pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0247464**
Facility Type	**Municipal**	APS ID	**800645**
Major / Minor	**Minor**	Authorization ID	**1331049**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**E Hanover Township Municipal Authority**	Facility Name	**East Hanover Township Dairy Ln STP**
Applicant Address	8848 Jonestown Road	Facility Address	8848 Jonestown Road
	Grantville, PA 17028-8650		Grantville, PA 17028-8650
Applicant Contact	Paul Cornell	Facility Contact	Curtis Cassel
Applicant Phone	(717) 469-0833	Facility Phone	(717) 469-2179
Client ID	301037	Site ID	630750
Ch 94 Load Status	Not Overloaded	Municipality	East Hanover Township
Connection Status	No Limitations	County	Dauphin
Date Application Received	October 16, 2020	EPA Waived?	Yes
Date Application Accepted	December 1, 2020	If No, Reason	

Purpose of Application .NPDES permit renewal to discharge treated sewage

Summary of Review

1.0 General Discussion

This factsheet supports the re-issuance of an existing NPDES permit for discharge of treated sewage from a municipal wastewater treatment plant that serves East Hanover Township. East Hanover Township Municipal Authority owns, operates, and maintains the wastewater treatment plant. The facility is located in East Hanover Township, Lebanon County. There are no combined sewers in the collection system. The facility has a design annual average flow of 0.25 MGD, hydraulic design of capacity of 0.40MGD and an organic design capacity of 794lbs/day. The facility discharges to Bow Creek which is classified for warm water fishes and migratory fishes. The existing NPDES permit was issued on June 20, 2016 with an expiration date of June 30, 2021. The applicant submitted a timely NPDES renewal application to the Department 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 Sludge use and disposal description and location(s):

Liquid digested sludge is hauled out periodically by license hauler to the Derry Township wastewater plant for further treatment and disposal.

1.2 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*,

Approve	Deny	Signatures	Date
X		*J. Pascal Kwedza* J. Pascal Kwedza, P.E. / Environmental Engineer	December 13, 2021
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	December 14, 2021
X		*Maria D. Bebenek* Maria D. Bebenek, P.E. / Program Manager	December 14, 2021

Summary of Review

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.

1.3.0 Changes to the existing permit

- Quarterly monitoring of E. Coli has been added
- Monthly monitoring of Total Copper and Total Zinc has been added.
- Winter limit for ammonia-nitrogen has been revised.

1.3.1 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
TSS	63	94	XXX	30	45	XXX	60	1/week	24-hour comp
$CBOD_5$	52	83	XXX	25	40	XXX	50	1/week	24-hour comp
NH_3-N (5/1 to 10/31)	9	XXX	XXX	4.5	XXX	XXX	9	1/week	24-hour comp
NH_3-N (11/1 to 4/30)	27	XXX	XXX	14	XXX	XXX	28	1/week	24-hour comp
Total Phos.	4	XXX	XXX	2.0	XXX	XXX	4.0	1/week	24-hour comp
Fecal Col. (5/1 to 9/30)	XXX	XXX	XXX	200	XXX	1000	XXX	1/week	Grab
Fecal Col. (10/1 to 4/30)	XXX	XXX	XXX	2000	XXX	10000	XXX	1/week	Grab
UV Intensity (mW/cm^2)	XXX	XXX	XXX	Report Daily Min	XXX	XXX	XXX	1/day	Recorded

Discharge Parameter	**Effluent Limitations**					**Monitoring Requirements**	
	Mass Load(lbs)		**Concentrations (mg/l)**			**Minimum Measurement Frequency**	**Required Sample Type**
	Monthly	**Annual**	**Minimum**	**Monthly Average**	**Maximum**		
Ammonia---N	Report	Report	XXX	Report	XXX	1/week	24-hr Comp
Kjeldahl---N	Report	XXX	XXX	Report	XXX	1/Week	24-hr Comp
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	1/Week	24-hr Comp
Total Nitrogen	Report	Report	XXX	Report	XXX	1/Month	Calculate
Total Phosphorus	Report	Report	XXX	Report	XXX	1/week	24-hr Comp

1.4.0 Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.25
Latitude	40º 20' 50.70"	Longitude	-76º 38' 40.09"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		

Receiving Waters	Bow Creek (WWF)	Stream Code	09635
NHD Com ID	56398673	RMI	2.3
Drainage Area	6.9	Yield (cfs/mi^2)	0.11
Q_{7-10} Flow (cfs)	0.76	Q_{7-10} Basis	USGS Gage Station
Elevation (ft)		Slope (ft/ft)	
Watershed No.	7-D	Chapter 93 Class.	WWF, MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired for Aquatic life and Recreational uses		
Cause(s) of Impairment	Siltation and Pathogens		
Source(s) of Impairment	Agriculture and Habitat modification, and Unknown,		
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake	PA American Water		
PWS Waters	Swatara creek	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	>4

Changes Since Last Permit Issuance: None

1.4.1 Water Supply Intake

The nearest water supply intake is about 4 miles downstream at South Hanover Township, Dauphin County on the Swatara Creek by PA American Water Co. No impact is expected from this discharge

2.0 Treatment Facility Summary

Treatment Facility Name: East Hanover Township Dairy Ln STP

WQM Permit No.	Issuance Date
2204406 T-1	July 24, 20213

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia And Phosphorus	Sequencing Batch Reactor	Ultraviolet	0.25

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.4	794	Not Overloaded	Aerobic Digestion	Combination of methods

Changes Since Last Permit Issuance: None

2.1 Treatment Facility Description

The plant consists of a comminutor, auger screen with bar screen by-pass, two SBR units, two aerobic digesters, a post equalization tank, two inline UV disinfection units and cascade for post aeration. Influent is pumped to the SBR units and effluent is pumped to the cascade via UV units. Aluminum sulfate is added to the SBR tanks for phosphorus removal

3.0 Compliance History

3.1 DMR Data for Outfall 001 (from November 1, 2020 to October 31, 2021)

Parameter	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20
Flow (MGD) Average Monthly	0.174	0.259	0.208	0.208	0.167	0.179	0.182	0.217	0.189	0.175	0.191	0.157
Flow (MGD) Daily Maximum	0.288	0.799	0.307	0.375	0.189	0.308	0.285	0.445	0.358	0.275	0.474	0.211
pH (S.U.) Minimum	7.0	7.0	7.0	7.0	7.1	7.0	6.9	6.8	6.9	7.0	6.9	7.0
pH (S.U.) Maximum	7.5	7.4	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.1	7.1
DO (mg/L) Minimum	8.6	8.3	7.9	7.5	8.4	8.8	9.5	10.3	10.9	10.6	9.8	9.1
CBOD5 (lbs/day) Average Monthly	6.3	8.9	8.2	7.7	5.8	6.7	7.8	9.1	4.3	4.0	4.1	3.7
CBOD5 (lbs/day) Weekly Average	8.2	27.3	12.6	10.0	7.3	11.5	8.9	12.1	6.1	4.7	4.9	4.2
CBOD5 (mg/L) Average Monthly	5.0	3.1	4.8	5.0	4.4	4.4	5.7	5.5	2.9	3.0	3.0	3.0
CBOD5 (mg/L) Weekly Average	6.4	4.1	7.2	6.9	5.9	6.0	6.4	7.8	3.0	3.0	3.0	3.0
BOD5 (lbs/day) Raw Sewage Influent Ave. Monthly	302	599	382	374	346	421	375	376	348	281	270	324
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	371	1566	513	510	439	6.9	401	434	561	294	299	435
BOD5 (mg/L) Raw Sewage Influent Ave. Monthly	233	232	223	235	265	305	278	233	241	212	198	263
TSS (lbs/day) Average Monthly	7.4	14.8	21.7	14.0	6.5	7.5	9.2	7.6	5.3	10.0	5.5	6.6
TSS (lbs/day) Raw Sewage Influent Ave. Monthly	418	890	480	445	481	453	429	369	468	333	320	352
TSS (lbs/day) Raw Sewage Influent Daily Maximum	514	2879	611	479	582	643	472	430	711	380	411	455
TSS (lbs/day) Weekly Average	11.2	46.6	27.8	23.1	10.7	14.9	16.2	12.1	10.2	11.3	9.8	13.3
TSS (mg/L) Average Monthly	5.8	4.8	12.3	9.0	5.0	4.8	6.5	4.8	3.3	7.5	3.8	5.5

TSS (mg/L) Raw Sewage Influent Ave. Monthly	326	291	280	286	366	327	320	225	317	252	235	286
TSS (mg/L) Weekly Average	8.0	8.0	15.0	16.0	8.0	7.0	10.0	9.0	5.0	9.0	6.0	11.0
Fecal Coliform (CFU/100 ml) Geometric Mean	18	4	64	173	10	15	15	14	11	2	3	2
Fecal Coliform (CFU/100 ml) Instant. Maximum	49	11	2420	2420	58	41	72	23	55	11	14	8
UV Intensity (mW/cm²) Minimum	71	82	73	84	74	90	74	93	76	79	78	83
Nitrate-Nitrite (mg/L) Average Monthly	4.50	5.40	10.80	9.29	4.56	4.25	4.33	3.22	3.03	2.83	4.08	3.94
Nitrate-Nitrite (lbs) Total Monthly	179.18	443.63	575.62	447.14	180.19	196.56	177.78	166.99	127.17	116.87	171.28	145.39
Total Nitrogen (mg/L) Average Monthly	5.83	6.49	12.60	10.21	5.55	5.35	5.85	3.92	4.85	3.63	4.98	4.89
Total Nitrogen (lbs) Total Monthly	231.94	530.39	672.44	490.81	219.21	251.39	239.86	204.08	197.62	150.17	209.89	180.58
Total Nitrogen (lbs) Total Annual		3546.78										
Ammonia (lbs/day) Average Monthly	0.1	0.3	0.2	0.2	0.1	0.1	0.1	0.3	0.9	0.1	0.1	0.1
Ammonia (mg/L) Average Monthly	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.1	0.1	0.1
Ammonia (lbs) Total Monthly	3.98	7.71	5.36	4.90	3.94	4.65	4.11	8.19	24.95	4.14	4.26	3.70
Ammonia (lbs) Total Annual		79.52										
TKN (mg/L) Average Monthly	1.33	1.09	1.80	0.92	0.99	1.10	1.53	0.70	1.82	0.80	0.90	0.96
TKN (lbs) Total Monthly	52.76	86.76	96.82	43.66	39.02	54.83	62.08	37.10	70.45	33.30	38.61	35.20
Total Phosphorus (lbs/day) Ave. Monthly	2.0	2.5	2.6	2.2	2.3	1.8	1.3	1.3	0.7	0.9	1.2	1.3
Total Phosphorus (mg/L) Ave. Monthly	1.6	1.0	1.5	1.4	1.7	1.2	1.0	0.8	0.5	0.7	0.9	1.1
Total Phosphorus (lbs) Total Monthly	63.36	75.20	81.09	68.36	68.63	56.72	39.95	40.06	19.93	28.94	36.33	39.48
Total Phosphorus (lbs) Total Annual		604.09										

3.2 Effluent Violations for Outfall 001, from: December 1, 2020 To: October 31, 2021

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	07/31/21	IMAX	2420	CFU/100 ml	1000	CFU/100 ml
Fecal Coliform	08/31/21	IMAX	2420	CFU/100 ml	1000	CFU/100 ml

3.3 Summary of Discharge Monitoring Reports (DMRs)**:**

DMRs review for the facility for the last 12 months of operation, presented on the table above in section 3.1 indicate permit limits have been met most of the time. Two Fecal Coliform effluent violations were noted on DMRs during the period reviewed and presented in section 3.2 above. The violations appear to be operation related.

3.4 Summary of Inspections:

The facility has been inspected a couple times during last permit cycle. No effluent violations identified during plant inspections. The facility has been operated and maintained well.

4.0 Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .25
Latitude 40º 20' 51.00" **Longitude** -76º 38' 40.00"
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.

4.2 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: TRC limitation not applicable.

4.3 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

4.4 Water Quality-Based Limitations

4.4.1 Receiving Stream

The receiving stream is Bow Creek. According to 25 PA § 93.9o, this stream is protected for Warm Water Fishes (WWF) and Migratory Fishes (MF). It is located in Drainage List O and State Watershed 7-D. It has been assigned stream code 09361.

4.4.2 Stream flows

The Technical Support Document for Water Quality-Based Toxics Control (TSD) (EPA, 1991) and the Pennsylvania Water Quality Standards PA WQS) recommend the flow conditions for use in calculating water quality-based effluent limits (WQBELs) using steady-state modeling. The TSD and the PA WQS state that WQBELs intended to protect aquatic life uses should be based on the lowest seven-day average flow rate expected to occur once every ten years ($Q_{7\text{-}10}$) for chronic criteria and the lowest one-day average flow rate expected to occur once every ten years ($Q_{1\text{-}10}$) for acute criteria. However,

because the chronic criterion for ammonia is a 30-day average concentration not to be exceeded more than once every three years, EPA has used the Q_{30-10} for the chronic ammonia criterion instead of the Q_{7-10}. The Q_{30-10} is a biologically-based design flow intended to ensure an excursion frequency of once every three years for a 30-day average flow rate. These flows were determined by correlating with the yield of nearby USGS gauging station No 01573500 on Manada Creek. The drainage area of the gage is 14.2 sq.mi. The yield at the gage are :

- Q_{7-10} =(1.51)/(14.2) = 0.11 cfs/sq.mi.
- Q_{30-10} / Q_{7-10} = 1.23
- Q_{1-10} / Q_{7-10} = 0.89

The drainage area at the proposed discharge point was found from streamstats calculation to be 6.9sq.mi. The design streamflow (Q_{7-10}) at the discharge is calculated as:

Q_{7-10}=(0.11)(6.9) = 0.76cfs

4.4.3 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 = 7.2 (DMR average)
- STP Temperature = 25 ^{o} C (default)
- Stream pH = 7.2 (Previous protection report)
- Stream Temperature = 22 ^{o} C (Previous protection report)
- Background NH_3-N = 0.0 (default)

4.4.4 $CBOD_5$

The attached results of the WQM 7.0 stream model presented in attachment B indicates that for the East Hanover Township STP discharge, a monthly average limit of 25 mg/l CBOD5 is required to protect the water quality of the stream. This is consistent with the existing permit and facility is meeting the limit. Therefore, an average monthly limit (AML) of 25 mg/l, average weekly limit (AWL) of 40mg/l and IMAX of 50mg/l will remain in the permit. Mass limits are calculated using the equation presented in section 4.3.

4.4.5 NH_3-N

The attached results of the WQM 7.0 stream model (attachment B) also indicates a summer monthly average limit of 4.88 mg/l of NH3-N is necessary to protect the aquatic life from toxicity effects. However, the existing summer average monthly limit of 4.5 mg/l and a corrected winter limit of 13.5 mg/l will remain in the permit due to anti-backsliding restrictions. Mass limits are calculated using the equation presented in section 4.3.

4.4.6 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. Since the WQM 7.0 model was run using a minimum D.O. of 5.0 mg/l, this limit will be continued in the renewed permit with a daily monitoring requirement.

4.4.7 Phosphorus

The average monthly limit of 2mg/l phosphorus in the existing permit was based on the requirement to control phosphorus loading to Lower Susquehanna River Basin. That requirement has been superseded by the development of Chesapeake Bay TMDL in 2010, however due to anti-backsliding restrictions the limit will remain in the permit.

4.4.8 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 received 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) are required to monitor and report TN and TP during permit renewal and any facility in Phases 4 and 5 that undergoes expansion is subjected to cap load right away. EPA published Chesapeake Bay TMDL in December of 2010. In order to address the TMDL, Pennsylvania developed Chesapeake Watershed Implementation Plan (WIP) Phase 1, Phase 2 and currently Phase 3 WIP and a supplement to the WIPs to be implemented with the original Chesapeake Bay Strategy.

As outlined in the current Phase 3 WIP and the current supplement to the WIP, re-issuing permits for significant dischargers would 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 renewals. This facility is classified as a phase 4, and has been monitoring Nitrate-Nitrite as N, Total Kjeldahl Nitrogen and Total Nitrogen, and will continue to monitor them during this permit cycle, but at a reduced monitoring frequency of 1/month. The previous permit required 1/week monitoring that produced enough data for Total Nitrogen, Nitrate-Nitrite as N, and Total Kjeldahl Nitrogen to support a reduced monitoring frequency. Monitoring of Total Phosphorus is unnecessary since there is limitation on Total Phosphorus in the permit.

4.4.9 Total Residual Chlorine

The discharge does not have the reasonable potential to cause or contribute to a water quality standards violation for total residual chlorine since the permittee does not add chlorine to the wastewater for disinfection. Therefore, the proposed permit does not contain effluent limits for total residual chlorine. Daily UV intensity monitoring and reporting will be required in the permit as a routine check for UV efficiency.

4.4.10 Toxics

A reasonable potential (RP) analysis was done for pollutants sampled in support of the permit renewal application. All pollutants that were presented in the application sampling data were entered into DEP's Toxics Management Spreadsheet (TMS) to calculate WQBELs. The results of the TMS are presented in attachment C. Monitoring of Total Copper and Total Zinc is recommended. Monthly monitoring of Total Copper and Total Zinc is required in the permit to collect additional data for analysis at the next permit renewal.

The recommended limitations follow the logic presented in DEPs SOP, to establish limits in the permit where the maximum reported concentration exceeds 50% of the WQBEL, or for non-conservative pollutants to establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL, or to establish monitoring requirements for conservative pollutants where the maximum reported concentration is between 10% - 50% of the WQBEL.

4.4.11 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.

4.6.12 Stormwater

There is no stormwater outfall associated with this facility.

4.6.13 Industrial Users

The wastewater treatment plant does not receive wastewater from any significant industrial users.

4.6.14 Biosolids Management

Sludge is wasted to aerobic digesters for digestion.

4.6.15 Pretreatment Requirements

The design annual average flow of the treatment plant is 0.25 MGD 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.

4.4.16 Fecal Coliform and E. Coli

The existing Fecal Coliform limit is consistent with the technology limits recommended in 92a.47(a)(4) and (a)(5) and will remain in the permit. Quarterly monitoring of E. Coli is required in the permit following DEP recommendation of 1/quarter monitoring of E. Coli at a minimum for this type of facility.

5.0 Other Requirements

5.1 Anti-backsliding

Not applicable to this permit

5.2 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.

5.3 Class A Wild Trout Fisheries

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

5.4 303d Listed Streams

The discharge is located on a 303d listed stream segment as impaired for Aquatic life and Recreational uses caused by siltation and pathogens due to agricultural activities and habitat modifications. This facility does not appear to be contributing to the impairment, therefore. no further action is warranted at this time.

5.5 Special Permit Conditions

The permit contains the following special conditions:

- Stormwater Prohibition, Approval Contingencies, Solids Management, Restriction on receipt of hauled in waste under certain conditions, and chlorine minimization.

5.6 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).

5.7 Effluent Monitoring Frequency

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.

6.0 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	Daily 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
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	52	83	XXX	25.0	40.0	50	1/week	24-Hr Composite
Biochemical Oxygen Demand (BOD5) Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	63	94	XXX	30.0	45.0	60	1/week	24-Hr Composite
Total Suspended Solids 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	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ultraviolet light intensity (mW/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Nitrate-Nitrite as N	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	24-Hr Composite
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	Calculation
Ammonia-Nitrogen Nov 1 - Apr 30	28	XXX	XXX	13.5	XXX	27	1/week	24-Hr Composite

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

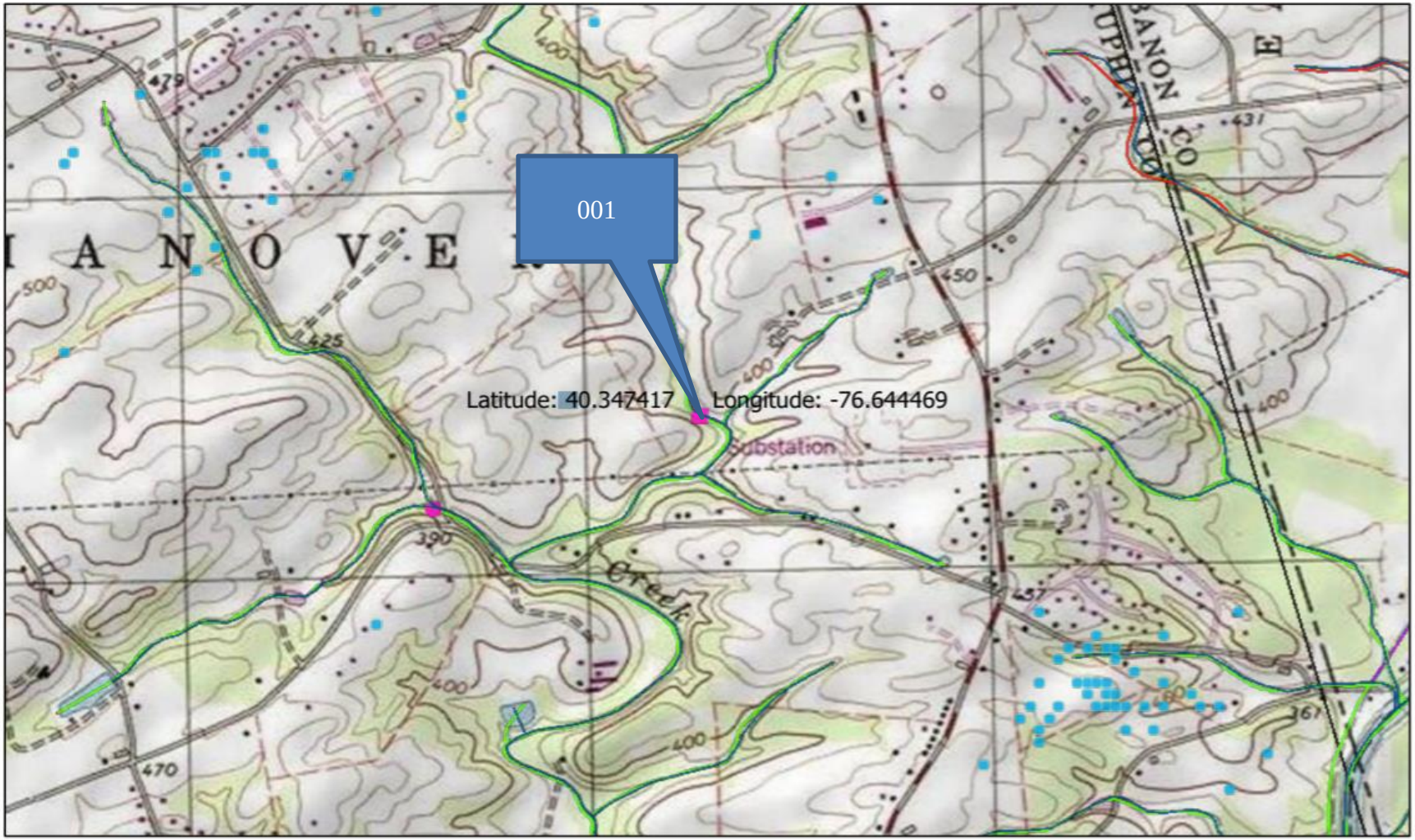
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	9	XXX	XXX	4.5	XXX	9	1/week	24-Hr Composite
Total Kjeldahl Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/month	24-Hr Composite
Total Phosphorus	4	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Copper	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Total Copper	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite

Compliance Sampling Location: Outfall 001

7.0 Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **B**)
☒	Toxics Management Spreadsheet (see Attachment **C**)
☐	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: Establishing effluent limitation for individual sewage permit
☐	Other:

8. Attachments

A. Topographical Map



B. WQM Model Results

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07D	9635	BOW CREEK

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)
2.300	East Hanover Tw	PA0247464	0.250	CBOD5	25		
				NH3-N	4.88	9.76	
				Dissolved Oxygen			5

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Permit No. PA0247464

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
07D	9635	BOW CREEK	2.300	370.00	6.90	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	0.110	0.00	0.00	0.000	0.000	0.0	0.00	0.00	22.00	7.20	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
East Hanover Tw	PA0247464	0.2500	0.2500	0.2500	0.000	25.00	7.20

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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Permit No. PA0247464

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
07D	9635	BOW CREEK	**0.001**	330.00	6.91	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	0.110	0.00	0.00	0.000	0.000	0.0	0.00	0.00	22.00	7.20	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. PA0247464

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07D	9635	BOW CREEK

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
2.300	East Hanover Tw	10.62	29.16	10.62	29.16	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
2.300	East Hanover Tw	1.43	4.88	1.43	4.88	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)		
2.30	East Hanover Tw	25	25	4.88	4.88	5	5	0	0

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WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
07D	9635	BOWCREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.300	0.250	23.013	7.200
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
15.311	0.523	29.297	0.143
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
9.76	1.083	1.65	0.883
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.148	4.816	Tsivoglou	5
Reach Travel Time (days)			
0.981			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.098	8.64	1.51	5.89
0.196	7.65	1.39	5.30
0.294	6.77	1.27	5.11
0.392	5.99	1.16	5.14
0.491	5.30	1.07	5.30
0.589	4.70	0.98	5.52
0.687	4.16	0.90	5.77
0.785	3.68	0.82	6.02
0.883	3.26	0.76	6.27
0.981	2.88	0.69	6.50

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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	0.89	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.23	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

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Permit No. PA0247464

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07D	9635	BOW CREEK

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												
2.300	0.76	0.00	0.76	.3868	0.00330	.523	15.31	29.3	0.14	0.981	23.01	7.20
Q1-10 Flow												
2.300	0.68	0.00	0.68	.3868	0.00330	NA	NA	NA	0.14	1.024	23.09	7.20
Q30-10 Flow												
2.300	0.93	0.00	0.93	.3868	0.00330	NA	NA	NA	0.16	0.906	22.88	7.20

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Permit No. PA0247464

C. Toxics Management Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **East Hanover Township MA** NPDES Permit No.: **PA0247464** Outfall No.: **001**

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

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.25	150	7.2						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L		660									
	Chloride (PWS)	mg/L		200									
	Bromide	mg/L		0.2									
	Sulfate (PWS)	mg/L		55									
	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		15									
	Free Cyanide	µg/L	<	0.32									
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L											
	Total Iron	µg/L											
	Total Lead	µg/L											
	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		45									
	Total Molybdenum	µg/L											
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										

Permit No. PA0247464

Stream / Surface Water Information

East Hanover Township MA, NPDES Permit No. PA0247464, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Bow Creek

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	009635	2.3	370	6.9			Yes
End of Reach 1	009635	0.001	330	6.91			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	2.3	0.11										100	7.2		
End of Reach 1	0.001	0.11													

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	2.3														
End of Reach 1	0.001														

Permit No. PA0247464

Model Results

East Hanover Township MA, NPDES Permit No. PA0247464, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (●) All ( ) Inputs ( ) Results ( ) Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 6.502 PMF: 1 Analysis Hardness (mg/l): 116.88 Analysis pH: 7.06

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	15.566	16.2	48.0	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	22	22.0	65.2	
Total Zinc	0	0		0	133.735	137	405	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 6.502 PMF: 1 Analysis Hardness (mg/l): 116.88 Analysis pH: 7.06

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	10.232	10.7	31.6	Chem Translator of 0.96 applied
Free Cyanide	0	0		0	5.2	5.2	15.4	
Total Zinc	0	0		0	134.829	137	405	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 6.502 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	4	4.0	11.9	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 4.264 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Free Cyanide	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

Pollutants	Mass Limits AML (lbs/day)	Mass Limits MDL (lbs/day)	Concentration Limits AML	Concentration Limits MDL	Concentration Limits IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	µg/L	30.8	AFC	Discharge Conc > 10% WQBEL (no RP)
Total Zinc	Report	Report	Report	Report	Report	µg/L	260	AFC	Discharge Conc > 10% WQBEL (no RP)

☐ ***Other Pollutants without Limits or Monitoring***