pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0070319**
Facility Type	**Industrial**	APS ID	**7248**
Major / Minor	**Minor**	Authorization ID	**1048185**

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

Applicant and Facility Information

Applicant Name	**Berks County**	Facility Name	**Reading Berks Fire Training Center**
Applicant Address	Dept Of Emergency Services 2561 Bernville Road Reading, PA 19605	Facility Address	Dept Of Emergency Services 895 Morgantown Road Reading, PA 19607
Applicant Contact	Jeffrey Shilling	Facility Contact	Jeffrey Shilling
Applicant Phone	(610) 374-4800	Facility Phone	(610) 378-5509
Client ID	85998	Site ID	454868
SIC Code	9224	Municipality	Reading City
SIC Description	Public Admin. - Fire Protection	County	Berks
Date Application Received	October 17, 2014	EPA Waived?	Yes
Date Application Accepted	November 17, 2014	If No, Reason	

Purpose of Application: NPDES Renewal to discharge treated industrial wastewater

Summary of Review

1.0 General Discussion

This fact sheet supports the renewal of an existing NPDES permit for discharge of treated industrial wastewater generated from water used at a fire protection training center. Berks County owns the facility and uses it to train municipal and industrial firefighters as well as other public safety personnel in utilizing fire firefighting/rescue equipment, hazardous materials management and other safety techniques. The site is approximately 10 acres with five different types of training structures: Drill Tower, Drafting Pit, Cold Training House, Smoke Maze and Burn Pits. The drill tower is 20'x 30' five story concrete block structure and is used for ladder and hose training related to high rise firefighting. No fires are created in this structure. City water is used for training in the tower. Run-off water from the tower is directed to a grass swale which is directed toward Angelica Creek via outfall 002. The drafting pit is a 20'x 20'concrete structure for hose practice and testing of engines and hose lines. An elevated hood confines spray water to the pit from where it is recycled back through the fire engine. No water is discharged directly from the pit. Occasional draining of the pit is done by an engine. Water could be contaminated by the pumping equipment. The area where the engines are located during pumping is paved and graded toward a catch basin which leads into an oil/water separator prior to outfall 001. The cold training house is used for hose practice and does not contribute any contaminants to the runoff from the site. Run-off from this area drains to the storm water system that drains to outfall 002. The smoke maze is a concrete structure designed to educate firefighters in smoke conditions. No fires are permitted in this building. A theatrical smoke generator is used. No water is associated with this facility. There are three burn pit located at the site. They are used to instruct procedures for extinguishing flammable liquid fires. Two of the pits are designed to be partially filled with water and have fuel oil floated on the surface. The pits are fitted with self-leveling valves to draw water from the bottom of the pits. Perimeter drains catch any liquids which splash from the pits. No. 2 fuel oil is the only combustible liquid used in the burn pits. Run-off from the pits is directed to the oil/water separator.

Approve	Deny	Signatures	Date
X		*J. Pascal Kwedza* J. Pascal Kwedza, P.E. / Environmental Engineer	February 2, 2021
X		Daniel W. Martin, P.E. / Environmental Engineer Manager	February 2, 2021
X		Maria D. Bebenek, P.E./ Program Manager	February 2, 2021

Summary of Review

The training activities in the drill tower and cold training house are controlled so as not to create contaminated run-off. The pumping and fire extinguishing activities at the drafting pit and burn pits create contaminated run-off. Both areas contain and collect run-off and direct it to the oil/water separator. There are two outfalls 001 and 002 identified in the existing permit for the site. Outfall 001 receives the discharge from an oil/water separator, which treats wastewater from training activities at the site. Outfall 002 is a storm water outfall with portions of drainage area in the training area, but no firefighting water discharges through this outfall. The current permit added a new storm water outfall 003. Outfall 003 receives storm water runoff from an uncontaminated area of parking lot and grassy areas.

The facility is used very infrequently, maximum use of three times per year approximately. The last time the facility reported discharge monitoring report was in December 2019. The existing permit was based a wastewater flow of 0.031mgd and this flow will still be used for the current permit renewal. The facility is not covered by ELG, however utilizes chemicals during the training that eventually drain to the stream.

The existing permit was issued on April 23, 2010 with effective date of May 1, 2010 and expiration date of April 30, 2015. The permittee submitted a timely renewal application to the Department and has been operating under the conditions in the existing permit pending permit renewal

Topographical map showing discharge location is attached as attachment A.

1.1 Public Participation

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

1.2 Changes to the existing Permit

Maximum Daily limit for Oil & Grease in the existing permit was removed since the basis for it was not presented in the factsheet. Perfluorooctanoic Acid (PFOA) monitoring has been added to outfalls 001 and 002

Summary of Review

1.3 Existing Permit and Monitoring Requirements

A. Outfall 001

Discharge Parameter	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass Units (Lbs./Day)		Concentrations (mg/l)				
	Average Monthly	Max Daily	Average Monthly	Max Daily	Inst Max	Minimum Frequency	Required Sample Type
Flow (mgd)	Monitor & Report	Monitor & Report	XXX	XXX	XXX	Every Discharge	Estimate
pH (S.U.)	XXX	XXX	6.0 to 9.0 at all times			1/day	Grab
Total Suspended Solids	XXX	XXX	Monitor & Report	Monitor & Report	XXX	Every Discharge	Grab
Benzene	XXX	XXX	Monitor & Report	Monitor & Report	XXX	Every Discharge	Grab
Toluene	XXX	XXX	Monitor & Report	Monitor & Report	XXX	Every Discharge	Grab
Ethylbenzene	XXX	XXX	Monitor & Report	Monitor & Report	XXX	Every Discharge	Grab
Xylenes	XXX	XXX	Monitor & Report	Monitor & Report	XXX	Every Discharge	Grab
Oil & Grease	XXX	XXX	15	15	30	Every Discharge	Grab

Outfall 002

MONITORING REQUIREMENTS		
Parameter	Grab Sample (mg/l)	Monitor Frequency
Benzene	Monitor & Report	Annually
Toluene	Monitor & Report	Annually
Ethylbenzine	Monitor & Report	Annually
Xylenes, Total	Monitor & Report	Annually
pH (S.U.)	Monitor & Report	Annually
Oil & grease	Monitor & Report	Annually
TSS	Monitor & Report	Annually

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.031
Latitude	40º 18' 38"	Longitude	-75º 55' 21"
Quad Name		Quad Code	
Wastewater Description:	Industrial Wastewater (Intermittent Discharge)		
Receiving Waters	Angelica Creek (CWF)	Stream Code	01827
NHD Com ID	25992922	RMI	0.10
Drainage Area	7.55	Yield (cfs/mi^2)	0.27
Q_{7-10} Flow (cfs)	2.09	Q_{7-10} Basis	StreamStats
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Background/Ambient Data		Data Source	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	Borough of Pottstown Water and Sewer Authority		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	16

Changes Since Last Permit Issuance:

Other Comments:

1.4.1 Water Supply Intake

The closest water supply intake located downstream from the discharge is the Borough of Pottstown Water and Sewer Authority on the Schuylkill River in West Pottsgrove Township, Chester County. The distance downstream from the discharge to the intake is approximately 16 miles. The discharge has no impact on the intake.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 18' 36.81"	Longitude	-75º 55' 22.65"
Quad Name		Quad Code	
Wastewater Description:	Stormwater(part of process area)		
Receiving Waters	Angelica Creek (CWF)	Stream Code	01827
NHD Com ID	25992922	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance: None

Other Comments:

Portions of the drainage area of this outfall are exposed to process and is monitored annually. See stormwater section of the report for details.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 18' 28.8"	Longitude	-75º 55' 27"
Quad Name		Quad Code	
Wastewater Description:	Stormwater(parking lot and grassy area)		
Receiving Waters	Angelica Creek (CWF)	Stream Code	01827
NHD Com ID		RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

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

Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments:

This outfall is not monitored because the stormwater from this drainage area is not exposed to any process that requires monitoring

Compliance History

DMR Data for Outfall 002 (from December 1, 2019 to November 30, 2020)

Parameter	NOV-20	OCT-20	SEP-20	AUG-20	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19
pH (S.U.) Daily Maximum												8.1
TSS (mg/L) Daily Maximum												1
Oil and Grease (mg/L) Daily Maximum												< 5
Ethylbenzene (mg/L) Daily Maximum												< 5
Benzene (mg/L) Daily Maximum												< 5
Toluene (mg/L) Daily Maximum												< 5
Total Xylenes (mg/L) Weekly Average												< 5

2.2 Summary of DMRs:

Discharge Monitoring Reports (DMRs) review for the facility for the last 12 months of operation presented on the table above indicate permit limits have been met for the one month data presented. The site is used infrequently, no permit violation noted on DMRs during the period reviewed.

2.3 Summary of Inspections:

The facility was inspected a couple of times during the past permit cycle. Inspection reports review for the facility during the period did not indicate any permit limits violation. It was recommended stormwater data should be submitted annually even if the site was not used in the year.

3.0 Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .031
Latitude 40º 18' 38.00" **Longitude** -75º 55' 21.00"
Wastewater Description: Industrial Wastewater (Intermittent Discharge)

3.1 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(WQBEL) 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.

3.2 Technology-Based Limitations

The facility is not subject to any federal effluent limitations and guidelines (ELGs). The following technology-based limitations applies to industrial wastewater discharges subject to water quality analysis and 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	Daily Maximum		95.2(2)(ii)
	30	IMAX		95.2(2)(ii)
Total Suspended Solids	Report	Average Monthly	125.3(d), 133.103(b)	BPJ
	Report	Daily Maximum	125.3(d), 133.103(b)	BPJ

3.3 Water Quality-Based Limitations

3.3.1 Streamflow

The drainage area upstream of the discharge location and the Q_{7-10} flow at the discharge were calculated using USGS streamStats and the results presented in attachment C. The calculated drainage area is 7.55sq. mi and the Q_{7-10} flow is 2.09 cfs

3.3.2 The following input data were used for Toxics Management Spreadsheet:

- Discharge pH = 7.0 (Default)
- Discharge Temperature = 25 º C (Default)
- Stream pH = 7.0 (Default)
- Stream Temperature = 20 º C (Default)
- Discharge Hardness = 10 mg/l
- Stream Hardness = 100 mg/l

3.3.3 Toxics

A reasonable potential (RP) was done for pollutant submitted with the application. All pollutants that were presented in the application sampling data and all pollutants in the existing permit were entered into the Toxics Management Spreadsheet(TMS) which combines the existing Toxics Screening Analysis Spreadsheet and PENTOXSD Model to calculate WQBELs. WQBELs recommended by the TMS are presented in attachment B. The results of the TMS indicate discharge levels are well below DEP's target quantitation limits and the calculated WQBELs, therefore, no monitoring or limitation was recommended. However, due to anti-backsliding restrictions, the existing technology quality-based limits for TSS, pH and Oil & Grease, and monitoring of Benzene, Toluene, Total Xylene and Ethylbenzene will remain the permit since the facility continue to use petroleum-based chemicals. In addition, monitoring of PFOA which is an emerging contaminant of concern associated with some fire suppression chemicals will be required in the permit

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.

3.3.4 Stormwater:

Stormwater discharge from this facility is subject to permit requirements under 40 CFR §122.26(a)(1)(ii). The activities at the site fall under SIC code code 9224 and is not covered under any specific Appendices of the PAG 03. DEP typically requires appendix J for activities not covered under any specific appendix. TSS and Oil & Grease are required under appendix J. TSS and Oil & Grease are in the existing permit in addition to Benzene, Toluene, Total Xylenes, and Ethylbenzene which were expected in the stormwater due to petroleum-based chemicals being used at the site. In addition, monitoring of PFOA will be required in the permit. Therefore, the existing annual monitoring requirements for TSS, Oil & Grease, Benzene, Toluene, Total Xylenes, Ethylbenzene in addition to PFOA is recommended in the permit for the current permit renewal. The monitoring requirements are based on Appendix J and Best Professional Judgment (BPJ) in accordance with 40 CFR § 125.3(d). The permittee shall monitor and report analytical results for the parameters listed annually on DMRs for outfall 002. TSS and Oil & Grease have benchmark values of 100 and 30 respectively, but they are not effluent limitations, and exceedances do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two consecutive monitoring periods, the permittee shall submit a corrective action plan within 90 days of the end of the monitoring period triggering the plan.

4.0 Other Requirements

4.1 Anti-backsliding

Not applicable to this permit

4.2 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.

4.3 Class A Wild Trout Fisheries

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

4.4 303d Listed Streams

The discharge is not located on a 303d listed stream segment.

4.5 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).

4.6 Effluent Monitoring

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

5.0 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	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/discharge	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/discharge	Grab
TSS	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab
Oil and Grease	XXX	XXX	XXX	15	XXX	30	1/discharge	Grab
Ethylbenzene	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab
Benzene	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab
Toluene	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab
Total Xylenes	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab
PFOA	XXX	XXX	XXX	Report	Report	XXX	1/discharge	Grab

Compliance Sampling Location: At Outfall 001

5.1 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 002, Effective Period: Permit Effective Date through Permit Expiration Date.

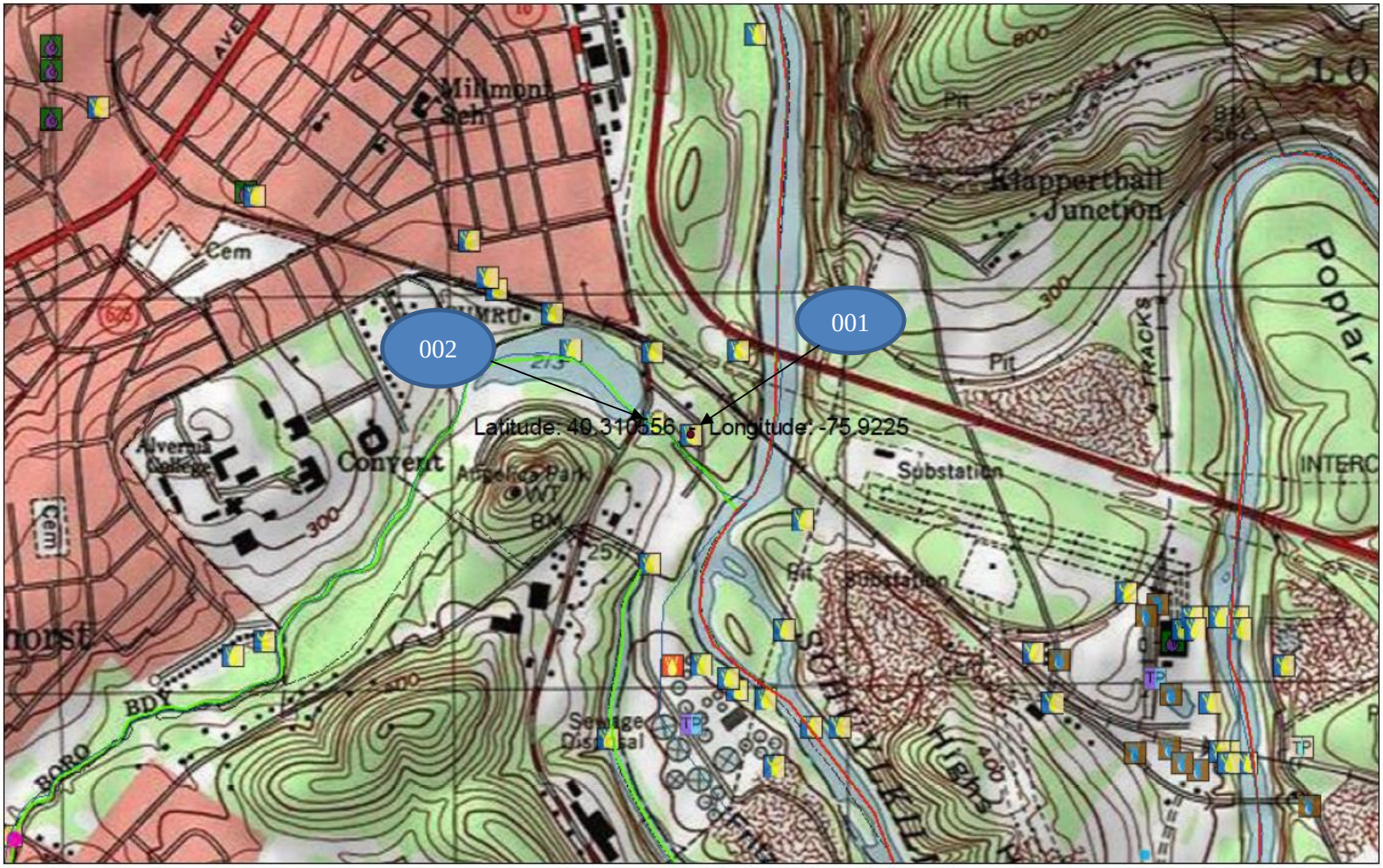
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
TSS	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Oil and Grease	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Ethylbenzene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Benzene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Toluene	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
Total Xylenes	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab
PFOA	XXX	XXX	XXX	XXX	Report	XXX	1/year	Grab

Compliance Sampling Location: At Outfall 002

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

7. Attachments

A. Topographical Map



B. Toxic Management Spreadsheet

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.1, October 2020

Model Results

Berks County Fire Training School, NPDES Permit No. PA0070319, Outfall 001

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

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 4.219 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Benzene	0	0		0	640	640	30,455	
Ethylbenzene	0	0		0	2,900	2,900	138,000	
Toluene	0	0		0	1,700	1,700	80,897	
Total Xylenes	0	0		0	1,100	1,100	52,345	

☑ *CFC* CCT (min): 4.219 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.00

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Benzene	0	0		0	130	130	6,186	
Ethylbenzene	0	0		0	580	580	27,600	
Toluene	0	0		0	330	330	15,703	
Total Xylenes	0	0		0	210	210	9,993	

☑ *THH* CCT (min): 4.219 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
Benzene	0	0		0	N/A	N/A	N/A	
Ethylbenzene	0	0		0	530	530	25,221	
Toluene	0	0		0	1,300	1,300	61,862	
Total Xylenes	0	0		0	70,000	70,000	3,331,039	

☑ *CRL* CCT (min): 1.253 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

Model Results 1/25/2021 Page 1

Benzene	0	0		0	1.2	1.2	380	
Ethylbenzene	0	0		0	N/A	N/A	N/A	
Toluene	0	0		0	N/A	N/A	N/A	
Total Xylenes	0	0		0	N/A	N/A	N/A	

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

No. Samples/Month: 4

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

☑ ***Other Pollutants without Limits or Monitoring***

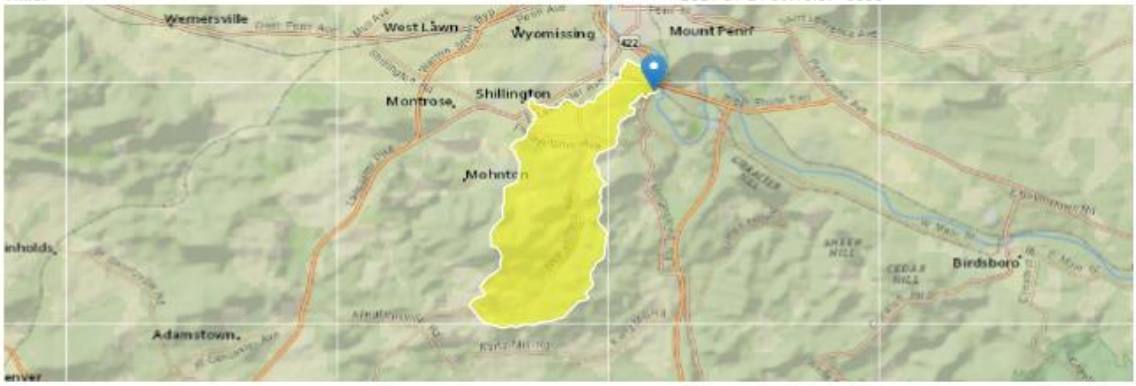
The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Benzene	380	µg/L	Discharge Conc ≤ 25% WQBEL
Ethylbenzene	25,221	µg/L	Discharge Conc ≤ 25% WQBEL
Toluene	15,703	µg/L	Discharge Conc ≤ 25% WQBEL
Total Xylenes	9,993	µg/L	Discharge Conc ≤ 25% WQBEL

C. StreamStats Report

Berks County Fire School StreamStats Report

Region ID:	PA
Workspace ID:	PA20210124141619384000
Clicked Point (Latitude, Longitude):	40.31029, -75.92287
Time:	2021-01-24 09:16:37 -0500



Low-Flow Statistics Parameters[100 Percent (7.54 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	7.55	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	8.131	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.6	feet	4.13	5.21
URBAN	Percent Urban	16.1799	percent	0	89

Low-Flow Statistics Disclaimers[100 Percent (7.54 square miles) 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[100 Percent (7.54 square miles) Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	3.56	ft^3/s
30 Day 2 Year Low Flow	4.15	ft^3/s
7 Day 10 Year Low Flow	2.09	ft^3/s
30 Day 10 Year Low Flow	2.47	ft^3/s
90 Day 10 Year Low Flow	2.95	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/)

Base Flow Statistics Parameters[Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	7.55	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	45	inches	33.1	50.4
CARBON	Percent Carbonate	19.22	percent	0	99
FOREST	Percent Forest	66.6438	percent	5.1	100