pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0088277**
Facility Type	**Non-Municipal**	APS ID	**619241**
Major / Minor	**Minor**	Authorization ID	**1476115**

Applicant and Facility Information

Applicant Name	**Summit Ridge Homeowners Assoc**	Facility Name	**Summit Ridge STP**
Applicant Address	2950 Lewisberry Road	Facility Address	1235 Abbottstown Pike
	York, PA 17404-8376		Hanover, PA 17331-8237
Applicant Contact	Lindsey Thomas	Facility Contact	Lindsey Thomas
Applicant Phone	(717) 848-1579	Facility Phone	(717) 848-1579
Client ID	257538	Site ID	503328
Ch 94 Load Status	Not Overloaded	Municipality	Berwick Township
Connection Status	No Limitations	County	Adams
Date Application Received	March 7, 2024	EPA Waived?	Yes
Date Application Accepted	March 8, 2024	If No, Reason	

Purpose of Application: NPDES permit renewal.

Summary of Review

Summit Ridge Homeowners Associates (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on May 21, 2019 and became effective on June 1, 2019. The permit expires on May 31, 2024.

The average annual design flow and hydraulic design capacity is 0.02555 MGD. The treated effluent is discharged to UNT to Beaver Creek. The 2024 application states that there are no industrial users.

WQM Part II Permit No. 0100406 was issued on 2/9/2001, and 0100406 T-1 ownership transfer was issued on 8/16/2007.

Sludge use and disposal description and location(s): N/A because sludge is hauled by Smiths Sanitary Septic Service LLC.

Changes from the previous permit: The E. Coli. monitoring and report requirements will add to the proposed permit. The TRC limits will change to 0.14 mg/L for AML & 0.45 mg/L for IMAX.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	May 3, 2024
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	May 22, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.02555
Latitude	39º 51' 38.00"	Longitude	-76º 58' 60.00"
Quad Name	Hanover	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Beaver Creek	Stream Code	8768
NHD Com ID	57473183	RMI	2.05
Drainage Area	0.69 mi.^{2}	Yield (cfs/mi^2)	0.05
Q_{7-10} Flow (cfs)	0.035	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	645	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF & MF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s), & assessment ID 18596 is also impaired for recreational purposes.		
Cause(s) of Impairment	Pathogens		
Source(s) of Impairment	Unknown source		
TMDL Status	Not applicable	Name	
Nearest Downstream Public Water Supply Intake	PP & L Bruner Island		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	54.0 miles	Distance from Outfall (mi)	Approximate 41.0 miles

Changes Since Last Permit Issuance:

Drainage Area

The discharge is to UNT to beaver Creek at RMI 2.05 miles. A drainage area upstream of the discharge is estimated to be 0.69 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow

According to StreamStats, the discharge point on Conewago Creek has a Q_{7-10} of 0.035 cfs and a drainage area of 0.69 mi.^{2}, which results in a Q_{7-10} low flow yield of 0.05 cfs/mi.^{2}. This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

Q_{7-10} = 0.035 cfs
Low Flow Yield = 0.035 cfs / 0.69 mi.^{2} = 0.05 cfs/mi.^{2}
Q_{30-10} = 1.36 * 0.035 cfs = 0.048 cfs
Q_{1-10} = 0.64 * 0.035 cfs = 0.022 cfs

Receiving Water Characteristics

Under 25 Pa Code §93.9o, UNT to Beaver Creek is designated as Warm Water Fishes and Migratory Fishes (WWF & MF). The discharge is located within a stream segment listed as attaining uses.

303d Listed Streams

Based on the 2024 Integrated Report, Beaver Creek, assessment unit IDs 11748 is not impaired, & 18596 is impaired for pathogens from an unknown source. A TMDL currently does not exist for this stream segment, therefore, no TMDL has been taken into consideration during this review.

Public Water Supply

The nearest downstream public water supply intake is for PPL Brunner Island on Susquehanna River, approximately 41.0 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Summit Ridge STP				
WQM Permit No.	**Issuance Date**			
0100406	2/9/2001			
0100406 T-1	8/16/2007			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage			Hypochlorite	0.0255
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0256		Not Overloaded		

Changes Since Last Permit Issuance: none

Other Comments:

The WWTP train is as follows:

Bar Screen (1) ⇒ Equalization Tank (2) ⇒ Aeration tank (4) ⇒ Clarifier Tank (1) ⇒ Polishing Clarifier Tank (1) ⇒ Chlorine disinfection contact Tank (1) ⇒ Sludge Holding Tank (1) ⇒ Discharge to UNT to Beaver Creek

Chemical used:
Calcium hypochlorite is used for disinfection at a rate of 4 tablets/day. Sodium sulfite is used for dechlorination at a rate of 10 tablets/day. Sodium carbonate is used for pH control at a rated 5 bls/day. Aluminum sulfate is used for settling at a 5 bls/day.

Industrial/Commercial Users:
The permit application indicated there are no commercial or industrial contributors to the treatment plant.

Biosolids:
The total sewage sludge/biosolids production within the facility for the previous year was 2.902 dry tons.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMRs is presented on the pages 4-5.
Summary of Inspections:	**2/02/23:** Mr. Hoy, DEP WQS, conducted a compliance evaluation inspection. There were violations noted during inspection. The field test results were within permit limits. Recommendations were evaluating the influent screening process, since failure to properly screen out rags and debris contributes to pump malfunction and having a dumpster present at the facility to dispose of screenings and other facility wastes. **4/30/21:** Mr. Bettinger, DEP WQS, conducted an administrative inspection to follow up with the facility regarding reported effluent violations. There were no violations noted during inspection. The cause of the TSS exceedance is unclear at this time, but the facility is closely monitoring the effluent.
Other Comments:	There are 3 violations against the permittee or applicant. - 2/2/2023: two violations such as 1. Failure to retain records required by the permit. 2. Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance. - 1/5/2024: one violation: failure to submit NPDES renewal application at least 180 days prior to expiration or later approved date.

Compliance History

DMR Data for Outfall 001 (from April 1, 2023 to March 31, 2024)

Parameter	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23
Flow (MGD) Average Monthly	0.0099	0.0093	0.0124	0.0113	0.0095	0.0089	0.0096	0.0080	0.0089	0.0102	0.0118	0.0088
Flow (MGD) Daily Maximum	0.0186	0.0286	0.0229	0.0210	0.0165	0.0181	0.0161	0.0127	0.0125	0.0172	0.0300	0.0116
pH (S.U.) Instantaneous Minimum	8.09	8.11	7.78	7.80	7.89	7.85	7.91	7.57	7.46	7.28	7.31	7.68
pH (S.U.) Instantaneous Maximum	8.61	8.56	8.55	8.59	8.49	8.40	8.31	8.37	8.39	8.57	8.27	8.51
DO (mg/L) Instantaneous Minimum	10.1	10.4	10.2	10.1	9.8	8.5	8.7	8.1	8.1	8.7	9.5	9.1
TRC (mg/L) Average Monthly	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.02	0.02	0.01	0.03
CBOD5 (mg/L) Average Monthly	< 3.10	< 2.4	3.1	< 2.4	4.3	< 2.4	< 2.4	< 4.10	< 3.0	< 4.65	4.1	< 2.65
TSS (mg/L) Average Monthly	11.0	6.0	10.5	4.0	3.0	2.5	4.0	4.0	11	10.0	< 7.0	< 3.5
Fecal Coliform (No./100 ml) Average Monthly	74	8	333	3	< 4	< 2	51	7	16	< 8	18	15
Fecal Coliform (No./100 ml) Instantaneous Maximum	104	29	517	11	16	5	57	28	18	62	23	52.9
Nitrate-Nitrite (lbs/day) Annual Average				< 3.45								
Nitrate-Nitrite (mg/L) Annual Average				< 50.40								
Total Nitrogen (lbs/day) Annual Average				< 3.48								
Total Nitrogen (mg/L) Annual Average				< 50.90								
Ammonia (mg/L) Average Monthly	0.35	1.66	< 0.14	< 0.17	< 0.40	< 0.11	< 0.10	< 0.10	< 0.10	< 0.22	0.29	< 0.22
TKN (lbs/day) Annual Average				< 0.03								

TKN (mg/L) Annual Average				< 0.50								
Total Phosphorus (lbs/day) Annual Average				0.16								
Total Phosphorus (mg/L) Annual Average				2.30								

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.02555
Latitude 39º 51' 38.00" **Longitude** -76º 58' 60.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

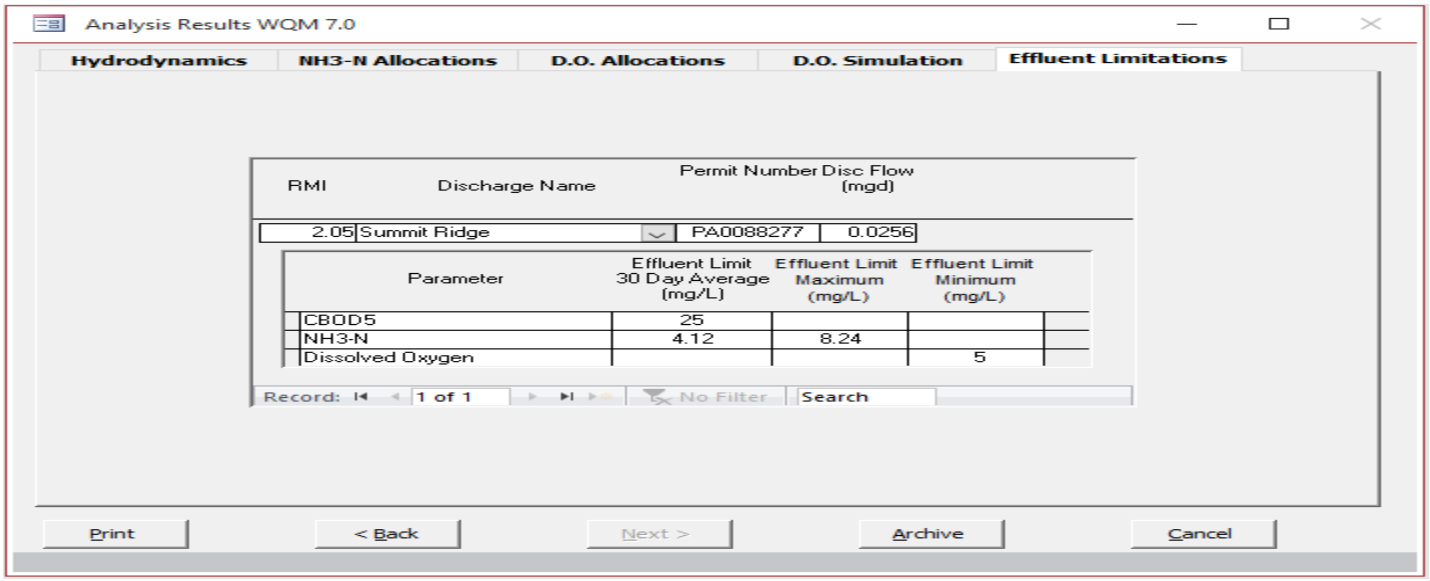
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	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:

Water Quality-Based Limitations

Ammonia (NH_3-N):
NH_3N calculations are based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The following data is necessary to determine the in-stream NH_3-N criteria used in the attached WQM 7.0 computer model of the stream:

*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	20°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20ºC	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 4.12 mg/L as a monthly average and 8.24 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. However, the existing limits of 2.5 mg/L monthly average & 5.0 mg/L IMAX are more stringent and will remain in the proposed permit. Per anti-backsliding policy, the existing winter average monthly limit of 75 mg/L & IMAX limit of 15.0 mg/L will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. However, the existing permit 20.0 mg/L as AML, & 50.0 mg/L as IMAX will remain in the proposed permit. Recent DMRs and inspection reports show that the facility has typically been achieving concentrations below this limit.

Dissolved Oxygen (D.O.):
The D.O. goal is 6.0 mg/L. However, a minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be replaced in the proposed permit to ensure the protection of water quality standards. This approach is consistent with DEP's current Standard Operating Procedure (SOP) No. BCW-PMT-033, version 2.0 revised February 5, 2024, and has been applied to other point source dischargers throughout the state.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa. Code § 95.2(1).

Total Suspended Solids (TSS):
The existing technology-based limits of 30.0 mg/L average monthly, and 60.0 mg/L IMAX will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Fecal Coliform:
The recent coliform guidance in 25 Pa. Code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100ml as a geometric mean and an instantaneous maximum not greater than 10,000/100ml.

E. Coli:
As recommended by DEP's SOP No. BCW-PMT-033, version 2.0 revised February 5, 2024, a routine monitoring for E. Coli will be included in the proposed permit under 25 Pa. Code § 92a.61. This requirement applies to all sewage dischargers greater than 0.002 MGD in their new and reissued permits. A monitoring frequency of 1/year will be included in the permit to be consistent with the recommendation from this SOP.

Total Phosphorus:
The existing permit reporting the average monthly TP concentration & mass will remain in the proposed permit.

Stormwater:
There is no known stormwater outfall associated with this facility

Chesapeake Bay Strategy:
Phase 2 WIP identifies Cassville WWTP as a non-significant Phase 5 facility. DEP's SOP mentioned that for facilities with design flows >0.002 MGD and <0.2 MGD will include monitoring, at a minimum, for Total Nitrogen and Total Phosphorus, with a monitoring frequency specified in DEP's technical guidance. Therefore, 1/year TN species (such as Nitrate-Nitrite as N, Total Kjeldahl Nitrogen, and Total Nitrogen). The yearly calculation "report" for Nitrate-Nitrite, TKN, & TN will remain in the proposed permit.

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

Total Residual Chlorine (TRC):
Based on the attached TRC Excel spreadsheet calculator, which uses the equations and calculations from the Department's May 1, 2003 Implementation Guidance for Total Residual Chlorine (ID No. 391-2000-015), the facility's

discharge must meet a monthly average limit of 0.138 mg/L and an instantaneous maximum limit of 0.45 mg/L. These limits are more stringent and will be replaced in the proposed permit.

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.035	= Q stream (cfs)	0.5	= CV Daily
0.0256	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.301	1.3.2.iii	WLA cfc = 0.286
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.112	5.1d	LTA_cfc = 0.166

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.138	AFC
		INST MAX LIMIT (mg/l) = 0.451	

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)**

WETT:
Minor facilities and facilities without a formal EPA approved pretreatment program are exempted from WETT.

Anti-Backsliding:
The proposed limits are at least as stringent as are in existing permit; therefore, anti-backsliding is not applicable

Antidegradation (93.4):
The 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. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

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

WQM 7.0:

The following data were used in the attached computer model (WQM 7.0) of the stream:

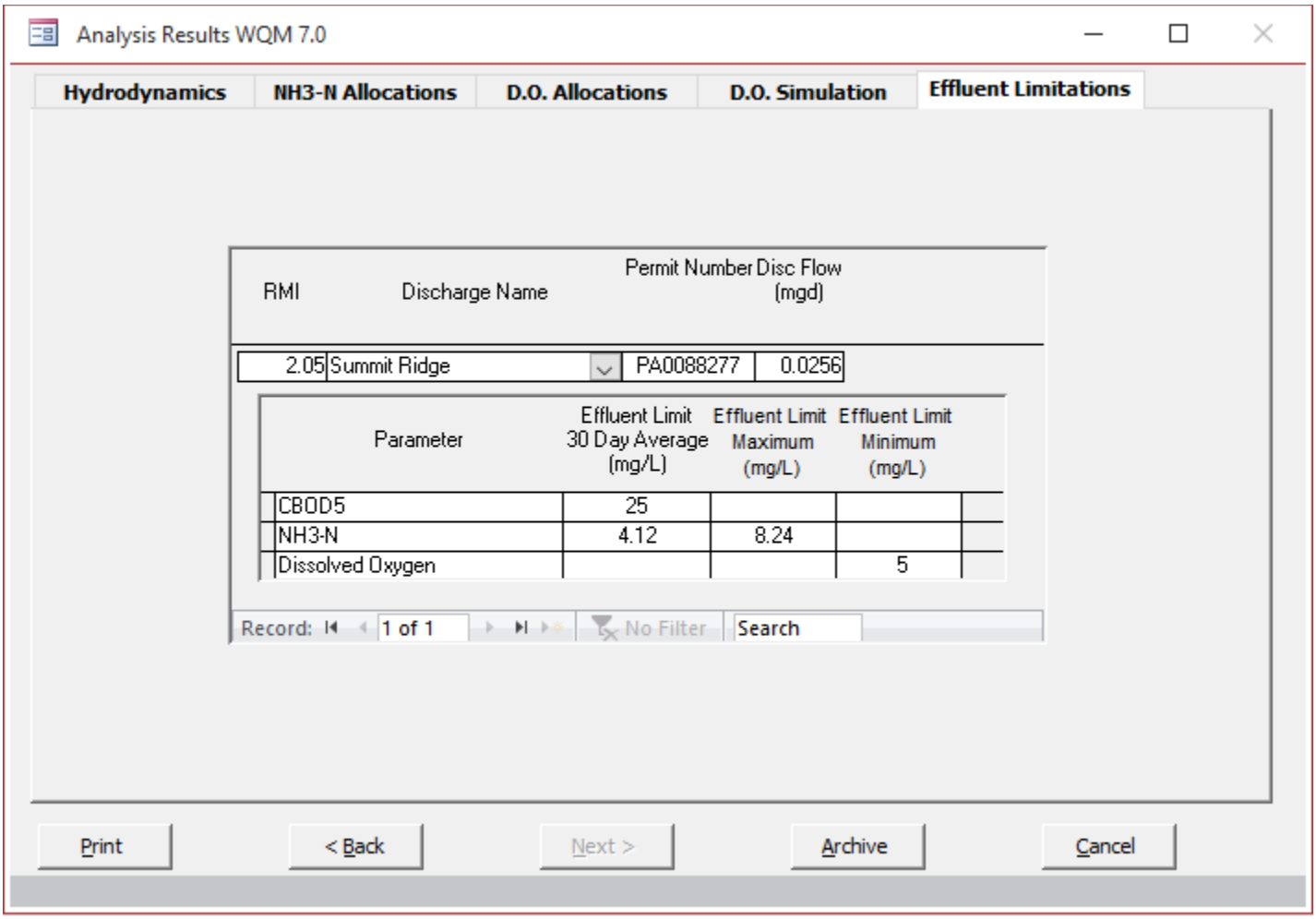
*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 UNT to Beaver Creek (08768)

Elevation:	645 ft (USGS National Map Viewer)
Drainage Area:	0.69 mi^2 (USGS PA StreamStats)
River Mile Index:	2.05 (PA DEP eMapPA)
Low Flow Yield:	0.05 cfs/mi^2
Discharge Flow:	0.0256 MGD (NPDES PA0088277 Application)

Node 2: Just after confluence of Beaver Creek (08760)

Elevation:	488 ft (USGS National Map Viewer)
Drainage Area:	2.91 mi^2 (USGS PA StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.05 cfs/mi^2
Discharge Flow:	0.000 MGD



rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
07F	07768	Trib 08768 to Beaver Creek

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Eff. Limit 30-day Ave. (mg/L)	Eff. Limit Maximum (mg/L)	Eff. Limit Minimum (mg/L)
2.050	Summit Ridge	PA0088277	0.026	CBOD5	25		
				NH3-N	4.12	8.24	
				Dissolved Oxygen			5

Thursday, May 2, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
07F	07768	Trib 08768 to Beaver 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
2.050	Summit Ridge	16.76	26.1	16.76	26.1	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
2.050	Summit Ridge	1.89	4.12	1.89	4.12	0	0

Dissolved Oxygen Allocations

		CBOD5		NH3-N		Dissolved Oxygen			
RMI	Discharge Name	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Critical Reach	Percent Reduction
2.05	Summit Ridge	25	25	4.12	4.12	5	5	0	0

Thursday, May 2, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
07F	07768	Trib 08768 to Beaver Creek

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.050	0.026	20.000	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
3.836	0.333	11.533	0.058
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
14.29	0.911	2.20	0.700
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
6.510	24.646	Owens	5
Reach Travel Time (days)			
2.159			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.216	11.74	1.89	8.22
0.432	9.64	1.63	8.24
0.648	7.92	1.40	8.24
0.864	6.51	1.20	8.24
1.080	5.35	1.03	8.24
1.295	4.39	0.89	8.24
1.511	3.61	0.76	8.24
1.727	2.96	0.66	8.24
1.943	2.43	0.57	8.24
2.159	2.00	0.49	8.24

Thursday, May 2, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptModelSpecs

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		

Thursday, May 2, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
07F	6768	Trib 06768 to Beaver Creek

RMI	Stream Flow (cfs)	PWS Wth (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												
2.050	0.03	0.00	0.03	.039	6 0.01451	.333	3.84	11.53	0.06	2.159	20.00	7.00
Q1-10 Flow												
2.050	0.02	0.00	0.02	.039	6 0.01451	NA	NA	NA	0.05	2.393	20.00	7.00
Q30-10 Flow												
2.050	0.05	0.00	0.05	.039	6 0.01451	NA	NA	NA	0.06	1.980	20.00	7.00

Thursday, May 2, 2024 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptGeneral

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	6768	Trib 06768 to Beaver Creek	2.050	641.00	0.09	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	0.050	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc. Flow (mgd)	Permitted Disc. Flow (mgd)	Design Disc. Flow (mgd)	Reserve Factor	Disc. Temp (°C)	Disc. pH
Summit Ridge	PA0088277	0.0256	0.0256	0.0256	0.000	20.00	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

Thursday, May 2, 2024 Version 1.1 Page 1 of 2

Page: 1 No Filter

rptGeneral

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	6768	Trib 06768 to Beaver Creek	0.001	466.00	2.91	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	0.050	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

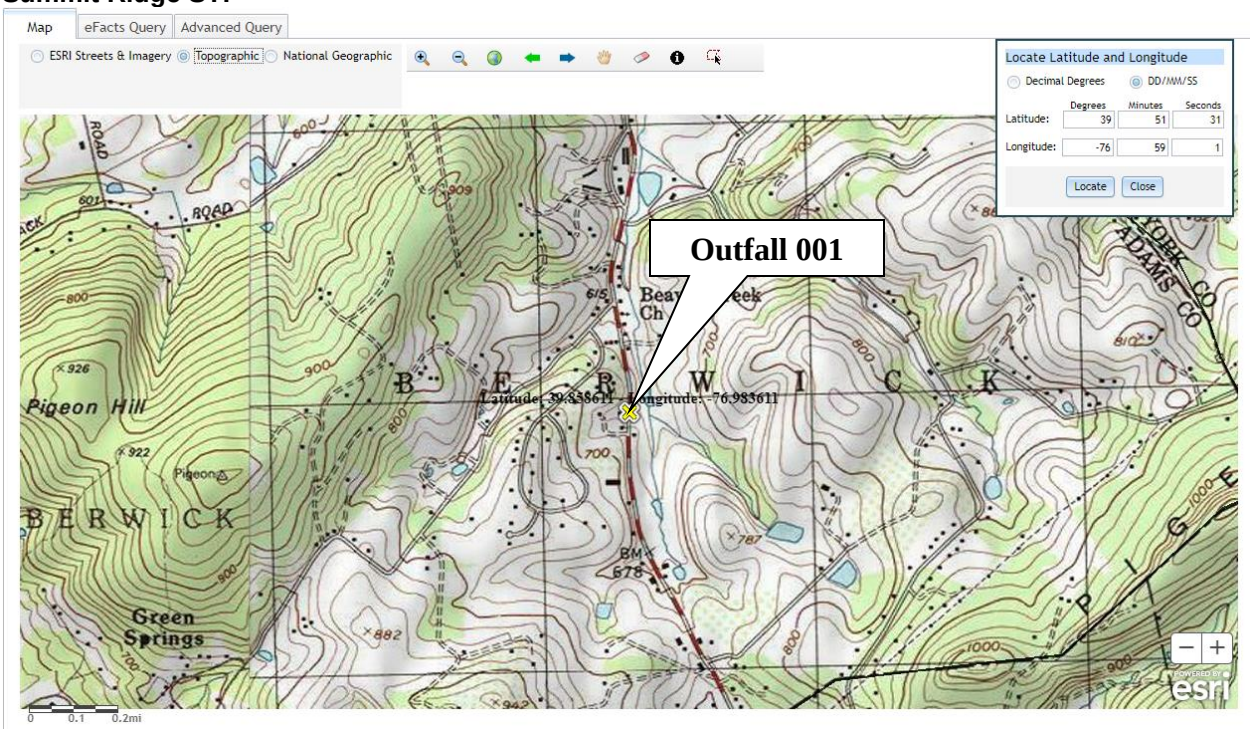
Name	Permit Number	Existing Disc. Flow (mgd)	Permitted Disc. Flow (mgd)	Design Disc. Flow (mgd)	Reserve Factor	Disc. Temp (°C)	Disc. pH
Summit Ridge	PA0088277	0.0000	0.0000	0.0000	0.000	20.00	7.00

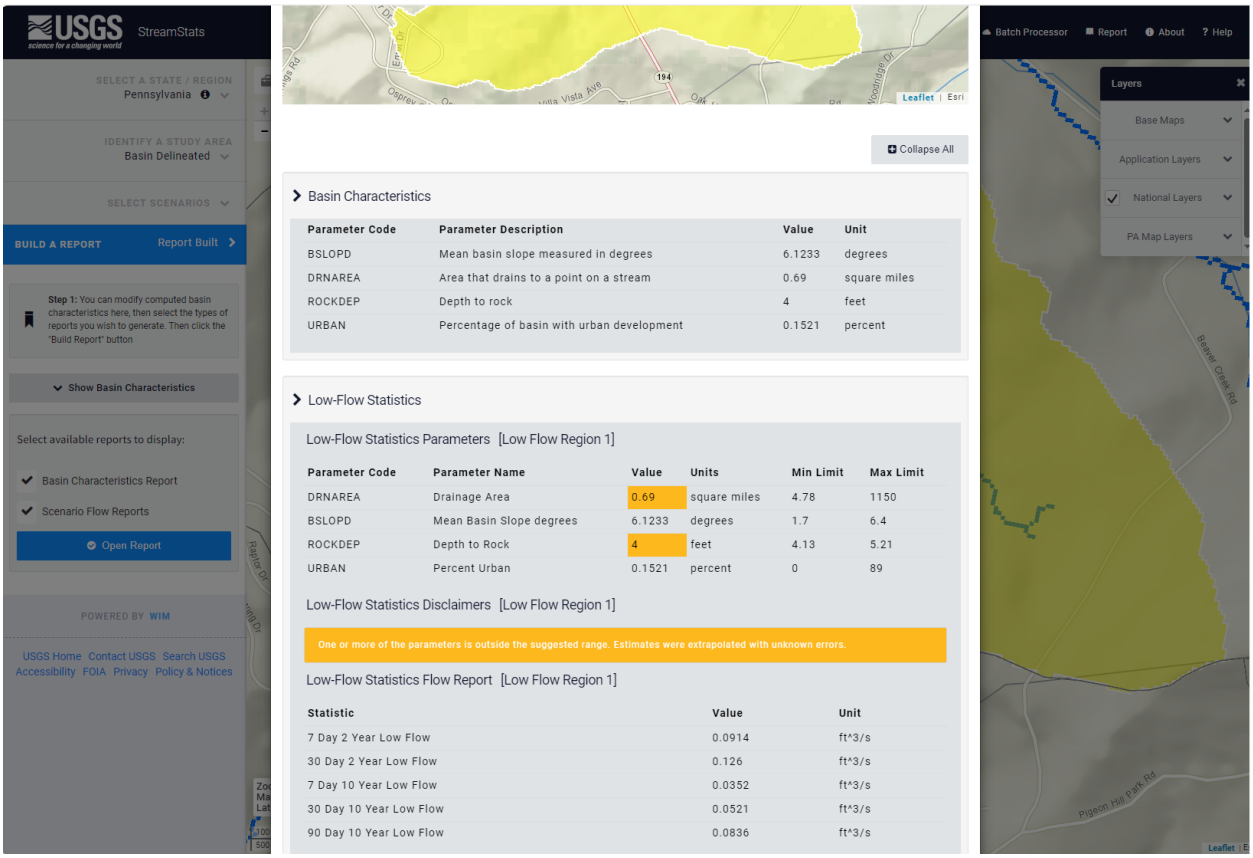
Parameter Data

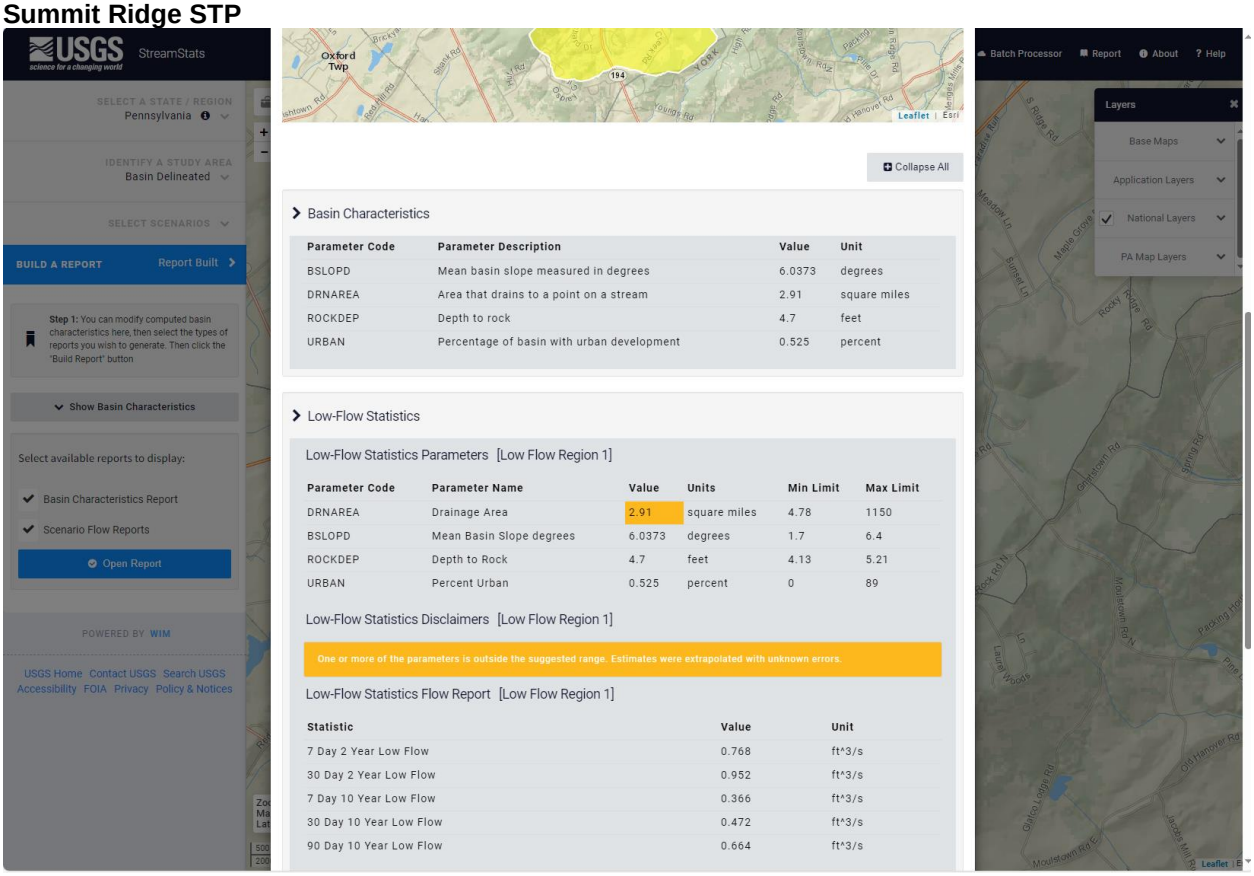
Parameter Name	Disc. Conc. (mg/L)	Trib Conc. (mg/L)	Stream Conc. (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Thursday, May 2, 2024 Version 1.1 Page 2 of 2

Page: 2 No Filter


Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
DD/MM/SS
Degrees
Minutes
Seconds
Latitude:
39
51
31
Longitude:
-76
59
1
Locate
Close
Outfall 001
Latitude: 39.858611 Longitude: -76.983611
Pigeon Hill
BERWICK
Green Springs
ADAMS CO
YORK CO
esri


USGS StreamStats
SELECT A STATE / REGION
Pennsylvania
IDENTIFY A STUDY AREA
Basin Delineated
SELECT SCENARIOS
BUILD A REPORT
Report Built
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
USGS Home Contact USGS Search USGS
Accessibility FOIA Privacy Policy & Notices
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 6.1233 | degrees
DRNAREA | Area that drains to a point on a stream | 0.69 | square miles
ROCKDEP | Depth to rock | 4 | feet
URBAN | Percentage of basin with urban development | 0.1521 | 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 | 0.69 | square miles | 4.78 | 1150
BSLOPD | Mean Basin Slope degrees | 6.1233 | degrees | 1.7 | 6.4
ROCKDEP | Depth to Rock | 4 | feet | 4.13 | 5.21
URBAN | Percent Urban | 0.1521 | 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 | 0.0914 | ft^3/s
30 Day 2 Year Low Flow | 0.126 | ft^3/s
7 Day 10 Year Low Flow | 0.0352 | ft^3/s
30 Day 10 Year Low Flow | 0.0521 | ft^3/s
90 Day 10 Year Low Flow | 0.0836 | ft^3/s
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Beaver Creek Rd
Pigeon Hill Park Rd
Leaflet


USGS
science for a changing world
StreamStats
SELECT A STATE / REGION
Pennsylvania
IDENTIFY A STUDY AREA
Basin Delineated
SELECT SCENARIOS
BUILD A REPORT
Report Built
Step 1: You can modify computed basin characteristics here, then select the types of reports you wish to generate. Then click the "Build Report" button
Show Basin Characteristics
Select available reports to display:
Basin Characteristics Report
Scenario Flow Reports
Open Report
POWERED BY WIM
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Accessibility FOIA Privacy Policy & Notices
Oxford Twp
194
YORK
Leaflet | Esri
Collapse All
Basin Characteristics
Parameter Code | Parameter Description | Value | Unit
BSLOPD | Mean basin slope measured in degrees | 6.0373 | degrees
DRNAREA | Area that drains to a point on a stream | 2.91 | square miles
ROCKDEP | Depth to rock | 4.7 | feet
URBAN | Percentage of basin with urban development | 0.525 | 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 | 2.91 | square miles | 4.78 | 1150
BSLOPD | Mean Basin Slope degrees | 6.0373 | degrees | 1.7 | 6.4
ROCKDEP | Depth to Rock | 4.7 | feet | 4.13 | 5.21
URBAN | Percent Urban | 0.525 | 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 | 0.768 | ft^3/s
30 Day 2 Year Low Flow | 0.952 | ft^3/s
7 Day 10 Year Low Flow | 0.366 | ft^3/s
30 Day 10 Year Low Flow | 0.472 | ft^3/s
90 Day 10 Year Low Flow | 0.664 | ft^3/s
Batch Processor
Report
About
Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Leaflet

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.2	XXX	0.7	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.5	XXX	5.0	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.5	XXX	15.0	2/month	24-Hr Composite
Nitrate-Nitrite	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite
TKN	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite
Total Nitrogen	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.14	XXX	0.45	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.5	XXX	5.0	2/month	24-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	7.5	XXX	15.0	2/month	24-Hr Composite
Nitrate-Nitrite	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite
TKN	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite
Total Nitrogen	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite

Compliance Sampling Location:

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: BCW-PMT-033
☐	Other: