Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0102369**
Facility Type	**Non-Municipal**	APS ID	**1124065**
Major / Minor	**Minor**	Authorization ID	**1503532**

Applicant and Facility Information

Applicant Name	**Rainbow Valley MHP**	Facility Name	**Rainbow Valley MHP**
Applicant Address	400 Lord Road	Facility Address	11682 Route 97 North
	Fairview, PA 16415-1526		Waterford, PA 16441
Applicant Contact	J Brian Foht	Facility Contact	Brian Foht
Applicant Phone	(814) 460-7957	Facility Phone	(814) 460-7957
Client ID	43742	Site ID	258566
Ch 94 Load Status	Not Overloaded	Municipality	Waterford Township
Connection Status	No Limitations	County	Erie
Date Application Received	October 21, 2024	EPA Waived?	Yes
Date Application Accepted		If No, Reason	
Purpose of Application	NPDES Permit Renewal.		

Summary of Review

Rainbow Valley MHP has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES Permit. The permit was last reissued on April 29, 2020 and became effective on May 1, 2020. The permit expired on April 30, 2025 but the terms and conditions of the permit have been extended since that time.

Based on the review, 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.

Approve	Deny	Signatures	Date
X		*Jinsu Kim* Jinsu Kim / Environmental Engineering Specialist	October 6, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	October 27, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.05
Latitude	41º 57' 49.90"	Longitude	-79º 59' 32.64"
Quad Name	Waterford	Quad Code	0306
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to LeBoeuf Creek (TSF)	Stream Code	53523
NHD Com ID	127355143	RMI	0.5100
Drainage Area	0.81 sq.mi.	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	0.0326	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)		Slope (ft/ft)	
Watershed No.	16-A	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	
Nearest Downstream Public Water Supply Intake	Cambridge Springs Borough		
PWS Waters	French Creek	Flow at Intake (cfs)	
PWS RMI	50.28	Distance from Outfall (mi)	18.85

Comments:

The discharge is to an unnamed tributary to LeBoeuf Creek at RM 0.51. A drainage area at the discharge point is estimated to be 0.81 sq.mi with the Q7-10 flow of 0.0326 cfs at the discharge point according to USGS StreamStats (https://streamstats.usgs.gov/ss/).

The entire watershed of LeBoeuf is designated as Trout Stocking use; no special protection water is therefore impacted by this discharge. DEP's latest integrated water quality report finalized in 2024 indicates that the receiving stream is not impaired.

The fact sheet developed for the last permit renewal indicates the nearest downstream public water supply is Cambridge Springs Borough located on French Creek approximately 18.85 miles from the discharge. Given the distance, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Rainbow Valley M H P				
WQM Permit No.	**Issuance Date**			
2585401	May 3, 1985			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.05
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.05	120	Not Overloaded	Aerobic Digestion	Other WWTP

The on-site sanitary wastewater treatment plant for Rainbow Valley MHP is an extended aeration activated sludge treatment plant consisting of comminutor aerations tanks (2) in parallel, final clarifiers (2) in parallel, chlorine contact chamber and outfall structure. Chlorine tablets are used for disinfection. Any sludge generated from this facility is sent to McKean Township STP for ultimate treatment/disposal.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	08/04/2022: DEP conducted a routine inspection. No significant violations were identified at the time of inspection but several recommendations were made based on a number of non-compliances identified at the time of inspection.
Other Comments:	Since the last permit reissuance, the facility had a number of permit violations. These violations are listed on page 5 of this fact sheet. DEP's database shows there is no open violation associated with this facility or permittee identified by NWRO Clean Water Program.

Effluent Data

DMR Data for Outfall 001 (from August 1, 2024 to July 31, 2025)

Parameter	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24
Flow (MGD) Average Monthly	0.029	0.028	0.025	0.02	0.02	0.011	0.011	0.017	0.013	0.015	0.029	0.024
pH (S.U.) Instantaneous Minimum	6.1	6.0	6.2	6.5	6.5	6.5	6.6	6.5	6.3	6.4	6.3	6.4
pH (S.U.) Instantaneous Maximum	7.9	7.9	6.9	6.7	7.1	6.6	7.1	7.0	6.9	6.8	6.7	8.0
DO (mg/L) Instantaneous Minimum	3.7	3.6	4.6	5.1	6.8	5.7	10.5	7.0	5.9	4.1	4.6	3.6
TRC (mg/L) Average Monthly	0.5	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2
TRC (mg/L) Instantaneous Maximum	1.3	0.5	0.3	0.6	0.3	0.2	0.2	0.5	0.3	0.4	0.4	0.4
CBOD5 (mg/L) Average Monthly	< 2.4	< 2.6	< 4.1	< 4.5	3.5	3.9	5.5	< 3.1	< 2.5	< 3.5	3.2	2.8
CBOD5 (mg/L) Instantaneous Maximum	< 2.4	2.7	5.1	6.7	3.5	4.3	7.0	3.3	2.6	4.6	3.6	2.8
TSS (mg/L) Average Monthly	15.7	7.0	12.0	10.8	11.0	< 3.0	6.8	7.5	4.8	11.8	< 4.5	6.0
TSS (mg/L) Instantaneous Maximum	18.8	9.0	16.0	13.5	14.0	3.5	7.0	8.0	6.0	20.0	6.5	6.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1	8	< 3	< 1	< 1	< 1	< 1	< 1	8	4	< 1	4
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2	30	10	1	< 1	< 1	< 1	< 1	29	4	1	4
Total Nitrogen (mg/L) Average Monthly	35.7016	41.81	24.63	27.2	23.9	36.89	23.72	15.2	45.26	23.5689	32.9569	26.16
Ammonia (mg/L) Average Monthly	1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1	< 0.1	< 0.1	< 1
Total Phosphorus (mg/L) Average Monthly	5.48	5.83	3.18	3.7	2.74	4.3	2.58	1.53	< 3.38	5.8	5.49	4.78

Non-Compliance History

Month	Description	Parameters	Results	Limits	Units	SBC
Apr-21	Late DMR Submission					
May-22	Violation of permit condition	Dissolved Oxygen	3.2	4	mg/L	Instantaneous Minimum
May-22	Violation of permit condition	Total Residual Chlorine (TRC)	2.2	1.2	mg/L	Instantaneous Maximum
Jun-22	Violation of permit condition	Dissolved Oxygen	1.2	4	mg/L	Instantaneous Minimum
Jun-22	Violation of permit condition	Total Residual Chlorine (TRC)	1.7	1.2	mg/L	Instantaneous Maximum
Jul-22	Violation of permit condition	Dissolved Oxygen	2.1	4	mg/L	Instantaneous Minimum
Jul-22	Violation of permit condition	pH	9.22	9	S.U.	Instantaneous Maximum
Jul-22	Violation of permit condition	Total Residual Chlorine (TRC)	2.2	1.2	mg/L	Instantaneous Maximum
Jul-23	Violation of permit condition	Dissolved Oxygen	3.3	4	mg/L	Instantaneous Minimum
May-24	Violation of permit condition	Fecal Coliform	346	200	CFU/100 ml	Geometric Mean
Aug-24	Sample collection less frequent than required	Ammonia-Nitrogen				
Aug-24	Sample collection less frequent than required	Fecal Coliform				
Aug-24	Sample collection less frequent than required	Total Nitrogen				
Aug-24	Sample collection less frequent than required	Total Phosphorus				
Aug-24	Sample collection less frequent than required	Total Suspended Solids				
Aug-24	Violation of permit condition	Dissolved Oxygen	3.6	4	mg/L	Instantaneous Minimum
Jun-25	Violation of permit condition	Dissolved Oxygen	3.6	4	mg/L	Instantaneous Minimum
Jul-25	Violation of permit condition	Dissolved Oxygen	3.7	4	mg/L	Instantaneous Minimum
Jul-25	Violation of permit condition	Total Residual Chlorine (TRC)	1.3	1.2	mg/L	Instantaneous Maximum
Aug-25	Violation of permit condition	pH	5.8	6	S.U.	Instantaneous Minimum

Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limits and monitoring requirements specified in the current permit.

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/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	9.0	XXX	2/week	Grab
Dissolved Oxygen	XXX	XXX	4.0	XXX	XXX	XXX	2/week	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.2	2/week	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5) Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
Carbonaceous Biochemical Oxygen Demand (CBOD5) May 1 - Oct 31	XXX	XXX	XXX	20.0	XXX	40.0	2/month	8-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	30.0	XXX	60.0	2/month	8-Hr Composite
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	XXX	XXX	XXX	15	XXX	30	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .05
Latitude 41º 57' 49.95" **Longitude** -79º 59' 32.92"
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)

Water Quality-Based Limitations

Previously, a reasonable potential analysis was conducted at the confluence with the mainstem of LeBouef Creek as the receiving stream at the discharge point was determined to be a dry stream. However, there was no biological field study was conducted to verify this (Point of First Use), and it appears the receiving stream is in fact a perennial stream. As a result, DEP has determined to perform a reasonable potential analysis at the discharge point.

CBOD5, NH3-N and Dissolved Oxygen (DO)
WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's technical guidance no. 391-2000-007 describes the technical methods contained in the model for conducting wasteload allocation analyses and for determining recommended limits for point source discharges. The model output shows that the existing CBOD5 and DO effluent limits are still protective of water quality. However, the output also recommends more stringent WQBELs for NH3-N (15 mg/L vs 2.4 mg/L). Accordingly, it is recommended that new effluent limits for NH3-N be included in the permit per 40 CFR 122.44(d)(5). Past 12-month DMR data shows that effluent NH3-N level has been consistently less than 1.0 mg/L. It appears the facility is able to achieve compliance with new effluent limits without a compliance schedule. A multiplier of 3 will be used to set winter limits as recommended by DEP's technical guidance no. 391-2000-003 (i.e., 2.4*3.0 = 7.2 mg/L).

Total Residual Chlorine
Since chlorine is used, DEP's TRC_CALC spreadsheet has been utilized; and the spreadsheet output shows that more stringent limits are needed (0.5 mg/L vs. 0.07 mg/L). This is because as mentioned before the reasonable potential analysis was conducted at the discharge point. This is a different approach from the last permit renewal in which seemingly the reasonable potential analysis was performed at the confluence of the mainstem. There was no study conducted previously to demonstrate that the receiving stream is a dry stream. Therefore, DEP would consider the receiving stream as a perennial stream; and it would be necessary to perform a reasonable potential analysis at the discharge point. Accordingly, new effluent limits for TRC to be included in the permit per 40 CFR 122.44(d)(5). However, based on past DMR data, the facility may not be able to achieve compliance with these new limits; therefore, it is recommended that the permittee to achieve compliance with new limits starting 3 years after the permit effective date with requiring a TRC minimization plan to be conducted. This minimization plan along with a compliance schedule will be included in Part C of the permit.

Toxics
This is a minor sewage facility receiving domestic wastewater only and the current application does not require sampling of toxic pollutants (or heavy metals) for those facilities with design flows less than 0.1 MGD. Therefore, no reasonable potential analysis for toxic pollutants has been performed for this permit renewal.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen
A minimum of 4.0 mg/L for DO is an existing effluent limit and will remain unchanged in the permit to ensure that the facility continues to protect all aquatic life. This approach is consistent with DEP's SOP no. BPNPSM-PMT-033.

Additional Considerations

Flow Monitoring
The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

E. Coli Monitoring Requirement
DEP's SOP no. BPNPSM-PMT-033 recommends a quarterly routine monitoring of E. Coli for all sewage facilities that have design flow less than 0.1 MGD but greater than 0.05 MGD. A quarterly monitoring for E. Coli will therefore be included in the permit.

Total Nitrogen & Total Phosphorus
A continuation of nutrient monitoring is recommended. This approach is consistent with DEP's SOP no. BPNPSM-PMT-033.

Monitoring Frequency and Sample Type
The monitoring frequency for pH, DO and TRC has changed from 2/week to 1/day. During the last permit renewal application review process, daily monitoring was changed to 2/week as per draft permit comments from the permittee. However, the fact sheet addendum from the last permit renewal indicates that the permittee will be expected to implement daily monitoring upon expiration of the proposed permit. The daily monitoring requirement for pH, TRC and DO has been implemented in all sewage facilities throughout the state that have the design flow greater than 0.002 MGD. No exception for daily monitoring is warranted for this facility and this requirement is consistent with DEP's SOP and technical guidance no. 362-0400-001. Accordingly daily monitoring for pH, DO and TRC is recommended.

Antidegradation Requirements
All effluent limitations and monitoring requirements 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.

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

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 36 Months from Permit Effective 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/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 Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	20.0	XXX	40.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	8-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	XXX	XXX	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.2	XXX	14.4	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.4	XXX	4.8	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
E. Coli (no. / 100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

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.

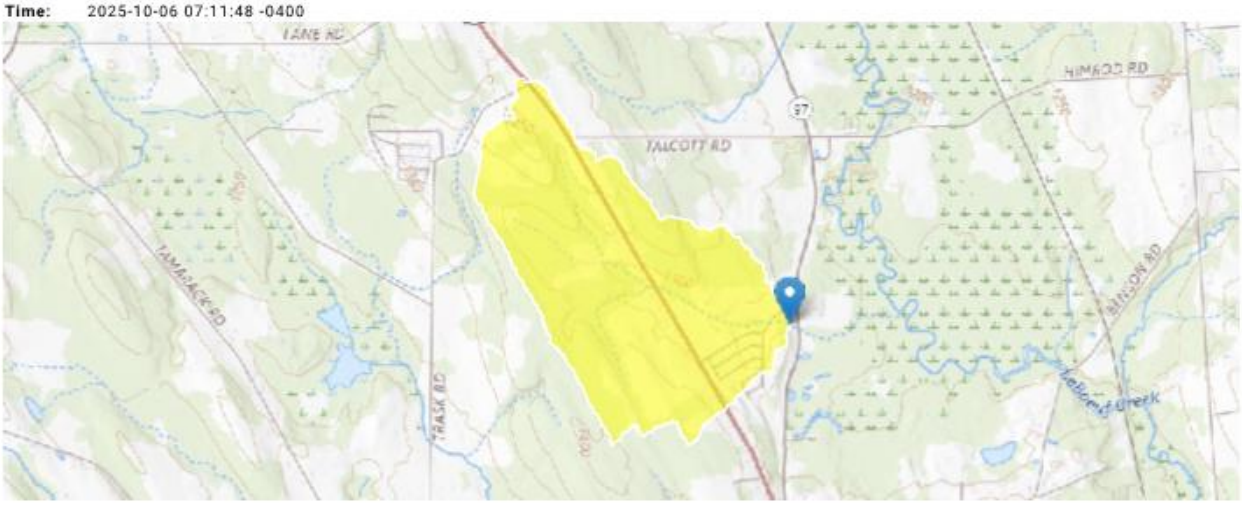
Outfall 001, Effective Period: 36 Months from Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	XXX	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	0.07	XXX	0.23	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	25.0	XXX	50.0	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	20.0	XXX	40.0	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	8-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	XXX	XXX	2/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.2	XXX	14.4	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.4	XXX	4.8	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
E. Coli (no. / 100 mL)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

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:

StreamStats Report

Region ID: PA
Workspace ID: PA20251006111126466000
Clicked Point (Latitude, Longitude): 41.96383, -79.99231
Time: 2025-10-06 07:11:48 -0400



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.81	square miles
ELEV	Mean Basin Elevation	1341	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.81	square miles	2.33	1720
ELEV	Mean Basin Elevation	1341	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0804	ft^3/s
30 Day 2 Year Low Flow	0.123	ft^3/s
7 Day 10 Year Low Flow	0.0326	ft^3/s

Statistic	Value	Unit
30 Day 10 Year Low Flow	0.0485	ft^3/s
90 Day 10 Year Low Flow	0.0728	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 Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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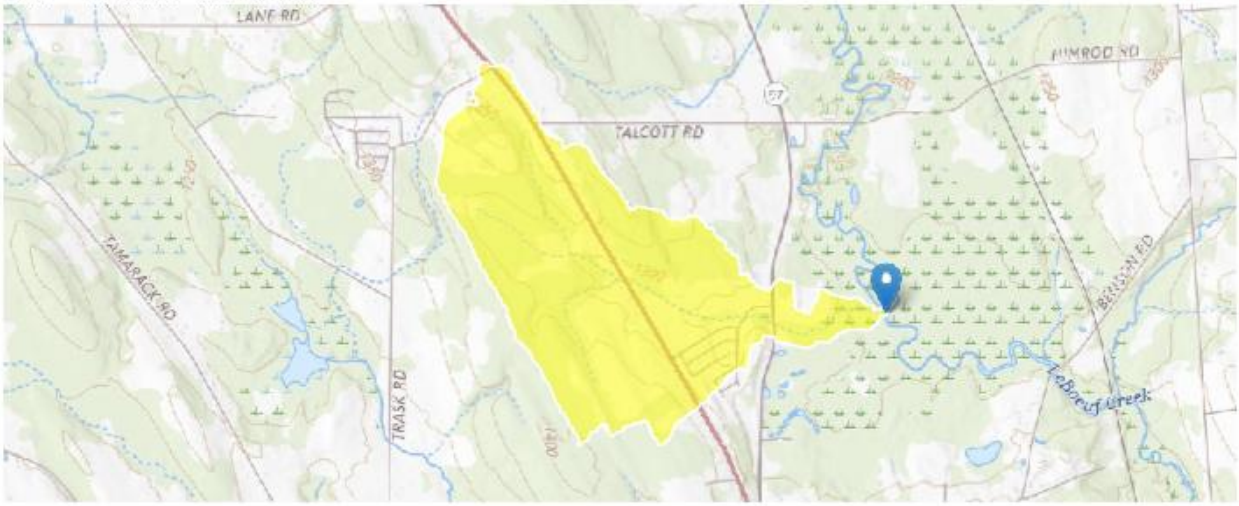
Application Version: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20251007172152778000
Clicked Point (Latitude, Longitude): 41.96417, -79.98394
Time: 2025-10-07 13:22:15 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.88	square miles
ELEV	Mean Basin Elevation	1332	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.88	square miles	2.33	1720
ELEV	Mean Basin Elevation	1332	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

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 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0871	ft^3/s

Statistic	Value	Unit
30 Day 2 Year Low Flow	0.133	ft^3/s
7 Day 10 Year Low Flow	0.0355	ft^3/s
30 Day 10 Year Low Flow	0.0527	ft^3/s
90 Day 10 Year Low Flow	0.079	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/)

Application Version: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

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
16A	53523	Trib 53523 to Le Boeuf Creek	**0.510**	1228.00	0.81	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	0.100	0.00	0.03	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
Rainbow MHP	PA0102369	0.0500	0.0500	0.0500	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	20.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	15.00	0.00	0.00	0.70

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
16A	53523	Trib 53523 to Le Boeuf Creek	**0.000**	1224.00	0.88	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	0.100	0.00	0.04	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
		0.0000	0.0000	0.0000	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	3.00	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
16A	53523	Trib 53523 to Le Boeuf 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												
0.510	0.03	0.00	0.03	.0773	0.00149	.374	5.09	13.6	0.06	0.539	23.52	7.00
Q1-10 Flow												
0.510	0.02	0.00	0.02	.0773	0.00149	NA	NA	NA	0.05	0.574	23.94	7.00
Q30-10 Flow												
0.510	0.04	0.00	0.04	.0773	0.00149	NA	NA	NA	0.06	0.510	23.18	7.00

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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		

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
16A	53523	Trib 53523 to Le Boeuf Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.510	0.050	23.518	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
5.087	0.374	13.604	0.058
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
14.66	1.402	1.70	0.918
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
5.962	21.548	Owens	5
Reach Travel Time (days)			
0.539			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.054	13.42	1.62	6.45
0.108	12.28	1.54	6.71
0.162	11.23	1.47	6.89
0.216	10.28	1.40	7.03
0.270	9.40	1.33	7.15
0.324	8.60	1.26	7.27
0.378	7.87	1.20	7.37
0.431	7.20	1.15	7.47
0.485	6.59	1.09	7.55
0.539	6.03	1.04	7.63

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
16A	53523	Trib 53523 to Le Boeuf 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
0.510	Rainbow MHP	12.09	15.35	12.09	15.35	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
0.510	Rainbow MHP	1.54	2.42	1.54	2.42	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)		
0.51	Rainbow MHP	20	20	2.42	2.42	5	5	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
16A	53523	Trib 53523 to Le Boeuf 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)
0.510	Rainbow MHP	PA0102369	0.050	CBOD5	20		
				NH3-N	2.42	4.84	
				Dissolved Oxygen			5

TRC_CALC

1A	B	C	D	E	F	G
2	**TRC EVALUATION**			Enter Facility Name in E3		
3	Input appropriate values in B4:B8 and E4:E7					
4	0.0326	**= Q stream (cfs)**		**0.5**	**= CV Daily**	
5	0.05	**= Q discharge (MGD)**		**0.5**	**= CV Hourly**	
6	30	**= no. samples**		**1**	**= AFC_Partial Mix Factor**	
7	0.3	**= Chlorine Demand of Stream**		**1**	**= CFC_Partial Mix Factor**	
8	0	**= Chlorine Demand of Discharge**		**15**	**= AFC_Criteria Compliance Time (min)**	
9	**0.5**	**= BAT/BPJ Value**		**720**	**= CFC_Criteria Compliance Time (min)**	
		= % Factor of Safety (FOS)			**=Decay Coefficient (K)**	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	**1.3.2.iii**	WLA afc = 0.153		**1.3.2.iii**	WLA cfc = 0.142
12	PENTOXSD TRG	**5.1a**	LTAMULT afc = 0.373		**5.1c**	LTAMULT cfc = 0.581
13	PENTOXSD TRG	**5.1b**	LTA_afc= 0.057		**5.1d**	LTA_cfc = 0.083
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.231			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.070		AFC	
18			INST MAX LIMIT (mg/l) = 0.230			

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)**