pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0081574**
Facility Type	**Municipal**	APS ID	**69**
Major / Minor	**Minor**	Authorization ID	**1041237**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Salisbury Township**	Facility Name	**Salisbury Township Gap STP**
Applicant Address	5581 Old Philadelphia Pike	Facility Address	5350 Park Avenue
	Gap, PA 17527-9791		Gap, PA 17527
Applicant Contact	Lester Houck	Facility Contact	Troy Wenger
Applicant Phone	(717) 768-8059	Facility Phone	(717) 201-6513
Client ID	35929	Site ID	452223
Ch 94 Load Status	Not Overloaded	Municipality	Salisbury Township
Connection Status	No Exceptions Allowed	County	Lancaster
Date Application Received	August 29, 2014	EPA Waived?	No
Date Application Accepted	September 15, 2014	If No, Reason	Significant CB Discharge

Purpose of Application: NPDES permit renewal.

Summary of Review

Salisbury Township has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on February 24, 2010 and became effective on March 1, 2010. The permit authorized discharge of treated sewage from the existing wastewater treatment plant (WWTP) located in Salisbury Township, Lancaster County into Unnamed Tributary to Pequea Creek. The existing permit expiration date was February 28, 2015, and the permit has been administratively extended since that time.

Per the previous protection report, the Gap WWTP was originally designed for 0.06 million gallons per day (MGD) in the early 1980s to serve the Village of Gap. The facility was expanded several times over the years, with a third expansion to 0.58 MGD in 2007. In 2007 the 0.1 MGD extended aeration plant was demolished, and the 0.24 MGD aboveground extended aeration tank and clarifiers were converted to 0.58 MGD sequencing batch reactors (SBRs). This conversion used the Aqua PASS Phased Activated Sludge System with the addition of two 40' diameter clarifiers (Part II Permit No. 3605414). The existing equalization (EQ) tank was divided into anaerobic/anoxic/oxic stages to promote nutrient removal. Construction was completed around May 15, 2008. The units are followed by ultraviolet (UV) disinfection. The new plant was designed for Total Phosphorus (TP) and Total Nitrogen (TN) nutrient removal in anticipation of the Chesapeake Bay requirements.

Changes in this renewal: A UV Transmittance monitoring requirement was added to the permit. A more stringent $CBOD_5$ limit and fecal coliform instantaneous maximum limits were added to the permit. The minimum measurement frequency for TN and TP was increased to 2/week, and the sampling type was changed to 24-hour composites.

Approve	Deny	Signatures	Date
		Benjamin R. Lockwood / Environmental Engineering Specialist	August 16, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Summary of Review

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.

Supplemental information for this report is located in an attachment below.

Salisbury TWP Gap
WWTP Supplementa

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.58
Latitude	39º 59' 43.5"	Longitude	76º 1' 13.2"
Quad Name	Gap	Quad Code	1937
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Pequea Creek (CWF)	Stream Code	07533
NHD Com ID	57464113	RMI	0.32
Drainage Area	0.99 mi^2	Yield (cfs/mi^2)	0.122
Q_{7-10} Flow (cfs)	0.121	Q_{7-10} Basis	USGS PA StreamStats
Elevation (ft)	442	Slope (ft/ft)	
Watershed No.	7-K	Chapter 93 Class.	CWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Impaired		
Cause(s) of Impairment	Pathogens, Siltation, Nutrients, Organic Enrichment/Low D.O., Habitat Alterations, Siltation		
Source(s) of Impairment	Source Unknown, Habitat Modification - Other Than Hydromodification, Agriculture, Agriculture, Habitat Modification - Other Than Hydromodification, Agriculture		
TMDL Status	Final	Name	Pequea Creek
Nearest Downstream Public Water Supply Intake	Holtwood Power Plant		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	45

Changes Since Last Permit Issuance: The USGS PA StreamStats is showing a drainage area of 0.99 mi^2 and a Q_{7-10} flow of 0.121 cfs at the discharge point.

Other Comments: None

Treatment Facility Summary				
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Total Nitrogen Reduction	Activated Sludge	Ultraviolet	0.58
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.68	1209	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: The treatment process is as follows: Pump Station – Pre-Anoxic Tank – Anoxic Tank – Stage Aeration Tanks – Primary Clarifiers – UV Disinfection – Re-Aeration Tank – Outfall 001 to UNT of Pequea Creek

Compliance History	
Summary of DMRs:	A summary of past DMR effluent data is presented on the next page of this fact sheet.
Summary of Inspections:	7/11/2012: A routine inspection was conducted by Barry Sweger, DEP Water Quality Specialist. He noted that the operator was experiencing some problems with the aeration system, but it was not impacting the effluent quality. The situation will be monitored. At the time of inspection all treatment units were in operation and looked good, and the plant effluent was clear. 7/10/2013: A routine inspection was conducted by Bob Haines, DEP Water Quality Specialist. The effluent was clear at the time of inspection, and field test results for pH and D.O. were within the permitted range. All treatment units were online and appeared to be well maintained. No issues were noted at the outfall area. 5/27/2014: A routine inspection was conducted by Andrew Hall, DEP Water Quality Specialist. Sample results from the inspection for Ammonia revealed a concentration of 20.54 mg/l, which was a violation of Part A.I.A of the NPDES permit, which states that the instantaneous maximum for ammonia shall be no more than 4.0 mg/l. DEP was unable to meet the holding time for the fecal coliform sample collected, but the result was 74,000/100ml. At the time of inspection the anoxic tank was experiencing high D.O. levels. The pre-anoxic tank had a thick layer of hardened crust covering the entire tank. Troy Wenger, Salisbury Township's Operator, stated that the tank was vacuumed to remove the solids, but it would return within days. The clarifiers looked good, with a clear effluent. The outfall looked good, and the effluent was clear. 4/21/2015: Andrew Hall conducted a follow up inspection due to operation and maintenance issues regarding the headworks, wasting rates, filamentous issues, and solids management. Brian Norris (Clean Water) was the current operator, and was planning on draining the clarifier on 4/28 to remove blockage, as well as draining and cleaning the re-aeration tank. DEP entered into talks with Salisbury Township about entering into a Consent Order and Agreement (COA) to develop an implementation schedule to resolve issues at the treatment plant. 5/6/2015: Andrew Hall conducted a follow up inspection due to notification from Salisbury Township of a loss in power leading to equipment failure, which resulted in a partial loss of treatment. Light solids were present at Outfall 001 for approximately 2'. Light surface foam was being discharged but dissipated after only a few feet of flow. The re-aeration tank had a slight haze, and foam, rags and floatables were present in the clarifiers. The mixed liquor in the aeration tanks looked normal. A hardened crust was present on the pre-anoxic tanks. Samples were taken at the time of inspection, which revealed an ammonia violation of 11.36 mg/l. 5/21/2015: Andrew Hall participated in a meeting at Salisbury Township Gap WWTP and conducted a follow up inspection due to open violations at the facility. New rag rakes were installed on the aeration tank opening to the clarifier distribution box, which has reduced the amount of rags entering the clarifier. Effluent from the WWTP was clear, and no solids or foaming were present at the outfall. 11/20/2015: DEP and Salisbury Township entered into a COA. The corrective actions within the COA including submitting a Water Quality Management (WQM) Permit application for the construction of a headworks screening device at the Gap WWTP. 3/23/2016: A routine inspection was conducted by Sheena Ripple, DEP Water Quality Specialist. All treatment units were online, and no issues were noted. The future plans for

	the WWTP at the time of inspection were an upgrade for the headworks, and the installation of a screening unit. 5/5/2016: Sheena Ripple received a call from Brian Norris stating that the WWTP had received a black discharge with a petroleum odor. The source was from a truck/car wash. The only issue was foam on the units. The next day Brian emailed Sheena stating that effluent limits were still being met, but the employees were still dealing with excess foam on the units. On 5/11/16, Sheena visited the site. There was still some light foam, but the clarifier was clear. The car wash had an issue with their recirculation system, resulting in discharges to a sewer manhole. The Township was looking into enforcing a maintenance schedule for the car wash's recirculation system. The WWTP was meeting all limits at the time of inspection. 2/14/2018: A routine inspection was conducted by Kevin Buss, DEP Water Quality Specialist. The treatment units appeared to be operating normally at the time of inspection, and the outfall was free of solids. There was light foaming in the effluent. It was noted that sodium hypochlorite was stored on site. The sodium hypochlorite is added as needed at the clarifier splitter box for filamentous control. 2/28/2018: A follow up inspection was conducted by Kevin Buss to collect field readings and samples. All sample results were within permitted limits.

Other Comments: There are currently no open violations associated with the permittee or facility.

Compliance History

DMR Data for Outfall 001 (from June 1, 2018 to May 31, 2019)

Parameter	JUN-18	JUL-18	AUG-18	SEP-18	OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MAR-19	APR-19	MAY-19
Flow (MGD) Average Monthly	0.223530	0.210200	0.240400	0.272800	0.278400	0.31670	0.33470	0.33750	0.32900	0.34200	0.30540	0.29450
Flow (MGD) Daily Maximum	0.28310	0.243300	0.354900	0.36840	0.32210	0.46890	0.40060	0.54900	0.37320	0.54690	0.35940	0.37370
pH (S.U.) Minimum	7.29	7.21	7.25	7.20	7.22	7.21	7.28	7.24	7.21	7.28	7.24	7.25
pH (S.U.) Maximum	7.44	7.45	7.95	7.42	7.44	7.49	7.57	7.90	7.48	7.57	7.55	7.55
DO (mg/L) Minimum	7.0	7.0	7.0	6.9	7.2	7.6	7.5	8.0	8.0	8.3	7.5	7.5
CBOD5 (lbs/day) Average Monthly	< 7.4	< 2.78	< 4.06	< 4.59	< 3.87	< 5.45	< 5.56	< 5.62	< 5.26	< 5.81	< 4.24	< 5.12
CBOD5 (lbs/day) Weekly Average	18.1	< 3.71	< 4.93	< 4.96	< 5.15	< 6.87	5.82	6.12	5.31	< 6.19	< 5.84	< 6.23
CBOD5 (mg/L) Average Monthly	< 3.75	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
CBOD5 (mg/L) Weekly Average	9	< 2	< 2	< 2	< 2	< 2	2	2	2	< 2	< 2	< 2
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	316.3	374.2	414.0	288.9	476.0	414.2	612.8	477.5	408.7	775.2	493.2	530.0
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	642.2	502.5	511.0	359.7	667.5	439.9	959.7	580.5	502.2	1139.3	545.9	874.8
BOD5 (mg/L) Raw Sewage Influent Average Monthly	164.5	221.6	202.8	125.8	200.2	158.0	222.5	171.4	155.5	270.3	194.8	207.8
TSS (lbs/day) Average Monthly	< 3.38	< 1.71	< 4.17	< 4.1	< 4.75	< 4.26	14.44	4.48	< 7.24	< 5.07	< 3.62	9.16
TSS (lbs/day) Raw Sewage Influent Average Monthly	363.5	385.1	460.6	394.8	415.6	319.5	471.0	473.0	536.8	619.4	403.9	420.6

TSS (lbs/day) Raw Sewage Influent Daily Maximum	465.0	575.3	646.4	485.7	613.0	408.8	697.9	603.9	1222.3	899.7	505.0	532.4
TSS (lbs/day) Weekly Average	5.84	1.86	10.25	7.43	11.83	6.87	27.26	5.94	13.23	8.36	5.57	17.45
TSS (mg/L) Average Monthly	< 1.75	< 1	< 2.25	< 1.75	< 2	< 1.5	5.25	1.6	< 2.75	< 1.75	< 1.4	3.75
TSS (mg/L) Raw Sewage Influent Average Monthly	188.0	228	227.8	171.0	176.0	116.5	171.0	169.6	203.5	215.8	158.6	164
TSS (mg/L) Weekly Average	3	1	6	3	5	2	10	2	5	3	2	8
Fecal Coliform (CFU/100 ml) Geometric Mean	< 2	< 2	< 2	< 5.2	< 2	< 2	< 2	< 2.9	< 2.2	< 4.2	< 4	< 5.4
Nitrate-Nitrite (mg/L) Average Monthly	5.89	4.45	3.51	4.44	5.03	6.09	5.01	4.82	5.76	5.92	4.71	4.68
Nitrate-Nitrite (lbs) Total Monthly	342.49	235.72	213.21	305.33	369.12	504.93	431.41	418.34	424.25	531.95	360.27	378.55
Total Nitrogen (mg/L) Average Monthly	6.69	5.16	4.23	5.1	< 5.7	< 6.72	5.86	< 5.71	< 6.62	6.63	5.64	< 5.4
Total Nitrogen (lbs) Effluent Net Total Monthly	388.79	272.86	260.27	351.0	< 417.75	< 559.2	505.18	< 495.72	< 487.34	596.06	432.2	< 435.87
Total Nitrogen (lbs) Total Monthly	388.79	272.86	260.27	351.0	< 417.75	< 559.2	505.18	< 495.72	< 487.34	596.06	432.82	< 435.87
Total Nitrogen (lbs) Effluent Net Total Annual				< 4557.64								
Total Nitrogen (lbs) Total Annual				< 4557.64								
Ammonia (lbs/day) Average Monthly	< 0.194	< 0.171	< 0.406	< 0.23	< 0.237	< 0.272	< 0.278	< 0.281	< 0.263	< 0.29	< 0.255	< 0.256
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.18	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	< 5.82	< 5.3	< 12.59	< 6.9	< 7.35	< 8.16	< 8.62	< 8.71	< 7.36	< 8.99	< 7.65	< 7.94

Ammonia (lbs) Total Annual				< 90.29								
TKN (mg/L) Average Monthly	0.8	0.7	0.73	0.66	< 0.67	< 0.63	0.86	< 0.89	< 6.62	0.71	0.93	< 0.72
TKN (lbs) Total Monthly	46.3	37.1	47.1	45.7	< 48.6	< 54.3	73.8	< 77.4	< 63.1	64.1	72.5	< 57.3
Total Phosphorus (lbs/day) Average Monthly	1.428	0.817	1.574	1.853	2.319	1.373	1.085	0.463	0.264	0.436	0.455	1.114
Total Phosphorus (mg/L) Average Monthly	0.74	0.478	0.783	0.803	0.98	0.505	0.39	0.166	0.10	0.148	0.18	0.435
Total Phosphorus (lbs) Effluent Net Total Monthly	42.84	25.33	48.79	55.59	71.89	41.19	33.64	14.35	7.39	13.52	13.65	34.53
Total Phosphorus (lbs) Total Monthly	42.84	25.33	48.79	55.59	71.89	41.19	33.64	14.35	7.39	13.52	13.65	34.53
Total Phosphorus (lbs) Effluent Net Total Annual				< 364.2								
Total Phosphorus (lbs) Total Annual				< 364.2								

Existing Effluent Limitations and Monitoring Requirements

The tables below summarize the effluent limits and monitoring requirements implemented in the existing NPDES permit.

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	Measured
Influent (BOD5 and TSS)	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TSS	145	218	XXX	30	45	60	1/week	8-Hr Composite
CBOD5	97	145	XXX	20	30	40	1/week	8-Hr Composite
Ammonia May 1 - Oct 31	9.7	XXX	XXX	2.0	XXX	4.0	1/week	8-Hr Composite
Ammonia Nov 1 - Apr 30	29	XXX	XXX	6.0	XXX	12	1/week	8-Hr Composite
Total Phosphorus	9.7	XXX	XXX	2.0	XXX	4.0	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	XXX	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	XXX	1/week	Grab

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum Monitoring Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia-N	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite
Kjeldahl-N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/week	8-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	8-Hr Composite
Net Total Nitrogen	Report	13,150	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	Report	1,643	XXX	XXX	XXX	1/month	Calculation

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .58
Latitude 39º 59' 43.5" **Longitude** 76º 1' 13.2"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The facility is regulated by standards found in 40 CFR § 133.102 and 25 Pa. Code § 92a.47(a). These standards are shown below:

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

Comments: The abovementioned technology-based limitations (TBELs) apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

$CBOD_5$, NH_3-N

Pursuant to 40 CFR § 122.44(d)(1)(i), more stringent requirements should be considered when pollutants are discharged at the levels which have the reasonable potential to cause or contribute to excursions above water quality standards.

WQM 7.0 ver. 1.0b is a water quality model designed to assist DEP in determining appropriate water quality based effluent limits (WQBELs) for carbonaceous biochemical oxygen demand ($CBOD_5$), NH_3-N and dissolved oxygen (D.O.). DEP's Technical Guidance No. 391-2000-007 provides the technical methods contained in WQM 7.0 for determining wasteload allocations and for determining recommended NPDES effluent limits for point source discharges. The model was utilized for this permit renewal. The model output indicated a $CBOD_5$ average monthly limit of 14 mg/l, an NH_3-N average monthly limit of 2.0 mg/l, and a D.O. minimum limit of 5.0 mg/l were protective of water quality.

The flow data used to run the model was acquired from USGS PA StreamStats, and is included in the attachment. Stream pH and temperature inputs for this model run were based on data acquired from the National Water Quality Monitoring Council website. Data was analyzed from the Water Quality Network (WQN) Station ID 284 from November 2012 to December 2017. DEP's Standard Operating Procedure (SOP) No. BPNPSM-PMT-033 (Establishing Effluent Limitations for Individual Sewage Permits) recommends using the 90th percentile of long-term data for background and discharge characteristics when using WQM 7.0. A 90th percentile analysis was performed on the data and resulted in a Stream pH of 8.3 and a Stream Temperature of 22.1°C. Using these values resulted in the more stringent $CBOD_5$ limit of 14 mg/l, which will be included in the permit. Mass loading limits for $CBOD_5$ were based off of these more stringent limits and included in the permit. Based on a review of past DMRs, the WWTP should be capable of meeting this effluent limit. The WQM modeling verified that the existing NH_3-N limit is protective of water quality, and will remain in the permit.

Toxics

Effluent sample results for toxic pollutants reported on the renewal application were entered into DEP's Toxics Screening Analysis worksheet and PENTOXSD to develop appropriate permit requirements for toxic pollutants of concern. A stream hardness value of 220 mg/l was used in modeling, taken from WQN Station ID 284 from November 2012 to December 2017. Based on effluent sample results reported on the application, Total Copper is a candidate for PENTOXSD modeling as this pollutant is discharged at a level that has the reasonable potential to cause excursions above the state water quality criteria. The resulting WQBEL from PENTOXSD for Total Copper was 17.523 µg/l. When the WQBEL produced from PENTOXSD was entered into the Toxics Screening Analysis, the worksheet recommended an effluent limit for Total Copper. This data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003) and DEP's SOP No. BPNPSM-PMT-033. PENTOXSD Model Results are attached to this fact sheet. The Toxics Screening Analysis uses the following logic:

a. Establish average monthly and instantaneous maximum (IMAX) limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Salisbury Township was contacted on March 12, 2019 to request additional Copper sampling data to verify whether a limit was necessary. Lab results for additional Total Copper sampling results were received on April 10, 2019. All of the testing resulted in non-detect results for Total Copper. Due to the additional sampling results, it is not believed that Total Copper is a pollutant of concern; therefore, a Total Copper limit will not be included in the permit.

Best Professional Judgement (BPJ) Limitations

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

Total Phosphorus
For Total Phosphorus (TP), the current NPDES permit requires the permittee to comply with average monthly and IMAX limits of 2.0 mg/L and 4.0 mg/L, respectively. These existing limits will remain unchanged in the permit to protect the local watershed. The most recent year of DMR data indicate an average phosphorus concentration of 0.47 mg/l, which is below the average monthly limit.

Additional Considerations

Chesapeake Bay Total Maximum Daily Load (TMDL)

DEP developed a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). This strategy can be located in the *Pennsylvania Chesapeake Watershed Implementation Plan* (WIP), dated January 11, 2011. Subsequently, an update to the WIP was published as the Phase 2 WIP. As part of the Phase 2 WIP, a *Phase 2 Watershed Implementation Plan Wastewater Supplement* (Phase 2 Supplement) was developed, providing an update on TMDL implementation for point sources and DEP's current implementation strategy for wastewater. The Phase 2 Supplement was most recently revised on September 6, 2017. Sewage discharges have been prioritized based on their design flow to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual Cap Loads based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. For Phase 4 and 5 facilities, Cap Loads are not currently being implemented for renewed or amended permits for facilities that do not increase design flow. For renewed or amended permits that do include an increase in design flow, Cap Loads will be based on the lesser of: existing TN and TP concentrations at current design average annual flow or 7,306 lbs/yr TN and 974 lbs/yr TP. A zero nutrient load for the Chesapeake Bay will be assigned for new sewage discharges from industrial and/or domestic sources. Point source growth may be addressed by the purchase of nutrient credits or by the use of offsets.

Salisbury Township Gap WWTP is a Phase 2 significant discharger. The facility's waste load allocation (WLA) is tracked under an individual WLA as a significant discharger in the Phase 2 Supplement. The following Cap Loads specified in the current Phase 2 Supplement will be included in the draft permit:

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0081574	2	Salisbury Township	2/24/2010	2/28/2015	10/1/2012	13,150	-	1,643	0.98	0.436

The previous fact sheet states that as an alternative to the WIP, some facilities were able to use their projected 2010 flow with a TN concentration of 8 mg/l and a TP concentration of 1.0 mg/l to develop Cap Loads. The Cap Loads for Gap WWTP were developed using the projected 2010 flow of 0.54 million gallons per day (MGD). The Cap Loads are unchanged from the previous renewal. DEP's SOP for New and Reissuance Sewage Individual NPDES Permit Applications recommends that Significant Chesapeake Bay sewage discharges should monitor for nutrients at a minimum of 1/week as 24-hour composites. The Phase 2 Supplement states that "the minimum monitoring frequency for TN species and TP in new or renewed NPDES permits for significant sewage dischargers will be 2/week." Therefore, the monitoring frequency for TN species and TP is being increased to 2/week, and the sample type will be changed to 24-hour composites. DEP no longer offers any tools to calculate monthly loads for Net TN and Net TP, and it is no longer needed since offsets and credits are applied annually. Therefore, this reporting requirement is no longer needed and will be removed from the permit.

Pequea Creek TMDL

A TMDL exists for Pequea Creek for phosphorus and sediment. The TMDL was completed and approved on April 9, 2001 and was revised in 2006. The TMDL established a permit limit for TP of 1,904 lbs/year for this facility. This TMDL requirement is met by the Chesapeake Bay Cap Load for TP of 1,643 lbs/year, which is an existing limit in the permit.

Total Dissolved Solids (TDS)

Total Dissolved Solids and its major constituents including Bromide, Chloride, and Sulfate have become statewide pollutants of concern and threats to DEP's mission to prevent violations of water quality standards. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

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

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

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

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

Based upon the sampling data provided in the application, the requirement to monitor these pollutants is not necessary for this facility.

Fecal Coliform

PA Code § 92a.47.(a)(4) requires a monthly average limit of 200/100 mL as a geometric mean and an instantaneous maximum limit not greater than 1,000/100 mL from May through September for fecal coliform. PA Code § 92a.47.(a)(5) requires a monthly average limit of 2,000/100 mL as a geometric mean and an instantaneous maximum limit not greater than 10,000/100 mL from October through April for fecal coliform. The instantaneous maximum fecal coliform limits have been included in the permit.

UV Monitoring

DEP's SOP No. BPNPSM-PMT-033 recommends at a minimum, routine monitoring of UV transmittance, dosage, or intensity when the facility is utilizing a UV disinfection system. The monitoring should occur at the same frequency as would be used for TRC. This recommendation was implemented as a part of the proper operation and maintenance requirement specified in Part B of the NPDES permit, requesting permittees to demonstrate the effectiveness of UV disinfection system. This approach has been assigned to other facilities equipped with similar technology. Accordingly, a parameter for UV Transmittance will be included in the permit.

Sampling Frequency & Sample Type

The monitoring requirements were established based on BPJ and/or Table 6-3 of DEP's Technical Guidance No. 362-0400-001.

Flow Monitoring

Flow monitoring is recommended by DEP's technical guidance and is also required by 25 PA Code §§ 92a.27 and 92a.61.

Influent BOD_5 and Total Suspended Solids (TSS) Monitoring

As a result of negotiation with US EPA, influent monitoring of TSS and BOD_5 are required for any publicly owned treatment works (POTWs); therefore, influent sampling of BOD_5 and TSS will remain in the permit.

Mass Loading Limitation

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

Anti-Degradation

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303(d) Listed Streams

The discharge is located on a stream segment that is designated on the 303(d) list as impaired. There is a recreational impairment due to pathogens from an unknown source. There is an aquatic life impairment due to siltation from habitat modification – other than hydromodification, nutrients from agriculture, organic enrichment / low D.O. from agriculture, habitat alterations from habitat modification – other than hydromodification, siltation from agriculture. The proposed effluent limits include limits for fecal coliform, TN, TP, and D.O.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

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

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	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
CBOD5	67	101	XXX	14	21	28	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	145	218	XXX	30	45	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Ammonia Nov 1 - Apr 30	29	XXX	XXX	6.0	XXX	12	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	9.7	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite
Total Phosphorus	9.7	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: None

Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia--N	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Kjeldahl--N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Nitrite-Nitrate as N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Net Total Nitrogen	XXX	13,150	XXX	XXX	XXX	1/month	Calculation
Net Total Phosphorus	XXX	1,643	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: Outfall 001

Other Comments: None

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis 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: