Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0240150**
Facility Type	**Municipal**	APS ID	**1114225**
Major / Minor	**Minor**	Authorization ID	**1485971**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Norwich Township Mckean County**	Facility Name	**Norwich Township STP**
Applicant Address	3853 W Valley Road	Facility Address	3853 W Valley Road
	Smethport, PA 16749-3153		Smethport, PA 16749-3153
Applicant Contact	Melinda Keese	Facility Contact	
Applicant Phone	(814) 887-2732	Facility Phone	(814) 887-2732
Client ID	75719	Site ID	686206
Ch 94 Load Status	Not Overloaded	Municipality	Norwich Township
Connection Status	No Limitations	County	McKean
Date Application Received	May 1, 2024	EPA Waived?	Yes
Date Application Accepted	September 10, 2025	If No, Reason	

Purpose of Application: Renewal Application for a Minor Sewage Facility

Summary of Review

The permittee is applying for reissuance of Individual Permit No. **PA0240150** which expired on September 30, 2024.

The treatment plant consists of a treatment starting at influent ending at effluent consists of a bar screen that conveys flow to two 9,699 gallon aerated flow equalization tanks with a splitter box. From the splitter box, flow goes into two parallel treatment trains each consisting of three 12,931 gallon exerted aeration tanks, chemical addition for phosphorus control, a 7,247 gallon clarifier tank, and a 8,543 gallon aerobic digester. The flow then combines for chlorine disinfection with a 4,154 gallon chlorine contact tank and then sodium bisulfate is added, followed by a dichlorination tank and polishing tank. The sludge is transferred to two intermittent 1, 485 square foot sludge drying beds as needed. The type of disinfection used is Sodium Hypochlorite Disinfection.

This is a discharge into a stream channel - Potato Creek.

Act 14 – Notifications were submitted and received.

DMRs were submitted for the past five years.

A total number of 8 inspections has been conducted in this facility. The site was last inspected on September 24, 2024. No violations noted.

There are no open violations in WMS for the subject Client ID (75719) as of 9/8/25

Sludge use and disposal description and location(s): 1 dry tons of sewage sludge were disposed of at Reed Beds.

Approve	Deny	Signatures	Date
x		Adebayo Olude Adebayo Olude / Civil Engineer Trainee	September 8, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	September 29, 2025

Summary of Review
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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.06
Latitude	41º 42' 33.70"	Longitude	-78º 23' 35.36"
Quad Name	Crosby	Quad Code	41078F4
Wastewater Description:	Sewage Effluent		

Receiving Waters	Potato Creek (TSF)	Stream Code	57625
NHD Com ID	112376261	RMI	
Drainage Area	52.3	Yield (cfs/mi^2)	0.0771
Q_{7-10} Flow (cfs)	4.03	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1558	Slope (ft/ft)	-
Watershed No.	16-C	Chapter 93 Class.	TSF
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	Parker Area Water Authority		
PWS Waters	Allegheny River	Flow at Intake (cfs)	951
PWS RMI	83.94	Distance from Outfall (mi)	>10mil

Changes Since Last Permit Issuance: Elevation was revised using Google Earth. Drainage Area and Q_{7-10} Flow were revised using USGS StreamStats.

Other Comments: The streamflow value used for the receiving stream in this renewal is different from the previous permit. According to USGS Stream Stats, the anticipated low-flow (Q7-10) for the stream is 4.03 cfs, whereas the previous model assumed a low-flow of 4.34 cfs.

Treatment Facility Summary

Treatment Facility Name: Norwich Township STP

WQM Permit No.	Issuance Date
4208402	08/15/2008
4208402	02/19/2010
4298402	04/20/2011
4208402	06/10/2011
WQG02421601	08/16/2016

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Hypochlorite	0.06

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.06	90	Not Overloaded	Drying	Landfill

Changes Since Last Permit Issuance: None

4208402 was first issued on 08/15/2008 and later amended on 02/19/2010, 04/20/2011 and 06/10/2011 respectively. WQG02421601 was issued on 08/16/2016.

Compliance History	
Summary of DMRs:	DMRs were submitted for the past five years.
Summary of Inspections:	A total number of 8 inspections has been conducted. There are no open violations in WMS for the subject Client ID (75719) as of 9/8/25

Other Comments: None

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .06
Latitude 41º 42' 31.00" **Longitude** -78º 23' 43.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
Total Nitrogen	Report	Average Monthly		92a.61
Total Phosphorus	Report	Average Monthly		92a.61
E. Coli	Report	IMAX		92a.61

Comments: The limits for pH are technology-based on Chapter 93.7. The limits for Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. The limits for TRC are applicable under chapter 92a.48. New Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits." With a design flow between >= 0.05 and < 1 MGD, a sample frequency of 1/quarter is being proposed.

Water Quality-Based Limitations

CBOD5, Ammonia, and Dissolved oxygen are evaluated using WQM 7.0 (Attachment 5). TRC is evaluated using the Department's TRC evaluation spreadsheet (Attachment 4).

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
NH3-N May 1 – Oct 31	25.0	Average Monthly	WQM 7.0
	50.0	IMAX	
Dissolved Oxygen	4.0	Daily minimum	WQM 7.0
TRC	0.5	Average Monthly	TRC Spreadsheet Model
	1.635	IMAX	

Comments: This discharge was evaluated using the WQM 7.0 model to determine appropriate effluent limitations for $CBOD_5$, Ammonia-Nitrogen, and Dissolved Oxygen. The modeling results confirmed that the current $CBOD_5$ and Dissolved Oxygen limitations remain appropriate. The model recommended summertime average monthly limitations of 25 for ammonia-nitrogen based on the BPJ limits, thus a year -round monitoring requirement is being established in the permit at a minimum in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual

Sewage Permits." The default pH value of 7.0 S.U. was used in the most recent WQM 7.0 model, which is similar to what was done in the previous permit renewal. The WQBELs calculated in the previous permit is the same with the calculated model for this permit.

The current limit for TRC (0.5 mg/L) is being met in this permit. Therefore, the limits will be retained to comply with the antibacksliding requirements.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

The previous limits can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l). The previous permit limitations, monitoring requirements, and conditions will be retained. New or more stringent limitations are being proposed for E. Coli.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
CBOD5	12.5	20.0	XXX	25.0	40.0	50	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	15.0	22.5	XXX	30.0	45.0	60	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite

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" (386-0400-001), SOPs and/or BPJ.

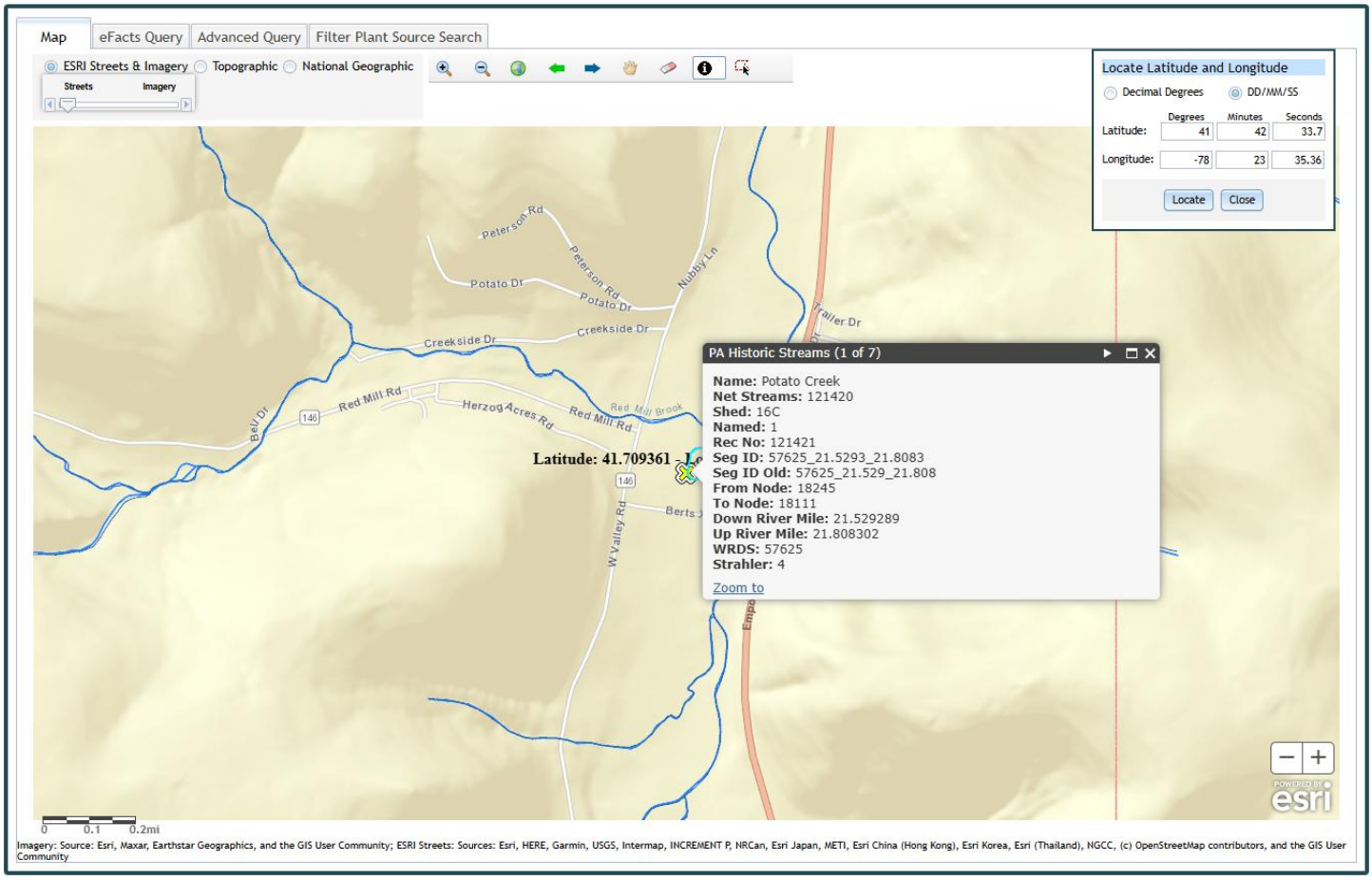
Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
CBOD5	12.5	20.0	XXX	25.0	40.0	50	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS	15.0	22.5	XXX	30.0	45.0	60	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
E. Coli (No./100ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

Compliance Sampling Location: Outfall 001 after disinfection
Other Comments: -

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, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☐	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 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, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 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, 386-2000-010, 3/1999.
☐	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☐	SOP:
☐	Other:

Attachment 1
eMAP – Receiving stream location and Designation

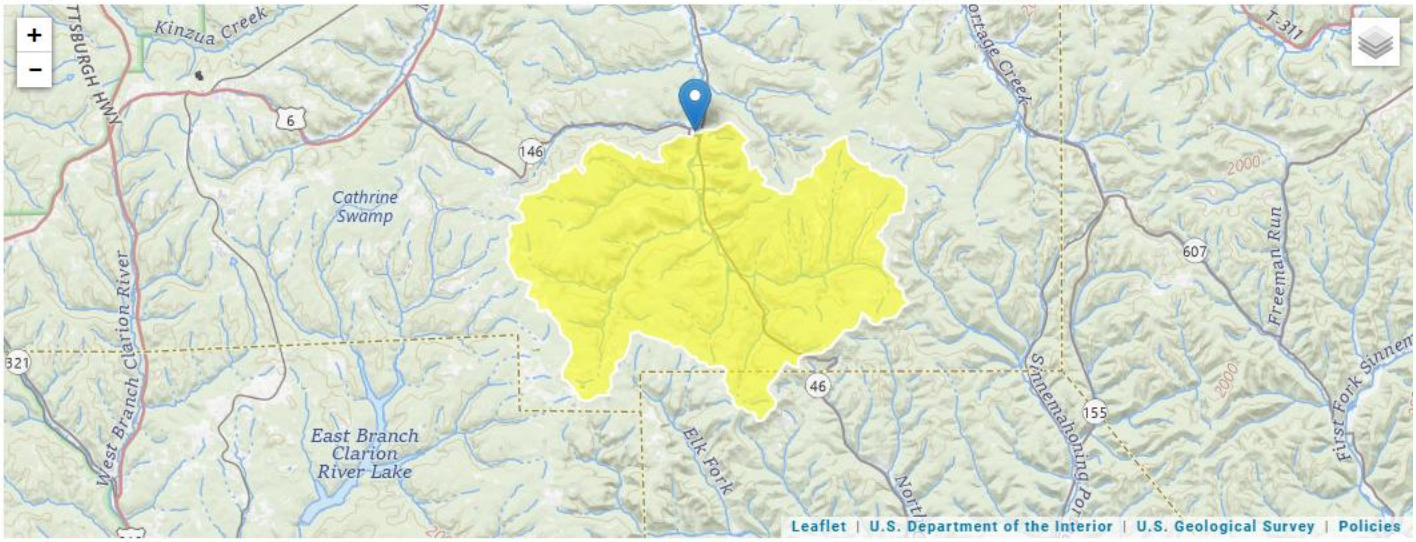


Attachment 2
Google Earth Aerial Site View

Attachment 3
StreamStats Report

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250908210310106000
Clicked Point (Latitude, Longitude):	41.70922, -78.39277
Time:	2025-09-08 17:03:34 -0400



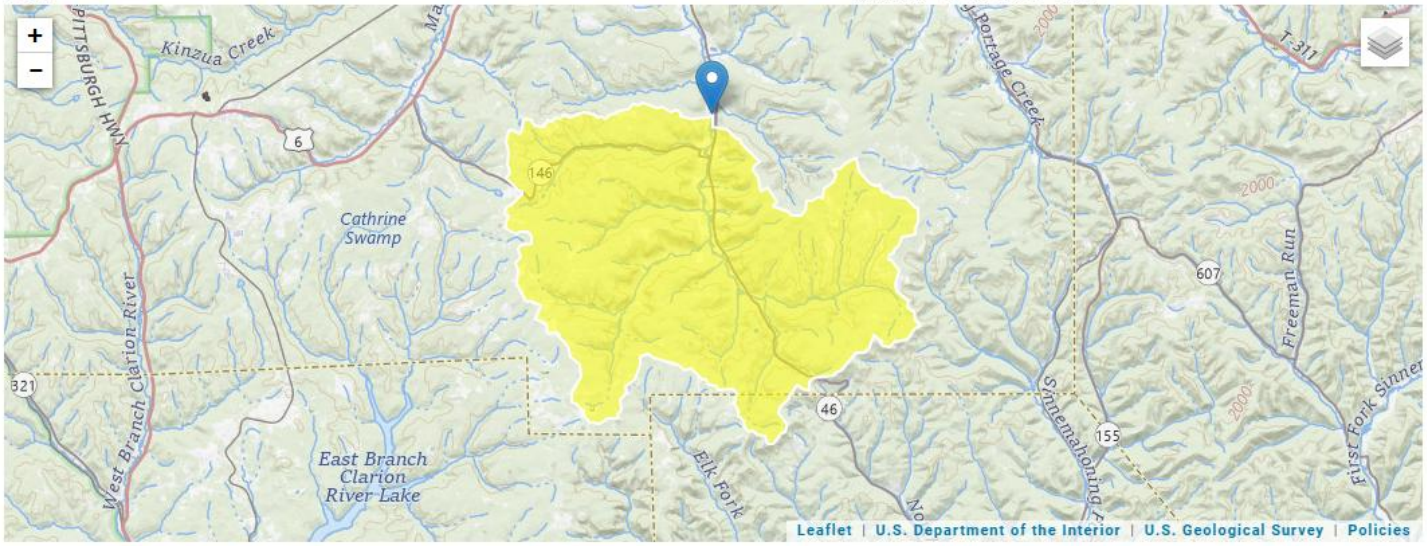
Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	52.3	square miles
ELEV	Mean Basin Elevation	2023	feet
PRECIP	Mean Annual Precipitation	45	inches

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250910174852367000
Clicked Point (Latitude, Longitude):	41.72423, -78.38953
Time:	2025-09-10 13:49:15 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	62.5	square miles
ELEV	Mean Basin Elevation	2010	feet
PRECIP	Mean Annual Precipitation	45	inches

Attachment 4
Google Earth Aerial Site View

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

4.03	= Q stream (cfs)	0.5	= CV Daily
0.06	= 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 = 13.869	1.3.2.iii	WLA cfc = 13.514
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 5.168	5.1d	LTA_cfc = 7.856

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)

Attachment 5
WQM 7.0 Modeling Output files

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
16C	57625	POTATO CREEK	21.700	1558.00	52.30	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.077	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Norwich STP	PA0240150	0.0600	0.0600	0.0600	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
16C	57625	POTATO CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
21.700	4.03	0.00	4.03	.0928	0.00271	.674	33.13	49.18	0.18	0.417	20.11	7.00
Q1-10 Flow												
21.700	2.58	0.00	2.58	.0928	0.00271	NA	NA	NA	0.15	0.531	20.17	7.00
Q30-10 Flow												
21.700	5.48	0.00	5.48	.0928	0.00271	NA	NA	NA	0.22	0.352	20.08	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
16C	57625	POTATO CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
21.700	Norwich STP	16.52	50	16.52	50	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
21.700	Norwich STP	1.88	25	1.88	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
21.70	Norwich STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
16C	57625	POTATO CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
21.700	0.060	20.113	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
33.126	0.674	49.177	0.185
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.52	0.263	0.56	0.706
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.148	4.765	Tsivoglou	5
Reach Travel Time (days)			
0.417			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.042	2.49	0.55	8.22
0.083	2.46	0.53	8.23
0.125	2.44	0.52	8.23
0.167	2.41	0.50	8.23
0.208	2.38	0.49	8.23
0.250	2.36	0.47	8.23
0.292	2.33	0.46	8.23
0.333	2.31	0.44	8.23
0.375	2.28	0.43	8.23
0.417	2.26	0.42	8.23

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
16C	57625	POTATO CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
21.700	Norwich STP	PA0240150	0.060	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4