

Application Type Renewal
Facility Type Non-Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0083399
APS ID 700251
Authorization ID 1434795

Applicant and Facility Information

Applicant Name <u>MHC Gettysburg Farm LP</u>	Facility Name <u>Gettysburg Farm Campground</u>
Applicant Address <u>2 N Riverside Plaza Suite 800</u> <u>Chicago, IL 60606-2682</u>	Facility Address <u>6200 Big Mount Road</u> <u>Dover, PA 17315-4904</u>
Applicant Contact <u>Greggory Kane</u>	Facility Contact <u>Jeff Kalmbach</u>
Applicant Phone <u>(312) 279-1400</u>	Facility Phone <u>(717) 292-7191</u>
Client ID <u>275113</u>	Site ID <u>1210</u>
Ch 94 Load Status <u>Not Overloaded</u>	Municipality <u>Dover Township</u>
Connection Status <u>No Limitations</u>	County <u>York</u>
Date Application Received <u>March 23, 2023</u>	EPA Waived? <u>Yes</u>
Date Application Accepted <u>April 11, 2023</u>	If No, Reason _____
Purpose of Application <u>Renewal of existing NPDES Permit</u>	

Summary of Review

MHC Gettysburg Farm (MHCGF) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was last reissued to MMHP on September 28, 2018. The permit expired on September 30, 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 Smith's 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 / Project Manager	June 28, 2024
x		Maria D. Bebenek for Daniel W. Martin, P.E. / Environmental Engineer Manager	July 16, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.05
Latitude	39° 57' 54.73"	Longitude	-76° 57' 32.06"
Quad Name	Abbottstown	Quad Code	1930
Wastewater Description: Sewage Effluent			
Receiving Waters	Conewago Creek (WWF)	Stream Code	08303
NHD Com ID	57469201	RMI	34.04
Drainage Area	244 sq. mi.	Yield (cfs/mi ²)	0.0672
Q ₇₋₁₀ Flow (cfs)	16.4	Q ₇₋₁₀ Basis	USGS StreamStats
Elevation (ft)	373.06	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Co.		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	28.51	Distance from Outfall (mi)	46.70

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

Drainage Area

The discharge is to Conewago Creek at RMI 34.04. A drainage area upstream of the discharge is determined to be 244 sq.mi. according to USGS PA StreamStats available at <https://streamstats.usgs.gov/ss/>.

Stream Flow

According to StreamStats, the watershed has a Q₇₋₁₀ of 16.4 cfs. This information was used to obtain a LFY, a chronic 30-day (Q₃₀₋₁₀) and acute (Q₁₋₁₀) exposure stream flows for the discharge point as follows (Guidance No. 391-2000-023).

$$\begin{aligned}
 Q_{7-10} &= 16.4 \text{ cfs} \\
 Q_{30-10} &= 1.36 * 16.4 \text{ cfs} = 22.3 \text{ cfs} \\
 Q_{1-10} &= 0.64 * 16.4 \text{ cfs} = 10.5 \text{ cfs} \\
 LFY &= 16.4 \text{ cfs}/244 \text{ mi}^2 = 0.0672 \text{ cfs/mi}^2
 \end{aligned}$$

Conewago Creek

25 Pa Code §93.9 classifies the receiving water, Conewago Creek, with a WWF Existing Use designation. No special protection waters are impacted by this discharge. 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 2024 integrated water quality monitoring and assessment report, Conewago Creek in the vicinity of the proposed point of discharge is impaired for recreational use. The impairment is listed as Category 5 in the 2024 integrated report; indicating that Conewago Creek is impaired for one or more uses by a pollutant that requires

the development of 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 Wrightsville Water Supply Co. on the Susquehanna River in York County, approximately 47 miles downstream of this discharge. Considering the distance and nature, the discharge is not expected to significantly 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: Gettysburg Farm Campground WWTP				
WQM Permit No.	Issuance Date			
WQM 6788425 T2	March 29, 2010			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Extended Air	Hypochlorite	0.05
Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.05		Not Overloaded		

MHC Gettysburg Farm owns and operates the sanitary wastewater treatment facility located in Dover Township, York County. This NPDES permit covers discharges of sewage treated by the Gettysburg Farm Campground STP. The facility only serves the Gettysburg Farm Campground; all sewer systems are 100% separated. With an annual average design flow 0.050 MGD and a hydraulic design capacity of 0.050 MGD, this facility utilizes an extended aeration system consisting of The WWTP train is as follows:

EQ Tank (1) ⇒ Aeration Tank (1) ⇒ Clarifier (1) ⇒ Tablet Chlorinator / Chlorine Contact Tank (1) ⇒ Post Aeration Tank (1) ⇒ Discharge

Chemical additions to the treatment process include only chlorine tablets. There is no industrial/commercial user contributing industrial wastewater to the sewer system.

Compliance History	
Summary of DMRs:	DMR results for the past year are presented below.
Summary of Inspections:	<p>Since the last renewal of the facility's NPDES permit, the following inspections have been logged:</p> <p>April 21, 2022: A CEI was conducted by Brandon Bettinger. Violations were issued for a TRC violation in the field sample collected by the inspector and for failure to monitor flow (no flow monitor was in operation at the facility).</p> <p>May 21, 2020: An administrative remote inspection was conducted by Austen Randecker due to the pandemic. No violations were noted.</p>

Other Comments: As of June 28, 2024, there is one open violation associated with this facility from the 2022 TRC exceedance. The final permit will not be issued until this is resolved.

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	Maximum	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	1.0	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	Report	XXX	XXX	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

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		
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

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

Compliance History

DMR Data for Outfall 001 (from May 1, 2023 to April 30, 2024)

Parameter	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23
Flow (MGD) Average Monthly	0.00352	0.00235	0.00149 4	0.00258	0.00137	0.0007	0.00302	0.00449	0.00519 8	0.00662	0.00602	0.00471
Flow (MGD) Daily Maximum	0.01456	0.0164	0.00359	0.00887	0.00952	0.01212	0.00697	0.00894	0.00829	0.01133	0.0122	0.01429
pH (S.U.) Instantaneous Minimum	7.6	8.0	8.0	7.8	8.0	8.0	8.0	8.0	7.8	7.7	7.9	7.7
pH (S.U.) Instantaneous Maximum	8.1	8.1	8.4	8.2	8.3	8.3	8.2	8.2	8.1	8.3	8.3	8.4
DO (mg/L) Instantaneous Minimum	9.4	10.8	11.0	10.9	11.0	9.1	8.4	7.9	7.4	7.5	8.4	9.2
TRC (mg/L) Average Monthly	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.1	0.3
TRC (mg/L) Instantaneous Maximum	0.5	0.52	0.62	1.0	0.48	0.42	0.77	0.52	0.63	0.6	0.28	0.95
CBOD5 (mg/L) Average Monthly	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
CBOD5 (mg/L) Instantaneous Maximum	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4
TSS (mg/L) Average Monthly	4.5	13.5	14.5	5.5	5.0	3.0	4.0	4.5	3.0	4.0	4.5	2.0
TSS (mg/L) Instantaneous Maximum	5.0	14.0	17.0	8.0	6.0	4.0	5.0	5.0	5.0	6.0	5.0	2.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	< 1	< 2	1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	< 1	4	2	< 1	1	< 1	< 1	< 1	< 1	1	< 1
Nitrate-Nitrite (mg/L) Average Monthly	< 5.2	< 8	< 7.6	< 21.9	< 83.9	< 180.4	< 155.4	< 170.4	< 160.4	< 170.58	< 195.41	< 74.5

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Nitrate-Nitrite (lbs) Total Monthly	< 7	< 5	< 1	< 15	< 95	< 5	< 117	< 162	< 249	< 252	< 285	< 124
Total Nitrogen (mg/L) Average Monthly	< 5.82	< 8.9	< 8.74	< 22.4	< 84.9	< 180.9	< 155.9	< 170.9	< 160.9	< 171.08	< 196.91	< 75
Total Nitrogen (lbs) Total Monthly	< 8	< 6	< 1	< 15	< 96	< 5	< 117	< 162	< 250	< 253	< 287	< 125
Total Nitrogen (lbs) Total Annual								1304				
Ammonia (lbs/day) Average Monthly	< 0.008	< 0.004	< 0.0007	< 0.002	< 0.004	< 0.0001	< 0.002	< 0.003	< 0.005	< 0.005	0.02	< 0.006
Ammonia (mg/L) Average Monthly	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	< 0.1
Ammonia (lbs) Total Monthly	< 0.2	< 0.1	< 0.02	< 0.07	< 0.1	< 0.003	< 0.08	< 0.1	< 0.2	< 0.1	0.6	< 0.2
Ammonia (lbs) Total Annual								2				
TKN (mg/L) Average Monthly	< 0.67	1	1.14	< 0.5	< 1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 1.5	< 0.5
TKN (lbs) Total Monthly	< 0.8	1	0.2	< 0.4	< 2	< 0.02	< 0.4	< 0.5	< 0.8	< 0.7	< 2	< 0.9
Total Phosphorus (lbs/day) Average Monthly	0.05	0.03	0.009	0.09	0.5	0.02	0.4	0.6	0.5	0.7	1	0.4
Total Phosphorus (mg/L) Average Monthly	1.03	1.4	1.5	3.8	12	17	16	18	10.3	15	20	7.3
Total Phosphorus (lbs) Total Monthly	1	1	0.3	3	15	0.5	12	17	16	23	29	12
Total Phosphorus (lbs) Total Annual								114				

Development of Effluent Limitations

Outfall No.	001	Design Flow (MGD)	.05
Latitude	39° 57' 44.67"	Longitude	-76° 57' 38.06"
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.

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 monitoring and reporting requirements for ammonia and an existing WQBEL for 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 1.0 mg/L (IMAX) are still protective of water quality.

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.

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

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 0.2mgd) 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).

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	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	1.0	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
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

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	Maximum	Instant. Maximum		
Ammonia May 1 - Oct 31	Report	XXX	XXX	Report	XXX	XXX	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

Proposed Effluent Limitations and Monitoring Requirements

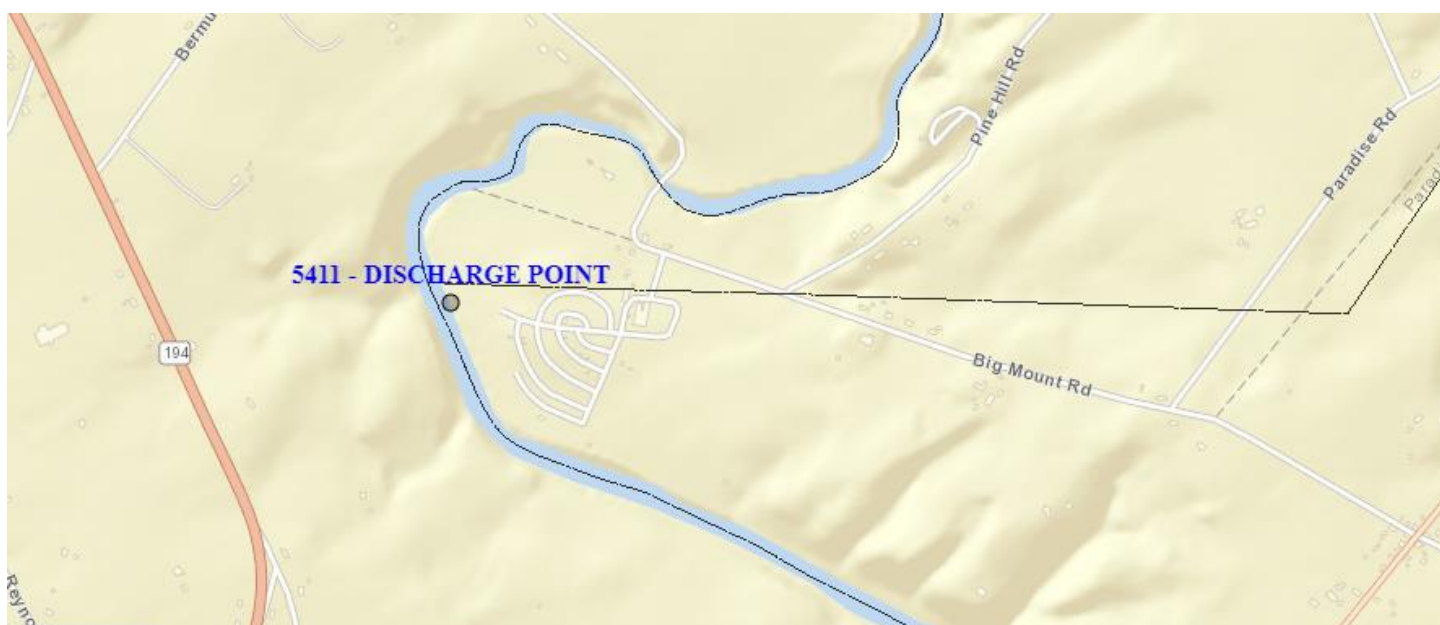
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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

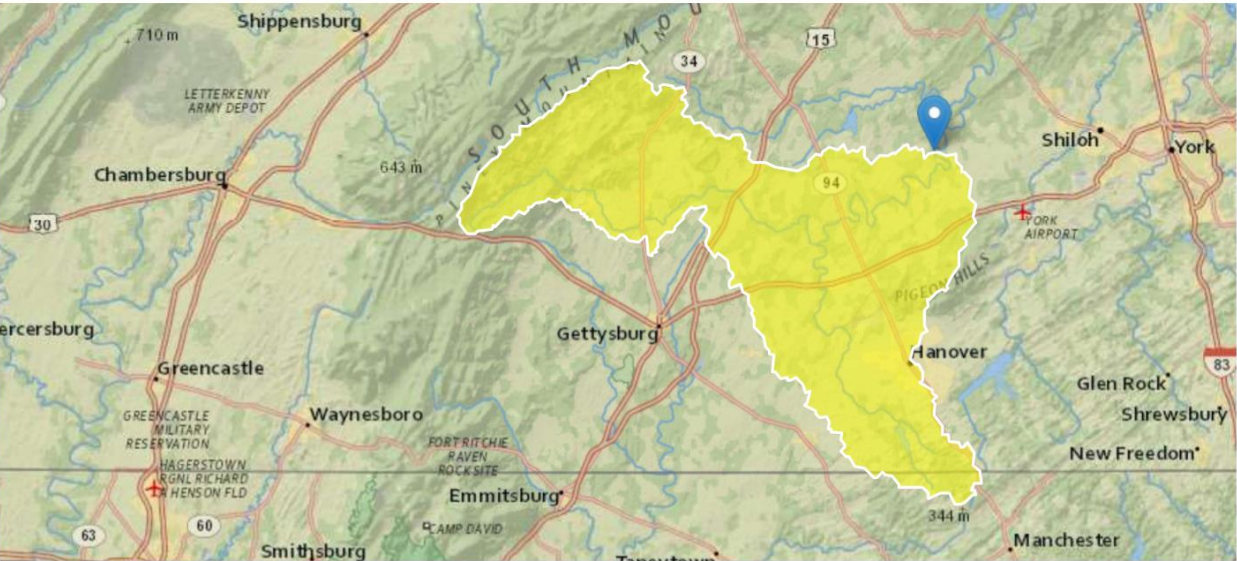
Compliance Sampling Location: Outfall 001

Tools and References Used to Develop Permit	
<input checked="" type="checkbox"/>	WQM for Windows Model (see Attachment)
<input type="checkbox"/>	Toxics Management Spreadsheet (see Attachment)
<input checked="" type="checkbox"/>	TRC Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Temperature Model Spreadsheet (see Attachment)
<input type="checkbox"/>	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
<input checked="" type="checkbox"/>	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
<input type="checkbox"/>	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
<input checked="" type="checkbox"/>	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
<input type="checkbox"/>	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
<input type="checkbox"/>	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
<input type="checkbox"/>	Pennsylvania CSO Policy, 386-2000-002, 9/08.
<input type="checkbox"/>	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
<input type="checkbox"/>	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
<input checked="" type="checkbox"/>	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
<input type="checkbox"/>	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
<input type="checkbox"/>	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
<input type="checkbox"/>	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
<input type="checkbox"/>	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
<input type="checkbox"/>	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
<input type="checkbox"/>	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
<input type="checkbox"/>	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
<input type="checkbox"/>	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Design Stream Flows, 386-2000-003, 9/98.
<input type="checkbox"/>	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.
<input type="checkbox"/>	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
<input type="checkbox"/>	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
<input type="checkbox"/>	SOP:
<input type="checkbox"/>	Other:



StreamStats Report

Region ID: PA
Workspace ID: PA20240628112411539000
Clicked Point (Latitude, Longitude): 39.96239, -76.96090
Time: 2024-06-28 07:24:32 -0400



Collapse All

➤ Basin Characteristics					
Parameter Code	Parameter Description	Value	Unit		
BSLOPD	Mean basin slope measured in degrees	3.4075	degrees		
DRNAREA	Area that drains to a point on a stream	244	square miles		
ROCKDEP	Depth to rock	4.7	feet		
URBAN	Percentage of basin with urban development	3.2502	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	244	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.4075	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.7	feet	4.13	5.21
URBAN	Percent Urban	3.2502	percent	0	89

Low-Flow Statistics Flow Report [Low Flow Region 1]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	34	ft ³ /s	46	46
30 Day 2 Year Low Flow	46.3	ft ³ /s	38	38
7 Day 10 Year Low Flow	16.4	ft ³ /s	51	51
30 Day 10 Year Low Flow	22.4	ft ³ /s	46	46
90 Day 10 Year Low Flow	38.3	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/>)

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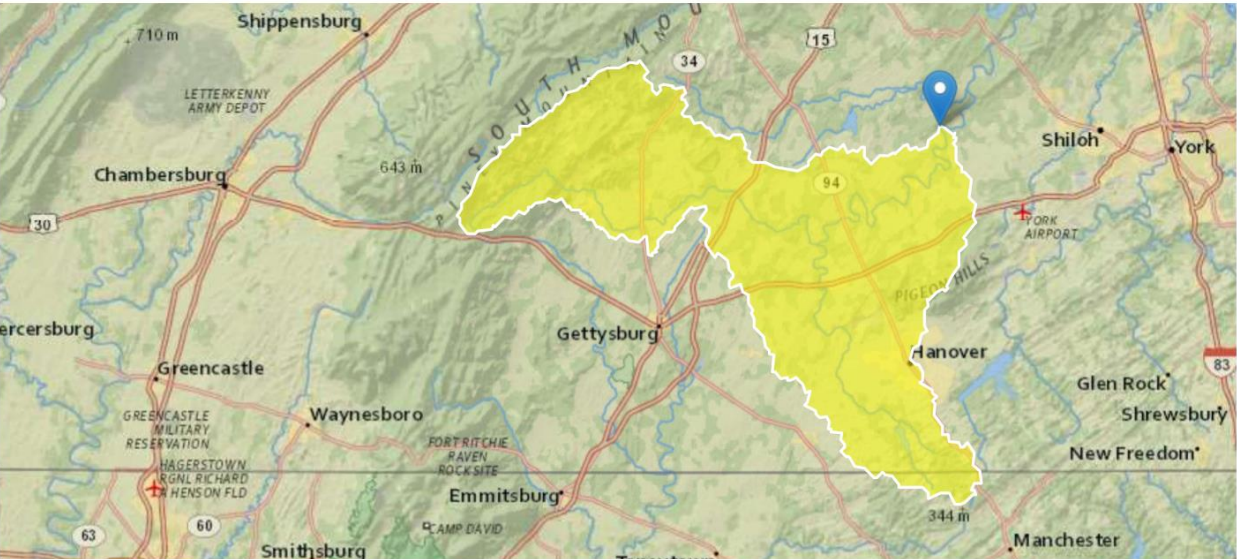
Application Version: 4.20.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

StreamStats Report

Region ID: PA
Workspace ID: PA20240628112616984000
Clicked Point (Latitude, Longitude): 39.98097, -76.95511
Time: 2024-06-28 07:26:37 -0400



Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	3.405	degrees
DRNAREA	Area that drains to a point on a stream	246	square miles
ROCKDEP	Depth to rock	4.7	feet
URBAN	Percentage of basin with urban development	3.2298	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	246	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	3.405	degrees	1.7	6.4
ROCKDEP	Depth to Rock	4.7	feet	4.13	5.21
URBAN	Percent Urban	3.2298	percent	0	89

Low-Flow Statistics Flow Report [Low Flow Region 1]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	34.2	ft ³ /s	46	46
30 Day 2 Year Low Flow	46.6	ft ³ /s	38	38
7 Day 10 Year Low Flow	16.5	ft ³ /s	51	51
30 Day 10 Year Low Flow	22.5	ft ³ /s	46	46
90 Day 10 Year Low Flow	38.6	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/>)

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Application Version: 4.20.1

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
07F		8303	CONEWAGO 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)
34.040	Gettysburg Farm	PA0083399	0.050	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

WQM 7.0 Wasteload Allocations

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
07F	8303	CONEWAGO 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
34.040	Gettysburg Farm	11.07	50	11.07	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
34.040	Gettysburg Farm	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
34.04	Gettysburg Farm	25	25	25	25	5	5	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>		
07F	8303	CONEWAGO CREEK		
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>	
34.040	0.050	25.000	7.000	
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>	
71.125	0.884	80.467	0.262	
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>	
2.11	0.055	0.12	1.029	
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>	
8.228	1.896	Tsivoglou	6	
<u>Reach Travel Time (days)</u>	Subreach Results			
0.501	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>	<u>D.O. (mg/L)</u>
	0.050	2.10	0.11	7.54
	0.100	2.09	0.11	7.54
	0.150	2.09	0.10	7.54
	0.201	2.08	0.10	7.54
	0.251	2.07	0.09	7.54
	0.301	2.06	0.09	7.54
	0.351	2.06	0.08	7.54
	0.401	2.05	0.08	7.54
	0.451	2.04	0.07	7.54
	0.501	2.04	0.07	7.54

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	6		

WQM 7.0 Hydrodynamic Outputs

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
07F		8303				CONEWAGO CREEK						
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
Q7-10 Flow												
34.040	16.40	0.00	16.40	.0773	0.00094	.884	71.12	80.47	0.26	0.501	25.00	7.00
Q1-10 Flow												
34.040	10.50	0.00	10.50	.0773	0.00094	NA	NA	NA	0.20	0.643	25.00	7.00
Q30-10 Flow												
34.040	22.30	0.00	22.30	.0773	0.00094	NA	NA	NA	0.31	0.422	25.00	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
07F	8303	CONEWAGO CREEK	34.040	373.06	244.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
	(cfsm)	(cfs)	(cfs)									
Q7-10	0.100	0.00	16.40	0.000	0.000	0.0	0.00	0.00	25.00	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
Gettysburg Farm	PA0083399	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	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
07F	8303	CONEWAGO CREEK	31.890	362.37	246.00	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary		Stream	
	(cfsm)	(cfs)	(cfs)						Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.100	0.00	16.50	0.000	0.000	0.0	0.00	0.00	25.00	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

TRC_CALC

1A	B	C	D	E	F	G
2	TRC EVALUATION					
3	Input appropriate values in B4:B8 and E4:E7					
4	16.4	= 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)	
	0	= % Factor of Safety (FOS)			=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations		Reference	CFC Calculations
11	TRC	1.3.2.iii	WLA_afc = 67.654		1.3.2.iii	WLA_cfc = 65.950
12	PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
13	PENTOXSD TRG	5.1b	LTA_afc= 25.210		5.1d	LTA_cfc = 38.340
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) = 0.500		BAT/BPJ	
18			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)				