pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0021628**
Facility Type	**Municipal**	APS ID	**1055465**
Major / Minor	**Minor**	Authorization ID	**1382878**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Borough of Salisbury**	Facility Name	**Salisbury Borough STP**
Applicant Address	171 Smith Avenue P.O. Box 343	Facility Address	Wagner Alley
	Salisbury, PA 15558-0343		Salisbury, PA 15558
Applicant Contact	Nancy Green	Facility Contact	Eric Zimmerman
Applicant Phone	(814) 662-2605	Facility Phone	(814) 662-2605
Client ID	68139	Site ID	245763
Ch 94 Load Status	Not Overloaded	Municipality	Salisbury Borough
Connection Status		County	Somerset
Date Application Received	January 26, 2022	EPA Waived?	Yes
Date Application Accepted	April 19, 2022	If No, Reason	

Purpose of Application: NPDES permit renewal.

Summary of Review

The PA Department of Environmental Protection (PADEP/Department) received an NPDES permit renewal application from Borough of Salisbury (permittee) for permittee's Salisbury Borough STP (facility) on January 26, 2022. The facility is a minor municipal WWTP with an average design flow of 0.2 MGD. The treated effluent is discharged into Casselman River in state watershed 19-F, classified as WWF. The current permit will expire on July 31, 2022. The terms and conditions are automatically extended since the renewal application was received at least 180 days prior to the expiration date. Renewal NPDES permit applications under Clean Water program are not covered by PADEP's PDG per 021-2100-001.

This fact sheet is developed in accordance with 40 CFR §124.56.

Changes in this renewal: E. Coli monitoring requirement added.

Sludge use and disposal description and location(s): Liquid sludge is hauled off to Somerset STP

Public Participation

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

Approve	Deny	Signatures	Date
√		Reza H. Chowdhury, E.I.T. / Project Manager	April 22, 2022
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	04/25/2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.2
Latitude	39º 45' 27"	Longitude	-79º 5' 17"
Quad Name	Meyersdale	Quad Code	2013
Wastewater Description:	Sewage Effluent		
Receiving Waters	Casselman River (WWF)	Stream Code	38579
NHD Com ID	134770246	RMI	44.06
Drainage Area	97.5 mi^2	Yield (cfs/mi^2)	0.037
Q_{7-10} Flow (cfs)	3.56	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1998.32	Slope (ft/ft)	
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use	**WWF**	Existing Use Qualifier	Ch. 93
Exceptions to Use	None	Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Final May 26, 2009	Name	Casselman River

Background/Ambient Data		Data Source
pH (SU)	7.0	Default per 391-2000-013
Temperature (°C)	25	Default per 391-2000-007 for WWF
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Indian Creek Valley Water Authority	
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	
PWS RMI	62.754	Distance from Outfall (mi)	54.61

Changes Since Last Permit Issuance: None

Other Comments:

Streamflow:

There is no nearby WQN Station or Streamgage from the discharge point. Therefore, USGS's web based watershed delineation tool StreamStats (accessible at https://streamstats.usgs.gov/ss/, accessed on April 19, 2022) was utilized to determine the drainage area and low flow statistics of the receiving stream at discharge point. The StreamStats delineation report shows a drainage area at the Outfall 001 to be 97.5 mi^2, Q_{7-10} of 3.56 cfs, and Q_{30-10} of 5.79 cfs.

Q_{7-10} runoff rate (low flow yield): 3.56 cfs/97.5 mi^2 or 0.037 cfs/mi^2
Q_{30-10}:Q_{7-10}: 5.79/3.56 or 1.626
Default Q_{1-10}:Q_{7-10} of 0.64 will be used for modeling, if needed.

PWS Intake:

The nearby downstream PWS intake is Indian Creek Valley Water Authority in Saltlick Township, Fayette County, which is approximately 54.61 miles downstream of discharge point. Due to the distance, dilution of Youghiogheny River, and effluent limitations, it is expected that the discharge will not adversely impact the PWS intake.

Wastewater Characteristics:

A pH of 6.85 (median July- September 2021), default temperature of 20^0C (Default per 391-2000-007), and default Hardness value of 100 mg/l will be used for modeling, if needed.

Background data:
There is no nearby WQN station from the discharge point. In absence of site-specific data, a default pH of 7.0 S.U., default stream temperature of 25°C, and default hardness of 100 mg/l will be used, as appropriate.

Chartiers Creek Watershed TMDL:
Casselman Creek Watershed is impaired for metals from AMDs. No WLA is allocated for this facility.

Treatment Facility Summary

Treatment Facility Name: Salisbury Borough STP

WQM Permit No.	Issuance Date
5690401 A-1	3/7/2005
5690401	5/10/1990

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Gas Chlorine	0.2

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.2	229	Not Overloaded	Holding tank	Other WWTP

Changes Since Last Permit Issuance: None

Treatment Plant Description

Salisbury Borough STP is a publicly owned minor sewage treatment plant with design flow of 0.2 MGD, hydraulic design capacity of 0.2 MGD, and organic loading capacity of 229 lbs./day. The facility is located in Salisbury Borough, Somerset County. The facility is an extended aeration treatment plant with gas chlorination. The treated effluent is discharged through Outfall 001 into Casselman River in state watershed 19-F. The facility receives flow from the following tributaries:

TRIBUTARY INFORMATION

Municipalities Served	Flow Contribution (%)	Type of Sewer System		Population
		Separate (%)	Combined (%)	
Borough of Salisbury	68	100		915
Elk Lick Towship	32	100		580

Per PADEP's recent inspection on March 25, 2019, the facility consists of the following treatment units:

1. One comminutor
2. One EQ tank
3. Four Aeration tanks
4. Four clarifiers
5. Two chlorine contact tanks
6. Four sludge holding tanks
7. One gas disinfection
8. One dechlorination

Influent flows to a comminutor, EQ tank, one of four aeration units and clarifies. After that, it flows to chlorine contact tanks and dechlorination occurs. Treated effluent is discharged through Outfall 001. Liquid sludge is hauled to Somerset STP.

The following wastewater chemicals are used:

Wastewater Treatment Chemical	Purpose	Maximum Usage Rate	Units
Soda Ash	Increase pH	50	lbs/Day
Sodium Bisulfite	Dechlorination	Drip	
Superfloc	Flocculant		

Existing Limits

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 Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	9.0 Max	XXX	1/day	Grab
Dissolved Oxygen	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	41.7	62.6	XXX	25.0	40.0	50	1/week	8-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	8-Hr Composite
Total Suspended Solids	50.1	75.1	XXX	30.0	45.0	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Nov 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Oct 31	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen	XXX	XXX	XXX	25.0	XXX	50	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	Grab

Compliance History

DMR Data for Outfall 001 (from March 1, 2021 to February 28, 2022)

Parameter	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21
Flow (MGD) Average Monthly	0.147	0.150	0.084	0.073	0.074	0.111	0.065	0.070	0.079	0.108	0.090	0.137
Flow (MGD) Daily Maximum	0.406	0.842	0.187	0.103	0.126	0.631	0.139	0.118	0.119	0.251	0.118	0.600
pH (S.U.) Minimum	6.6	6.4	6.3	6.1	6.5	6.2	6.3	6.0	6.4	6.7	6.4	6.9
pH (S.U.) Maximum	7.0	7.6	7.7	8.2	7.5	7.5	7.7	7.7	7.5	7.8	7.6	7.6
DO (mg/L) Minimum	5.6	5.6	5.6	5.8	5.0	5.1	4.9	4.8	5.2	5.4	5.0	5.7
TRC (mg/L) Average Monthly	0.1	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1
TRC (mg/L) IMAX	0.3	1.5	1.3	1.5	0.3	0.3	0.4	0.7	0.4	0.05	0.3	0.3
CBOD5 (lbs/day) Average Monthly	11.8	8.0	5.0	3.3	8.1	7.8	5.6	4.1	5.3	7.3	11.1	8.8
CBOD5 (lbs/day) Weekly Average	13.2	8.1	7.1	4.8	14.4	11.7	11.0	8.8	8.9	9.5	16.7	9.9
CBOD5 (mg/L) Average Monthly	9.6	6.4	7.1	5.5	13.2	8.4	10.4	7.0	8.3	8.1	14.8	7.7
CBOD5 (mg/L) Weekly Average	10.8	6.5	10.2	7.9	23.4	12.6	20.2	15.0	14.1	10.6	22.2	8.7
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	227.2	231.5	207.3	205.8	203.1	219.8	195.7	165.0	182.4	205.0	196.8	183.1
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	174.3	249.3	189.3	240.5	209.8	300.0	200.3	105.6	178.8	223.8	310.0	155.6
TSS (lbs/day) Average Monthly	7.0	6.8	6.4	3.4	4.9	9.5	6.3	4.6	5.6	11.9	7.7	8.8
TSS (lbs/day) Raw Sewage Influent Average Monthly	167.8	190.0	207	189.7	198.4	187.0	171.7	165.6	157.4	160.5	167.0	187.8
TSS (lbs/day) Raw Sewage Influent Weekly Average	94.0	96.5	264.6	143.5	202.5	205.5	226.8	196.3	164.0	195.0	134.3	113.6
TSS (lbs/day) Weekly Average	8.9	7.5	7.8	4.9	8.4	10.9	121.0	8.8	9.9	14.5	11.0	9.3
TSS (mg/L) Average Monthly	5.7	5.4	9.1	5.6	7.9	10.3	11.6	7.8	8.9	13.2	10.2	7.7
TSS (mg/L) Weekly Average	7.3	6.0	11.1	8.1	13.6	11.8	22.3	15.1	15.0	16.1	14.7	8.1

Fecal Coliform (No./100 ml) Geometric Mean	32.5	31.4	8.1	3.3	8.5	2.7	9.4	3.8	15.8	1.0	5.3	2.1
Fecal Coliform (No./100 ml) IMAX	1203.0	135.4	44.1	6.1	50.4	13.5	127.4	6.3	1011.2	1.0	62.4	3.1
Total Nitrogen (mg/L) Daily Maximum			5.95									
Ammonia (mg/L) Average Monthly	4.7	3.1	6.4	7.5	13.9	7.7	11.5	11.3	10.4	7.1	8.5	6.3
Total Phosphorus (mg/L) Daily Maximum			1.75									
Total Aluminum (mg/L) Daily Maximum			< 0.100									
Total Iron (mg/L) Daily Maximum			< 0.200									
Total Manganese (mg/L) Daily Maximum			0.0447									

Summary of inspection:

3/25/2019: CEI conducted. No violation noted. Recommendations included investigation for other sewage treatment plants for sludge disposal and to consider installing refrigerated composite samplers for the weekly 8-hr composite samples.

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.2
Latitude	39º 45' 27.00"	**Longitude**	-79º 5' 17.00"
Wastewater Description:	Sewage Effluent		

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

WQM 7.0:

WQM 7.0 is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. DEP recently updated this model (ver. 1.1) to include new ammonia criteria that has been approved by US EPA as part of the 2017 Triennial Review. The model was utilized for this permit renewal by using updated Q_{7-10} and historic background water quality levels of the river. The following data were used in the attached computer model of the stream:

- Discharge pH 6.85 (median Jul-Sep, 2022, eDMR data)
- Discharge Temperature 20°C (Default per 391-2000-007)
- Discharge Hardness 100 mg/l (Default data)
- Stream pH 7.0 (Default per 391-2000-013)
- Stream Temperature 25°C (Default per 391-2000-013, WWF)
- Stream Hardness 100 mg/l (Application data)

The following nodes were considered in modeling:

Node 1: Salisbury Borough STP (PA0021628) Outfall 001 at Casselman River (38579)
Elevation: 1998.32 ft (USGS National Map viewer, 04/21/2022)
Drainage Area: 97.5 mi^2 (StreamStat Version 3.0, 04/19/2022)
River Mile Index: 44.06 (PA DEP eMapPA)
Low Flow Yield: 0.037 cfs/mi^2
Discharge Flow: 0.2 MGD

Node 2: At confluence with Piney Creek (39283) at Casselman River (38579)
Elevation: 1981.68 ft (USGS National Map viewer, 04/21/2022)
Drainage Area: 132 mi^2 (StreamStat Version 3.0, 04/19/2022)
River Mile Index: 42.285 (PA DEP eMapPA)
Low Flow Yield: 0.037 cfs/mi^2
Discharge Flow: 0.0 MGD

NH_3-N:
WQM 7.0 suggested NH_3-N limit of 25 mg/l as monthly average and 50 mg/l as IMAX limit to protect water quality standards. These are also the existing limits that will be carried over.

$CBOD_5$:
The WQM 7.0 model suggests a monthly average $CBOD_5$ limit of 25 mg/l. The average monthly and average weekly mass loadings were calculated as 41.7 lbs./day and 62.6 lbs./day respectively. These are the same as existing permit and will be carried over.

Dissolved Oxygen (DO):
The existing permit has a minimum DO of 4.0 mg/l. Per Pa Code 25 Ch.93.7, a minimum DO of 5.0 is required for WWF. This is also supported by WQM 7.0 output. However, the model also shows no adverse effects on the receiving stream at 4.0 mg/l. The SOP BCW-PMT-033 recommends a minimum DO limit of 4.0 mg/l based on BPJ to ensure adequate operation and maintenance where there is no water quality concerns. It is recommended that the existing limit will be carried over.

Toxics:
The facility reported three sample results for Total Copper, Total Lead, and Total Zinc. The maximum of the sample results for each pollutant was analyzed by Toxics Management Spreadsheet (TMS) model. The TMS model didn't result in monitoring or reporting for any of the parameters. TMS spreadsheet is attached with this fact sheet.

Additional Considerations

Fecal Coliform:
The recent coliform guidance in 25 Pa. code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml. These are the existing limits that will be carried over.

E. Coli:
DEP's SOP titled "Establishing Effluent Limitations for Individual Sewage Permits (BCW-PMT-033, revised March 24, 2021) recommends quarterly E. Coli monitoring for all dischargers with flow between ≥0.05 MGD to <1.0 MGD. This requirement will be applied from this permit term.

pH:
The TBEL for pH is above 6.0 and below 9.0 S.U. (40 CFR §133.102(c) and Pa Code 25 § 95.2(1)) which are existing limits and will be carried over.

Total Suspended Solids (TSS):
There is no water quality criterion for TSS. The existing limits of 25 mg/L average monthly and 50 mg/L instantaneous maximum will remain in the permit based on the minimum level of effluent quality attainable by secondary treatment, 25 Pa. Code § 92a.47 and 40CFR 133.102(b). The mass based average monthly and weekly average load is calculated to be 50.04 lbs./day and 75.06 lbs./day based on a flow of 0.2 MGD, which are rounded down to 50 lbs./day and 75 lbs./day, respectively.

Total Residual Chlorine (TRC):
The attached computer printout utilizes the equation and calculations as presented in the Department's 2003 Implementation Guidance for Total Residual Chlorine (TRC) (ID#391-2000-015) for developing chlorine limitations. The attached printout indicates that a water quality limit of 0.5 mg/l would be needed to prevent toxicity concerns at the POFU. The Instantaneous Maximum (IMAX) limit is calculated to be 1.6 mg/l. These are the existing limits that will be carried over.

Flow and Influent BOD_5 and TSS Monitoring Requirement:
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii). Influent BOD_5 and TSS monitoring requirements are established in the permit per the requirements set in Pa Code 25 Chapter 94. Monitoring frequency was negotiated between the Department and the permittee in the past.

Best Professional Judgement (BPJ):

Total Phosphorus:
Existing monthly monitoring requirement will be carried over in this renewal.

Total Nitrogen:
PADEP's SOP BCW-PMT-033 suggests monitoring requirement, at a minimum, for facilities with design flow greater than 2,000 GPD. This requirement is applied for all facilities meeting the flow criteria.

Monitoring Frequency and Sample Types:
Otherwise specified above, the monitoring frequency and sample type of compliance monitoring for existing parameters are recommended by DEP's SOP and Permit Writers Manual and/or on a case-by-case basis using best professional judgment (BPJ).

TMDL Parameters:
The receiving stream has an approved TMDL for AMD facilities. There is no wasteload allocation for this point source discharger. The current permit, however, included annual reporting requirements for the AMD TMDL parameters, e.g. Total Aluminum, Total Iron, and Total Manganese. These requirements will be carried over in this renewal. Sample type is changed from grab to 8-hr composite since all other parameters, as applicable, have 8-hr composite sampling requirements.

Anti-Backsliding
The proposed limits are at least as stringent as are in existing permit, unless otherwise stated; therefore, anti-backsliding is not applicable.

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	41.7	62.6	XXX	25.0	40.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	8-Hr Composite
TSS	50.0	75.0	XXX	30.0	45.0	60	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Nov 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Oct 31	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No/100 ml)	XXX	XXX	XXX	Report Avg. Qrtly	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Ammonia	XXX	XXX	XXX	25.0	XXX	50	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Iron	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite
Total Manganese	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: At Outfall 001

Other Comments: None

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

Permit No. PA0021628

PA0021628 at Outfall 001

Region ID: PA
Workspace ID: PA20220419233049510000
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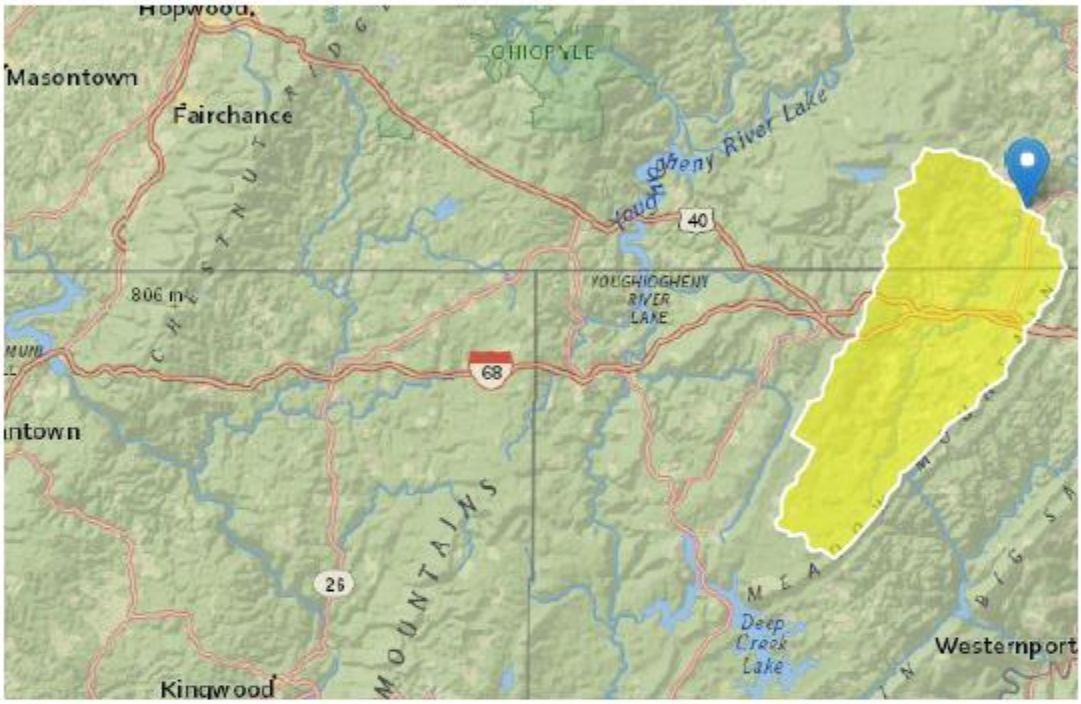

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	97.5	square miles
ELEV	Mean Basin Elevation	2545	feet

Low-Flow Statistics Parameters [100.0 Percent (97.4 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	97.5	square miles	2.26	1400
ELEV	Mean Basin Elevation	2545	feet	1050	2580

Low-Flow Statistics Flow Report [100.0 Percent (97.4 square miles) Low Flow Region 4]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	9.7	ft^3/s	43	43
30 Day 2 Year Low Flow	15.8	ft^3/s	38	38
7 Day 10 Year Low Flow	3.56	ft^3/s	66	66
30 Day 10 Year Low Flow	5.79	ft^3/s	54	54
90 Day 10 Year Low Flow	11.2	ft^3/s	41	41

Low-Flow Statistics Citations

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

Permit No. PA0021628

at node 2

Region ID: PA
Workspace ID: PA20220419233745792000
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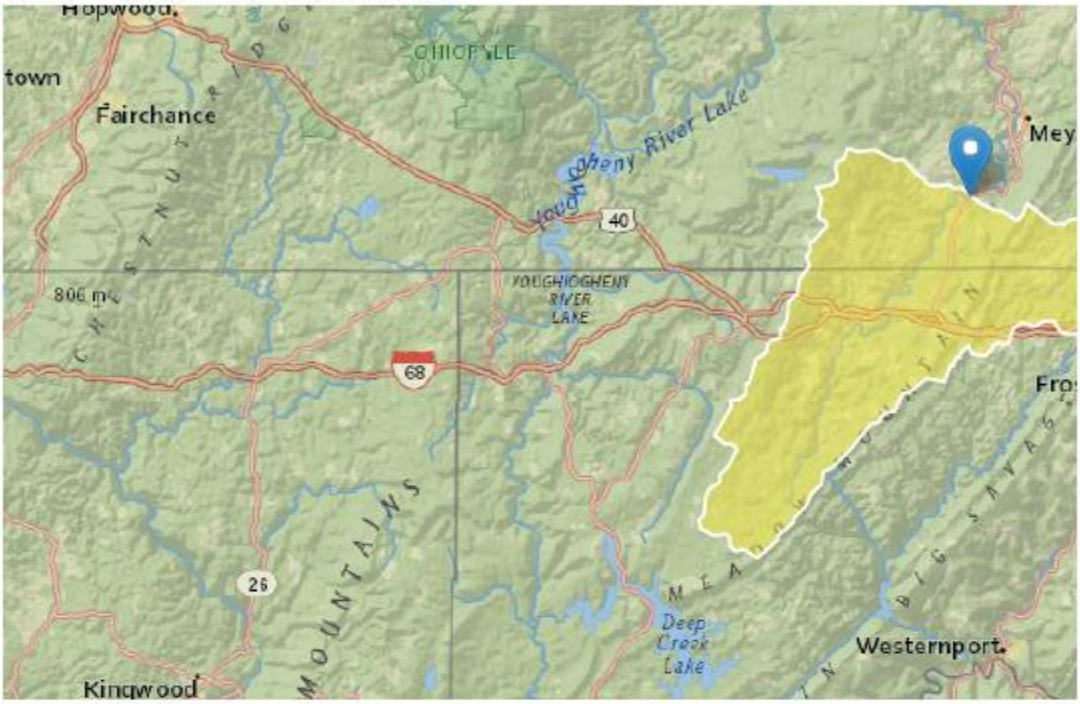

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	132	square miles
ELEV	Mean Basin Elevation	2538	feet

Low-Flow Statistics Parameters [99.8 Percent (132 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	132	square miles	2.26	1400
ELEV	Mean Basin Elevation	2538	feet	1050	2580

Low-Flow Statistics Flow Report [99.8 Percent (132 square miles) Low Flow Region 4]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	13.7	ft^3/s	43	43
30 Day 2 Year Low Flow	21.9	ft^3/s	38	38
7 Day 10 Year Low Flow	5.16	ft^3/s	66	66
30 Day 10 Year Low Flow	8.21	ft^3/s	54	54
90 Day 10 Year Low Flow	15.7	ft^3/s	41	41

Low-Flow Statistics Citations

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

Permit No. PA0021628

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

3.56	= Q stream (cfs)	0.5	= CV Daily
0.2	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 3.689	1.3.2.iii	WLA cfc = 3.589
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 1.375	5.1d	LTA_cfc = 2.087

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

WLA afc	(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))... ...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))... ...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)

Permit No. PA0021628

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
19F	38579	CASSELMAN RIVER	44.060	1998.32	97.50	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	0.037	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Salisbury STP	PA0021628	0.2000	0.2000	0.2000	0.000	20.00	6.85

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	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Permit No. PA0021628

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
19F	38579	CASSELMAN RIVER	42.285	1981.68	132.00	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	0.037	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	0.00	7.00

Parameter Data

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

Permit No. PA0021628

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	1.626	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

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Permit No. PA0021628

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN 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												
44.060	3.61	0.00	3.61	.3094	0.00178	.705	36.75	52.14	0.15	0.717	24.61	6.99
Q1-10 Flow												
44.060	2.31	0.00	2.31	.3094	0.00178	NA	NA	NA	0.12	0.899	24.41	6.98
Q30-10 Flow												
44.060	5.87	0.00	5.87	.3094	0.00178	NA	NA	NA	0.20	0.556	24.75	6.99

Permit No. PA0021628

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN 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
44.060	Salisbury STP	7.15	50	7.15	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
44.060	Salisbury STP	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
44.06	Salisbury STP	25	25	25	25	4	4	0	0

Permit No. PA0021628

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
44.060	0.200	24.605	6.986
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
36.752	0.705	52.140	0.151
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
3.82	0.540	1.97	0.998
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.908	2.845	Tsivoglou	5
Reach Travel Time (days)			
0.717			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.072	3.64	1.84	7.20
0.143	3.47	1.71	6.67
0.215	3.31	1.59	6.29
0.287	3.15	1.48	6.02
0.359	3.00	1.38	5.84
0.430	2.86	1.29	5.74
0.502	2.73	1.20	5.69
0.574	2.60	1.11	5.68
0.646	2.48	1.04	5.71
0.717	2.36	0.97	5.76

Permit No. PA0021628

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN 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)
44.060	Salisbury STP	PA0021628	0.200	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Permit No. PA0021628

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Salisbury Borough STp** NPDES Permit No.: **PA0021628** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.2	100	6.85						

	Discharge Pollutant	Units	Max Discharge Conc		0 if left blank: Trib Conc	0 if left blank: Stream Conc	0.5 if left blank: Daily CV	0.5 if left blank: Hourly CV	0 if left blank: Stream CV	0 if left blank: Fate Coeff	0 if left blank: FOS	1 if left blank: Criteria Mod	1 if left blank: Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L		143									
	Bromide	mg/L											
	Sulfate (PWS)	mg/L		422									
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L											
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L		0.0297									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L		0.000827									
	Total Manganese	µg/L											
	Total Mercury	µg/L											
	Total Nickel	µg/L											
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L											
	Total Silver	µg/L											
	Total Thallium	µg/L											
	Total Zinc	µg/L		0.122									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Permit No. PA0021628

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

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	2,6-Dinitrotoluene	µg/L	<										
	Di-n-Octyl Phthalate	µg/L	<										
	1,2-Diphenylhydrazine	µg/L	<										
	Fluoranthene	µg/L	<										
	Fluorene	µg/L	<										
	Hexachlorobenzene	µg/L	<										
	Hexachlorobutadiene	µg/L	<										
	Hexachlorocyclopentadiene	µg/L	<										
	Hexachloroethane	µg/L	<										
	Indeno(1,2,3-cd)Pyrene	µg/L	<										
	Isophorone	µg/L	<										
	Naphthalene	µg/L	<										
	Nitrobenzene	µg/L	<										
	n-Nitrosodimethylamine	µg/L	<										
	n-Nitrosodi-n-Propylamine	µg/L	<										
	n-Nitrosodiphenylamine	µg/L	<										
	Phenanthrene	µg/L	<										
	Pyrene	µg/L	<										
	1,2,4-Trichlorobenzene	µg/L	<										
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											

Permit No. PA0021628

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Salisbury Borough STp, NPDES Permit No. PA0021628, Outfall 001

Instructions | Discharge | Stream

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

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	038579	44.06	1998.32	97.5			Yes
End of Reach 1	038579	42.285	1981.68	132			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	44.06	0.037										100	7		
End of Reach 1	42.285	0.037													

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	44.06														
End of Reach 1	42.285														

Permit No. PA0021628

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Model Results

Salisbury Borough STp, NPDES Permit No. PA0021628, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.488 Analysis Hardness (mg/l): 100 Analysis pH: 6.97

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	13.439	14.0	93.7	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	546	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	802	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 62.978 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 6.99

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	8.956	9.33	118	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	40.3	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	1,517	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 62.978 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
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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☑ *CRL* CCT (min): 22.395 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
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

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

☑ ***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
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Copper	60.0	µg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	40.3	µg/L	Discharge Conc ≤ 10% WQBEL
Total Zinc	514	µg/L	Discharge Conc ≤ 10% WQBEL