/L)	12/5-6/2023 Maximum Discharge Concentration (µg/L)	12/12-13/2023 Maximum Discharge Concentration (µg/L)	QL Used (µg/L)	Target QL (µg/L)
Total Aluminum	0.26	0.27	0.14	0.17	0.02	10
Total Antimony	<0.074	<0.745	<0.745	<0.745	2	2
Total Arsenic	2.03	<2.00	<2.00	<2.00	2	3
Total Cadmium	<0.077	<0.077	<0.077	<0.077	0.8	0.2
Hexavalent Chromium	<0.00025	<0.00025	<0.00025	<0.00025	0.00025	1
Total Copper	12.9	11.4	10.2	9.98	0.8	4
Total Lead	1.47	1.23	1.16	1.32	0.8	1
Total Selenium	<2.00	<2.00	<2.00	<2.00	2	5
Total Silver	<0.0003	<0.0003	<0.0003	<0.0003	0.001	0.4
Total Thallium	<0.800	<0.800	<0.800	<0.800	0.8	2
Total Zinc	33.3	27.6	28.4	27.3	4	5
Acrolein	<2.0	<2.0	<2.0	<2.0	2	2
Vinyl Chloride	<0.5	<0.50	<0.5	<0.5	0.5	0.5
Benzo(a)Anthracene	<2.5	<2.5	<2.5	<2.5	2.5	2.5
Hexachlorobutadiene	<0.5	<0.5	<0.5	<0.5	0.5	0.5

Attachment 4

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Sharon STP** NPDES Permit No.: **PA0027138** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Major Municipal 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
8.66	181	7.5						

					0 if left blank		*0.5 if left blank*		*0 if left blank*			*1 if left blank*	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		549									
	Chloride (PWS)	mg/L		195									
	Bromide	mg/L	<	1									
	Sulfate (PWS)	mg/L		58									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L		0.27									
	Total Antimony	µg/L	<	0.745									
	Total Arsenic	µg/L		2.03									
	Total Barium	µg/L		30									
	Total Beryllium	µg/L	<	0.3									
	Total Boron	µg/L		194									
	Total Cadmium	µg/L	<	0.077									
	Total Chromium (III)	µg/L	<	2									
	Hexavalent Chromium	µg/L	<	0.00025									
	Total Cobalt	µg/L	<	4									
	Total Copper	µg/L		12.9									
	Free Cyanide	µg/L	<	1									
	Total Cyanide	µg/L	<	150									
	Dissolved Iron	µg/L	<	200									
	Total Iron	µg/L		985									
	Total Lead	µg/L		1.47									
	Total Manganese	µg/L		20									
	Total Mercury	µg/L	<	0.2									
	Total Nickel	µg/L	<	7									
	Total Phenols (Phenolics) (PWS)	µg/L		20									
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.0003									
	Total Thallium	µg/L	<	0.8									
	Total Zinc	µg/L		52									
	Total Molybdenum	µg/L	<	10									
	Acrolein	µg/L	<	2									
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<	5									
	Benzene	µg/L	<	0.5									
	Bromoform	µg/L	<	1									

Group 3	Carbon Tetrachloride	µg/L	<	0.5									
	Chlorobenzene	µg/L	<	0.5									
	Chlorodibromomethane	µg/L	<	0.5									
	Chloroethane	µg/L	<	1									
	2-Chloroethyl Vinyl Ether	µg/L	<	5									
	Chloroform	µg/L		0.74									
	Dichlorobromomethane	µg/L	<	1									
	1,1-Dichloroethane	µg/L	<	1									
	1,2-Dichloroethane	µg/L	<	1									
	1,1-Dichloroethylene	µg/L	<	1									
	1,2-Dichloropropane	µg/L	<	1									
	1,3-Dichloropropylene	µg/L	<	0.5									
	1,4-Dioxane	µg/L	<	50									
	Ethylbenzene	µg/L	<	0.5									
	Methyl Bromide	µg/L	<	1									
	Methyl Chloride	µg/L	<	1									
	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	<	1									
	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	<	2.5									
	1,4-Dichlorobenzene	µg/L	<	2.5									
	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	<	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		14.7									
	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 1.4, May 2023

Stream / Surface Water Information

Sharon STP, NPDES Permit No. PA0027138, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Shenango River**

No. Reaches to Model: **1**

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	035482	27.6	838	608			Yes
End of Reach 1	035482	25.5	828	695			Yes

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

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	27.6	0.24										72	7		
End of Reach 1	25.5	0.24													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	27.6														
End of Reach 1	25.5														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Sharon STP, NPDES Permit No. PA0027138, Outfall 001

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

☑ ***Hydrodynamics***

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

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
27.6	145.92		145.92	13.397	0.0009	1.113	200.316	179.926	0.714	0.18	1307.856
25.5	166.80		166.8								

Q_h

RMI	Stream Flow (cfs)	PWS Withdrawal (cfs)	Net Stream Flow (cfs)	Discharge Analysis Flow (cfs)	Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Travel Time (days)	Complete Mix Time (min)
27.6	578.66		578.66	13.397	0.0009	1.984	200.316	100.983	1.49	0.086	626.191
25.5	650.411		650.41								

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.107 Analysis Hardness (mg/l): 122.31 Analysis pH: 7.16

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	1,625	
Total Antimony	0	0		0	1,100	1,100	2,383	
Total Arsenic	0	0		0	340	340	737	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	45,496	
Total Boron	0	0		0	8,100	8,100	17,548	
Total Cadmium	0	0		0	2.449	2.62	5.67	Chem Translator of 0.936 applied
Total Chromium (III)	0	0		0	671.944	2,126	4,607	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	35.3	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	206	
Total Copper	0	0		0	16.247	16.9	36.7	Chem Translator of 0.96 applied

Free Cyanide	0	0		0	22	22.0	47.7	
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	80.360	106	229	Chem Translator of 0.762 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	3.57	Chem Translator of 0.85 applied
Total Nickel	0	0		0	555.219	556	1,205	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	4.548	5.35	11.6	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	141	
Total Zinc	0	0		0	138.985	142	308	Chem Translator of 0.978 applied
Acrolein	0	0		0	3	3.0	6.5	
Acrylonitrile	0	0		0	650	650	1,408	
Benzene	0	0		0	640	640	1,387	
Bromoform	0	0		0	1,800	1,800	3,900	
Carbon Tetrachloride	0	0		0	2,800	2,800	6,066	
Chlorobenzene	0	0		0	1,200	1,200	2,600	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	18,000	18,000	38,996	
Chloroform	0	0		0	1,900	1,900	4,116	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	15,000	15,000	32,497	
1,1-Dichloroethylene	0	0		0	7,500	7,500	16,248	
1,2-Dichloropropane	0	0		0	11,000	11,000	23,831	
1,3-Dichloropropylene	0	0		0	310	310	672	
Ethylbenzene	0	0		0	2,900	2,900	6,283	
Methyl Bromide	0	0		0	550	550	1,192	
Methyl Chloride	0	0		0	28,000	28,000	60,661	
Methylene Chloride	0	0		0	12,000	12,000	25,998	
1,1,2,2-Tetrachloroethane	0	0		0	1,000	1,000	2,166	
Tetrachloroethylene	0	0		0	700	700	1,517	
Toluene	0	0		0	1,700	1,700	3,683	
1,2-trans-Dichloroethylene	0	0		0	6,800	6,800	14,732	
1,1,1-Trichloroethane	0	0		0	3,000	3,000	6,499	
1,1,2-Trichloroethane	0	0		0	3,400	3,400	7,366	
Trichloroethylene	0	0		0	2,300	2,300	4,983	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	560	560	1,213	
2,4-Dichlorophenol	0	0		0	1,700	1,700	3,683	
2,4-Dimethylphenol	0	0		0	660	660	1,430	
4,6-Dinitro-o-Cresol	0	0		0	80	80.0	173	
2,4-Dinitrophenol	0	0		0	660	660	1,430	
2-Nitrophenol	0	0		0	8,000	8,000	17,332	
4-Nitrophenol	0	0		0	2,300	2,300	4,983	
p-Chloro-m-Cresol	0	0		0	160	160	347	
Pentachlorophenol	0	0		0	10.294	10.3	22.3	

Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	460	460	997	
Acenaphthene	0	0		0	83	83.0	180	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	300	300	650	
Benzo(a)Anthracene	0	0		0	0.5	0.5	1.08	
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	64,994	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	4,500	4,500	9,749	
4-Bromophenyl Phenyl Ether	0	0		0	270	270	585	
Butyl Benzyl Phthalate	0	0		0	140	140	303	
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	1,777	
1,3-Dichlorobenzene	0	0		0	350	350	758	
1,4-Dichlorobenzene	0	0		0	730	730	1,582	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	4,000	4,000	8,666	
Dimethyl Phthalate	0	0		0	2,500	2,500	5,416	
Di-n-Butyl Phthalate	0	0		0	110	110	238	
2,4-Dinitrotoluene	0	0		0	1,600	1,600	3,466	
2,6-Dinitrotoluene	0	0		0	990	990	2,145	
1,2-Diphenylhydrazine	0	0		0	15	15.0	32.5	
Fluoranthene	0	0		0	200	200	433	
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	21.7	
Hexachlorocyclopentadiene	0	0		0	5	5.0	10.8	
Hexachloroethane	0	0		0	60	60.0	130	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	10,000	10,000	21,665	
Naphthalene	0	0		0	140	140	303	
Nitrobenzene	0	0		0	4,000	4,000	8,666	
n-Nitrosodimethylamine	0	0		0	17,000	17,000	36,830	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	300	300	650	
Phenanthrene	0	0		0	5	5.0	10.8	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	130	130	282	

☑ ***CFC*** CCT (min): 720 PMF: 0.742 Analysis Hardness (mg/l): 84.002 Analysis pH: 7.03

Pollutants	Stream Conc	Stream	Trib Conc	Fate	WQC	WQ Obj	WLA (ug/L)	Comments

Pollutants	Conc (µg/L)	CV	(µg/L)	Coef	(µg/L)	(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	1,998	
Total Arsenic	0	0		0	150	150	1,362	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	37,234	
Total Boron	0	0		0	1,600	1,600	14,530	
Total Cadmium	0	0		0	0.218	0.24	2.16	Chem Translator of 0.916 applied
Total Chromium (III)	0	0		0	64.254	74.7	679	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	94.4	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	173	
Total Copper	0	0		0	7.716	8.04	73.0	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	47.2	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	17,838	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	2.081	2.55	23.1	Chem Translator of 0.816 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	8.23	Chem Translator of 0.85 applied
Total Nickel	0	0		0	44.875	45.0	409	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	45.3	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	118	
Total Zinc	0	0		0	101.917	103	939	Chem Translator of 0.986 applied
Acrolein	0	0		0	3	3.0	27.2	
Acrylonitrile	0	0		0	130	130	1,181	
Benzene	0	0		0	130	130	1,181	
Bromoform	0	0		0	370	370	3,360	
Carbon Tetrachloride	0	0		0	560	560	5,086	
Chlorobenzene	0	0		0	240	240	2,180	
Chlorodibromomethane	0	0		0	N/A	N/A	N/A	
2-Chloroethyl Vinyl Ether	0	0		0	3,500	3,500	31,785	
Chloroform	0	0		0	390	390	3,542	
Dichlorobromomethane	0	0		0	N/A	N/A	N/A	
1,2-Dichloroethane	0	0		0	3,100	3,100	28,153	
1,1-Dichloroethylene	0	0		0	1,500	1,500	13,622	
1,2-Dichloropropane	0	0		0	2,200	2,200	19,979	
1,3-Dichloropropylene	0	0		0	61	61.0	554	
Ethylbenzene	0	0		0	580	580	5,267	
Methyl Bromide	0	0		0	110	110	999	
Methyl Chloride	0	0		0	5,500	5,500	49,948	
Methylene Chloride	0	0		0	2,400	2,400	21,796	
1,1,2,2-Tetrachloroethane	0	0		0	210	210	1,907	

Tetrachloroethylene	0	0		0	140	140	1,271	
Toluene	0	0		0	330	330	2,997	
1,2-trans-Dichloroethylene	0	0		0	1,400	1,400	12,714	
1,1,1-Trichloroethane	0	0		0	610	610	5,540	
1,1,2-Trichloroethane	0	0		0	680	680	6,175	
Trichloroethylene	0	0		0	450	450	4,087	
Vinyl Chloride	0	0		0	N/A	N/A	N/A	
2-Chlorophenol	0	0		0	110	110	999	
2,4-Dichlorophenol	0	0		0	340	340	3,088	
2,4-Dimethylphenol	0	0		0	130	130	1,181	
4,6-Dinitro-o-Cresol	0	0		0	16	16.0	145	
2,4-Dinitrophenol	0	0		0	130	130	1,181	
2-Nitrophenol	0	0		0	1,600	1,600	14,530	
4-Nitrophenol	0	0		0	470	470	4,268	
p-Chloro-m-Cresol	0	0		0	500	500	4,541	
Pentachlorophenol	0	0		0	7.897	7.9	71.7	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	91	91.0	826	
Acenaphthene	0	0		0	17	17.0	154	
Anthracene	0	0		0	N/A	N/A	N/A	
Benzidine	0	0		0	59	59.0	536	
Benzo(a)Anthracene	0	0		0	0.1	0.1	0.91	
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	54,489	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	910	910	8,264	
4-Bromophenyl Phenyl Ether	0	0		0	54	54.0	490	
Butyl Benzyl Phthalate	0	0		0	35	35.0	318	
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	1,453	
1,3-Dichlorobenzene	0	0		0	69	69.0	627	
1,4-Dichlorobenzene	0	0		0	150	150	1,362	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	800	800	7,265	
Dimethyl Phthalate	0	0		0	500	500	4,541	
Di-n-Butyl Phthalate	0	0		0	21	21.0	191	
2,4-Dinitrotoluene	0	0		0	320	320	2,906	
2,6-Dinitrotoluene	0	0		0	200	200	1,816	
1,2-Diphenylhydrazine	0	0		0	3	3.0	27.2	
Fluoranthene	0	0		0	40	40.0	363	
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	18.2	
Hexachlorocyclopentadiene	0	0		0	1	1.0	9.08	
Hexachloroethane	0	0		0	12	12.0	109	
Indeno(1,2,3-cd)Pyrene	0	0		0	N/A	N/A	N/A	
Isophorone	0	0		0	2,100	2,100	19,071	
Naphthalene	0	0		0	43	43.0	391	
Nitrobenzene	0	0		0	810	810	7,356	
n-Nitrosodimethylamine	0	0		0	3,400	3,400	30,877	
n-Nitrosodi-n-Propylamine	0	0		0	N/A	N/A	N/A	
n-Nitrosodiphenylamine	0	0		0	59	59.0	536	
Phenanthrene	0	0		0	1	1.0	9.08	
Pyrene	0	0		0	N/A	N/A	N/A	
1,2,4-Trichlorobenzene	0	0		0	26	26.0	236	

☑ ***THH*** CCT (min): 720 PMF: 0.742 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	50.9	
Total Arsenic	0	0		0	10	10.0	90.8	
Total Barium	0	0		0	2,400	2,400	21,796	
Total Boron	0	0		0	3,100	3,100	28,153	
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	36.3	
Dissolved Iron	0	0		0	300	300	2,724	
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	9,082	
Total Mercury	0	0		0	0.050	0.05	0.45	
Total Nickel	0	0		0	610	610	5,540	
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	2.18	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	3	3.0	27.2	

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	908	
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	51.8	
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	300	
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	618	
Methyl Bromide	0	0		0	100	100.0	908	
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	518	
1,2-trans-Dichloroethylene	0	0		0	100	100.0	908	
1,1,1-Trichloroethane	0	0		0	10,000	10,000	90,815	
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	272	
2,4-Dichlorophenol	0	0		0	10	10.0	90.8	
2,4-Dimethylphenol	0	0		0	100	100.0	908	
4,6-Dinitro-o-Cresol	0	0		0	2	2.0	18.2	
2,4-Dinitrophenol	0	0		0	10	10.0	90.8	
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	36,326	
2,4,6-Trichlorophenol	0	0		0	N/A	N/A	N/A	
Acenaphthene	0	0		0	70	70.0	636	
Anthracene	0	0		0	300	300	2,724	
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	1,816	

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	0.91	
2-Chloronaphthalene	0	0		0	800	800	7,265	
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	9,082	
1,3-Dichlorobenzene	0	0		0	7	7.0	63.6	
1,4-Dichlorobenzene	0	0		0	300	300	2,724	
3,3-Dichlorobenzidine	0	0		0	N/A	N/A	N/A	
Diethyl Phthalate	0	0		0	600	600	5,449	
Dimethyl Phthalate	0	0		0	2,000	2,000	18,163	
Di-n-Butyl Phthalate	0	0		0	20	20.0	182	
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	182	
Fluorene	0	0		0	50	50.0	454	
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	36.3	
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	309	
Naphthalene	0	0		0	N/A	N/A	N/A	
Nitrobenzene	0	0		0	10	10.0	90.8	
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	182	
1,2,4-Trichlorobenzene	0	0		0	0.07	0.07	0.64	

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

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

Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	
Acrolein	0	0		0	N/A	N/A	N/A	
Acrylonitrile	0	0		0	0.06	0.06	2.65	
Benzene	0	0		0	0.58	0.58	25.6	
Bromoform	0	0		0	7	7.0	309	
Carbon Tetrachloride	0	0		0	0.4	0.4	17.7	
Chlorobenzene	0	0		0	N/A	N/A	N/A	
Chlorodibromomethane	0	0		0	0.8	0.8	35.4	
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	42.0	
1,2-Dichloroethane	0	0		0	9.9	9.9	438	
1,1-Dichloroethylene	0	0		0	N/A	N/A	N/A	
1,2-Dichloropropane	0	0		0	0.9	0.9	39.8	
1,3-Dichloropropylene	0	0		0	0.27	0.27	11.9	
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	884	
1,1,2,2-Tetrachloroethane	0	0		0	0.2	0.2	8.84	
Tetrachloroethylene	0	0		0	10	10.0	442	
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	24.3	
Trichloroethylene	0	0		0	0.6	0.6	26.5	
Vinyl Chloride	0	0		0	0.02	0.02	0.88	
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	1.33	
Phenol	0	0		0	N/A	N/A	N/A	
2,4,6-Trichlorophenol	0	0		0	1.5	1.5	66.3	
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	0.004	
Benzo(a)Anthracene	0	0		0	0.001	0.001	0.044	
Benzo(a)Pyrene	0	0		0	0.0001	0.0001	0.004	
3,4-Benzofluoranthene	0	0		0	0.001	0.001	0.044	
Benzo(k)Fluoranthene	0	0		0	0.01	0.01	0.44	
Bis(2-Chloroethyl)Ether	0	0		0	0.03	0.03	1.33	
Bis(2-Chloroisopropyl)Ether	0	0		0	N/A	N/A	N/A	
Bis(2-Ethylhexyl)Phthalate	0	0		0	0.32	0.32	14.1	
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	5.3	
Dibenzo(a,h)Anthrancene	0	0		0	0.0001	0.0001	0.004	
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	2.21	
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	2.21	
2,6-Dinitrotoluene	0	0		0	0.05	0.05	2.21	
1,2-Diphenylhydrazine	0	0		0	0.03	0.03	1.33	
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	0.004	
Hexachlorobutadiene	0	0		0	0.01	0.01	0.44	
Hexachlorocyclopentadiene	0	0		0	N/A	N/A	N/A	
Hexachloroethane	0	0		0	0.1	0.1	4.42	
Indeno(1,2,3-cd)Pyrene	0	0		0	0.001	0.001	0.044	
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	0.031	

n-Nitrosodi-n-Propylamine	0	0		0	0.005	0.005	0.22	
n-Nitrosodiphenylamine	0	0		0	3.3	3.3	146	
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	1.7	2.65	23.5	36.7	58.8	µg/L	23.5	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	197	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	1,041	µg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	N/A	N/A	Discharge Conc < TQL
Total Arsenic	90.8	µg/L	Discharge Conc ≤ 10% WQBEL
Total Barium	21,796	µg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS

Total Boron	11,248	µg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	2.16	µg/L	Discharge Conc < TQL
Total Chromium (III)	679	µg/L	Discharge Conc < TQL
Hexavalent Chromium	22.6	µg/L	Discharge Conc < TQL
Total Cobalt	132	µg/L	Discharge Conc ≤ 10% WQBEL
Free Cyanide	30.5	µg/L	Discharge Conc < TQL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	2,724	µg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	17,838	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	23.1	µg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	9,082	µg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.45	µg/L	Discharge Conc < TQL
Total Nickel	409	µg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)		µg/L	PWS Not Applicable
Total Selenium	45.3	µg/L	Discharge Conc < TQL
Total Silver	7.43	µg/L	Discharge Conc < TQL
Total Thallium	2.18	µg/L	Discharge Conc < TQL
Total Molybdenum	N/A	N/A	No WQS
Acrolein	4.17	µg/L	Discharge Conc < TQL
Acrylonitrile	2.65	µg/L	Discharge Conc < TQL
Benzene	25.6	µg/L	Discharge Conc < TQL
Bromoform	309	µg/L	Discharge Conc ≤ 25% WQBEL
Carbon Tetrachloride	17.7	µg/L	Discharge Conc < TQL
Chlorobenzene	908	µg/L	Discharge Conc < TQL
Chlorodibromomethane	35.4	µg/L	Discharge Conc < TQL
Chloroethane	N/A	N/A	No WQS
2-Chloroethyl Vinyl Ether	24,995	µg/L	Discharge Conc < TQL
Chloroform	51.8	µg/L	Discharge Conc ≤ 25% WQBEL
Dichlorobromomethane	42.0	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethane	N/A	N/A	No WQS
1,2-Dichloroethane	438	µg/L	Discharge Conc ≤ 25% WQBEL
1,1-Dichloroethylene	300	µg/L	Discharge Conc ≤ 25% WQBEL
1,2-Dichloropropane	39.8	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichloropropylene	11.9	µg/L	Discharge Conc < TQL
1,4-Dioxane	N/A	N/A	No WQS
Ethylbenzene	618	µg/L	Discharge Conc < TQL
Methyl Bromide	764	µg/L	Discharge Conc ≤ 25% WQBEL
Methyl Chloride	38,881	µg/L	Discharge Conc ≤ 25% WQBEL
Methylene Chloride	884	µg/L	Discharge Conc < TQL
1,1,2,2-Tetrachloroethane	8.84	µg/L	Discharge Conc < TQL
Tetrachloroethylene	442	µg/L	Discharge Conc < TQL
Toluene	518	µg/L	Discharge Conc < TQL
1,2-trans-Dichloroethylene	908	µg/L	Discharge Conc < TQL
1,1,1-Trichloroethane	4,166	µg/L	Discharge Conc ≤ 25% WQBEL
1,1,2-Trichloroethane	24.3	µg/L	Discharge Conc < TQL

Trichloroethylene	26.5	µg/L	Discharge Conc < TQL
Vinyl Chloride	0.88	µg/L	Discharge Conc < TQL
2-Chlorophenol	272	µg/L	Discharge Conc < TQL
2,4-Dichlorophenol	90.8	µg/L	Discharge Conc < TQL
2,4-Dimethylphenol	908	µg/L	Discharge Conc < TQL
4,6-Dinitro-o-Cresol	18.2	µg/L	Discharge Conc < TQL
2,4-Dinitrophenol	90.8	µg/L	Discharge Conc < TQL
2-Nitrophenol	11,109	µg/L	Discharge Conc < TQL
4-Nitrophenol	3,194	µg/L	Discharge Conc < TQL
p-Chloro-m-Cresol	222	µg/L	Discharge Conc < TQL
Pentachlorophenol	1.33	µg/L	Discharge Conc < TQL
Phenol	36,326	µg/L	Discharge Conc < TQL
2,4,6-Trichlorophenol	66.3	µg/L	Discharge Conc < TQL
Acenaphthene	115	µg/L	Discharge Conc < TQL
Acenaphthylene	N/A	N/A	No WQS
Anthracene	2,724	µg/L	Discharge Conc < TQL
Benzidine	0.004	µg/L	Discharge Conc < TQL
Benzo(a)Anthracene	0.044	µg/L	Discharge Conc < TQL
Benzo(a)Pyrene	0.004	µg/L	Discharge Conc < TQL
3,4-Benzofluoranthene	0.044	µg/L	Discharge Conc < TQL
Benzo(ghi)Perylene	N/A	N/A	No WQS
Benzo(k)Fluoranthene	0.44	µg/L	Discharge Conc < TQL
Bis(2-Chloroethoxy)Methane	N/A	N/A	No WQS
Bis(2-Chloroethyl)Ether	1.33	µg/L	Discharge Conc < TQL
Bis(2-Chloroisopropyl)Ether	1,816	µg/L	Discharge Conc < TQL
Bis(2-Ethylhexyl)Phthalate	14.1	µg/L	Discharge Conc < TQL
4-Bromophenyl Phenyl Ether	375	µg/L	Discharge Conc < TQL
Butyl Benzyl Phthalate	0.91	µg/L	Discharge Conc < TQL
2-Chloronaphthalene	7,265	µg/L	Discharge Conc < TQL
4-Chlorophenyl Phenyl Ether	N/A	N/A	No WQS
Chrysene	5.3	µg/L	Discharge Conc < TQL
Dibenzo(a,h)Anthrancene	0.004	µg/L	Discharge Conc < TQL
1,2-Dichlorobenzene	1,139	µg/L	Discharge Conc ≤ 25% WQBEL
1,3-Dichlorobenzene	63.6	µg/L	Discharge Conc ≤ 25% WQBEL
1,4-Dichlorobenzene	1,014	µg/L	Discharge Conc ≤ 25% WQBEL
3,3-Dichlorobenzidine	2.21	µg/L	Discharge Conc < TQL
Diethyl Phthalate	5,449	µg/L	Discharge Conc < TQL
Dimethyl Phthalate	3,472	µg/L	Discharge Conc < TQL
Di-n-Butyl Phthalate	153	µg/L	Discharge Conc < TQL
2,4-Dinitrotoluene	2.21	µg/L	Discharge Conc < TQL
2,6-Dinitrotoluene	2.21	µg/L	Discharge Conc < TQL
Di-n-Octyl Phthalate	N/A	N/A	No WQS
1,2-Diphenylhydrazine	1.33	µg/L	Discharge Conc < TQL
Fluoranthene	182	µg/L	Discharge Conc < TQL
Fluorene	454	µg/L	Discharge Conc < TQL

Hexachlorobenzene	0.004	µg/L	Discharge Conc < TQL
Hexachlorobutadiene	0.44	µg/L	Discharge Conc < TQL
Hexachlorocyclopentadiene	6.94	µg/L	Discharge Conc < TQL
Hexachloroethane	4.42	µg/L	Discharge Conc < TQL
Indeno(1,2,3-cd)Pyrene	0.044	µg/L	Discharge Conc < TQL
Isophorone	309	µg/L	Discharge Conc < TQL
Naphthalene	194	µg/L	Discharge Conc < TQL
Nitrobenzene	90.8	µg/L	Discharge Conc < TQL
n-Nitrosodimethylamine	0.031	µg/L	Discharge Conc < TQL
n-Nitrosodi-n-Propylamine	0.22	µg/L	Discharge Conc < TQL
n-Nitrosodiphenylamine	146	µg/L	Discharge Conc ≤ 25% WQBEL
Phenanthrene	6.94	µg/L	Discharge Conc < TQL
Pyrene	182	µg/L	Discharge Conc < TQL
1,2,4-Trichlorobenzene	0.64	µg/L	Discharge Conc < TQL

Attachment 5

WET Summary and Evaluation

Facility Name	Sharon City Sanitary Authority
Permit No.	PA0027138
Design Flow (MGD)	8.66
Q_{7-10} Flow (cfs)	145.9
PMF_a	0.107
PMF_c	0.742

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/7/19	11/16/20	11/9/21	11/15/22
Ceriodaphnia	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/7/19	11/16/20	11/9/21	11/15/22
Ceriodaphnia	Reproduction	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/7/19	11/17/20	11/9/21	11/15/22
Pimephales	Survival	PASS	PASS	PASS	PASS

		Test Results (Pass/Fail)			
		Test Date	Test Date	Test Date	Test Date
Species	**Endpoint**	5/7/19	11/17/20	11/9/21	11/15/22
Pimephales	Growth	PASS	PASS	PASS	PASS

Reasonable Potential? NO

Permit Recommendations

Test Type	**Chronic**
TIWC	**11** % Effluent
Dilution Series	**3, 6, 11, 56, 100** % Effluent
Permit Limit	**None**
Permit Limit Species	

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Survival
TIWC (decimal)	0.09
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Sharon City Sanitary Authority

Permit No.: PA0027138

Replicate No.	Test Completion Date: 5/7/2019 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 11/16/2020 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

Replicate No.	Test Completion Date: 11/9/2021 Control	TIWC
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11		
12		
13		
14		
15		
Mean	1.000	1.000
Std Dev.	0.000	0.000
# Replicates	10	10
T-Test Result		
Deg. of Freedom		
Critical T Value		
Pass or Fail	PASS	

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

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Ceriodaphnia
Endpoint	Reproduction
TIWC (decimal)	0.09
No. Per Replicate	1
TST b value	0.75
TST alpha value	0.2

Facility Name: Sharon City Sanitary Authority

Permit No.: PA0027138

Replicate No.	Test Completion Date: 5/7/2019 Control	TIWC
1	35	33
2	32	38
3	35	27
4	31	37
5	35	40
6	35	33
7	0	38
8	35	34
9	23	28
10	37	34
11		
12		
13		
14		
15		
Mean	29.800	34.200
Std Dev.	11.193	4.264
# Replicates	10	10

T-Test Result	3.9799
Deg. of Freedom	17
Critical T Value	0.8633
Pass or Fail	PASS

Replicate No.	Test Completion Date: 11/16/2020 Control	TIWC
1	36	32
2	29	33
3	33	26
4	29	20
5	33	39
6	16	27
7	30	26
8	37	34
9	33	34
10	31	27
11		
12		
13		
14		
15		
Mean	30.700	29.800
Std Dev.	5.832	5.534
# Replicates	10	10

T-Test Result	3.0374
Deg. of Freedom	16
Critical T Value	0.8647
Pass or Fail	PASS

Replicate No.	Test Completion Date: 11/9/2021 Control	TIWC
1	30	35
2	31	29
3	34	33
4	30	29
5	29	28
6	31	31
7	33	24
8	24	31
9	30	30
10	35	
11		
12		
13		
14		
15		
Mean	30.700	30.000
Std Dev.	3.057	3.122
# Replicates	10	9

T-Test Result	5.4988
Deg. of Freedom	14
Critical T Value	0.8681
Pass or Fail	PASS

Replicate No.	Test Completion Date: 11/15/2022 Control	TIWC
1	25	26
2	20	24
3	23	24
4	26	28
5	27	26
6	27	28
7	23	24
8	27	23
9	25	30
10	25	24
11		
12		
13		
14		
15		
Mean	24.800	25.700
Std Dev.	2.251	2.312
# Replicates	10	10

T-Test Result	7.8433
Deg. of Freedom	16
Critical T Value	0.8647
Pass or Fail	PASS

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Survival
TIWC (decimal)	0.09
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Sharon City Sanitary Authority

Permit No.: PA0027138

Test Completion Date: 5/7/2019

Replicate No.	Control	TIWC
1	1	0.9
2	1	1
3	1	1
4	1	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.950
Std Dev.	0.000	0.058
# Replicates	4	4

T-Test Result	14.6031
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	**PASS**

Test Completion Date: 11/17/2020

Replicate No.	Control	TIWC
1	1	0.8
2	1	0.6
3	0.8	0.8
4	0.9	0.9
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.925	0.775
Std Dev.	0.096	0.126
# Replicates	4	4

T-Test Result	3.6638
Deg. of Freedom	5
Critical T Value	0.7267
Pass or Fail	**PASS**

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	1	0.8
2	1	0.9
3	1	0.9
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.900
Std Dev.	0.000	0.082
# Replicates	4	4

T-Test Result	8.8407
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	**PASS**

Test Completion Date: 11/15/2022

Replicate No.	Control	TIWC
1	1	0.5
2	1	0.9
3	1	1
4	1	1
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	1.000	0.850
Std Dev.	0.000	0.238
# Replicates	4	4

T-Test Result	2.2666
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	**PASS**

DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet

Type of Test	Chronic
Species Tested	Pimephales
Endpoint	Growth
TIWC (decimal)	0.09
No. Per Replicate	10
TST b value	0.75
TST alpha value	0.25

Facility Name: Sharon City Sanitary Authority

Permit No.: PA0027138

Test Completion Date: 5/7/2019

Replicate No.	Control	TIWC
1	0.271	0.23
2	0.25	0.223
3	0.241	0.262
4	0.265	0.286
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.257	0.250
Std Dev.	0.014	0.029
# Replicates	4	4

T-Test Result	3.7196
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

Test Completion Date: 11/17/2020

Replicate No.	Control	TIWC
1	0.405	0.369
2	0.385	0.237
3	0.364	0.346
4	0.366	0.322
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.380	0.319
Std Dev.	0.019	0.058
# Replicates	4	4

T-Test Result	1.1282
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

Test Completion Date: 11/9/2021

Replicate No.	Control	TIWC
1	0.332	0.339
2	0.346	0.366
3	0.354	0.404
4	0.309	0.4
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.335	0.377
Std Dev.	0.020	0.031
# Replicates	4	4

T-Test Result	7.3890
Deg. of Freedom	4
Critical T Value	0.7407
Pass or Fail	**PASS**

Test Completion Date: 11/15/2022

Replicate No.	Control	TIWC
1	0.335	0.2091
2	0.372	0.399
3	0.389	0.473
4	0.377	0.45
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
Mean	0.368	0.383
Std Dev.	0.023	0.120
# Replicates	4	4

T-Test Result	1.7602
Deg. of Freedom	3
Critical T Value	0.7649
Pass or Fail	**PASS**