pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0042528**
Facility Type	**Non-Municipal**	APS ID	**936189**
Major / Minor	**Minor**	Authorization ID	**1428430**

Applicant and Facility Information

Applicant Name	**Margaretta MHP**	Facility Name	**Margaretta MHP**
Applicant Address	1446 Prayer Mission Road	Facility Address	1446 Prayer Mission Road
	York, PA 17406-8624		York, PA 17406-8624
Applicant Contact	Robert Searer	Facility Contact	Robert Searer
Applicant Phone	(717) 880-7169	Facility Phone	(717) 880-7169
Client ID	334264	Site ID	443089
Ch 94 Load Status	Not Overloaded	Municipality	Lower Windsor Township
Connection Status	No Limitations	County	York
Date Application Received	February 16, 2023	EPA Waived?	Yes
Date Application Accepted	March 1, 2023	If No, Reason	

Purpose of Application: Renewal of Existing NPDES Permit

Summary of Review

The Margaretta Mobile Home Park (MMHP) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued to MMHP on August 30, 2018. The permit expired on August 31, 2023 but the terms and conditions of the permit have been administratively extended since that time.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted and a notice of the draft permit be published in the *Pennsylvania Bulletin* for public comments for 30 days. A file review of documents associated with the discharge or permittee may be available at the PA DEP southcentral regional office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO file review coordinator at 717.705.4700.

Sludge use and disposal description and location(s): Hauled offsite by Kauffman Septic Services.

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		*Aaron Baar* Aaron Baar / Permits Section	January 29, 2024
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	February 17, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.018
Latitude	39º 57' 42.40"	Longitude	-76º 32' 20.05"
Quad Name	Red Lion	Quad Code	1933
Wastewater Description:	Sewage Effluent		
Receiving Waters	Cabin Creek (WWF)	Stream Code	07848
NHD Com ID	57467617	RMI	5.22
Drainage Area	8.67 mi^2	Yield (cfs/mi^2)	0.2249
Q_{7-10} Flow (cfs)	1.95	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	353.87	Slope (ft/ft)	
Watershed No.	7-I	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	HABITAT MODIFICATION - OTHER THAN HYDROMODIFICATION		
Cause(s) of Impairment	HABITAT ALTERATIONS		
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	The York Water Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	UNK
PWS RMI	22.84	Distance from Outfall (mi)	6.6

Changes Since Last Permit Issuance: No changes since the last issuance of the MMHP's NPDES permit.

Drainage Area

The discharge is to Cabin Creek at RMI 5.22. A drainage area upstream of the discharge is determined to be 8.67 sq.mi. according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, the watershed has a Q_{7-10} of 1.95 cfs. This information was used to obtain a LFY, a chronic 30-day (Q_{30-10}) and acute (Q_{1-10}) exposure stream flows for the discharge point as follows (Guidance No. 391-2000-023).

Q_{7-10} = 1.95 cfs
Q_{30-10} = 1.36 * 1.95 cfs = 2.652 cfs
Q_{1-10} = 0.64 * 1.95 cfs = 1.248 cfs
LFY = 1.95 cfs/8.67 mi^2 = 0.2249 cfs/mi^2

Cabin Creek

25 Pa Code §93.9 classifies the receiving water, Cabin Creek, with a WWF/MF Existing Use designation. No special protection waters are impacted by this discharge. The discharge is in a stream segment listed as not attaining use; the cause of the impairment has been identified as habitat modifications (see *Local Watershed TMDL* below). Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Local Watershed Total Maximum Daily Loads (TMDLs)

According to PA's 2022 integrated water quality monitoring and assessment report, Cabin Creek in the vicinity of the proposed point of discharge is impaired for habitat modification. The impairment is listed as Category 4c in the 2022

integrated report; indicating that Cabin Creek is not impaired by a pollutant and is not requiring a TMDL. No local watershed TMDL has therefore been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is the York Water Company intake on the South Branch Cabin Creek. Considering the distance and nature, the discharge is not expected to affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream; therefore, no Class A Wild Trout Fishery is impacted by this discharge.

Treatment Facility Summary

Treatment Facility Name: Margaretta MHP

WQM Permit No.	Issuance Date
6774422	June 4, 1975

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Aeration	Hypochlorite	0.018

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.018		Not Overloaded		

The MMHP owns and operates the sanitary wastewater treatment facility located in Lower Windsor Township, York County. The facility only serves the Margaretta MHP, all wastes are residential in nature, and all sewer systems are 100% separated. With having both annual average design flow and hydraulic design capacity of 0.018 MGD, this facility utilizes an extended aeration system consisting of a comminutor (1), bar screen (1), aeration tank (1), clarifier (1), dosing tank (1), sand filter (2), chlorine contact tank, and outfall structure to Cabin Creek. The facility utilizes a sludge holding tank. Hypochlorite is used for disinfection and lime is used for pH control.

Compliance History	
Summary of DMRs:	DMR results for the past year are presented below.
Summary of Inspections:	Since the last renewal of the facility's NPDES permit, the following inspections have been logged: December 9, 2020: A partial inspection (due to the pandemic) was conducted by Heather Dock. It was noted that the facility was incorrectly documenting some values in their DMRs. There were two effluent violations reported in 2020. A NH3-N monthly average violation occurred in May, while a fecal coliform instantaneous maximum violation occurred in June. Mr. Searer said he wasn't getting enough air to the plant, which caused the NH3-N violation and he said the plant quickly turned around.

Other Comments: As of January 29, 2024, there are no open violations associated with this facility.

Existing Effluent Limitations and Monitoring Requirements

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	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	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.50	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	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
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	Report	XXX	XXX	11.0	XXX	23	2/month	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

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	Weekly Average	Instant. Maximum		
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: 001

Compliance History

DMR Data for Outfall 001 (from December 1, 2022 to November 30, 2023)

Parameter	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23	DEC-22
Flow (MGD) Average Monthly	0.0054	0.0048	0.0046	0.0056	0.0055	0.0049	0.0049	0.0048	0.0049	0.0051	0.0056	0.0064
Flow (MGD) Daily Maximum	0.0144	0.0074	0.0117	0.0122	0.0121	0.0105	0.0113	0.007	0.0094	0.0066	0.0098	0.0109
pH (S.U.) Instantaneous Minimum	6.19	6.11	6.7	6.7	6.7	6.8	6.9	6.8	6.4	6.8	6.8	7.0
pH (S.U.) Instantaneous Maximum	7.89	7.2	7.1	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.6	7.5
DO (mg/L) Instantaneous Minimum	8.0	7.28	6.8	6.3	5.9	8.3	8.4	8.0	8.3	7.2	8.0	8.4
TRC (mg/L) Average Monthly	0.39	0.38	0.28	0.34	0.37	0.34	0.29	0.30	0.23	0.15	0.29	0.29
TRC (mg/L) Instantaneous Maximum	0.85	1.02	1.08	1.29	1.38	1.2	1.04	1.03	1.01	0.38	1.12	0.99
CBOD5 (mg/L) Average Monthly	4.0	< 6.0	< 2.4	< 2.4	< 2.5	< 2.4	< 2.9	3.7	6.0	3.8	< 2.4	< 2.4
CBOD5 (mg/L) Instantaneous Maximum	6.3	8.6	< 2.4	< 2.4	2.5	< 2.4	3.4	3.9	6.8	4.1	< 2.4	< 2.4
TSS (mg/L) Average Monthly	11.0	5.0	3.0	3.5	4.0	2.5	12.5	19.0	23.5	15.5	9.0	3.5

TSS (mg/L) Instantaneous Maximum	17.0	7.0	5.0	5.0	4.0	3.0	17.0	27.0	25	21.0	10.0	4.0
Fecal Coliform (No./100 ml) Geometric Mean	< 48	< 1.0	< 13	< 1	413	7	< 5	7	214	547	< 2	7
Fecal Coliform (No./100 ml) Instantaneous Maximum	2420	< 1.0	162	< 1	2420	43	30	9	2420	866	5	26
Nitrate-Nitrite (mg/L) Average Monthly	43.23	44	44.9	38.9	52.9	< 62.4	47.9	60.4	55.4	38.4	< 42.9	< 45.9
Nitrate-Nitrite (lbs) Total Monthly	61	42	47.96	77.84	66.89	< 60.89	55.34	61.96	61.59	46.57	< 67.32	< 67.87
Total Nitrogen (mg/L) Average Monthly	43.23	44	45.4	39.4	53.4	< 62.9	48.4	60.9	59.85	40.1	< 46.55	< 47.845
Total Nitrogen (lbs) Total Monthly	61	42	48.5	78.9	67.5	< 61.4	55.9	62.5	66.5	48.5	< 73.2	< 70.8
Total Nitrogen (lbs) Total Annual			729.8									
Ammonia (lbs/day) Average Monthly	< 0.005	< 0.003	< 0.004	0.009	0.007	0.004	0.004	0.006	0.011	0.023	0.13	0.058
Ammonia (mg/L) Average Monthly	< 0.11	< 0.1	< 0.1	0.15	0.16	0.11	0.11	0.17	0.32	0.57	2.5	1.2
Ammonia (mg/L) Instantaneous Maximum		< 0.1	< 0.1	0.2	0.16	0.12	0.12					
Ammonia (lbs) Total Monthly	0.2	< 0.1	< 0.1	0.3	0.2	0.1	0.1	0.2	0.4	0.6	4.0	1.8
Ammonia (lbs) Total Annual			7.5									
TKN (mg/L) Average Monthly	< 0.52	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	4.45	1.7	< 3.65	1.945
TKN (lbs) Total Monthly	< 0.7	< 0.5	< 0.5	< 1.1	< 0.6	< 0.5	< 0.6	0.5	4.9	1.9	< 5.9	2.9
Total Phosphorus (lbs/day) Average Monthly	0.3	0.2	0.24	0.38	0.29	0.25	0.23	0.23	0.24	0.22	0.27	0.27
Total Phosphorus (mg/L) Average Monthly	4.9	5.3	6.75	4.95	7.0	7.75	6.25	6.75	6.75	5.3	5.25	5.75
Total Phosphorus (lbs) Total Monthly	7.0	5.0	7.2	11.7	8.9	7.6	7.2	6.9	7.5	6.2	8.3	8.5
Total Phosphorus (lbs) Total Annual			90.6									

Compliance History

Effluent Violations for Outfall 001, from: January 1, 2023 To: November 30, 2023

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	07/31/23	Geo Mean	413	No./100 ml	200	No./100 ml
Fecal Coliform	07/31/23	IMAX	2420	No./100 ml	1000	No./100 ml

Other Comments: Facility has a history of periodically exceeding Fecal Coliform and TSS limits. Exceedances are likely operational in nature.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .018
Latitude 39º 57' 42.46" **Longitude** -76º 32' 20.27"
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: These standards apply, subject to water quality analysis and BPJ where applicable.

Other Comments: It has been noted that weekly Average Weekly limits for COBD5 and TSS have not been included in prior permits for this facility. In conformity with the applicable Federal and State regulations above, weekly maximum limits of 40 mg CBOD5/L and 45 mg TSS/L have been added to the permit.

Water Quality-Based Limitations

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 guidance no. 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. The model was utilized, and the model output indicated that existing WQBEL of 11.0 mg/L for ammonia (summer) and CBOD5 of 25.0 mg/L are still protective of water quality.

Total Residual Chlorine

Since chlorine is used for disinfection, Total Residual Chlorine (TRC) effluent levels must be regulated in accordance with 25 Pa Code §92a.48(b). DEP's TRC_CALC worksheet is utilized to determine if the existing BAT TBEL is still appropriate. The worksheet indicates that the existing limits of 0.5 mg/L (average monthly) and 1.6 mg/L (IMAX) are still protective of water quality.

Toxics

DEP's NPDES permit application for minor sewages (less than 0.1 MGD) does not require sampling for heavy metals including Total Copper, Total Lead, and Total Zinc.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen

A minimum of 5.0 mg/L for DO is an existing effluent limit and will remain unchanged in the draft permit as recommended by DEP's SOP. This requirement has also been assigned to other sewage facilities in the region. 5.0 mg/L is taken directly from 25 Pa. Code § 93.7(a) and it is also determined to be appropriate according to water quality modeling.

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, a routine monitoring for TKN, Nitrate-Nitrite, and TN are recommended to be continued in this permit as previously permitted.

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

In conformity with the Department's *Establishing Effluent Limitations for Individual Sewage Permits* (SOP No. BCW-PMT-033) and as authorized by § 92a.61 of the PA Code, annual E. Coli monitoring has been proposed in this permit. The collection method will be via grab sample.

Chesapeake Bay TMDL

The Department formulated a strategy in April 2007, to comply with the EPA's and Chesapeake Bay Foundation's requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers received annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5 (below 0.2mdg) facilities were required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001).

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed, in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011, Phase 2 in March 2012 and Phase 3 in December 2019. In accordance with the Phase 3 WIP, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal.

The Phase 3 WIP categorizes this facility as a phase 5 non-significant sewage facility that has a design flow less than 0.2 MGD but greater than 0.002 MGD. The WIP recommends monitoring and reporting for Total Nitrogen and Total Phosphorus throughout the permit term at a frequency no less than annual. Continued twice monthly testing of these pollutants is proposed in this permit.

Monitoring Frequency and Sample Type

Unless discussed otherwise above, the permit's monitoring frequency and sample type for all parameters will remain unchanged from the last permit renewal.

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.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal. This approach is in accordance with 40 CFR §122.44(l(1).

Annual Fees

An annual fee clause was added to the permit in accordance with 25 Pa. Code § 92a.62. The facility covered by the permit is classified in the Minor Sewage Facility <0.05 MGD fee category, which has an annual fee of $500.

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
	Monthly	Annual	Monthly	Monthly Average	Maximum	Instant. Maximum		
Total Nitrogen (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus (lbs)	XXX	Report Total Annual	XXX	XXX	XXX	XXX	1/year	Calculation

Compliance Sampling Location: Outfall 001

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.

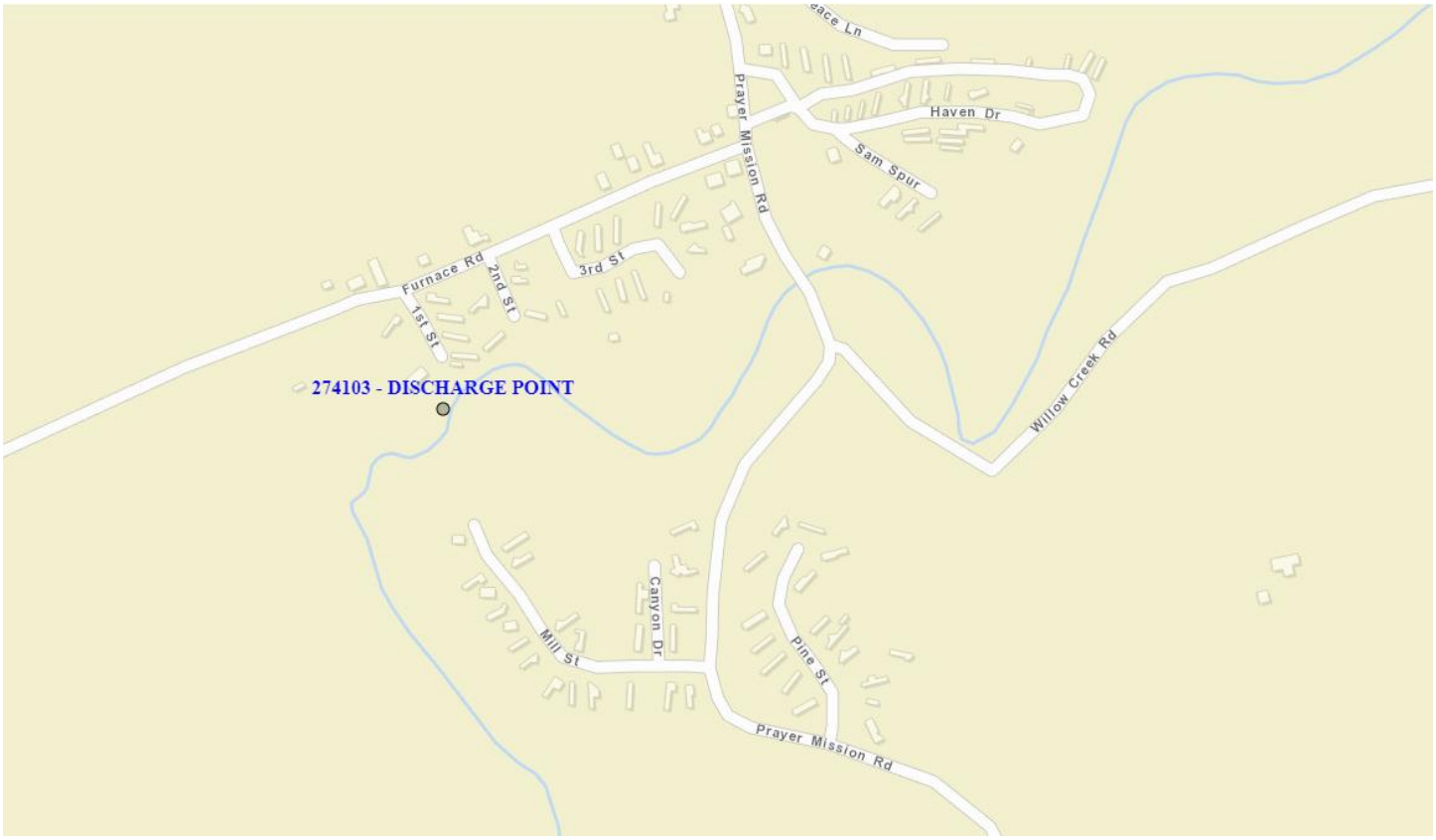
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab

Outfall 001, 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	Average Weekly	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
TRC	XXX	XXX	XXX	0.50	XXX	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	40.0	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	45.0	60	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Nitrate-Nitrite	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Nitrate-Nitrite (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Calculation
Total Nitrogen (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	Report	XXX	XXX	11.0	XXX	23	2/month	8-Hr Composite
Ammonia (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
TKN	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
TKN (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus (lbs)	Report Total Mo	XXX	XXX	XXX	XXX	XXX	1/month	Calculation

Compliance Sampling Location: Outfall 001

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:


Prayer Mission Rd
Haven Dr
Sam Spur
Furnace Rd
2nd St
3rd St
1st St
274103 - DISCHARGE POINT
Willow Creek Rd
Canyon Dr
Mill St
Pine St
Prayer Mission Rd

TRC EVALUATION

Input appropriate values in B4:B8 and E4:E7

1.95	= Q stream (cfs)	0.5	= CV Daily
0.018	= 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 Dischar	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)

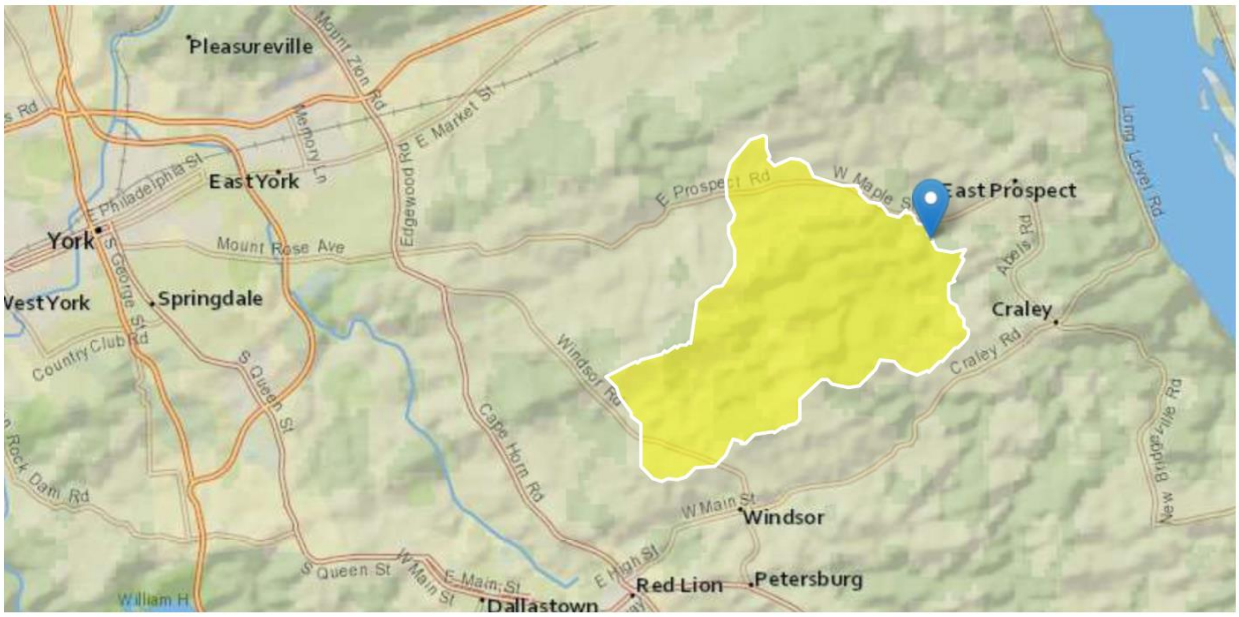
Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 22.358	1.3.2.iii	WLA cfc = 21.790
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 8.331	5.1d	LTA_cfc = 12.668

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)**

StreamStats Report

Region ID: PA
Workspace ID: PA20240128140638862000
Clicked Point (Latitude, Longitude): 39.96193, -76.53879
Time: 2024-01-28 09:07:01 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.742	degrees
DRNAREA	Area that drains to a point on a stream	8.67	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	1.4132	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.67	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.742	degrees	1.7	6.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	1.4132	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	3.51	ft^3/s
30 Day 2 Year Low Flow	4.06	ft^3/s
7 Day 10 Year Low Flow	1.95	ft^3/s
30 Day 10 Year Low Flow	2.3	ft^3/s
90 Day 10 Year Low Flow	2.87	ft^3/s

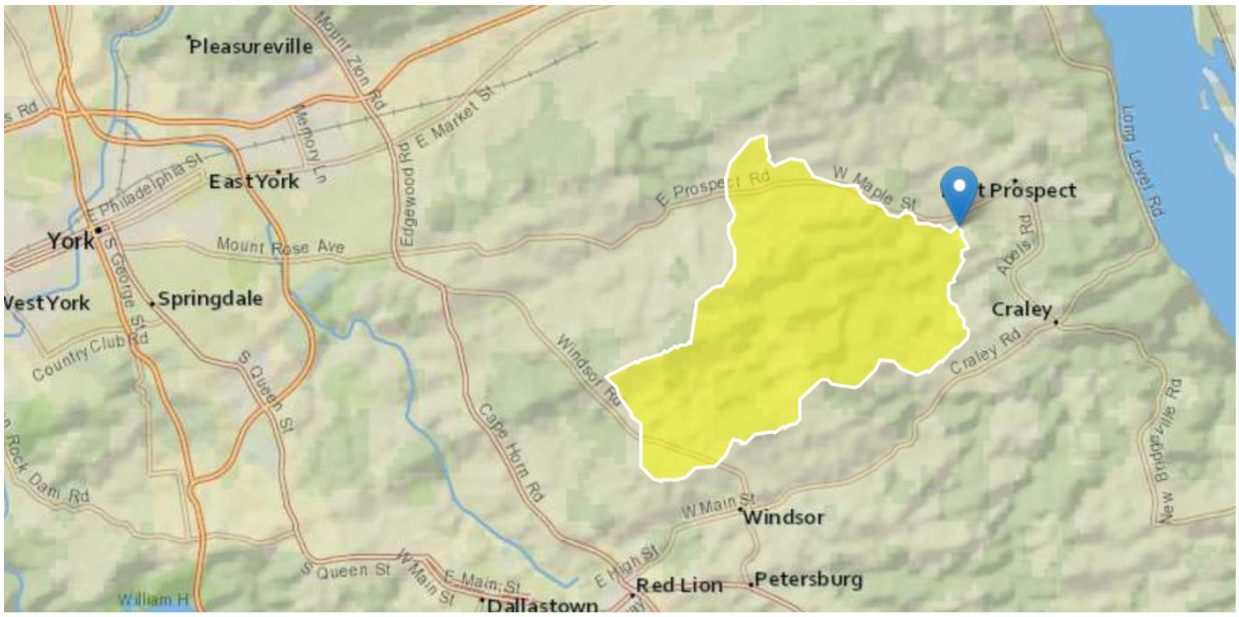
Low-Flow Statistics Citations

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: 4.19.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20240128180931034000
Clicked Point (Latitude, Longitude): 39.96401, -76.53252
Time: 2024-01-28 13:09:53 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	6.7607	degrees
DRNAREA	Area that drains to a point on a stream	8.77	square miles
ROCKDEP	Depth to rock	5	feet
URBAN	Percentage of basin with urban development	1.4338	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	8.77	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	6.7607	degrees	1.7	6.4

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
ROCKDEP	Depth to Rock	5	feet	4.13	5.21
URBAN	Percent Urban	1.4338	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

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 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	3.57	ft^3/s
30 Day 2 Year Low Flow	4.13	ft^3/s
7 Day 10 Year Low Flow	1.99	ft^3/s
30 Day 10 Year Low Flow	2.33	ft^3/s
90 Day 10 Year Low Flow	2.91	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: 4.19.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07I	7848	CABIN 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)
5.220	Margaretta MHP	PA0042528	0.018	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07I	7848	CABIN 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
5.220	Margaretta MHP	16.61	50	16.61	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
5.220	Margaretta MHP	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)		
5.22	Margaretta MHP	25	25	25	25	5	5	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
07I	7848	CABIN CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.220	0.018	20.070	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
17.957	0.561	32.010	0.196
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.32	0.206	0.35	0.704
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.197	12.713	Tsivoglou	6
Reach Travel Time (days)			
0.153			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.015	2.32	0.35	8.23
0.031	2.31	0.34	8.23
0.046	2.30	0.34	8.23
0.061	2.29	0.34	8.23
0.076	2.29	0.33	8.23
0.092	2.28	0.33	8.23
0.107	2.27	0.33	8.23
0.122	2.27	0.32	8.23
0.137	2.26	0.32	8.23
0.153	2.25	0.32	8.23

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	6		

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07I	7848	CABIN 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												
5.220	1.95	0.00	1.95	.0278	0.00680	.561	17.96	32.01	0.20	0.153	20.07	7.00
Q1-10 Flow												
5.220	1.25	0.00	1.25	.0278	0.00680	NA	NA	NA	0.15	0.195	20.11	7.00
Q30-10 Flow												
5.220	2.65	0.00	2.65	.0278	0.00680	NA	NA	NA	0.23	0.129	20.05	7.00

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
07I	7848	CABIN CREEK	**5.220**	353.87	8.67	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	1.95	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
Margaretta MHP	PA0042528	0.0180	0.0180	0.0180	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	5.00	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
07I	7848	CABIN CREEK	**4.730**	336.27	8.77	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	1.99	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