Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0217123**
Facility Type	**Municipal**	APS ID	**1059442**
Major / Minor	**Minor**	Authorization ID	**1389538**

Applicant and Facility Information

Applicant Name	**Indiana County Municipal Services Authority**	Facility Name	**Plumville STP**
Applicant Address	602 Kolter Drive Indiana, PA 15701	Facility Address	14938 Rt 954 Hwy South Plumville, PA 16246
Applicant Contact	Tricia Lefko	Facility Contact	Tricia Lefko
Applicant Phone	(724) 349-6640	Facility Phone	(724) 349-6640
Client ID	38534	Site ID	238125
Ch 94 Load Status	Not Overloaded	Municipality	South Mahoning Township
Connection Status	No Limitations	County	Indiana
Date Application Received	March 21, 2022	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

An application was submitted for an NPDES permit renewal for an existing minor sewage facility discharge. The Plumville STP consists of flow equalization, aeration, clarification, and ultraviolet disinfection.

Changes to the permit: E. Coli monitoring has been added to the permit.

There are no open violations for the NWRO Clean Water Program.

Sludge use and disposal description and locations: Disposed off-site

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		Benjamin R. Lockwood Benjamin R. Lockwood / Environmental Engineering Specialist	April 16, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 17, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.072
Latitude	40º 47' 10.78"	Longitude	79º 12' 28.54"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	North Branch Plum Creek (CWF)	Stream Code	46524
NHD Com ID	123851684	RMI	8.0
Drainage Area	6.24 mi^2	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	0.291	Q_{7-10} Basis	USGS PA StreamStats1
Elevation (ft)	1330	Slope (ft/ft)	
Watershed No.	17-E	Chapter 93 Class.	CWF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	Final	Name	Crooked Creek Watershed

Treatment Facility Summary

Treatment Facility Name: Plumville STP

WQM Permit No.	Issuance Date
3297403	3/23/98

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aeration	Ultraviolet	0.072

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.072	172	Not Overloaded	Sludge Holding	Other WWTP

Compliance History	
Summary of DMRs:	There was a DO violation in April 2024.
Summary of Inspections:	5/13/2020: A routine inspection was conducted. 11/18/2022: A Notice of Violation (NOV) was issued for effluent violations, specifically ammonia-nitrogen and fecal coliform.

Other Comments: There are no open violations for this Applicant for NWRO Clean Water Program

Compliance History

DMR Data for Outfall 001 (from March 1, 2024 to February 28, 2025)

Parameter	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24
Flow (MGD) Average Monthly	0.054	0.048	0.047	0.044	0.038	0.044	0.048	0.044	0.049	0.058	0.049	0.05
pH (S.U.) Minimum	7.0	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.1	7.0	7.2
pH (S.U.) Maximum	7.3	7.2	7.1	7.2	7.2	7.3	7.3	7.4	7.5	7.5	7.5	7.5
DO (mg/L) Minimum	4.0	4.1	4.1	4.1	4.1	4.0	4.0	4.0	4.0	4.0	3.0	4.0
CBOD5 (lbs/day) Average Monthly	< 1.3	< 1.3	< 1.2	< 1.7	< 1.0	< 1.3	< 1.3	< 1.2	< 1.4	< 2.0	< 1.3	2.3
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 3.0	< 5.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 4.0	< 3.0	5.0
CBOD5 (mg/L) Instantaneous Maximum	< 3.0	< 3.0	< 3.0	7.29	< 3.0	< 3.0	< 3.0	3.18	< 3.0	4.58	< 3.0	5.91
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	53.0	47.0	59.0	37.0	33.0	67.0	33.0	63.0	63.0	79.0	71.0	39.0
BOD5 (mg/L) Raw Sewage Influent Average Monthly	118.7	113.0	149.0	124.0	101.5	167.6	74.5	157.0	134.0	154.0	169.0	78.6
TSS (lbs/day) Average Monthly	< 1.0	1.3	1.3	2.1	1.1	< 1.0	1.4	< 1.1	< 0.8	1.7	1.7	4.1
TSS (lbs/day) Raw Sewage Influent Average Monthly	59.0	53.0	65.0	58.0	54.0	71.0	63.0	219.0	77.0	70.0	66.0	45.0
TSS (mg/L) Average Monthly	< 2.0	3.0	3.0	7.0	3.0	< 3.0	3.0	< 3.0	< 2.0	3.0	4.0	8.0
TSS (mg/L) Raw Sewage Influent Average Monthly	131.0	124.0	164.0	194.0	166.0	172.0	143.0	518.0	163.0	137.0	159.0	91.0
TSS (mg/L) Instantaneous Maximum	2.8	3.2	3.6	8.0	4.0	3.6	3.33	3.2	1.6	4.8	4.8	10.8

Fecal Coliform (No./100 ml) Geometric Mean	< 1.0	< 3.0	4.0	< 2.0	< 1.0	55.0	16.0	< 1.0	< 1.0	< 7.0	13.0	26.0
Fecal Coliform (No./100 ml) Instantaneous Maximum	2.0	12.0	8.6	4.1	1.0	275.5	124.6	2.0	1.0	49.6	32.2	39.9
UV Transmittance (%) Average Monthly	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.4	0.4
Total Nitrogen (mg/L) Daily Maximum			< 0.5									
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.2	0.4	0.3	< 0.2	< 0.9	3.8	4.2	< 0.1	3.3
Ammonia (mg/L) Instantaneous Maximum	< 0.1	< 0.1	< 0.1	0.3594	0.617	0.3509	0.3649	1.743	5.915	4.53	< 0.1	3.813
Total Phosphorus (mg/L) Daily Maximum			4.64									

Compliance History

Effluent Violations for Outfall 001, from: April 1, 2024 To: February 28, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
DO	04/30/24	Min	3.0	mg/L	4.0	mg/L

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .072
Latitude 40º 47' 10.78" **Longitude** 79º 12' 28.54"
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)

Comments: E. Coli monitoring has been added per Chapter 92 requirements.

Water Quality-Based Limitations

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

Parameter	Limit (mg/l)	SBC	Model
NH3-N	8	Avg. Mo.	WQM 7.0
$CBOD_5$	25	Avg. Mo.	WQM 7.0

Comments: The existing NH_3-N limit of 6.3 mg/l average monthly is more stringent and will remain in the permit. The water-quality based $CBOD_5$ limit of 25 mg/l is the same as the existing permit limit.

Additional Considerations

This facility is a POTW, therefore, the requirement to sample raw sewage BOD and TSS has been incorporated into the permit.

Total Nitrogen and Total Phosphorus will be monitored 1/year per the Departments' SOP.

Ultraviolet disinfection is used; therefore, a monitoring requirement for UV Transmittance is included in the permit.

A Dissolved Oxygen minimum limitation of 4.0 mg/L will be implemented based on the standard in 25 PA Code Chapter 93 and best professional judgment.

Anti-Backsliding

Pursuant to 40 CFR § 122.44(l)(1), all proposed permit requirements addressed in this fact sheet are at least as stringent as the requirements implemented in the existing NPDES permit.

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	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
CBOD5	15.0	XXX	XXX	25.0	XXX	50.0	2/month	Grab
BOD5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	18.0	XXX	XXX	30.0	XXX	60.0	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
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
E. Coli	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	18.9	XXX	37.8	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	6.3	XXX	12.6	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001
Other Comments: None

ICMSA - Plumville STP PA0217123 Outfall 001

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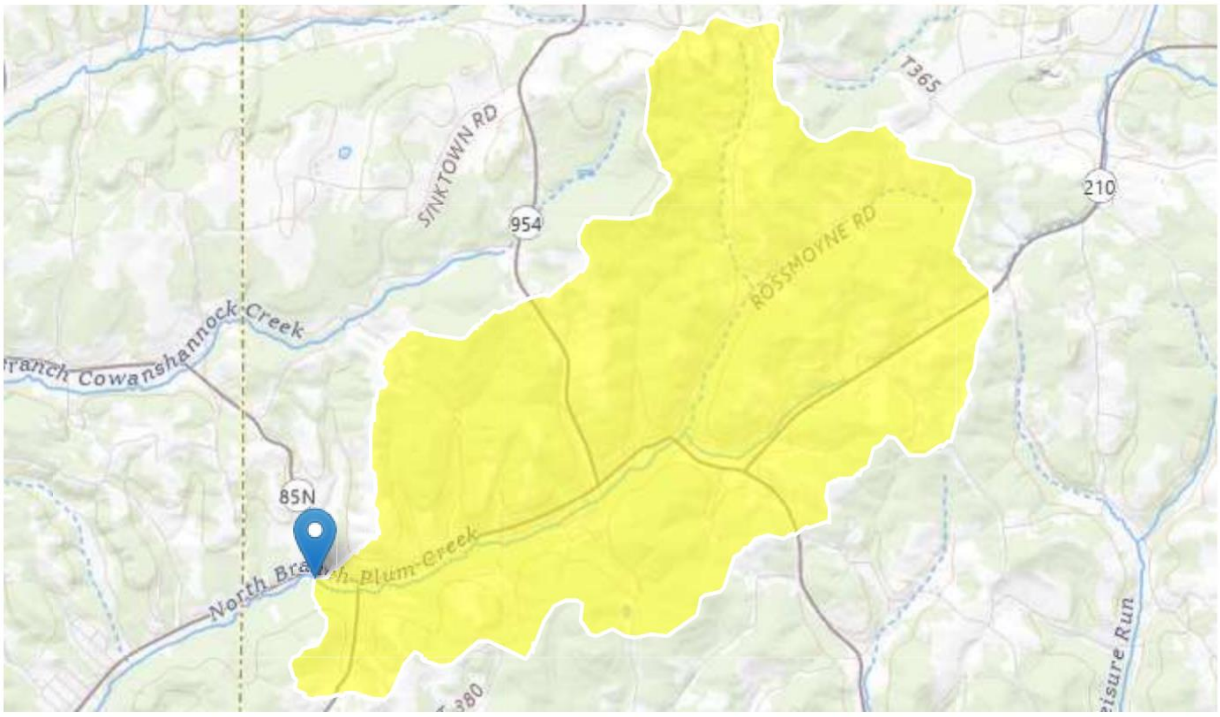

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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	6.24	square miles
ELEV	Mean Basin Elevation	1330	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	6.24	square miles	2.33	1720
ELEV	Mean Basin Elevation	1330	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.642	ft^3/s	43	43
30 Day 2 Year Low Flow	0.947	ft^3/s	38	38
7 Day 10 Year Low Flow	0.291	ft^3/s	54	54
30 Day 10 Year Low Flow	0.415	ft^3/s	49	49
90 Day 10 Year Low Flow	0.608	ft^3/s	41	41

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/)

ICMSA - Plumville STP PA0217123 RMI = 7.4

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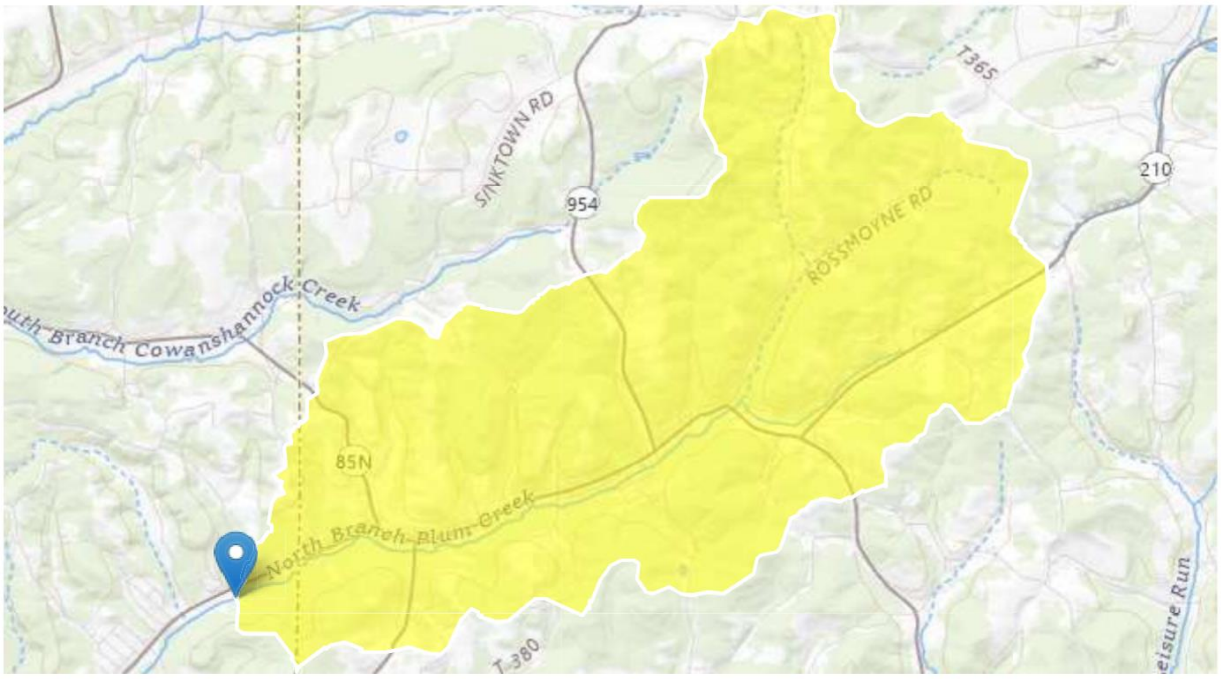

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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	7.35	square miles
ELEV	Mean Basin Elevation	1318	feet
PRECIP	Mean Annual Precipitation	44	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	7.35	square miles	2.33	1720
ELEV	Mean Basin Elevation	1318	feet	898	2700
PRECIP	Mean Annual Precipitation	44	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.715	ft^3/s	43	43
30 Day 2 Year Low Flow	1.05	ft^3/s	38	38
7 Day 10 Year Low Flow	0.316	ft^3/s	54	54
30 Day 10 Year Low Flow	0.454	ft^3/s	49	49
90 Day 10 Year Low Flow	0.668	ft^3/s	41	41

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/)

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
17E	46524	NORTH BRANCH PLUM CREEK	**8.000**	1330.00	6.24	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	0.29	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
Plumville STP	PA0217123	0.0720	0.0720	0.0720	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

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
17E	46524	NORTH BRANCH PLUM CREEK	**8.000**	1330.00	6.24	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	0.29	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
Plumville STP	PA0217123	0.0720	0.0720	0.0720	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
17E	46524	NORTH BRANCH PLUM 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												
8.000	0.29	0.00	0.29	.1114	0.00379	.448	10.89	24.28	0.08	0.445	21.38	7.00
Q1-10 Flow												
8.000	0.19	0.00	0.19	.1114	0.00379	NA	NA	NA	0.07	0.527	21.87	7.00
Q30-10 Flow												
8.000	0.40	0.00	0.40	.1114	0.00379	NA	NA	NA	0.09	0.391	21.10	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
17E	46524	NORTH BRANCH PLUM 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
8.000	Plumville STP	14.35	38.35	14.35	38.35	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
8.000	Plumville STP	1.76	8	1.76	8	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)		
8.00	Plumville STP	25	25	8	8	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17E	46524	NORTH BRANCH PLUM CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
8.000	0.072	21.384	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
10.887	0.448	24.279	0.082
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
8.37	1.152	2.22	0.779
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.068	18.573	Owens	5
Reach Travel Time (days)			
0.445			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.044	7.92	2.14	7.43
0.089	7.50	2.07	7.62
0.133	7.10	2.00	7.73
0.178	6.72	1.93	7.81
0.222	6.37	1.86	7.87
0.267	6.03	1.80	7.92
0.311	5.71	1.74	7.97
0.356	5.40	1.68	8.02
0.400	5.12	1.62	8.04
0.445	4.85	1.57	8.04

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17E	46524	NORTH BRANCH PLUM 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)
8.000	Plumville STP	PA0217123	0.072	CBOD5	25		
				NH3-N	8	16	
				Dissolved Oxygen			4