Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0103551**
Wastewater Type	**Sewage**	APS ID	**1118576**
Facility Type	**SFTF**	Authorization ID	**1525626**

NPDES PERMIT FACT SHEET INDIVIDUAL SFTF/SRSTP

Applicant, Facility and Project Information

Applicant Name	**PA Historical & Museum Comm**	Facility Name	**Drake Well Museum**
Applicant Address	202 Museum Lane Titusville, PA 16354-7658	Facility Address	202 Museum Lane Titusville, PA 16354-7658
Applicant Contact	Michael Knecht	Facility Contact	Melissa Mann
Applicant Phone	(814) 827-2797	Facility Phone	(814) 827-2797
Client ID	95627	Site ID	239217
SIC Code	4952,8412	Municipality	Cherrytree Township
SIC Description	Services - Museums And Art Galleries,Trans. & Utilities - Sewerage Systems	County	Venango
Date Application Received	July 29, 2024	WQM Required	
Date Application Accepted		WQM App. No.	

Project Description: NPDES renewal for a Small Flow Treatment Facility (SFTF).

Summary of Review

This is an existing discharge for a museum.

Act 14 – Proof of Notification was submitted and received.

Existing treatment consists of: Two 2000-gallon septic tanks, 2-compartment 3000-gallon septic tank, (2) two compartment 1000-gallon septic tanks, 3000-gallon pump tank, 468-square foot recirculating sand filter, tablet chlorinator, 694-gallon chlorine contact tank, 120-gallon effluent pump tank, effluent metering pit, and 2000-gallon emergency holding tank.

The EPA Waiver is in effect.

There are no open violations in WMS for the subject Client ID (95627) as of 5/14/2025.

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.

Approve	Deny	Signatures	Date
X		Jordan A. Frey, E.I.T. Jordan A. Frey, E.I.T. / Project Manager	May 14, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	June 2, 2025

Discharge and Stream Data – 2 - Receiving Waters and PWS

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.002
Latitude	41º 36' 42.44"	Longitude	-79º 39' 33.49"
Quad Name	Titusville South	Quad Code	41079E6
Wastewater Description:	Sewage Effluent		

Receiving Waters	Oil Creek (CWF)	Stream Code	54128
NHD Com ID	100473535	RMI	1.5600
Drainage Area	262	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	26.2	Q_{7-10} Basis	Default
Elevation (ft)	1164	Slope (ft/ft)	---
Watershed No.	16-E	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)	7.0	Default
Temperature (°F)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Aqua Pennsylvania, Inc. - Emlenton	
PWS Waters	Allegheny River	Flow at Intake (cfs)	1376
PWS RMI	90.0	Distance from Outfall (mi)	>25

Changes Since Last Permit Issuance: None

Other Comments: None

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.

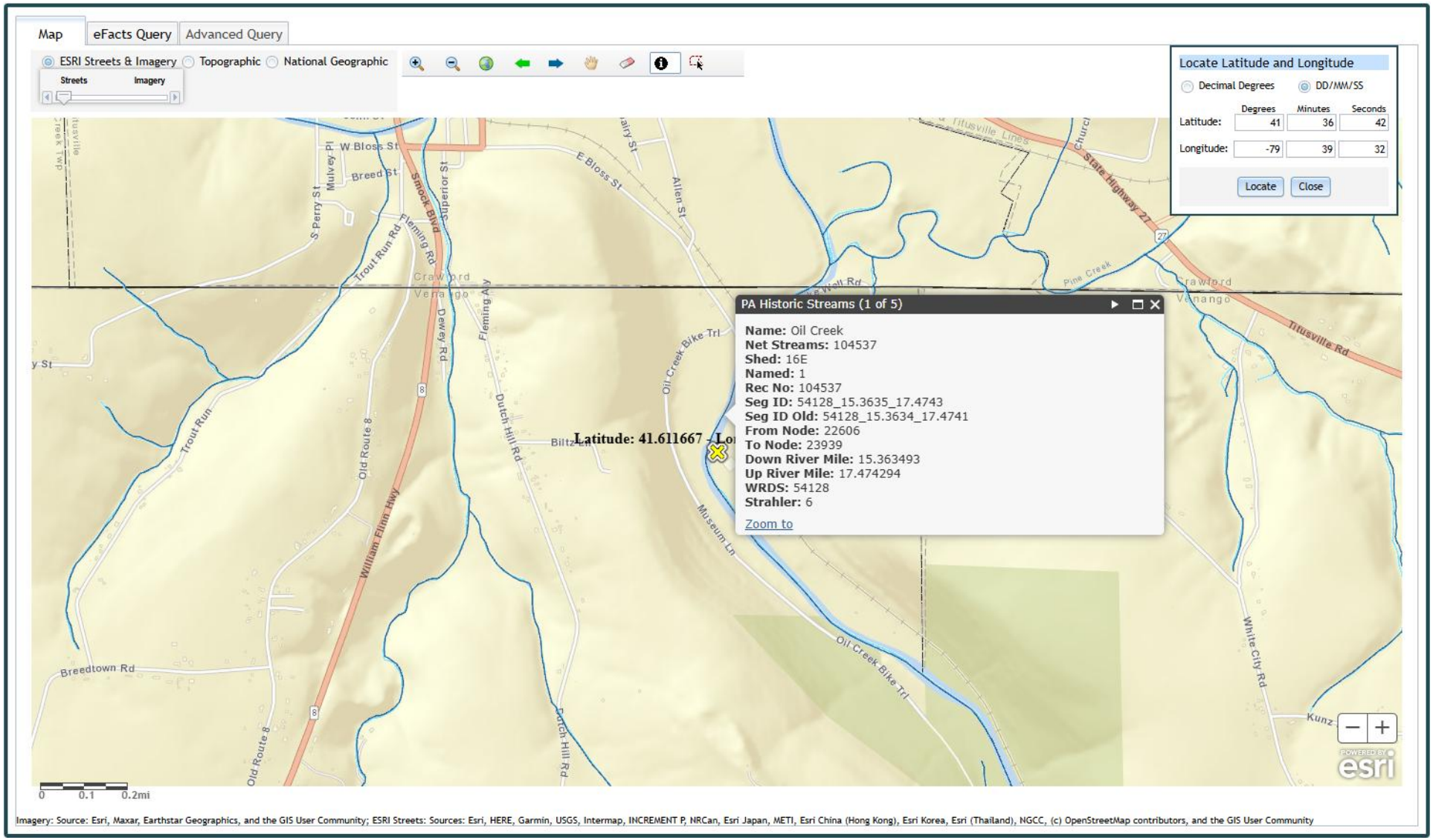
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

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	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	1/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/month	Grab
BOD5	XXX	XXX	XXX	10.0	XXX	20	1/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	1/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/month	Grab

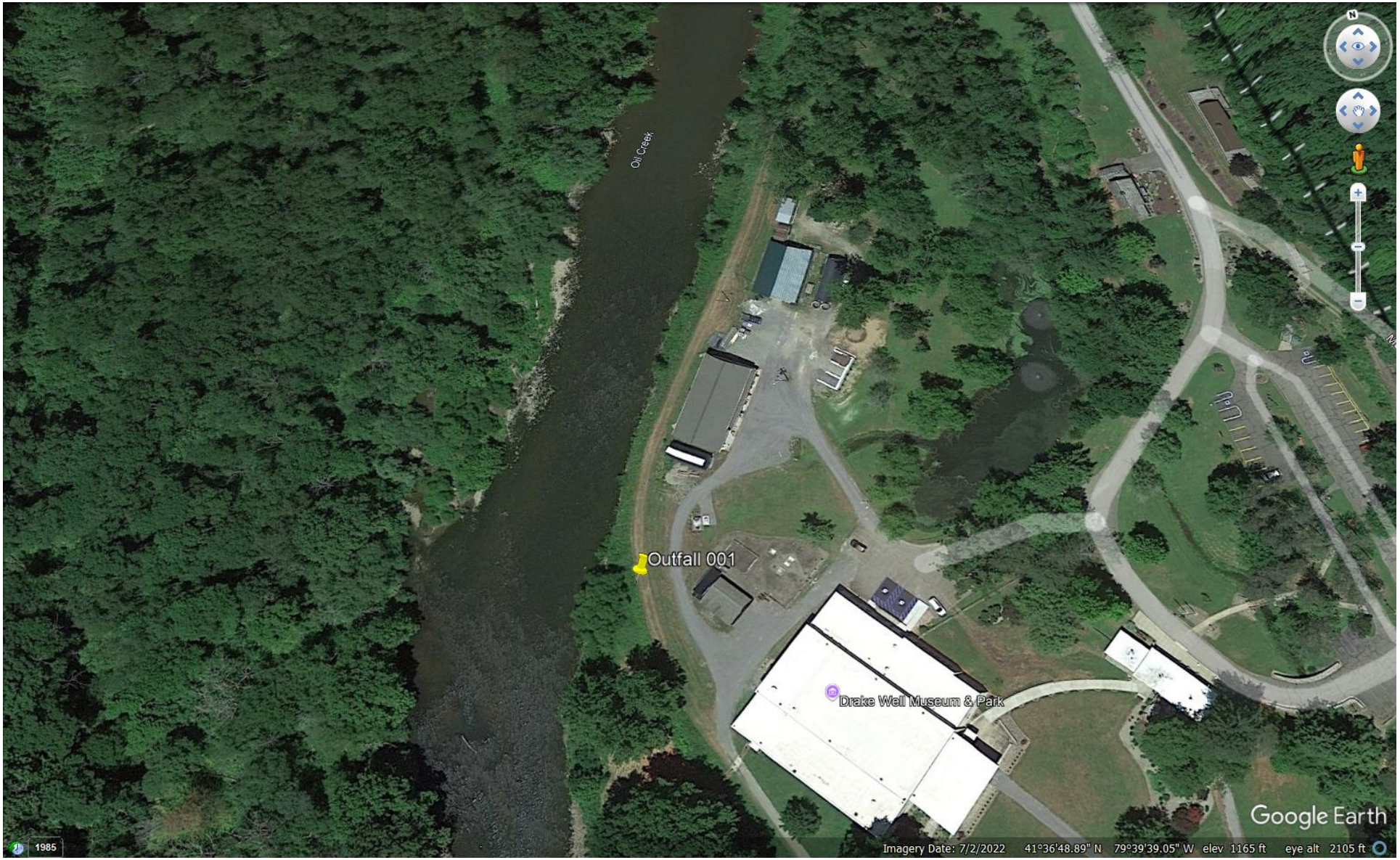
Compliance Sampling Location: Outfall 001, after disinfection.

Other Comments: Flow is monitor only based on Chapter 92a.61. The limits for BOD_5 and Total Suspended Solids are BPJ limits based on the Small Flow Treatment Facilities Manual. Fecal Coliform is technology-based on Chapter 92a.47. The limits for pH are technology-based on Chapter 93.7.

Attachment 1
eMap – Location Map



Attachment 2
Google Earth Imagery



TRC Spreadsheet - Drake Well Museum

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

26.2	= Q stream (cfs)	0.5	= CV Daily
0.002	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 2701.312	1.3.2.iii	WLA cfc = 2633.560
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 1006.573	5.1d	LTA_cfc = 1531.028

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**