Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0101931**
Facility Type	**Municipal**	APS ID	**1147334**
Major / Minor	**Minor**	Authorization ID	**1544043**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Jenks Township Forest County**	Facility Name	**Marienville STP**
Applicant Address	PO Box 436 135 Pine Street	Facility Address	Loleta Road
	Marienville, PA 16239-0436		Marienville, PA 16239
Applicant Contact	Misty Dittman	Facility Contact	Scott Dittman
Applicant Phone	(814) 927-2233	Facility Phone	(814) 927-8903
Client ID	162203	Site ID	271071
Ch 94 Load Status	Not Overloaded	Municipality	Jenks Township
Connection Status	No Limitations	County	Forest
Date Application Received	September 30, 2025	EPA Waived?	Yes
Date Application Accepted		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. **PA0101931** which will expire on March 31, 2026. In the facility, an Influent flow first enters through an equalization tank and a fine screen. The flow continues through the treatment process through two SBR basins, a chlorine contact tank, and a dichlorination tank. Sludge from the SBR basins is wasted to two digesters and then pressed and hauled away to a landfill. Sodium Hypochlorite is used for disinfection. The facility has the capability of using Sodium Bisulfite for dichlorination. However, its use has not been necessary.

This is a discharge into a stream channel - West Branch Millstone Creek.

DMRs were submitted for the past five years.

Act 14 – Notifications were submitted and received.

There are no open violations in WMS for the subject Client ID (**162203**) as of 10/7/25.

Sludge use and disposal description and location(s): 56.334 dry tons of sewage sludge were disposed of at landfills.

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

Approve	Deny	Signatures	Date
x		Adebayo Olude Adebayo Olude / Civil Engineer Trainee	October 7, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	October 30, 2025

Summary of Review
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.	002	Design Flow (MGD)	.583
Latitude	41º 27' 25.28"	Longitude	-79º 7' 10.83"
Quad Name	Marienville East	Quad Code	41079D1
Wastewater Description:	Sewage Effluent		
Receiving Waters	West Branch Millstone Creek (HQ-CWF)	Stream Code	49939
NHD Com ID	102666033	RMI	10.0000
Drainage Area	11.4	Yield (cfs/mi^2)	0.0602
Q_{7-10} Flow (cfs)	0.687	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)		Slope (ft/ft)	-
Watershed No.	17-B	Chapter 93 Class.	HQ-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	Default
Temperature (°F)	20	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake	Pennsylvania American Water Company - Clarion		
PWS Waters	Clarion River	Flow at Intake (cfs)	90.7
PWS RMI	33.3	Distance from Outfall (mi)	>10

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 is different from previous permit. According to USGS Stream Stats, the anticipated low-flow (Q7-10) for the stream is 0.687cfs, whereas the previous model assumed a low-flow of 1.138cfs. The basis for the earlier flow value is due to a default low flow yield of 0.1. This difference in streamflow inputs likely accounts for the change in modeled results under attachment 3 and 4.

Treatment Facility Summary

Treatment Facility Name: Marienville STP

WQM Permit No.	Issuance Date
2703403	11/21/2014
2704401	11/28/2012
2710401	8/30/2010
2792401	5/1/2008
2706401	6/9/2006
2792401	1/30/2006
2704401	03/30/2004
2703403	12/12/2003
2792401	4/22/1992

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Sequencing Batch Reactor	Chlorine With Dechlorination	0.583

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.583	1799	Not Overloaded	Aerobic Digestion	Landfill

Changes Since Last Permit Issuance: WQM Permit No. 2703401 was first issued on 4/22/92. 2703403 was later issued on 12/12/2003. 2703401 was later amended on 1/30/2006, issued on 1/30/2006 and amended on 5/1/2008. 2710401 was again issued on 8/30/2010, amended on 11/28/2012 and on 11/21/2014 respectively.

Other Comments: None.

Compliance History	
Summary of DMRs:	DMRs were submitted for the past five years.
Summary of Inspections:	There are no open violations in WMS for the subject Client ID (**162203**) as of 10/7/25.

Other Comments: None

Compliance History

DMR Data for Outfall 002 (from September 1, 2024 to August 31, 2025)

Parameter	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24
Flow (MGD) Average Monthly	0.430	0.450	0.630	0.640	0.600	0.610	0.610	0.540	0.610	0.500	0.460	0.460
Flow (MGD) Daily Maximum	0.460	0.470	1.03	1.08	0.660	0.750	1.07	0.780	0.890	0.65	0.570	0.600
pH (S.U.) Instantaneous Minimum	7.00	7.04	6.21	6.79	6.97	6.73	6.83	6.56	6.77	6.97	6.96	6.89
pH (S.U.) Instantaneous Maximum	7.26	7.31	7.25	7.13	7.18	7.50	7.09	7.13	7.10	7.15	7.34	7.23
DO (mg/L) Daily Minimum	6.36	6.28	6.43	6.13	6.71	6.19	6.26	6.20	6.03	6.67	6.61	6.21
TRC (mg/L) Average Monthly	0.03	0.01	0.03	0.02	0.03	0.02	0.03	0.03	0.04	0.02	0.02	0.01
CBOD5 (lbs/day) Average Monthly	13.6	9.8	16.7	25.6	27.1	26.0	29.2	29.1	54.5	20.5	13.2	16.2
CBOD5 (lbs/day) Weekly Average	18.0	17.0	21.3	36.7	34.0	42.7	48.4	39.0	60.8	33.0	18.8	19.6
CBOD5 (mg/L) Average Monthly	3.8	2.6	3.3	5.3	5.8	5.3	6.0	6.8	9.2	4.8	3.4	4.3
CBOD5 (mg/L) Weekly Average	5.0	4.0	4.0	8.0	8.0	8.0	10.0	9.0	13.0	6.0	5.0	5.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	715.0	880.0	847.0	896.0	766.0	822	747.0	739.0	805.0	863.0	830.0	738.0
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	1013.0	1259.0	957.0	1013.0	953.0	954	813.0	984.0	932.0	916.0	968.0	839.0
TSS (lbs/day) Average Monthly	11.8	11.2	16.7	20.5	14.3	14.8	19.7	16.3	60.9	18.1	11.6	11.4
TSS (lbs/day) Raw Sewage Influent Average Monthly	791.0	756.0	865.0	944.0	786.0	773	806.0	677.0	922.0	930	859.0	890.0

TSS (lbs/day) Raw Sewage Influent Weekly Average	1269.0	984.0	1113.0	1110.0	949.0	967	982.0	1115.0	1101.0	1015.0	901.0	1427.0
TSS (lbs/day) Weekly Average	14.0	13.0	21.0	28.0	16.0	16.0	29.0	19.0	88.0	38.0	< 13.0	12.0
TSS (mg/L) Average Monthly	3.3	3.0	3.3	< 4.3	< 3.0	3.0	4.0	3.8	10.4	4.0	< 3.0	3.0
TSS (mg/L) Weekly Average	4.0	3.0	4.0	6.0	3.0	3.0	6.0	9.0	13.0	7.0	< 3.0	3.0
Fecal Coliform (No./100 ml) Geometric Mean	< 2.0	< 2.0	< 1.0	3.0	< 3.0	< 1.0	2.0	2.0	11.0	< 1.0	< 2.0	6.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	8.0	< 6.0	5.0	13.0	69.0	1.0	3.0	4.0	30	4.0	11.0	15.0
Total Nitrogen (mg/L) Average Monthly	5.39	3.87	3.17	3.69	3.42	4.34	4.66	4.30	5.17	4.23	4.34	3.98
Ammonia (lbs/day) Average Monthly	1.8	< 1.9	2.6	< 2.5	2.5	3.3	4.0	2.3	3.6	< 2.5	< 1.9	1.9
Ammonia (mg/L) Average Monthly	< 0.5	< 0.5	< 0.5	< 0.5	< 0.53	0.67	0.8	0.53	0.61	< 0.6	< 0.5	< 0.5
Total Phosphorus (mg/L) Average Monthly	5.19	5.03	2.88	4.61	3.11	3.57	3.04	3.08	2.96	4.85	4.19	4.46

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** .583
Latitude 41º 27' 25.37" **Longitude** -79º 7' 10.84"
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. 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 >= 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 3). 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	3	Average Monthly	WQM 7.0
	6	IMAX	
NH3-N Nov 1 – Apr 30	9	Average Monthly	WQM 7.0
	18	IMAX	
Dissolved Oxygen	6.0	Daily minimum	WQM 7.0
TRC	0.1	Average Monthly	TRC Spreadsheet Model
	0.4	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 limitations for $CBOD_5$, limitations remain appropriate, and existing Dissolved Oxygen limits are also adequate for the facility. The Modeling results

recommended limits less stringent than the current limits. The current limits for NH3-N will be retained since there has been no change from previous permit and to be consistent with the anti-backsliding regulations in 40 CFR 122.44.I.1. The default pH value of 7.0 S.U. was used in this most recent WQM 7.0 model run.

The current limits for TRC of 0.1 will be retained. For existing discharges, where the existing TRC limit is at or below 0.1 mg/L, the existing limit may remain in the reissued permit (no modeling required). This is in accordance with the Department's SOP entitled "New and Reissuance Sewage Individual NPDES Permit Applications." Although a TRC modelling was done to show that the TRC limit of 0.1 can be retained in the permit.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.1	XXX	0.4	1/day	Grab
CBOD5 Nov 1 - Apr 30	96.0	144.0	XXX	20.0	30.0	40	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	48.0	72.0	XXX	10.0	15.0	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	24-Hr Composite
TSS	78.0	156.0	XXX	16.0	24.0	32	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	29.1	XXX	XXX	6.0	XXX	12	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	9.7	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/week	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 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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.1	XXX	0.4	1/day	Grab
CBOD5 Nov 1 - Apr 30	96.0	144.0	XXX	20.0	30.0	40	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	48.0	72.0	XXX	10.0	15.0	20	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	XXX	XXX	XXX	1/week	24-Hr Composite
TSS	78.0	156.0	XXX	16.0	24.0	32	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite

Outfall 002 , Continued (from Permit Effective Date through Permit Expiration Date)

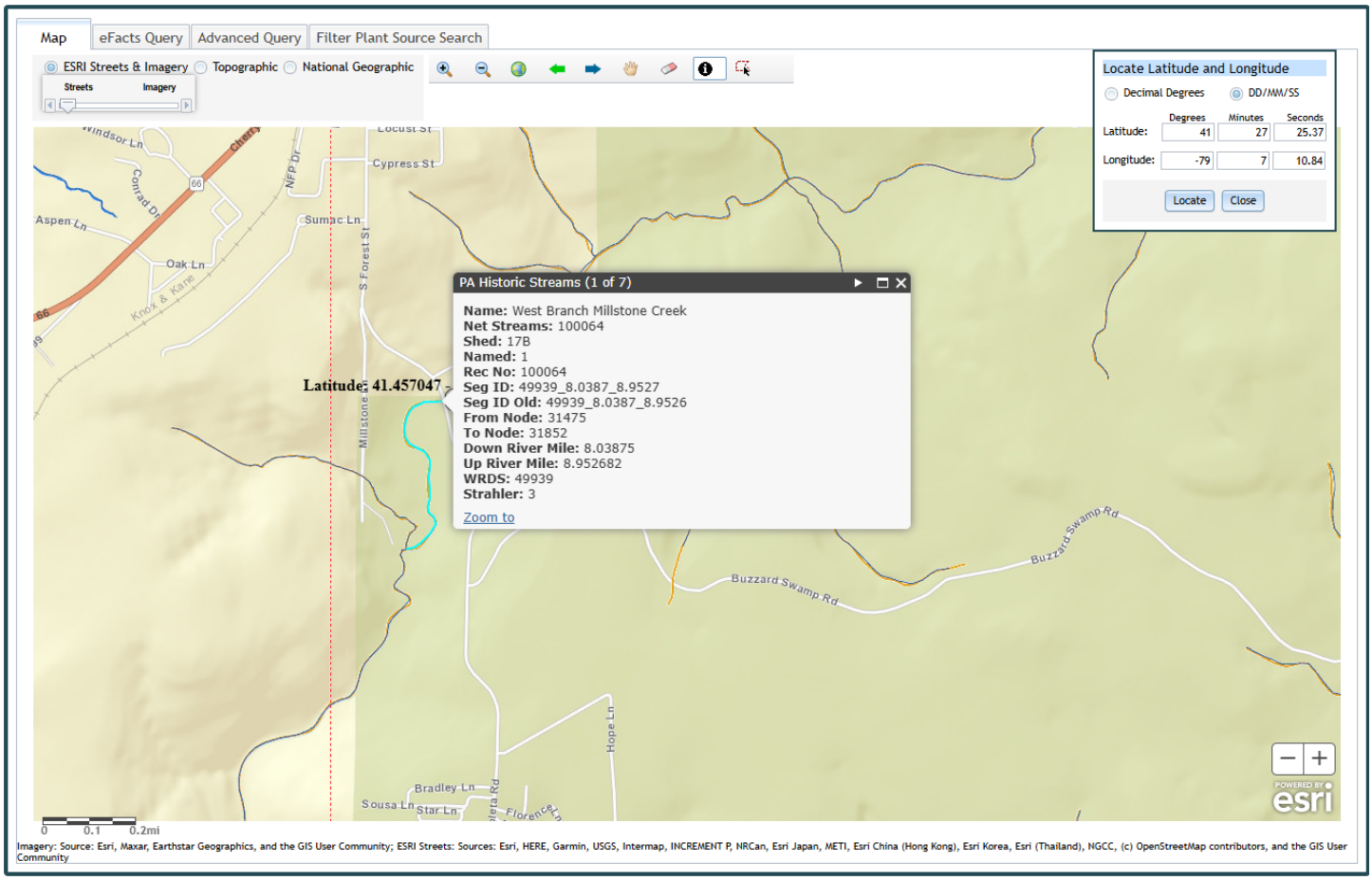
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia Nov 1 - Apr 30	29.1	XXX	XXX	6.0	XXX	12	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	9.7	XXX	XXX	2.0	XXX	4	1/week	24-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
E. Coli	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

Compliance Sampling Location: Outfall 002 after disinfection.

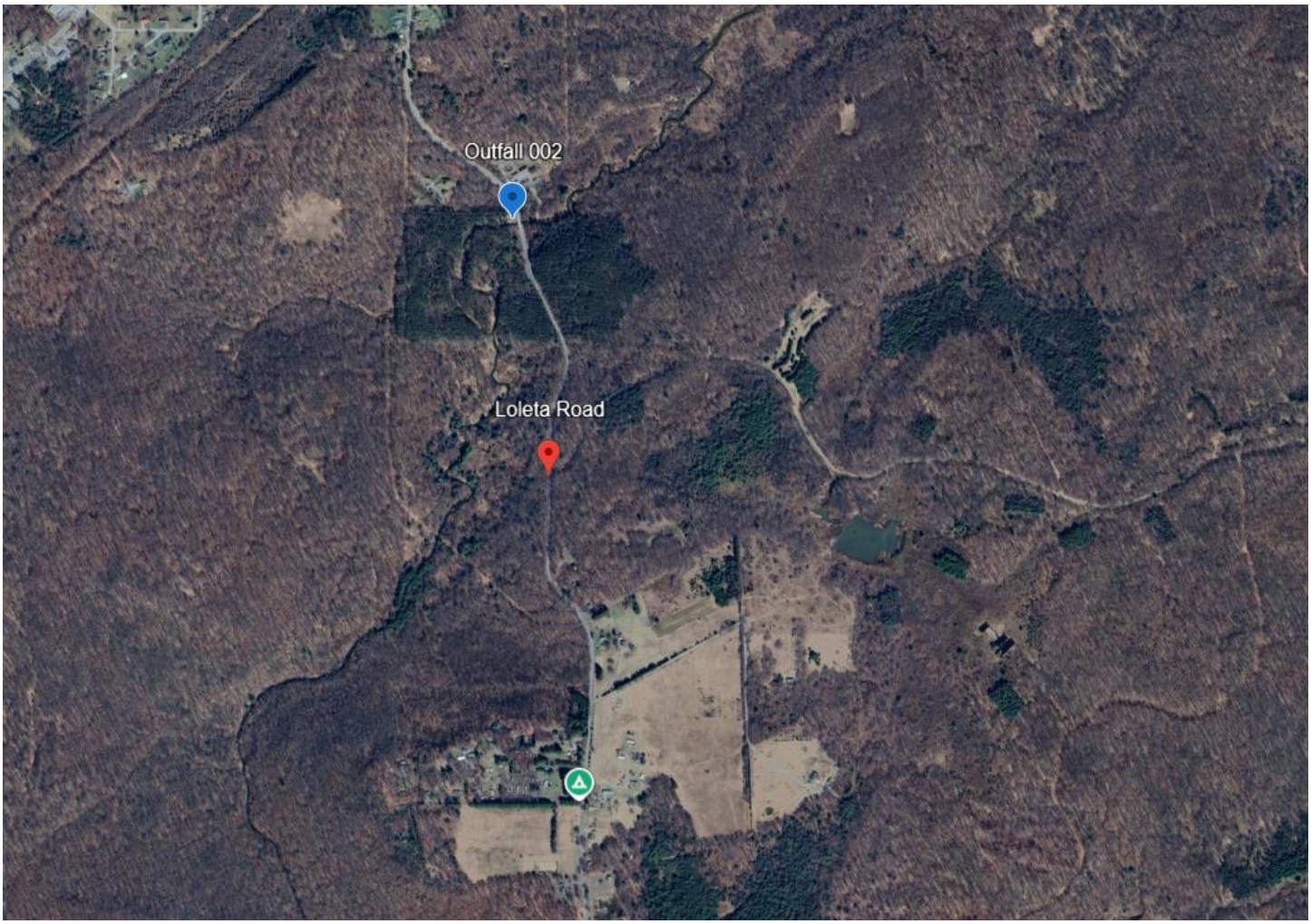
Other Comments:

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
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
17B	49939	WEST BRANCH MILLSTONE CREEK	8.950	1669.00	11.40	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	0.060	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
Marienville STP	PA0101931	0.5830	0.5830	0.5830	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	6.00	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
17B	49939	WEST BRANCH MILLSTONE 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												
8.950	0.69	0.00	0.69	.9019	0.02458	.579	15.09	26.08	0.18	0.158	22.84	7.00
Q1-10 Flow												
8.950	0.44	0.00	0.44	.9019	0.02458	NA	NA	NA	0.17	0.174	23.36	7.00
Q30-10 Flow												
8.950	0.93	0.00	0.93	.9019	0.02458	NA	NA	NA	0.20	0.146	22.46	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 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17B	49939	WEST BRANCH MILLSTONE CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
8.950	0.583	22.839	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
15.089	0.579	26.076	0.182
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
15.06	1.402	1.86	0.871
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.969	45.442	Tsivoglou	5
Reach Travel Time (days)			
0.158			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.016	14.69	1.84	7.37
0.032	14.32	1.81	7.58
0.047	13.96	1.79	7.69
0.063	13.62	1.76	7.75
0.079	13.28	1.74	7.80
0.095	12.95	1.71	7.83
0.111	12.62	1.69	7.83
0.126	12.31	1.67	7.83
0.142	12.00	1.64	7.83
0.158	11.70	1.62	7.83

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17B	49939	WEST BRANCH MILLSTONE 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
8.950	Marienville STP	12.68	18.86	12.68	18.86	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
8.950	Marienville STP	1.61	3.28	1.61	3.28	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)		
8.95	Marienville STP	25	25	3.28	3.28	6	6	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17B	49939	WEST BRANCH MILLSTONE 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)
8.950	Marienville STP	PA0101931	0.583	CBOD5	25		
				NH3-N	3.28	6.56	
				Dissolved Oxygen			6

Attachment 4
TRC_CALC Modeling Output files

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.687	= Q stream (cfs)	0.5	= CV Daily
0.583	= 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 = 0.262	1.3.2.iii	WLA cfc = 0.248
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.098	5.1d	LTA_cfc = 0.144

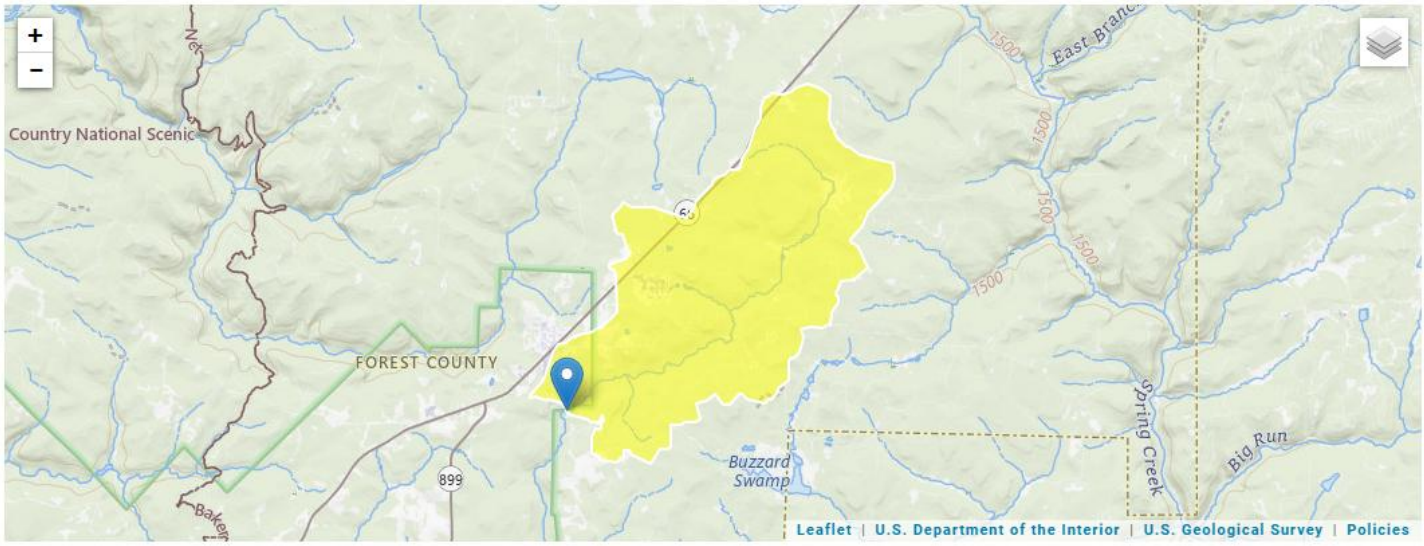
Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.120	AFC
		INST MAX LIMIT (mg/l) = 0.393	

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
StreamStats Report

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251007181918934000
Clicked Point (Latitude, Longitude):	41.45698, -79.12036
Time:	2025-10-07 14:19:51 -0400



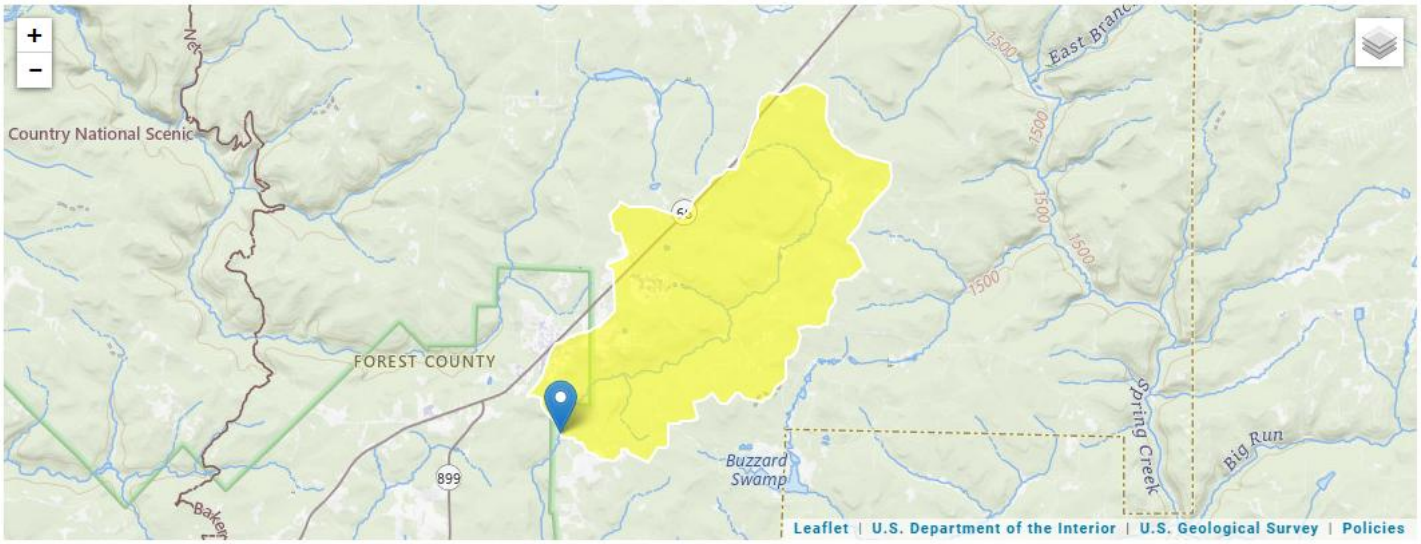
Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11.4	square miles
ELEV	Mean Basin Elevation	1739	feet
PRECIP	Mean Annual Precipitation	44	inches

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251007182538883000
Clicked Point (Latitude, Longitude):	41.45236, -79.12150
Time:	2025-10-07 14:26:14 -0400



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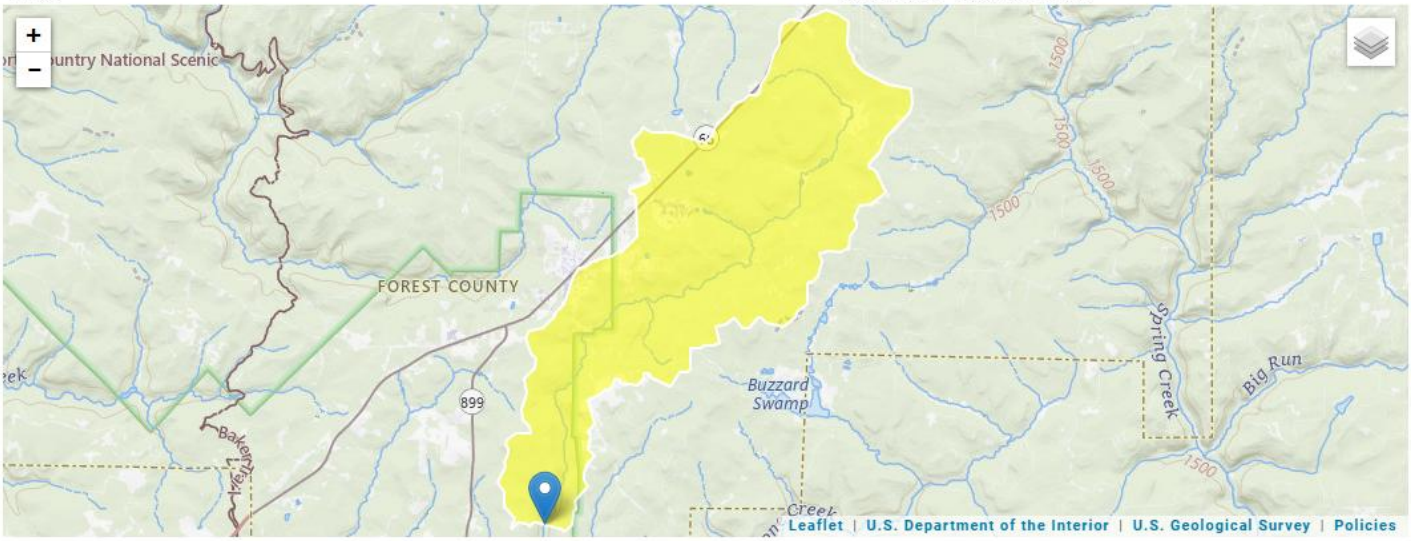
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	11.6	square miles
ELEV	Mean Basin Elevation	1737	feet
PRECIP	Mean Annual Precipitation	44	inches

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251007180059489000
Clicked Point (Latitude, Longitude):	41.42011, -79.13139
Time:	2025-10-07 14:01:21 -0400



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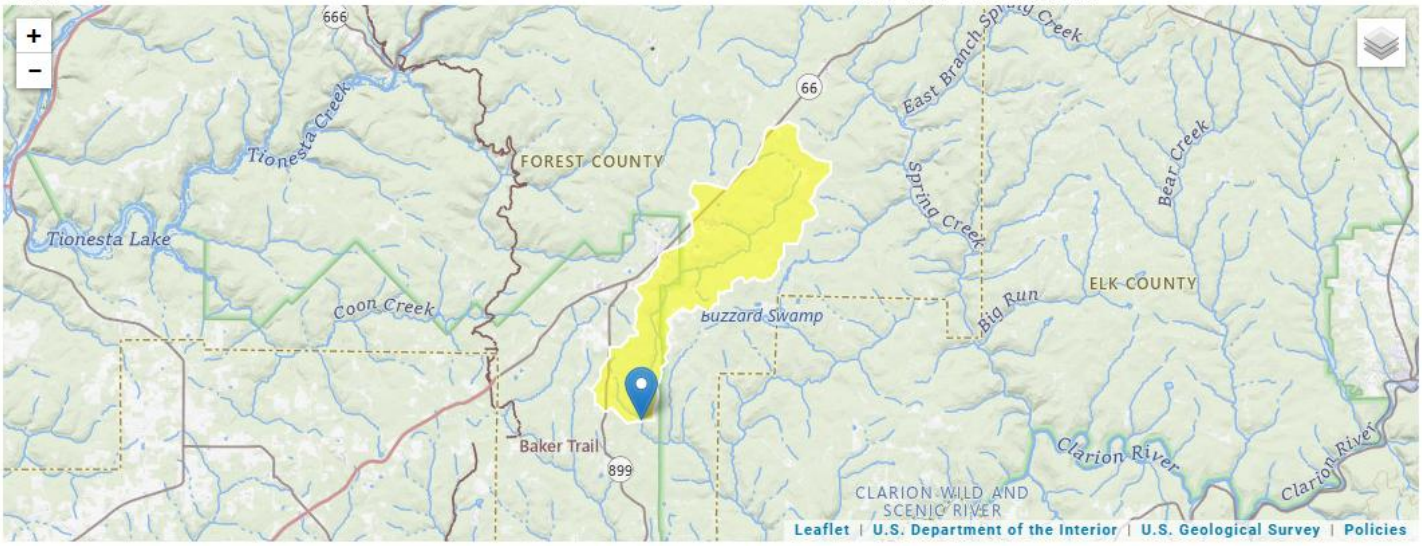
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	14.1	square miles
ELEV	Mean Basin Elevation	1721	feet
PRECIP	Mean Annual Precipitation	44	inches

StreamStats Report

Region ID:	PA
Workspace ID:	PA20251007175731844000
Clicked Point (Latitude, Longitude):	41.40521, -79.13362
Time:	2025-10-07 13:58:00 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	16.1	square miles
ELEV	Mean Basin Elevation	1709	feet
PRECIP	Mean Annual Precipitation	44	inches