pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0084697**
Facility Type	**Municipal**	APS ID	**278319**
Major / Minor	**Minor**	Authorization ID	**1207409**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Wiconisco Township Dauphin County**	Facility Name	**Wiconisco Village STP**
Applicant Address	PO Box 370 305 Walnut Street	Facility Address	PO Box 370
	Wiconisco, PA 17097-0370		Wiconisco, PA 17097-0370
Applicant Contact	John Coles	Facility Contact	Douglas Klinger
Applicant Phone	(717) 453-7571	Facility Phone	(717) 453-7743
Client ID	83945	Site ID	246994
Ch 94 Load Status	Not Overloaded	Municipality	Wiconisco Township
Connection Status	No Limitations	County	Dauphin
Date Application Received	October 30, 2017	EPA Waived?	Yes
Date Application Accepted	November 21, 2017	If No, Reason	

Purpose of Application: Renewal of NPDES permit for discharge treated sewage

Summary of Review

1.0 General Discussion

This fact sheet supports the re-issuance of an existing NPDES permit for discharge of treated domestic wastewater from Wiconisco Village wastewater treatment plant located in Wiconisco Township, Dauphin County. Wiconisco Township Board of Supervisors owns and operates the wastewater treatment plant, which provides sanitary services to Wiconisco Township. The sewer collection system is not combined and there is no bypasses or overflows approved in the collection system. The treatment plant has a hydraulic design capacity of 0.125 MGD and an organic design capacity of 260 lbs/day- BOD5. The discharge goes to Bear Creek, a tributary to Wiconisco Creek, which is classified for Cold Water Fishes (CWF). The existing NPDES permit was issued on April 26, 2013 with an effective date of May 1, 2013 and expiration date of April 30, 2018. The applicant submitted an administratively complete NPDES renewal application to the Department on October 30, 2017 and is currently operating under the terms and conditions in the existing permit under administrative extension provisions pending Department action on the renewal application.

A topographic map showing the discharge location is presented in attachment A.

1.1 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

Approve	Deny	Signatures	Date
X		J. Pascal Kwedza, P.E. / Environmental Engineer	July 25, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Summary of Review

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.

1.2 Changes to the existing Permit

- Monitoring frequency of Total nitrogen, Nitrate-Nitrite -N, TKN and Total Phosphorus have been increased to Semi-annual to collect adequate data for the Chesapeake Bay Program
- Monthly monitoring of ammonia nitrogen has been added to collect data to evaluate treatment efficiency.
- Semi-annual monitoring of Total Aluminum, Total Iron and Total Manganese has been added due to AMD TMDL to monitor TMDL parameters.

1.3 Existing Permit Limits and Monitoring Requirements

DISCHARGE LIMITATIONS								MONITORING REQUIREMENTS	
	Mass Units lbs/day			Concentrations mg/l					
Discharge Parameter	Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily	Inst. Maximum	Monitoring Frequency	Sample Type
Flow (mgd)	Monitor & Report	XXX	Monitor & Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	XXX	From 6.0 to 9.0 inclusive				1/day	Grab
D.O.	XXX	XXX	XXX	Minimum of 5.0 mg/l at all times				1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	XXX	1.63	1/day	Grab
TSS	47	68	XXX	45	65	XXX	90	1/week	24-hour comp
$CBOD_5$	26	42	XXX	25	40	XXX	50	1/week	24-hour comp
Fecal Col. (5/1 to 9/30)	XXX	XXX	XXX	200	XXX	XXX	1000	1/week	Grab
Fecal Col. (10/1 to 4/30)	XXX	XXX	XXX	2,000	XXX	XXX	10,000	1/week	Grab
Total Nitrogen	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus	XXX	Report Total Annual	XXX	Report Annl Avg	XXX	XXX	XXX	1/year	24-Hr Composite

1.4 Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.125
Latitude	40º 34' 18.85"	Longitude	-76º 41' 49.69"
Quad Name	Lykens	Quad Code	1432
Wastewater Description:	Sewage Effluent		

Receiving Waters	Bear Creek (CWF)	Stream Code	17041
NHD Com ID	54972657	RMI	0.2
Drainage Area	4.69	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.19	Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	6-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake	Suez Water PA		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	50

Changes Since Last Permit Issuance: None

1.4.1 Water Supply Intake

The nearest downstream water supply intake is approximately 50 miles downstream for Suez Water PA on Susquehanna River in Susquehanna Township, Dauphin County. No impact is expected from this discharge on the intake.

2.0 Treatment Facility Summary

Treatment Facility Name: Wiconisco STP

WQM Permit No.	Issuance Date

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aerated Lagoon	Gas Chlorine	0.125

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.125	260	Not Overloaded		

Changes Since Last Permit Issuance:

Other Comments:

2.1 Treatment System

The treatment system consists of 2 influent pump stations (collection system), comminutor, distribution box, 2 aerated treatment lagoons, lagoon 1 with 3 aerators and 1 solar mixer and lagoon 2 has 3 aerators and 2 solar mixers, lagoons are divided into 2 sections primary and secondary. Effluent from the 2 lagoons are decanted to the chlorine contact tank. and gas chlorinated at beginning of the chlorine contact tank. Bioaugmentation (micronutrient and Bacteria) is added to the lagoons during the summer to enhance treatment. Influent and effluent flow meters measure flow. Sludge was removed from Lagoon #1 in September 2014 and sludge removal from Lagoon #2 has been scheduled.

3.0 Compliance History

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

Parameter	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18
Flow (MGD) Average Monthly	0.055	0.057	0.054	0.056	0.058	0.065	0.067	0.044	0.05	0.050	0.121	0.048
Flow (MGD) Daily Maximum	0.108	0.137	0.15	0.082	0.112	0.144	0.104	0.1	0.125	0.106	0.692	0.208
pH (S.U.) Minimum	7.06	7.32	7.44	7.42	7.37	7.34	7.27	7.19	7.13	7.0	6.95	6.82
pH (S.U.) Maximum	7.50	7.53	7.71	7.55	7.61	7.52	7.48	7.47	7.49	7.35	7.29	7.37
DO (mg/L) Minimum	6.53	6.85	10.36	10.29	10.44	9.35	8.11	6.08	6.02	5.08	5.30	5.09
TRC (mg/L) Average Monthly	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.5	0.5	0.5	0.40	0.2
TRC (mg/L) Instant Maximum	0.80	0.60	0.60	0.80	0.60	0.60	0.60	0.90	1.20	0.80	0.90	0.40
CBOD5 (lbs/day) Average Monthly	2	2	3	5	17	4	6	2	2	3	11	4
CBOD5 (lbs/day) Weekly Average	3	4	3	6	8	9	8	2	3	4	35	8
CBOD5 (mg/L) Average Monthly	6	6	8	11	14	12	12	6	5	5	7	10
CBOD5 (mg/L) Weekly Average	9	8	10	11	19	16	14	8	7	6	12	12
BOD5 (lbs/day) Raw Sewage Influent Aver. Monthly	51	52	44	62	57	60	59	66	67	44	58	34
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	63	62	57	71	70	70	82	93	124	50	109	53
BOD5 (mg/L) Raw Sewage Influent Aver. Monthly	179	189	154	182	164	191	192	292	249	142	115	137
TSS (lbs/day) Average Monthly	6	7	9	9	8	6	5	2	3	5	13	9
TSS (lbs/day) Raw Sewage Influent Aver. Monthly	26	34	26	38	30	37	23	31	42	24	37	28

TSS (lbs/day) Raw Sewage Influent Daily Maximum	28	68	39	50	53	73	32	62	76	31	69	43
TSS (lbs/day) Weekly Average	9	10	10	10	10	7	7	3	5	11	37	14
TSS (mg/L) Average Monthly	15	22	26	19	19	16	11	8	8	10	10	25
TSS (mg/L) Raw Sewage Influent Aver. Monthly	94	125	91	115	84	117	75	139	155	74	71	110
TSS (mg/L) Weekly Average	22	35	34	21	22	20	13	11	10	14	13	36
Fecal Coliform (CFU/100 ml) Geometric Mean	< 4	< 2	< 2	< 3	< 5	< 3	< 1	< 2	3	< 3	43	> 34
Fecal Coliform (CFU/100 ml) Instant Maximum	104	< 3	< 3	8	124	25	3	7	5	21	8100	> 20000
Total Nitrogen (mg/L) Annual Average									42.3			
Total Nitrogen (lbs) Total Annual									4376			
Total Phosphorus (mg/L) Annual Average									6.34			
Total Phosphorus (lbs) Total Annual									656			

3.2 Effluent Violations for Outfall 001, from: April 1, 2018 To: May 31, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/18	Avg Mo	54	mg/L	45	mg/L
TSS	04/30/18	Wkly Avg	72	mg/L	65	mg/L
Fecal Coliform	06/30/18	IMAX	> 20000	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	07/31/18	IMAX	8100	CFU/100 ml	1000	CFU/100 ml

Four effluent violations were noted on DMR during the past 15 months of operations as shown on the table above. TSS and Fecal Coliform violation occurred during the period, no reasons were given for these violations. The facility's compliance record is satisfactory.

3.3 Summary of Inspections:

The facility has been inspected 6 times during the past permit cycle. No violations noted during plant inspections.

4.0 Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .125
Latitude 40º 34' 17.54" **Longitude** -76º 41' 55.69"
Wastewater Description: Sewage Effluent

4.1 Basis for Effluent Limitations

In general, the Clean Water Act(AWA) requires that the effluent limits for a particular pollutant be the more stringent of either technology-based limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards applicable to a waterbody are being met and may be more stringent than technology-based effluent limits.

4.1.1 Technology-Based Limitations

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

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

Comments: TSS limits on the table are not applicable to this permit. See report under TSS for details

4.2 Mass-Based Limits

The federal regulation at 40 CFR 122.45(f) requires that effluent limits be expressed in terms of mass, if possible. The regulation at 40 CFR 122.45(b) requires that effluent limitations for POTWs be calculated based on the design flow of the facility. The mass based limits are expressed in pounds per day and are calculated as follows:

Mass based limit (lb/day) = concentration limit (mg/L) × design flow (mgd) × 8.34

4.3 Water Quality-Based Limitations

4.3.1 Receiving Stream

The receiving stream is the Bear Creek. It has been assigned stream code 17041. According to the Department's Integrated Water Quality Monitoring and Assessment Report, this stream is impaired for aquatic life due to pH, siltation and metals from abandoned Acid Mine Drainage (AMD). Bear Creek is affected by AMD and has no apparent aquatic community in the area of the discharge. The creek does not recover, and the point of first aquatic use is at the confluence with Wiconisco Creek. A TMDL for the effects of AMD was completed and approved for Bear Creek watershed on April 9, 2001 and is discussed further in this report under the 303d listed stream section. Since Bear Creek is listed as an AMD impacted stream, the effluent limits in this renewal were evaluated based upon PA Code 25 Chapter 95.5 "Treatment requirements for discharges to waters affected by acid mine drainage"

4.3.2 Streamflow:

Streamflows for the water quality analysis were determined by correlating with the yield of USGS gauging station No. 0155500 on Mahantango. The Q_{7-10} and drainage area at the gage are 6.38ft^3/s and 164 mi^2 respectively. The resulting yields are as follows:

Q_{7-10} = 6.38 cfs /164 sq. mi = 0.04cfs/sq.mi
Q_{30-10} /Q_{7-10} = 1.47
Q_{1-10} /Q_{7-10} = 0.74

The drainage area at the point of discharge taken from previous protection report = 4.69 sq. mi.
The design flow is calculated as: Q_{7-10} = 0.04cfs x 4.69 sq. mi = 0.19cfs

4.3.3 NH_3N Calculations

NH_3N calculations will be based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the instream NH_3N criteria used in the attached computer model of the stream:

- STP pH = 7.0 (DMR median July – Sept.)
- STP Temperature = 25 ^{o} C (default)
- Stream pH = 7.0 (Default)
- Stream Temperature = 20 ^{o}C (Default)
- Background NH_3-N = 0.0 (default)

4.3.4 $CBOD_5$ & NH_3-N

Bear Creek is affected by AMD. PA Code 25 Chapter 95.5 states that only secondary treatment is required until the AMD problem is rectified. Therefore, for the Wiconisco Township's discharge with an annual average flow of 0.125 MGD, a monthly average limit of 25 mg/l is adequate to protect the water quality of the stream. A monthly monitoring of ammonia nitrogen will be required in the permit to collect data. This limit is consistent with the existing secondary treatment requirement in the permit. DMRs and inspection reports show that the STP has been complying with the limit. Therefore, a limit of 25mg/l monthly average with 40mg/l weekly average and 50 mg/l instantaneous maximum for CBOD5 and monitoring of ammonia nitrogen will be applied for this current permit cycle.

4.3.5 Dissolved Oxygen

The existing permit contains a limit of 5 mg/l for Dissolved Oxygen (DO). DEP's Technical Guidance for the Development and Specification of Effluent Limitations (362-0400-001, 10/97) suggests that either the adopted minimum stream D.O. criteria for the receiving stream or the effluent level determined through water quality modeling be used for the limit. No modelling was done for this discharge. The existing minimum D.O of 5mg/l will remain in the permit.

4.3.6 Total Suspended Solids (TSS)

In 1996, the facility was granted equivalent to secondary treatment limits for TSS as allowed under 40 CFR 133.105 and this limit has been retained in subsequent permit renewals. *Certain* facilities are eligible for treatment equivalent to secondary treatment standards if they meet eligibility criteria below:

(1) The BOD5 and SS effluent concentrations consistently achievable through proper operation and maintenance (§ 133.101(f)) of the treatment works exceed the minimum level of the effluent quality set forth in §§ 133.102(a) and 133.102(b),

(2) A trickling filter or waste stabilization pond is used as the principal process, and

(3**)** The treatment works provide significant biological treatment of municipal wastewater.

The facility utilizes waste stabilization pond for treatment of municipal wastewater and is unable to meet secondary treatment standards for TSS consistently with proper operation and maintenance of the facility. A review of the 15-month DMR data show violations of the equivalent standards on few occasions. The facility is implementing a bioaugmentation program to enhanced settling and control algae. The facility is unable to meet secondary treatment standards for TSS and there is no apparent water quality impact from the discharge of the equivalent to secondary standard limits. Therefore, it is recommended to continue the equivalent to secondary limits in the existing permit (45 mg/l AML, 65mg/l AWL and 90mg/l IMAX) for the current renewal. The facility is meeting secondary treatment standard for CBOD5 in the permit. (25mg/l AML, 40 mg/l AWL and 50mg/l IMAX)

4.3.7 Total Residual Chlorine (TRC)

The Department's 2003 Implementation Guidance for Residual Chlorine (TRC) (ID # 391-2000-015) are used for developing chlorine limitations. The Guidance references Chapter 92a, Section 92a.48 (b) which establishes a standard BAT limit of 0.5 mg/l unless a facility-specific BAT has been developed. Due to the AMD impact to the stream, a technology limit of 0.5 mg/l and 1.63 mg/l IMAX would be required in the permit. The recommended limit is consistent with existing permit and the facility is meeting this limit consistently. Therefore, 0.5 mg/l on an average and 1.63 mg/l maximum is again recommended for the current permit renewal.

4.3.8 Chesapeake Bay Strategy:

The Department formulated a strategy in April 2007, to comply with the EPA and Chesapeake Bay Foundation requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5(below 0.2mdg) will be required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001). Any facility in Phases 4 and 5 that undergoes expansion is subjected to cap load right away.

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011 and Phase 2 in March 2012. In accordance with the Phase 2 WIP and its supplement, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal. This facility is classified as a phase 5 and is monitoring Total Phosphorus, Nitrate-Nitrite as N, Total Kjeldahl Nitrogen and Total Nitrogen annually but will be required to monitor them semiannually throughout the next permit cycle to collect adequate data.

4.3.9 Toxics

Due to AMD impact to the stream, a reasonable potential (RP) analysis was not done for pollutants submitted with the application. The metals addressed by the AMD TMDL will be monitored in the permit. See 303d listed stream section of this report for details.

4.3.10 TDS, Chloride, Sulfate, Bromide, and 1,4-dioxane

Under the authority of §92a.61, DEP has determined it should implement increased monitoring in NPDES permits for TDS, sulfate, chloride, bromide, and 1,4-dioxane. The following approach will be implemented for point source discharges upon issuance or reissuance of an individual NPDES permit:

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

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

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

The maximum daily TDS discharge submitted with the application is 374 mg/L which is equivalent to 390 lbs/day based on the permitted flow of 0.125 MGD. The discharge level for TDS is below the minimum 1000 mg/l and 20,000lbs/day, to require monitoring, therefore no monitoring of TDS, Chloride, Sulfate, and Bromide will be required in the permit. There is no data for 1,4-dioxane, therefore no monitoring is required for 1,4-dioxane

4.3.11 Influent BOD and TSS Monitoring

The permit will include influent BOD5 and TSS monitoring at the same frequency as is done for effluent in order to implement Chapter 94.12 and assess percent removal requirements, per DEP policy.

4.3.12 Industrial Users

This Wastewater Treatment Plant does not receive wastewater from any significant industrial users.

4.3.13 Pretreatment Requirements

The design annual average flow of the treatment plant is .125MGD and the facility receives no flow from significant Industrial users. EPA does not require development of pretreatment program for facilities with design flow less than 5MGD. However, the permit contains standard conditions requiring the permittee to monitor and control industrial users if applicable.

5.0 Other Requirements

5.1 Anti-backsliding

Not applicable to this permit

5.2 Stormwater:

No storm water outfall is associated with this facility

5.3 Special Permit Conditions

The permit will contain the following special conditions:

1. Stormwater Prohibition. 2. Approval Contingencies, 3. Management of collected screenings, slurries, sludges and other solids 4. Restrictions on flow acceptance under certain conditions. 5. Chlorine minimization

5.4 Anti-Degradation (93.4)

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.

5.5 Class A Wild Trout Fisheries

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

5.6 303d Listed Streams

The discharge is located on a 303d listed stream segment as impacted by Acid Mine Drainage (AMD). A TMDL was developed and approved for Bear Creek Watershed which set allowable loadings for iron, manganese, aluminum and acidity in Bear Creek watershed. The TMDL does not allocate wasteload to point sources, only non-point sources were addressed. AMD type of impairment can only be mitigated under a mine drainage program therefore, no sewage treatment plants were included in the TMDL. This discharge does not appear to contribute to the impairment, but there is no data for verification. Therefore, semi-annual monitoring of Total Aluminum, Total Iron and Total Manganese will be required during the permit cycle to collect data.

5.8 Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs).

5.9 Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples can be used for averaging if they are conducted using EPA-approved test methods (generally found in 40 CFR 136) and if the Method Detection Limits are less than the effluent limits. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

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: Phase 1 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 Daily Min	XXX	9.0 Daily Max	XXX	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.63	1/day	Grab
CBOD5	26	42	XXX	25	40	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	47	68	XXX	45	65	90	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	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-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Nitrate-Nitrite	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/6 months	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/6 months	Calculation
TKN	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/6 months	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/6 months	24-Hr Composite

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 Aluminum	Report Daily Max	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	24-Hr Composite
Total Iron	Report Daily Max	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	24-Hr Composite
Total Manganese	Report Daily Max	XXX	XXX	Report Daily Max	XXX	XXX	1/6 months	24-Hr Composite

Compliance Sampling Location: Outfall 001

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:

Attachments

A. Topographical Map