pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0088111**
Facility Type	**Industrial**	APS ID	**40350**
Major / Minor	**Minor**	Authorization ID	**1257577**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Fire Chiefs & Fire Fighters Association Of York County**	Facility Name	**York County Fire School**
Applicant Address	330 Emig Road York, PA 17406-9733	Facility Address	330 Emig Road York, PA 17406-9733
Applicant Contact	Richard Halpin	Facility Contact	Richard Halpin
Applicant Phone	(717) 767-4097	Facility Phone	(717) 767-4097
Client ID	133736	Site ID	454809
SIC Code	9224	Municipality	Manchester Township
SIC Description	Public Admin. - Fire Protection	County	York
Date Application Received	January 3, 2019	EPA Waived?	Yes
Date Application Accepted	February 13, 2019	If No, Reason	

Purpose of Application: This is an application for NPDES renewal.

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineer Nick Hong (via electronic signature)	November 18, 2021
x		Daniel W. Martin, P.E. / Environmental Engineer Manager *Maria D. Bebenek for*	November 29, 2021
x		Maria D. Bebenek, P.E. / Environmental Program Manager *Maria D. Bebenek*	November 29, 2021

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Fire Chiefs and Firefighters Association of York County located at 330 Emig Road, York, PA 17406 in York County, municipality of Manchester Township. The existing permit became effective on May 1, 2014 and expired on April 30, 2019. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on January 3, 2019. A revision to the application was submitted to DEP on November 8, 2021.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's receiving waters attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.01 MGD treatment facility. No proposed upgrades to the treatment facility in the next five years is suspected. Wastewater is drained into the stormwater detention basin. The NPDES application has been processed as an Industrial Wastewater Facility due to the type of wastewater and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to York County Planning Commission and Manchester Township and the notice was received by the parties on January 12, 2019 and January 2, 2019.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Tributary 08049 to Codorus Creek. The sequence of receiving streams that Tributary 08049 to Codorus Creek discharges into are Codorus Creek and the Susquehanna River which eventually drains into the Chesapeake Bay. The subject site is not subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for warm water fishes (WWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The absence of high quality and/or exceptional value surface waters removes the need for an additional evaluation of anti-degradation requirements.

The Tributary 08049 to Codorus Creek is a Category 2 and 5 stream listed in the 2020 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an attaining stream that supports aquatic life and fish consumption. The receiving waters is also impaired for recreational purposes due to pathogens from an unknown source. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- **For TSS, Oil and Grease, Benzene, and Toluene, monitoring shall be required at least 1x/month when the facility conducts fire training activities.**

Sludge use and disposal description and location(s): The June 2021 DEP inspection reports that the settling pond may not ever been cleared of solids. DEP has recommended that solids in the settling pond be addressed.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Fire Chiefs and Firefighters Association of York County
NPDES Permit #	PA0088111
Physical Address:	330 Emig Road York, PA 17406
Mailing Address:	330 Emig Road York, PA 17406
Contact:	Richard Halpin Acting Administrator mhalpin@ycfs.us
Consultant:	There was not a consultant used for this NPDES renewal.

1.2 Permit History

Permit submittal included the following information.

- NPDES Application
- Flow Diagrams
- Effluent Sample Data

2.0 Treatment Facility Summary

2.1.1 Site location

The physical address for the facility is 330 Emig Road, York, PA 17406. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

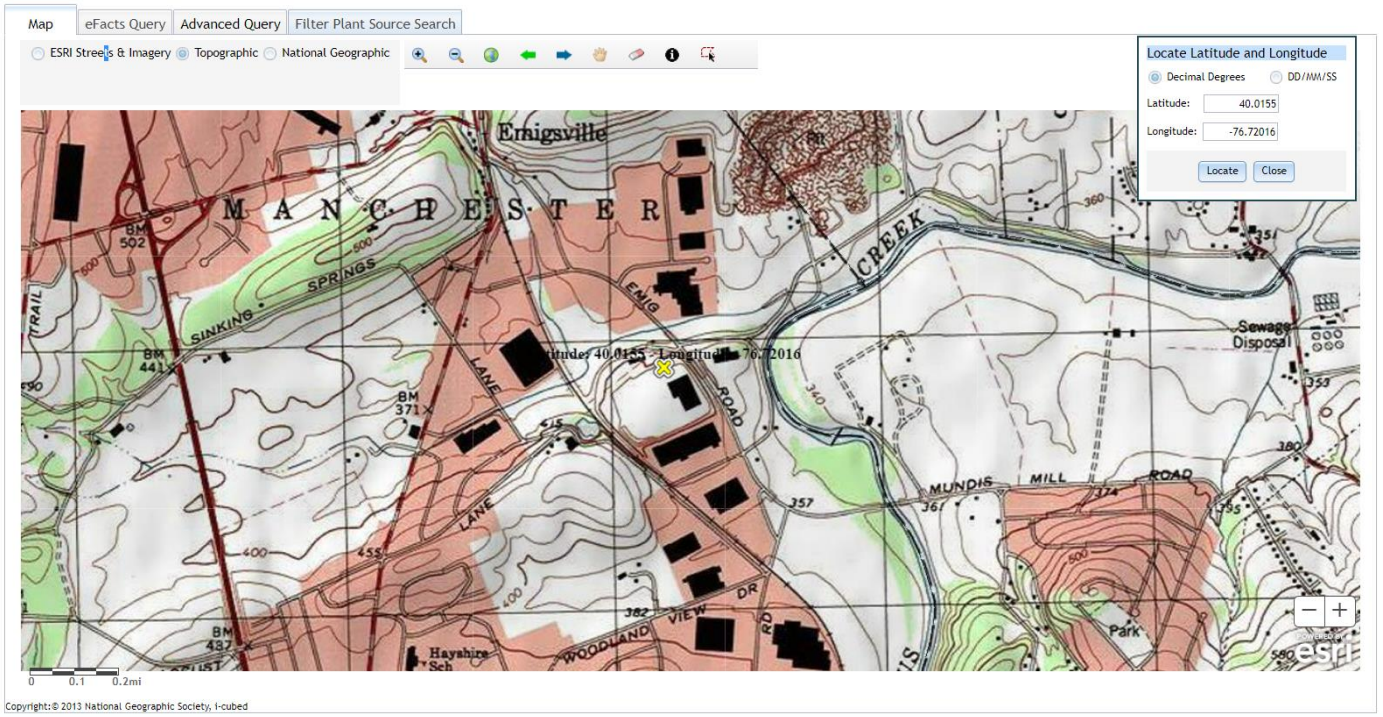
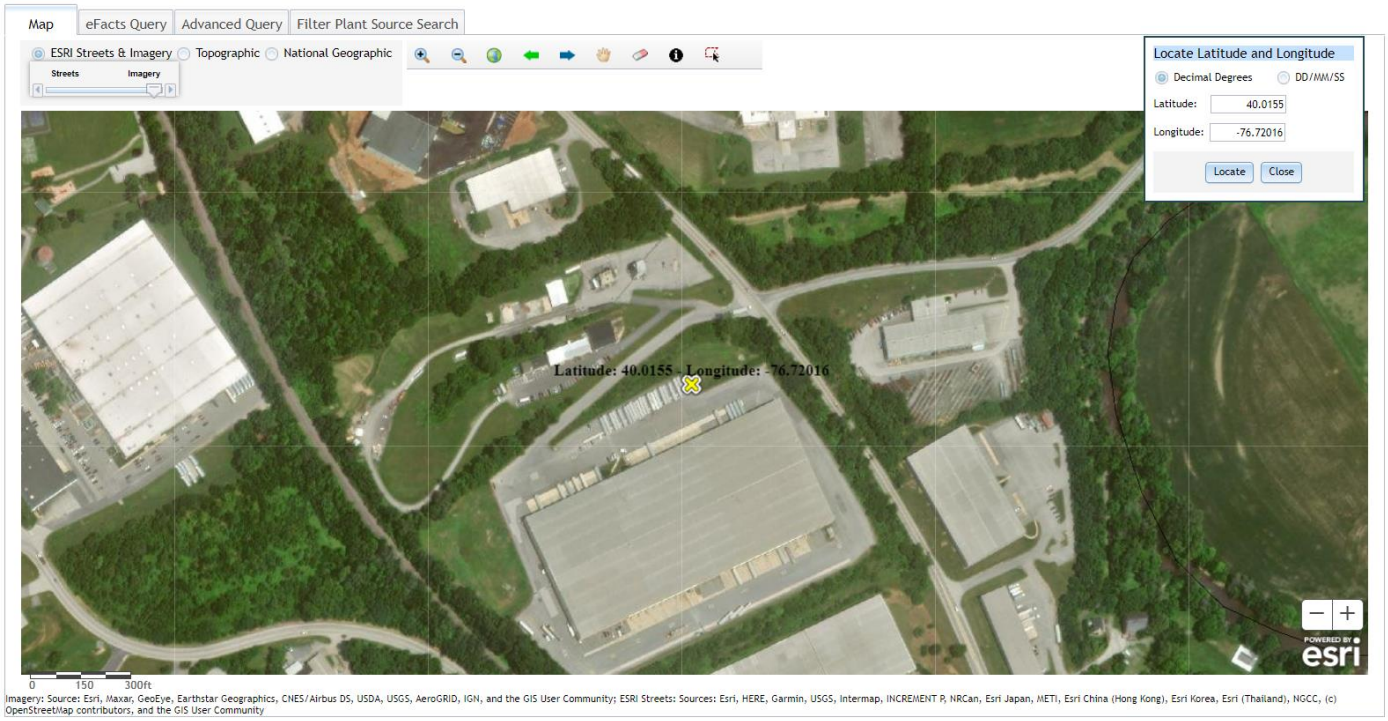


Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.01 MGD design flow facility.

The facility intermittently discharges firefighting water and stormwater from a fire fighting training facility. The facility includes a simulated building, a tanker pad, a brick pond, and a simulated chemical area where fires are deliberately set by gasoline or kerosene and then subsequently extinguished. Temperatures are limited to 1,500 degrees and most of the water used for fire suppression evaporates in the building during the training. Exercises consist of the burning of 3 wooden pallets and 1/3 bale of straw.

Water used to extinguish the fires is drained to a detention pond prior to discharge to UNT of Codorus Creek.

The subject facility treats wastewater through the detention basin. The facility is being evaluated for flow, pH, TSS, oil and grease, benzene, and toluene. The existing permits limits for the facility is summarized in Section 2.4.

2.3 Facility Outfall Information

The facility has the following outfall information for wastewater.

Outfall No.	001	**Design Flow (MGD)**	.01
Latitude	40º 0' 59.00"	**Longitude**	-76º 43' 18.00"
Wastewater Description:	Other Miscellaneous Discharges		

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- **Exercises consist of the burning of 3 wooden pallets and 1/3 bale of straw. Fires are deliberately set by gasoline or kerosene and then subsequently extinguished.**

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. **For Outfall** 001 , **Latitude** 40° 00' 59" , **Longitude** 76° 43' 18" , **River Mile Index** 0.52 , **Stream Code** 08049

Receiving Waters: Unnamed Tributary to Codorus Creek

Type of Effluent: Flow from wastewater/stormwater detention pond

1. The permittee is authorized to discharge during the period from May 1, 2014 through April 30, 2019.

2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/week	Grab
Total Suspended Solids	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Oil and Grease	XXX	XXX	XXX	15	30	30	1/month	Grab
Benzene (µg/L)	XXX	XXX	XXX	Report	Report	XXX	(3)	Grab
Toluene (µg/L)	XXX	XXX	XXX	Report	Report	XXX	(3)	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (Continued)

Additional Requirements

The permittee may not discharge:

1. Floating solids, scum, sheen or substances that result in observed deposits in the receiving water. (25 Pa Code 92a.41(c))

2. Oil and grease in amounts that cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline, or that exceed 15 mg/l as a daily average or 30 mg/l at any time (or lesser amounts if specified in this permit). (25 Pa. Code 92a.47(a)(7) and 95.2(2))

3. Substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (25 Pa Code 93.6(a))

4. Foam or substances that produce an observed change in the color, taste, odor or turbidity of the receiving water, unless those conditions are otherwise controlled through effluent limitations or other requirements in this permit. (25 Pa Code 92a.41(c))

Footnotes

(1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.

(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

(3) Samples shall be taken after each time the site is used for fire training activities.

Supplemental Information

The effluent limitations for Outfall 001 were determined using an average effluent discharge rate of 0.010 MGD.

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspection.

09/24/2018: The facility confirmed that the only materials used to start fires were wooden pallets and straw. The drain system (PVC pipe) sends the fire training use water to the detention basin until the level of the water is full to discharge through the outfall. There was another black corrugated pipe that enters the detention basin. The detention basin was clear and covered with duck weed. Cattails and other aquatic vegetation were growing in the pond. When there is active flow at Outfall 001, the flow is measured using a 5-gallon bucket with start and stop times to calculate the flow rate. Samples are also taken from the outfall during active flow. When there is not active discharge, the samples are taken from the detention basin in accordance to the sample frequency and parameters in the permit.

06/03/2021: The facility explained the source of the industrial wastewater generated on-site. A specialized burn building is used for training exercises that includes three (3) pallets and straw that are set on fire inside the building. The training exercise includes putting out the fire with hoses. The water is only on for a few seconds for each exercise. Over the course of the 8-hour training, approximately 100 gallons of water are discharged. The facility stated that burn activities may occur from 30 – 50 days per year. No activities occur between December 15 and March 14 due to icing concerns.

Run-off from the building enters into a trench drain which discharges to a stormwater detention basin. There are two additional stormwater inlet areas in addition to the run-off trench drain. The pond was covered in duck weed and algae. The facility was unsure if the pond was ever cleaned.

Water from the pump area is recycled so there is no discharge. Potential sources of pollutants to the stormwater detention basin include the Hazmat area where practice occurs to dam or contain stormwater catch basin and equipment fueling area.

The facility is in the process of obtaining a new storage shed to house spill response materials near the fuel tanks.

The facility suspects that burn run-off activities don't generate enough water for the pond to discharge.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility slightly above the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.0159 MGD in September 2021. The remaining 11 months had a maximum average flow for each month at or below 0.01 MGD. The design capacity of the treatment system (i.e. settling pond) is 0.01 MGD.

The flow rate is calculated by timing the filling of a 5-gallon bucket.

The off-site laboratory used for the analysis of the parameters was ALS Environmental located at 34 Dogwood Lane, Middletown, PA 17057.

DMR Data for Outfall 001 (from October 1, 2020 to September 30, 2021)

Parameter	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20
Flow (MGD) Average Monthly	0.0159	0.00096	0.01	0.01	00	0.00001	0.00059	0.0005	0.01	0.0003	0.0001	0.0014
Flow (MGD) Daily Maximum	0.432	0.0288	0.007	0.01	0.013	0.00035	0.0085	0.0144	0.01	0.0085	0.0036	0.0288
pH (S.U.) Minimum	6.2	6.4	6.3	6.2	6.2	6.2	7.2	6.8	7.1	6.3	6.3	6.3
pH (S.U.) Instantaneous Maximum	6.8	7.2	6.9	6.8	7.0	7.4	7.5	7.3	7.5	8.8	7.3	7.7
TSS (mg/L) Average Monthly	239	122	238	416	370	171	9	1240	61	542	16	63
TSS (mg/L) Daily Maximum	239	0.2	238	416	370	171	9	1240	61	542	16	63
Oil and Grease (mg/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Oil and Grease (mg/L) Daily Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Benzene (ug/L) Average Monthly	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Benzene (ug/L) Daily Maximum	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toluene (ug/L) Average Monthly	< 0.01	< 0.01	< 0.01	9.5	29.3	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Toluene (ug/L) Daily Maximum	< 0.01	< 0.01	< 0.01	9.5	29.3	0.01	0.01	0.01	0.01	0.01	0.01	0.01

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

From the DMR data beginning in May 1, 2014 to November 12, 2021, the following were observed effluent non-compliances.

Summary of Non-Compliance with NPDES Permit Limits
Beginning May 1, 2014 and ending November 12, 2021

NON COMPLIANCE DATE	PARAMETER	SAMPLE VALUE	VIOLATION CONDITION	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
04/04/2017	pH	9.3	>	9.0	S.U.	Instantaneous Maximum
05/05/2017	pH	10.1	>	9.0	S.U.	Instantaneous Maximum
02/03/2020	pH	9.4	>	9.0	S.U.	Instantaneous Maximum
04/03/2020	pH	9.3	>	9.0	S.U.	Instantaneous Maximum

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Beginning in May 1, 2014 to November 12, 2021, the following were observed enforcement actions.

Summary of Enforcement Actions
Beginning May 1, 2014 and Ending November 12, 2021

ENF ID	ENF CREATION DATE	EXECUTED DATE	INITIATED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
370320	12/11/2018	12/11/2018	12/01/2018	92A.21(B)	Comply/Closed	01/03/2019

3.4 Summary of Biosolids Disposal

A summary of the biosolids disposed of from the facility is as follows.

The June 2021 DEP inspection reports that the settling pond may not ever been cleared of solids. DEP has recommended that solids in the settling pond be addressed.

3.5 Open Violations

No open violations existed as of November 2021.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Tributary 08049 to Codorus Creek. The sequence of receiving streams that Tributary 08049 to Codorus Creek discharges into are Codorus Creek and the Susquehanna River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is Wrightsville Borough Municipal Authority (PWS ID #7670097) located approximately 15 miles downstream of the subject facility on the Susquehanna River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2020 Integrated List of All Waters (303d Listed Streams)

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2020 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 2 and 5 waterbody. This stream is an attaining stream that supports aquatic life and fish consumption. The receiving waters is also impaired for recreational purposes due to pathogens from an unknown source. The designated use has been classified as protected waters for warm water fishes (WWF) and migratory fishes (MF).

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 -year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN station to the subject facility is the Codorus Creek station (WQN286). This WQN station is located approximately 6 miles downstream of the subject facility.

The closest gauge station to the subject facility is the Susquehanna River station at Marietta, PA (USGS station number 1576000). This gauge station is located approximately 13 miles downstream of the subject facility.

For WQM modeling, default values for pH and stream water temperature data were used. pH was estimated to be 7.0 and the stream water temperature was estimated to be 25 C.

The default value for hardness of the stream of 100 mg/l $CaCO_3$ was also used.

The low flow yield and the Q710 for the subject facility was estimated using StreamStats.

The low flow yield is 0.075 $ft^3/s/mi^2$.

The Q710 is 0.263 ft^3/s.

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.01
Latitude	40º 0' 59.72"	Longitude	-76º 43' 17.84"
Quad Name		Quad Code	
Wastewater Description:	Other Miscellaneous Discharges		
Receiving Waters	Unnamed Tributary to Codorus Creek (WWF, MF)	Stream Code	8049
NHD Com ID	57466723	RMI	0.49
Drainage Area	3.5	Yield (cfs/mi^2)	0.075
Q_{7-10} Flow (cfs)	0.263	Q_{7-10} Basis	StreamStats
Elevation (ft)	344	Slope (ft/ft)	
Watershed No.	7-H	Chapter 93 Class.	WWF, MF
Existing Use	Same as Chapter 93 class.	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) supports aquatic life and fish consumption. Impaired for recreational purposes		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Unknown source		
TMDL Status	Not appl	Name	

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°C)	25	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Wrightsville Borough Municipal Authority	
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	43	Distance from Outfall (mi)	15

5.0: Overview of Presiding Water Quality Standards

5.1 General

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET) The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2.1 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). Available TBEL requirements for the state of Pennsylvania are itemized in PA Code 25, Chapter 92a.47.

The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The reference sources for each of the parameters is itemized in the tables. The following technology-based limitations apply, subject to water quality analysis and best professional judgement (BPJ) where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Oil and Grease	15	Average daily		95.2(2)(ii)
	30	Maximum daily		

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). The subject facility that is typically enforced is the more stringent limit of either the TBEL or the WQBEL.

Determination of WQBEL is calculated by spreadsheet analysis or by a computer modeling program developed by DEP. DEP permit engineers utilize the following computing programs for WQBEL permit limitations: (1) MS Excel worksheet for Total Residual Chorine (TRC); (2) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.1 (WQM Model) and (3) Toxics using DEP Toxics Management Spreadsheet for Toxics pollutants.

The modeling point nodes utilized for this facility are summarized below.

General Data 1 (Modeling Point #1)	***Input Value***	***Units***
Stream Code	8049	
River Mile Index	0.49	miles
Elevation	344	feet
Latitude	40.0155	
Longitude	-76.72016	
Drainage Area	3.5	sq miles
Reach Slope	Default	ft/ft
Low Flow Yield	0.075	cfs/sq mile
Potable Water Supply Withdrawal	Default	mgd
General Data 2 (Modeling Point #2)	***Input Value***	***Units***
Stream Code	8049	
River Mile Index	0	miles
Elevation	335	feet
Latitude	40.017751	
Longitude	-76.712907	
Drainage Area	3.72	sq miles
Reach Slope	Default	ft/ft
Low Flow Yield	0.075	cfs/sq mile
Potable Water Supply Withdrawal	Default	mgd

5.3.1 Water Quality Modeling 7.0

The facility is not subject to water quality modeling.

5.3.2 Toxics Modeling

The Toxics Management Spreadsheet model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. Toxics Management Spreadsheet does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

The Toxics Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130).

5.3.2.1 Determining if NPDES Permit Will Require Monitoring/Limits in the Proposed Permit for Toxic Pollutants

To determine if Toxics modeling is necessary, DEP has developed a Toxics Management Spreadsheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters. The toxics reviewed for reasonable potential were the pollutants in Groups 1 through 2.

Based upon the SOP- Establishing Water Quality-Based Effluent Limitations (WQBELs) and Permit Conditions for Toxic Pollutants (Revised January 10, 2019), monitoring and/or limits will be established as follows.

(a) When reasonable potential is demonstrated, establish limits where the maximum reported concentration equals or 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.

Applicable monitoring or permit limits for toxics are summarized in Section 6.

The Toxics Management Spreadsheet output has been included in Attachment B.

5.3.3 Whole Effluent Toxicity (WET)

The facility is not subject to WET.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (TMDL) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I, II, and III WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations.

Phase 3 WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The latest revision of the supplement was September 13, 2021.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Cap Loads will be established in permits as Net Annual TN and TP loads (lbs/yr) that apply during the period of October 1 – September 30. For facilities that have received Cap Loads in any other form, the Cap Loads will be modified accordingly when the permits are renewed.

Offsets have been incorporated into Cap Loads in several permits issued to date. From this point forward, permits will be issued with the WLAs as Cap Loads and will identify Offsets separately to facilitate nutrient trading activities and compliance with the TMDL.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a non-significant dischargers include sewage facilities (Phase 4 facilities: ≥ 0.2 MGD and < 0.4 MGD and Phase 5 facilities: > 0.002 MGD and < 0.2 MGD), small flow/single residence sewage treatment facilities (≤ 0.002 MGD), and non-significant IW facilities, all of which may be covered by statewide General Permits or may have individual NPDES permits.

At this time, there are approximately 850 Phase 4 and 5 sewage facilities, approximately 715 small flow sewage treatment facilities covered by a statewide General Permit, and approximately 300 non-significant IW facilities.

For non-significant IW facilities, monitoring and reporting of TN and TP will be required throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. In general, facilities that discharge groundwater and cooling water with no addition of chemicals containing N or P do not require monitoring. Monitoring for facilities with other discharges will generally conform to the following minimum sampling frequencies, with the permit writer having final discretion

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

In general, for new non-significant IW discharges (including existing facilities discharging without a permit), DEP will issue permits containing Cap Loads of "0" and these facilities will be expected to purchase credits and/or apply offsets to achieve compliance.

Due to the low flow rate generated by the facility and the smaller presence of nitrogen and phosphorus generated by the facility, this facility is not subject to Sector C monitoring requirements.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

The subject facility's discharge will be to a non-special protection waters and the permit conditions are imposed to protect existing instream water quality and uses. Neither HQ waters or EV waters is impacted by this discharge.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the previous permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The basis for the proposed sampling and their monitoring frequency that will appear in the permit for each individual parameter are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, anti-degradation, or WET.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the proposed NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection and (b) Toxics.

6.1.1 Conventional Pollutants and Disinfection

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Fire Chiefs and Firefighters Association of York County; PA0088111

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as a grab sample (Table 6-4).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-4 and the effluent limits assigned by Chapter 95.2(1).
TSS	BPJ	Monitoring:	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
		Effluent Limit:	There is no effluent requirement.
		Rationale:	This parameter has been required based upon best professional judgement.
Oil and Grease	TBEL	Monitoring:	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
		Effluent Limit:	The average monthly limit should not exceed 15 mg/l and/or 30 mg/l as a daily maximum.
		Rationale:	This parameter has been required based upon best professional judgement and the effluent limits assigned by Chapter 95.2(2)(ii)

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.01 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.1.2 Toxics

DMR data for benzene and toluene were reviewed. Beginning with the time period on January 2019 and ending October 2021, the maximum value for benzene was 0.1 ug/l and the maximum value for toluene was 29.3 ug/l. These values were input into the Toxics Management Spreadsheet. No reasonable potential was observed for these parameters.

Summary of Proposed NPDES Parameter Details for Toxics

Fire Chiefs and Firefighters Association of York County; PA0088111

Parameter	Permit Limitation Required by[1]:	Recommendation	
Benzene	Anti-Backsliding	Monitoring:	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
		Effluent Limit:	There is no effluent requirement.
		Rationale:	Since benzene and toluene have like chemical formula, this parameter shall continue to be monitored. Toluene had positive hits.
Toluene	Anti-Backsliding	Monitoring:	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
		Effluent Limit:	There is no effluent requirement.
		Rationale:	Due to positive hits, this parameter shall continue to be monitored.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, (g) WET, or (h) Other

2 Monitoring frequency based on flow rate of 0.01 MGD.

3 Table 6-4 (Self Monitoring Requirements for Industrial Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Chesapeake Bay Phase 3 Watershed Implementation Plan Wastewater Supplement, Revised September 13, 2021

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

Changes in Permit Monitoring or Effluent Quality

Parameter	Existing Permit	Draft Permit
TSS	Monitoring is required 1x/month	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
Oil and Grease	Monitoring is required 1x/month	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
Benzene	Monitoring is required each time the site is used for fire training activities.	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.
Toluene	Monitoring is required each time the site is used for fire training activities.	Monitoring shall be required at least 1x/month during no fire training activities or at least 1x/month when the facility conducts fire training activities.

6.3.1 Summary of Proposed NPDES Effluent Limits

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.

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 40° 0' 59.00" , **Longitude** 76° 43' 18.00" , **River Mile Index** 0.49 , **Stream Code** 8049

Receiving Waters: Unnamed Tributary to Codorus Creek (WWF, MF)

Type of Effluent: Other Miscellaneous Discharges

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/week	Grab
Total Suspended Solids(3)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Oil and Grease(3)	XXX	XXX	XXX	15	30	30	1/month	Grab
Benzene (ug/L) (3)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab
Toluene (ug/L) (3)	XXX	XXX	XXX	Report	Report	XXX	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

6.3.2 Summary of Proposed Permit Part C Conditions

The subject facility has the following Part C conditions.

- Solids Management for Lagoons

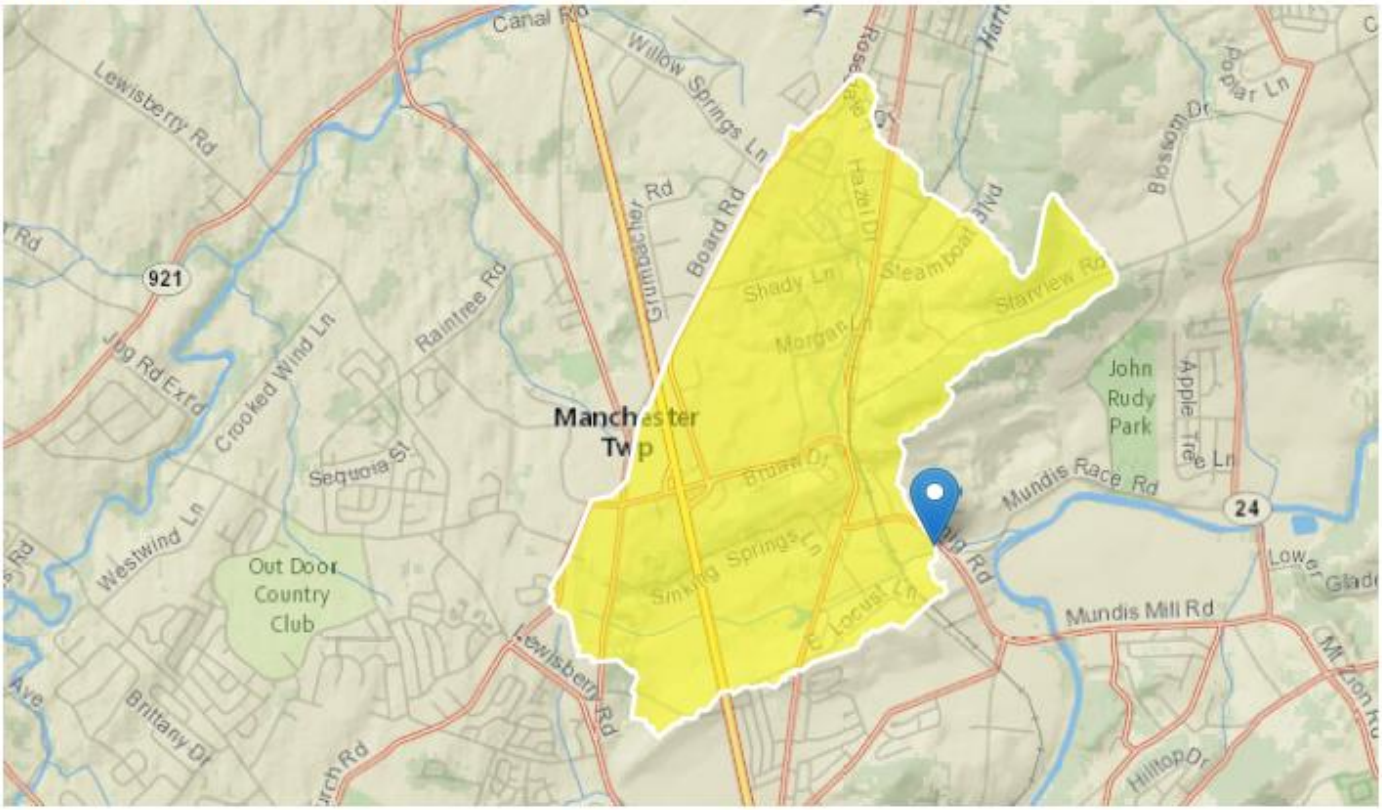
Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater, revised October 11, 2013
☐	Other:

Attachment A

Stream Stats/Gauge Data

StreamStats Report

Region ID: PA
Workspace ID: PA20211113111746577000
Clicked Point (Latitude, Longitude): 40.01672, -76.72071
Time: 2021-11-13 06:18:06 -0500



Fire Chiefs and Firefighters Assoc of York County PA0088111 Modeling Point #1 November 2021

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.5	square miles
BSLOPD	Mean basin slope measured in degrees	3.5255	degrees
ROCKDEP	Depth to rock	4.7	feet
URBAN	Percentage of basin with urban development	15.3161	percent

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.5	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.5255	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.7	feet	4.13	5.21
URBAN	Percent Urban	15.3161	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.616	ft^3/s
30 Day 2 Year Low Flow	0.859	ft^3/s
7 Day 10 Year Low Flow	0.263	ft^3/s
30 Day 10 Year Low Flow	0.379	ft^3/s
90 Day 10 Year Low Flow	0.678	ft^3/s

Low-Flow Statistics Citations

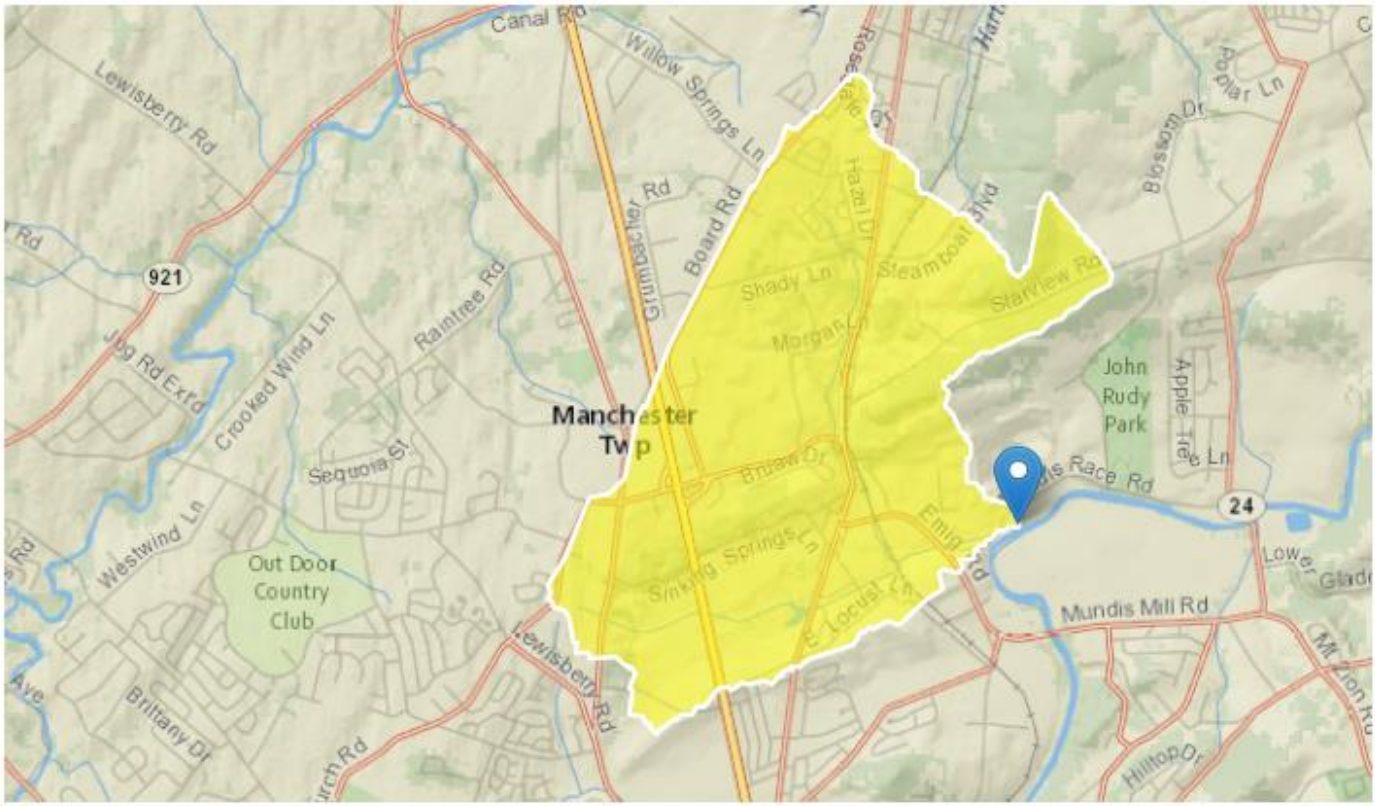
Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

StreamStats Report

Region ID: PA
Workspace ID: PA20211113131210447000
Clicked Point (Latitude, Longitude): 40.01807, -76.71322
Time: 2021-11-13 08:12:29 -0500



Fire Chiefs & Firefighters Assoc of York County PA0088111 Modeling Point #2 November 2021

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	3.72	square miles
BSLOPD	Mean basin slope measured in degrees	3.5817	degrees
ROCKDEP	Depth to rock	4.8	feet
URBAN	Percentage of basin with urban development	15.6585	percent

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	3.72	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.5817	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.8	feet	4.13	5.21
URBAN	Percent Urban	15.6585	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.736	ft^3/s
30 Day 2 Year Low Flow	1.01	ft^3/s
7 Day 10 Year Low Flow	0.323	ft^3/s
30 Day 10 Year Low Flow	0.457	ft^3/s
90 Day 10 Year Low Flow	0.798	ft^3/s

Low-Flow Statistics Citations

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

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Attachment B

Toxics Management Spreadsheet Output Values

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Discharge Information

Instructions | Discharge | Stream

Facility: **Fire Chiefs & Firefighters Ass of York County** NPDES Permit No.: **PA0088111** Outfall No.: **001**

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

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
0.01	74.3	6.9						

					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		140									
	Chloride (PWS)	mg/L		10.4									
	Bromide	mg/L	<	0.2									
	Sulfate (PWS)	mg/L		9.4									
	Fluoride (PWS)	mg/L	<	0.2									
Group 2	Total Aluminum	µg/L		410									
	Total Antimony	µg/L		1.6									
	Total Arsenic	µg/L	<	1.5									
	Total Barium	µg/L		32									
	Total Beryllium	µg/L	<	0.5									
	Total Boron	µg/L	<	50									
	Total Cadmium	µg/L	<	0.2									
	Total Chromium (III)	µg/L	<	1									
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L	<	2.5									
	Total Copper	µg/L		6.6									
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											
	Dissolved Iron	µg/L		77									
	Total Iron	µg/L		2800									
	Total Lead	µg/L		1.2									
	Total Manganese	µg/L		190									
	Total Mercury	µg/L		0.0073									
	Total Nickel	µg/L	<	2.5									
	Total Phenols (Phenolics) (PWS)	µg/L											
	Total Selenium	µg/L	<	2									
	Total Silver	µg/L	<	0.5									
	Total Thallium	µg/L	<	0.5									
	Total Zinc	µg/L		64									
	Total Molybdenum	µg/L		1.2									
	Acrolein	µg/L	<										
	Acrylamide	µg/L	<										
	Acrylonitrile	µg/L	<										
	Benzene	µg/L	<										
	Bromoform	µg/L	<										
	Carbon Tetrachloride	µg/L	<										
	Chlorobenzene	µg/L											
	Chlorodibromomethane	µg/L	<										
	Chloroethane	µg/L	<										
	2-Chloroethyl Vinyl Ether	µg/L	<										

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

Stream / Surface Water Information

Fire Chiefs & Firefighters Ass of York County, NPDES Permit No. PA0088111, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Tributary 08049 to Codorus Creek**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	008049	0.49	344	3.5			Yes
End of Reach 1	008049	0	335	3.72			Yes

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Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	0.49	0.075										123	7		
End of Reach 1	0	0.075										123	7		

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Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	0.49														
End of Reach 1	0														

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

No. Samples/Month: 4

Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			
Total Iron	Report	Report	Report	Report	Report	µg/L	26,952	CFC	Discharge Conc > 10% WQBEL (no RP)