pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0033995**
Facility Type	**Municipal**	APS ID	**275844**
Major / Minor	**Minor**	Authorization ID	**1401671**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Berks County**	Facility Name	**Berks County Prison & Rest Home**
Applicant Address	633 Court Street, 14th Floor	Facility Address	1088 Berks Road
	Reading, PA 19601-4322		Leesport, PA 19533-8700
Applicant Contact	Rex Levengood	Facility Contact	Steve Chernerky
Applicant Phone	(610) 478-6201	Facility Phone	(610) 389-3505
Client ID	85998	Site ID	452672
Ch 94 Load Status	Not Overloaded	Municipality	Bern Township
Connection Status	No Limitations	County	Berks
Date Application Received	June 28, 2022	EPA Waived?	Yes
Date Application Accepted	July 5, 2022	If No, Reason	

Purpose of Application: NPDES permit renewal

Summary of Review

Spotts, Stevens and McCoy, on behalf of the Berks County (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on November 22, 2017 and became effective on December 1, 2017. The permit expired on November 30, 2022 but the terms and conditions of the permit have been extended since that time.

The average annual design flow and hydraulic design capacity is 0.5 MGD, and the organic loading capacity is 1481.0 lbs BOD_5/day. The renewal application indicated the STP receives its 87% from the Welfare Tract County, 11.3% from the Bern Township, and 0.5% from the Blue Marsh Recreation Area.

Hauled-in septage and sludge has been discontinued per their application since March 2012, however, the facility prefers to leave the septage/hauled-in waste receiving station in the NPDES permit at this time thereby giving them the option to use it.

The WQM Part II permit No. 0602404 A-1 & 0602404 A-2 amendments were issued on 9/12/2003 & 6/3/2004. The WQM Part II permit No. 0602404 A-3 amendment was issued on 7/20/2018 to upgrade the existing wastewater treatment plant which included to install an Ultraviolet disinfection unit without increasing the facility's annual average design flow, design hydraulic capacity, or design organic capacity.

Sludge use and disposal description and location(s): the sludge is landfill type and disposal to Pioneer Crossing Landfill located at 727 Redlane Rd., Birdsboro PA.

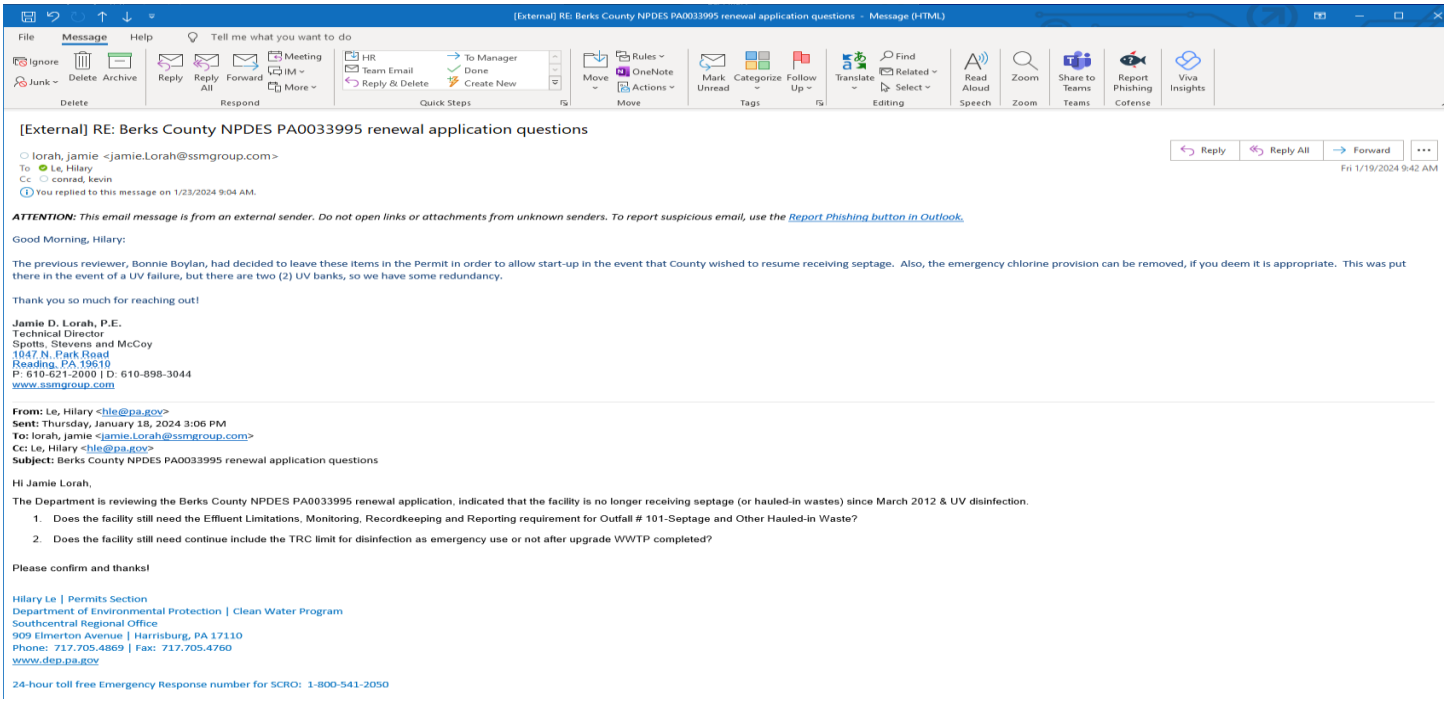
Delaware River Basin Commission

The discharge is within Delaware River basin and is therefore subject to Delaware River Basin Commission (DRBC) requirements. While the design flow falls within "reviewable projects" by DRBC, no docket was indicated on DRBC's interactive online docket map. Either a docket does not exist, or it predates the online map. DRBC will be copied on the draft permit and a copy of the application forwarded to them.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	January 26, 2024
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	February 1, 2024

Summary of Review

Changes from the previous permit: The E. Coli monitoring and report requirements will add to the proposed permit. The TRC limits requirement will be removed from the proposed permit, (*please see email from Facility's consultant*, *screen print below*).



[External] RE: Berks County NPDES PA0033995 renewal application questions - Message (HTML)

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[External] RE: Berks County NPDES PA0033995 renewal application questions

Reply Reply All Forward

lorah, jamie <jamie.Lorah@ssmgroup.com>
To Le, Hilary
Cc conrad, kevin
You replied to this message on 1/23/2024 9:04 AM.

Fri 1/19/2024 9:42 AM

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Good Morning, Hilary:

The previous reviewer, Bonnie Boylan, had decided to leave these items in the Permit in order to allow start-up in the event that County wished to resume receiving septage. Also, the emergency chlorine provision can be removed, if you deem it is appropriate. This was put there in the event of a UV failure, but there are two (2) UV banks, so we have some redundancy.

Thank you so much for reaching out!

Jamie D. Lorah, P.E.
Technical Director
Spotts, Stevens and McCoy
1047 N. Park Road
Reading, PA 19610
P: 610-621-2000 | D: 610-898-3044
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From: Le, Hilary <hle@pa.gov>
Sent: Thursday, January 18, 2024 3:06 PM
To: lorah, jamie <jamie.Lorah@ssmgroup.com>
Cc: Le, Hilary <hle@pa.gov>
Subject: Berks County NPDES PA0033995 renewal application questions

Hi Jamie Lorah,

The Department is reviewing the Berks County NPDES PA0033995 renewal application, indicated that the facility is no longer receiving septage (or hauled-in wastes) since March 2012 & UV disinfection.

1. Does the facility still need the Effluent Limitations, Monitoring, Recordkeeping and Reporting requirement for Outfall # 101-Septage and Other Hauled-in Waste?
2. Does the facility still need continue include the TRC limit for disinfection as emergency use or not after upgrade WWTP completed?

Please confirm and thanks!

Hilary Le | Permits Section
Department of Environmental Protection | Clean Water Program
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110
Phone: 717.705.4869 | Fax: 717.705.4760
www.dep.pa.gov

24-hour toll free Emergency Response number for SCRO: 1-800-541-2050

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.5
Latitude	40º 22' 31.10"	Longitude	-76º 0' 44.25"
Quad Name	Bernville	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Plum Creek (CWF)	Stream Code	1866
NHD Com ID	25962232	RMI	0.4
Drainage Area	12.5 mi.^{2}	Yield (cfs/mi^2)	See comment below
Q_{7-10} Flow (cfs)	See comment below	Q_{7-10} Basis	See comment below
Elevation (ft)	238.14	Slope (ft/ft)	
Watershed No.	3-C	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	**none**	Name	
Nearest Downstream Public Water Supply Intake	Pottstown Water Authority, Montgomery County		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	57.0 miles	Distance from Outfall (mi)	Approximate 25.0 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Plum Creek at RMI 0.4 mile. The drainage area upstream of the point of discharge is 12.5 sq.mi, according to USGS PA StreamStats (https://water.usgs.gov/osw/streamstats/pennsylvania.html).

Streamflow
A downstream gage on the Tulpehocken Creek, after the dam, surface water intake, and confluence with Plum creek is gage #01471000, at 2.9 RMI on Tulpehocken Creek, has the following data:

Yield = 56.0 cfs/216 mi^2 = 0.26 cfs/mi^2
Q_{7-10} = 0.26 cfs/mi^2 * 12.5 mi^2 = 3.25 cfs
Q_{30-10} = 3.25 cfs * 1.36 = 4.42 cfs
Q_{1-10} = 3.25 cfs * 0.64 = 2.08 cfs

Plum Creek
25 Pa Code §93.9f classifies Plum Creek as cold-water fishes & migratory fishes (CWF & MF) surface water. At the point of discharge, DEP's 2022 integrated report, Plum Creek, assessment unit ID 18828, is impaired for recreational uses due to pathogen. The Total Maximum Daily Load (TMDL) was developed to address this impairment (just for the watershed upstream of the point of discharge). More details on the TMDL will be discussed later in this fact sheet.

Public Water Supply
The nearest downstream public water supply intake is for Pottstown Water Authority in Montgomery County on Schuylkill River, approximately 25.0 miles downstream of this discharge. Considering distance and dilution, the discharge is not expected to impact the water supply.

Other Comments

- The lower 0.25 miles of Plum Creek, downstream of this facility, are designated Trout Natural Reproduction.
- No other sewage dischargers are in the vicinity.
- No EV or HQ water will be impacted. No Class A Wild Trout water will be impacted.

Treatment Facility Summary

Treatment Facility Name: County Of Berks WWTP

WQM Permit No.	Issuance Date
06020404 A-1	9/12/2003
06020404 A-2	6/3/2004
06020404 A-3	7/20/2018

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Oxidation Ditch	Gas Chlorine	0.5

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.5	1481	Not Overloaded	Belt Filtration	Combination of methods

Changes Since Last Permit Issuance:

Other Comments:
Per DEP's recent visit to the WWTP on October 3, 2019, the treatment facility consists of the following units:

- One rotary fine screen
- One influent wet well
- Two equalization tanks
- Two oxidation ditches
- Two clarifiers
- Two aerobic digesters
- Two UV banks
- Two post aerations
- Two sludge holding tanks

Chemical used:
Lime is used for sludge stabilization at rate of 90 lbs/day. Polymer is used for sludge dewatering at rate of 4.5 lbs/day.

Biosolids:
The total sewage sludge / biosolids production within the facility for the previous year was 171.15 dry tons.

Industrial/Commercial Users:
The permit application indicated there is no industrial/commercial contributor to the treatment plant.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMRs is presented on next pages.
Summary of Inspections:	**10/3/2019:** Shawn Fassl, DEP's WQ Environmental Trainee, conducted a compliance evaluation inspection. Recommendations were to maintain all records pertaining to operation onsite for a minimum of 3 year, sludge hauling records should be maintained onsite for a minimum of 5 years as required by Part A.II.A.2, and replace the new chlorine test standards which was expired Feb-18. The field test results were within permit limits.
Other Comments:	There are currently no open violations associated with the permittee or the facility.

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	0.1732	0.1767	0.1852	0.1817	0.2189	0.1749	0.1702	0.2032	0.1587	0.1461	0.1626	0.1674
Flow (MGD) Daily Maximum	0.248	0.2215	0.3376	0.2335	0.407	0.2158	0.2206	1.563	0.2557	0.1872	0.2795	0.2687
pH (S.U.) Instantaneous Minimum	7.6	7.6	7.4	7.8	7.5	7.7	7.6	7.7	7.0	7.7	7.4	7.7
pH (S.U.) IMAX	8.1	8.4	8.2	8.2	8.0	8.3	8.0	8.2	7.9	8.1	7.9	8.2
DO (mg/L) Instantaneous Minimum	8.1	6.0	6.8	7.0	6.7	7.7	7.4	7.6	7.6	8.7	7.2	8.5
TRC (mg/L) Average Monthly	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
TRC (mg/L) IMAX	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG	GG
CBOD5 (lbs/day) Average Monthly	< 4	< 3	< 3	< 3	< 4	< 3	< 3	< 2	< 2.0	< 2	< 2	< 2
CBOD5 (lbs/day) Weekly Average	< 4	< 3	< 3	< 4	< 6	< 3	4	< 2	< 2.0	< 3	< 3	< 4
CBOD5 (mg/L) Average Monthly	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CBOD5 (mg/L) Weekly Average	< 2.0	< 2.0	< 2.0	2.0	< 2.0	< 2.0	3.0	< 3	< 2.0	< 2.0	< 2.0	< 2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	454	331	388	551	459	512	639	550	395	493	413	417
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	572	402	429	798	649	786	805	775	433	589	677	631
BOD5 (mg/L) Raw Sewage Influent Average Monthly	249	264	254	352	253	365	445	458	373	398	371	336
TSS (lbs/day) Average Monthly	< 11	< 6	< 6	< 6	< 8	< 7	< 6	< 5	< 4	< 5	< 5	< 5
TSS (lbs/day) Raw Sewage Influent Average Monthly	322	226	295	343	334	322	510	587	362	480	462	607

TSS (lbs/day) Raw Sewage Influent Daily Maximum	411	250	321	479	368	470	588	711	413	528	813	839
TSS (lbs/day) Weekly Average	25	10	< 7	8	< 12	9	7	7	< 5	6	7	< 7
TSS (mg/L) Average Monthly	< 6.0	< 5.0	< 4.0	< 4.0	< 4.0	< 5.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
TSS (mg/L) Raw Sewage Influent Average Monthly	178	181	194	219	179	229	351	492	348	392	417	492
TSS (mg/L) Weekly Average	12.0	8.0	< 4.0	4.0	< 4.0	6.0	4.0	5.0	4.0	5.0	6.0	< 4.0
Total Dissolved Solids (lbs/day) Average Monthly	679	720	753	913	943	787	724	638	594	647	446	1037
Total Dissolved Solids (mg/L) Average Monthly	436	450	553	583	576	580	444	482	533	559	513	559
Fecal Coliform (No./100 ml) Geometric Mean	11	58	20	97	78	164	76	120	20	11	6	16
Fecal Coliform (No./100 ml) IMAX	28	136	27	212	88	200	228	216	27	17	10	59
UV Intensity (µw/cm²) Instantaneous Minimum	144.1	156.4	209	270.6	245.8	201.1	184.2	219.1	158.6	247.8	180.5	182.2
Total Nitrogen (lbs/day) Average Monthly	4	3	< 8	< 18	< 20	< 18	< 16	22	23	26	< 22	< 32
Total Nitrogen (mg/L) Average Monthly	2.02	2.14	< 5.75	< 10.58	< 11.45	< 13.1	< 10.49	21.3	21.46	22.72	< 24.6	< 22.67
Ammonia (lbs/day) Average Monthly	< 0.3	< 0.3	< 0.2	< 0.2	< 0.2	< 0.1	< 0.1	< 0.4	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (mg/L) Average Monthly	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.3	< 0.1	< 0.1	< 0.1	< 0.1
Total Phosphorus (lbs/day) Average Monthly	3	3	6	7	6	6	8	5	5	5	4	5
Total Phosphorus (mg/L) Average Monthly	1.81	2.05	4.25	4.2	3.76	4.53	4.99	5.3	4.66	4.55	4.3	3.64

*Daily monitoring for TRC must be conducted whenever chlorine is in use at the facility. When chlorine is not in use at the facility for an entire monitoring period, DMRs may be coded as 'GG' for condition not met, in accordance with DEP Publication 3830-BK-DEP3047.

DMR Data for Outfall 101 (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) Internal Monitoring Point Average Monthly		0.177	0.185									
Flow (MGD) Internal Monitoring Point Daily Maximum		0.222	0.338									

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.5
Latitude 40º 22' 31.10" **Longitude** -76º 0' 44.25"
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)

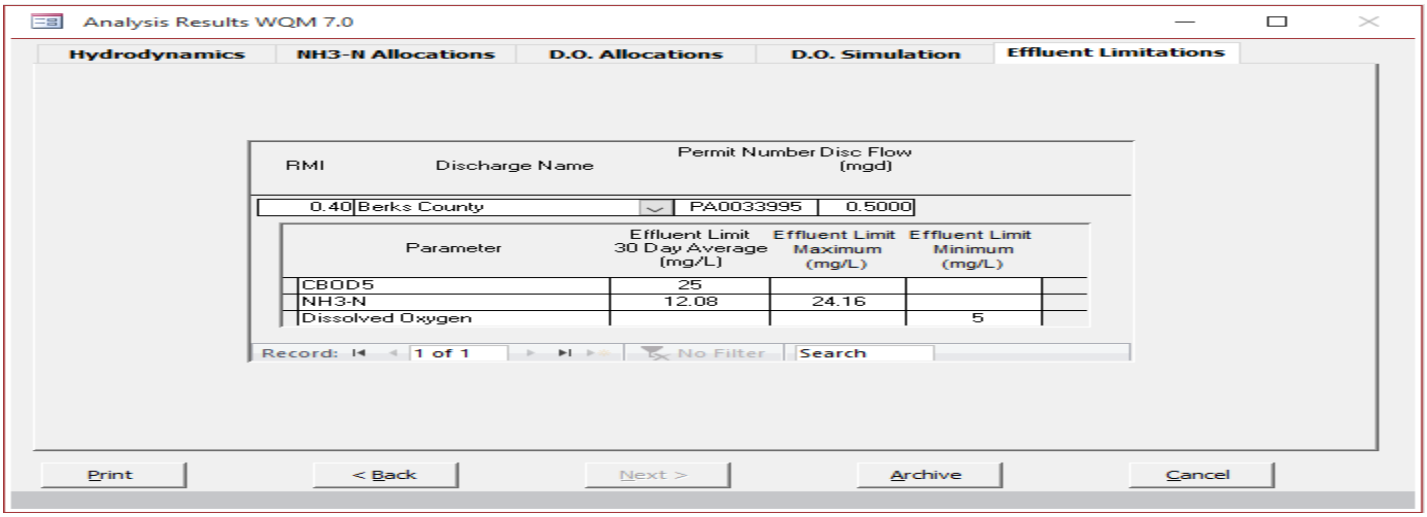
Comments: The Total Residual Chlorine is not applied to this facility.

DRBC Regulation

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	=	25°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 12.08 mg/L as a monthly average and 24.16 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. However, the existing summer limits of 5.5 mg/L monthly average & 11.0 mg/L IMAX are more stringent and will remain in the proposed permit. Per anti-backsliding policy, the existing winter average monthly limit of 16.5 mg/L & IMAX limit of 33.0 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. Since, recent DMRs and inspection reports show that the facility has typically been achieving concentrations below limit of 25.0 mg/L AML, 40.0 mg/L AWL, & 50.0 mg/L IMAX all year round will remain in the proposed permit.

Dissolved Oxygen (D.O.):
A minimum of 5.0 mg/L for D.O. is an existing effluent limit and will remain unchanged in the draft permit as recommended by DEP's SOP. 5.0 mg/L is taken directly from 25 Pa. Code § 93.7(a) (i.e., water quality criteria for WWF waters) and it is also determined to be appropriate per water quality modeling.

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 1.9 revised March 22, 2021, 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/quarter will be included in the permit to be consistent with the recommendation from this SOP.

Total Dissolved Solids (TDS):
TDS and its associated solids including Bromide, Chloride, and Sulfate have become statewide pollutants of concern. The requirement to monitor these pollutants must be considered under the criteria specified in 25 Pa. Code § 95.10 and the following January 23, 2014 DEP Central Office Directive:

> *For point source discharges and upon issuance or reissuance of an individual NPDES permit:*
>
> *-Where the concentration of TDS in the discharge exceeds 1,000 mg/L, or the net TDS load from a discharge exceeds 20,000 lbs/day, and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for TDS, sulfate, chloride, and bromide. Discharges of 0.1 MGD or less should monitor and report for TDS, sulfate, chloride, and bromide if the concentration of TDS in the discharge exceeds 5,000 mg/L.*
>
> *-Where the concentration of bromide in a discharge exceeds 1 mg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for bromide. Discharges of 0.1 MGD or less should monitor and report for bromide if the concentration of bromide in the discharge exceeds 10 mg/L.*
>
> *-Where the concentration of 1,4-dioxane (CAS 123-91-1) in a discharge exceeds 10 µg/L and the discharge flow exceeds 0.1 MGD, Part A of the permit should include monitor and report for 1,4-dioxane. Discharges of 0.1 MGD or less should monitor and report for 1,4-dioxane if the concentration of 1,4-dioxane in the discharge exceeds 100 µg/L.*

The sample result shows that effluent contains a maximum TDS concentration of 786.0 mg/L and Bromide concentration of < 1.0 mg/l. Accordingly, the requirement to monitor these pollutants is not necessary. The resulting TDS load would be 3,278 lbs/day: 786 mg/L TDS x 0.5 MGD x 8.34 c.f.

Additionally, DRBC's regulations, 18 CFR Part 410 Section 3.10.4D.2., state: "Total dissolved solids shall not exceed 1,000 mg/L, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers." No DRBC docket was found for this facility.

However, DRBC has allowed a TDS monitoring requirement, without a permit limit, at other municipal sewage plants. The monitoring requirements will remain in the proposed permit.

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

Raw Sewage Influent Monitoring:
As a result of negotiation with EPA, influent monitoring of TSS and BOD_5 are required for any POTWs; therefore, influent sampling of BOD_5 and TSS will be remain in the proposed permit. A 24-hr composite sample type will be required to be consistent with the proposed sampling frequency for TSS and BOD_5 in the effluent.

Total Suspended Solids (TSS):
The existing technology-based limits of 30.0 mg/L average monthly, 45.0 mg/L weekly average, 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.

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

Ultraviolet Disinfection Monitoring:
Since the UV is utilized in lieu of chlorine for disinfection, a routine monitoring of UV intensity output is recommended. This approach is consistent with DEP's SOP No. BPNPSM-PMT-033. Accordingly, the draft permit will contain daily monitoring of UV intensity output in mW/sq.cm.

Total Nitrogen & Total Phosphorus:
To gather data on the impact of nutrients in surface waters, a monitoring requirement for Total Nitrogen and Total Phosphorus will remain to the proposed permit in accordance with the DEP's Standard Operating Procedure for Establishing Effluent Limitations for individual Sewage permits and as authorized by Chapter 92a.61. Because the downstream water, Plum Creek, has already been identified as impaired for aquatic life use due to nutrients, the monitoring frequency included in the renewal permit is twice per month, per the Permit Writers' Manual No. 362-0400-001.

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

Toxics:
Due to the facility is not to receive industrial or commercial contributions in the renewal application, page 8, then no toxics monitoring, or limit requirement will need to be evaluated in this time of renewal.

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.

Development of Effluent Limitations

Outfall No.	101	**Design Flow (MGD)**	N/A for IMP
Latitude	40º 22' 30.00"	**Longitude**	-76º 0' 44.00"

Wastewater Description: Wastewater from hauled-in waste receiving area

The previous permit included an internal monitoring point (IMP) for the sake of reporting the hauled-in waste influent flows to the treatment plant. This internal monitoring point has been retained to allow them to accept hauled-in waste in the future.

There are Part C conditions in the permit to ensure that the hauled-in waste does not cause hydraulic and organic capacity overload.

Because the hauled-in waste receiving station introduced high organic strength wastewater, a special condition was included in the previous permit to limit the quantity of hauled-in waste in order to prevent organic overloading. The standard permit language and routine monitoring would be sufficient in most cases, but large swings in BOD concentration may reduce the ability of the treatment plant to achieve its permit limits for conventional parameters; moreover, a minimum monitoring frequency of weekly may mask variations in effluent concentrations for these conventional parameters. Rather than requiring an effluent monitoring frequency of daily, a special condition was included to limit the amount of hauled-in waste introduced to the treatment plant to avoid organic overloading.

This limiting condition was presented as a graph. The same limiting condition has been carried forward but as a simplified calculation:

Maximum amount of hauled-in waste introduced to the treatment plant, as a daily average =
44,000 gallons + [(456,000 – influent flow as daily average) gallons / 3] ,

where influent flow as a daily average is calculated from the previous week's raw sewage influent flow records excluding hauled-in wastes. State regulations do not require influent meters although DEP does recommend them. If this facility does not install an operational influent meter, they would need to calculate the daily influent flow to use in the above equation.

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 per 391-2000-013)
*	Stream pH	7.0	(Default per 391-2000-013)
*	Stream Temperature	20°C	(Default per 391-2000-013)

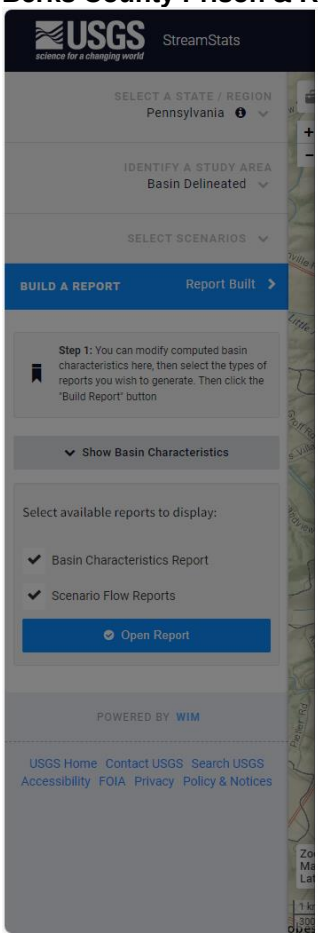
The following two nodes were used in modeling:

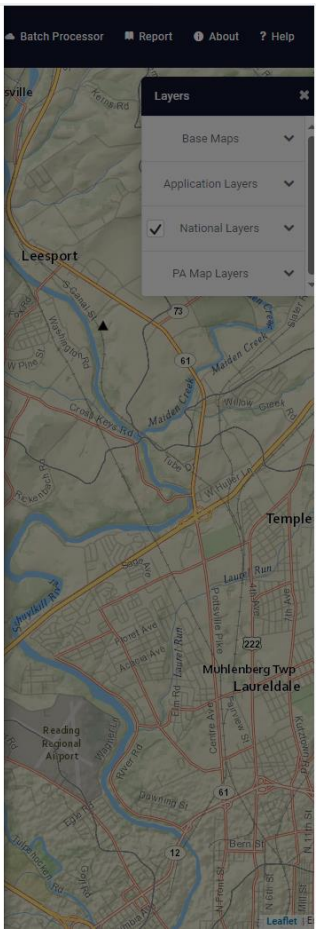
Node 1: Outfall 001 at Plum Creek (01866)

Elevation:	238.14 ft (USGS National Map)
Drainage Area:	12.5 mi^2 (USGS StreamStats)
River Mile Index:	0.40 (PA DEP eMapPA)
Low Flow Yield:	0.26 cfs/mi^2
Discharge Flow:	0.5 MGD

Node 2: At the confluence UNT to Tulpehocken Creek (1846)

Elevation:	234.65 ft (USGS National Map)
Drainage Area:	12.6 mi^2 (USGS StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.26 cfs/mi^2
Discharge Flow:	0.00 MGD





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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	14.7	percent
DRNAREA	Area that drains to a point on a stream	12.5	square miles
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	3.8	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.4	miles per square mile

Low-Flow Statistics

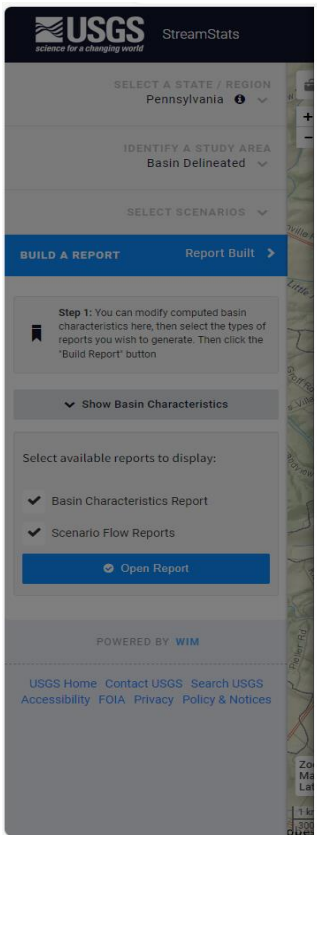
Low-Flow Statistics Parameters [Low Flow Region 2]

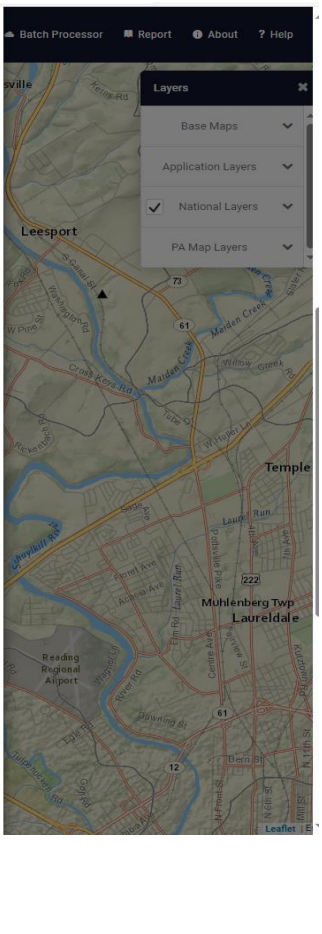
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	12.5	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
STRDEN	Stream Density	1.4	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3.8	feet	3.32	5.65
CARBON	Percent Carbonate	14.7	percent	0	99

Low-Flow Statistics Flow Report [Low Flow Region 2]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2.05	ft^3/s	38	38
30 Day 2 Year Low Flow	2.82	ft^3/s	33	33
7 Day 10 Year Low Flow	0.83	ft^3/s	51	51
30 Day 10 Year Low Flow	1.18	ft^3/s	46	46
90 Day 10 Year Low Flow	1.89	ft^3/s	36	36





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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	14.56	percent
DRNAREA	Area that drains to a point on a stream	12.6	square miles
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	3.9	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.42	miles per square mile

Low-Flow Statistics

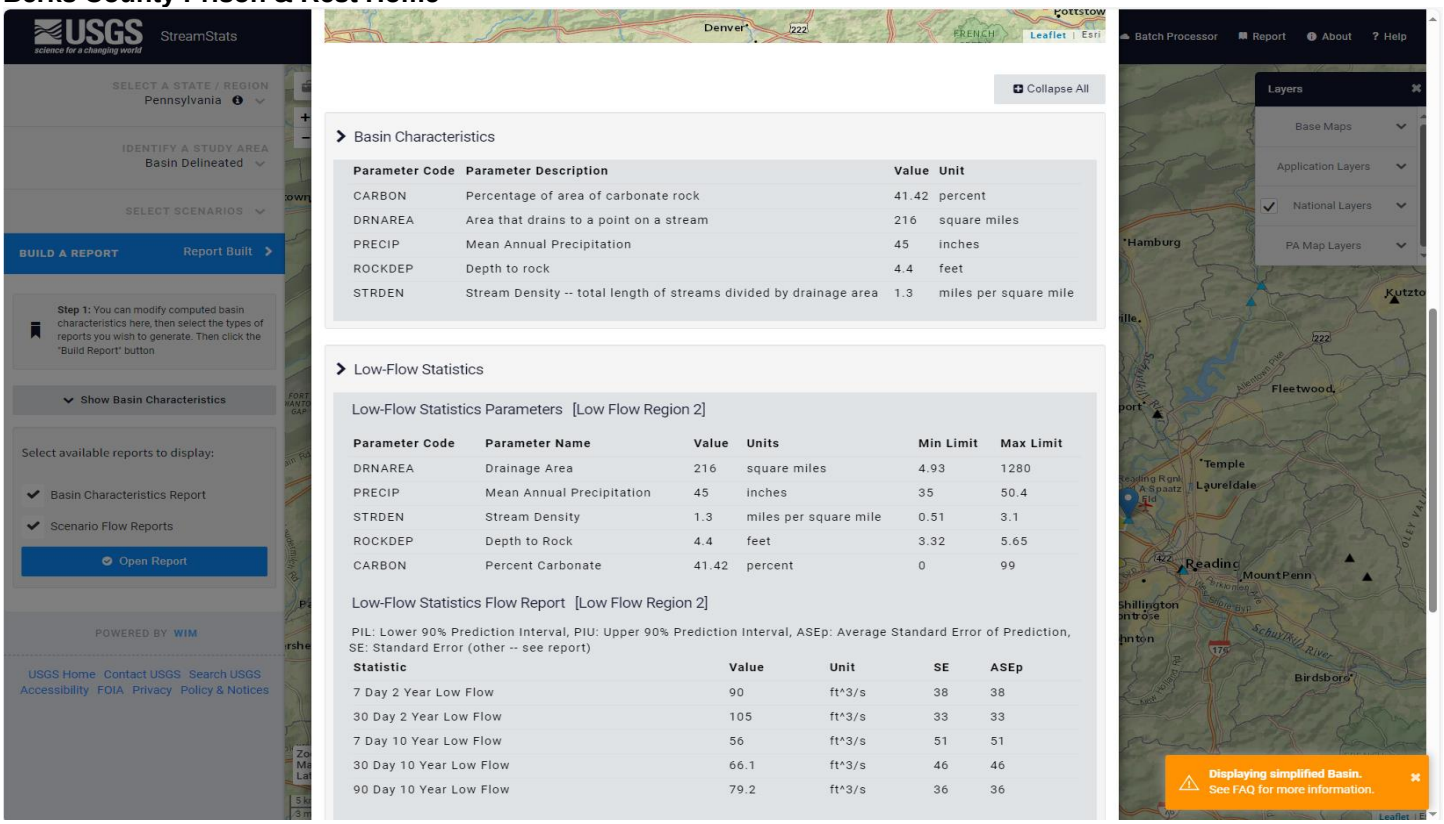
Low-Flow Statistics Parameters [Low Flow Region 2]

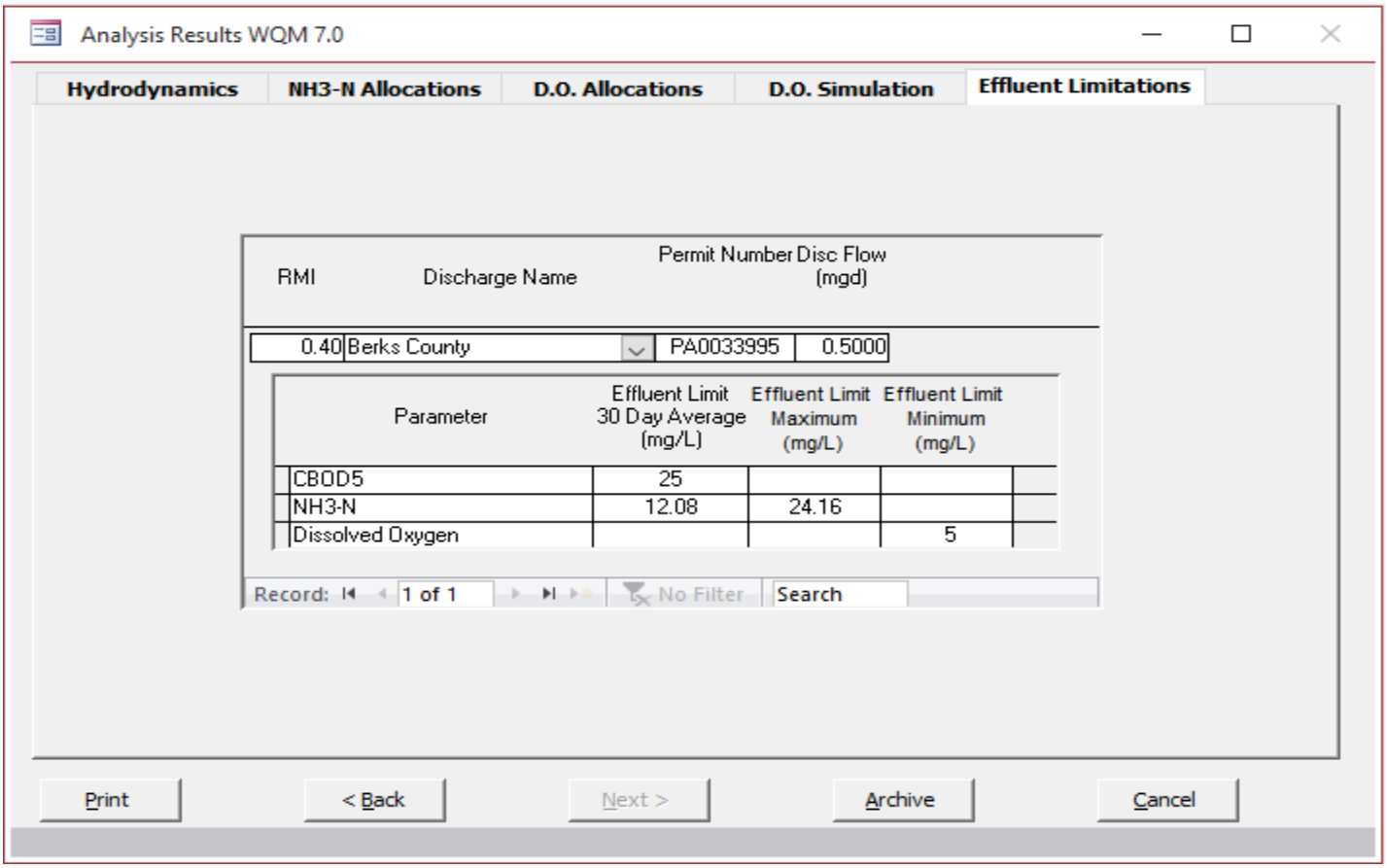
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	12.6	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	45	inches	35	50.4
STRDEN	Stream Density	1.42	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	3.9	feet	3.32	5.65
CARBON	Percent Carbonate	14.56	percent	0	99

Low-Flow Statistics Flow Report [Low Flow Region 2]

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

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	2.14	ft^3/s	38	38
30 Day 2 Year Low Flow	2.91	ft^3/s	33	33
7 Day 10 Year Low Flow	0.894	ft^3/s	51	51
30 Day 10 Year Low Flow	1.25	ft^3/s	46	46
90 Day 10 Year Low Flow	1.97	ft^3/s	36	36


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
CARBON Percentage of area of carbonate rock 41.42 percent
DRNAREA Area that drains to a point on a stream 216 square miles
PRECIP Mean Annual Precipitation 45 inches
ROCKDEP Depth to rock 4.4 feet
STRDEN Stream Density -- total length of streams divided by drainage area 1.3 miles per square mile
Low-Flow Statistics
Low-Flow Statistics Parameters [Low Flow Region 2]
Parameter Code Parameter Name Value Units Min Limit Max Limit
DRNAREA Drainage Area 216 square miles 4.93 1280
PRECIP Mean Annual Precipitation 45 inches 35 50.4
STRDEN Stream Density 1.3 miles per square mile 0.51 3.1
ROCKDEP Depth to Rock 4.4 feet 3.32 5.65
CARBON Percent Carbonate 41.42 percent 0 99
Low-Flow Statistics Flow Report [Low Flow Region 2]
PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)
Statistic Value Unit SE ASEp
7 Day 2 Year Low Flow 90 ft^3/s 38 38
30 Day 2 Year Low Flow 105 ft^3/s 33 33
7 Day 10 Year Low Flow 56 ft^3/s 51 51
30 Day 10 Year Low Flow 66.1 ft^3/s 46 46
90 Day 10 Year Low Flow 79.2 ft^3/s 36 36
Batch Processor Report About Help
Layers
Base Maps
Application Layers
National Layers
PA Map Layers
Displaying simplified Basin.
See FAQ for more information.


Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
0.40
Berks County
PA0033995
0.5000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5 25
NH3-N 12.08 24.16
Dissolved Oxygen 5
Record: 1 of 1
No Filter
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Cancel

rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03C	1998	PLUM 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)
0.400	Berks County	PA0033995	0.500	CBOD5	25		
				NH3-N	12.08	24.16	
				Dissolved Oxygen			5

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rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03C	1998	PLUM CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.400	Berks County	14.58	50	14.58	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
0.400	Berks County	1.8	12.08	1.8	12.08	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
0.40	Berks County	25	25	12.08	12.08	5	5	0	0

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rptDOSim

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
03C	1998	PLUM CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.400	0.500	20.981	7.000
Reach Width (ft)	Reach Depth (ft)	Reach WD Ratio	Reach Velocity (fps)
26.272	0.839	41.136	0.240
Reach CBOD5 (mg/L)	Reach Kc (1/days)	Reach NH3-N (mg/L)	Reach Kn (1/days)
6.42	1.100	2.32	0.754
Reach DO (mg/L)	Reach Kr (1/days)	Kr Equation	Reach DO Goal (mg/L)
7.820	3.862	Tsivoglou	6
Reach Travel Time (days)			
0.102			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.010	6.35	2.30	7.48
0.020	6.27	2.29	7.35
0.031	6.20	2.27	7.23
0.041	6.13	2.25	7.12
0.051	6.06	2.23	7.01
0.061	5.99	2.22	6.90
0.071	5.92	2.20	6.81
0.081	5.85	2.18	6.71
0.092	5.78	2.17	6.63
0.102	5.71	2.15	6.55

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rptModelSpecs

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted WD Ratio	☐
Q1-10/Q1-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q1-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	6		

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rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin: 03C | Stream Code: 1998 | Stream Name: PLUM CREEK

RM	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.400	3.25	0.00	3.25	.7735	0.00188	.839	26.27	41.14	0.24	0.102	20.98	7.00
Q1-10 Flow												
0.400	2.08	0.00	2.08	.7735	0.00188	NA	NA	NA	0.20	0.123	21.36	7.00
Q30-10 Flow												
0.400	4.42	0.00	4.42	.7735	0.00188	NA	NA	NA	0.28	0.088	20.74	7.00

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Elevation (ft)	Drainage Area (sqmi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03C	1998	PLUM CREEK	0.400	238.14	12.50	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	0.280	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
Berks County	PA0033995	0.5000	0.5000	0.5000	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

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rptGeneral

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RM	Elevation (ft)	Drainage Area (sqmi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
03C	1998	PLUM CREEK	0.001	234.65	12.60	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	0.280	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
Berks County	PA0033995	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	5.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

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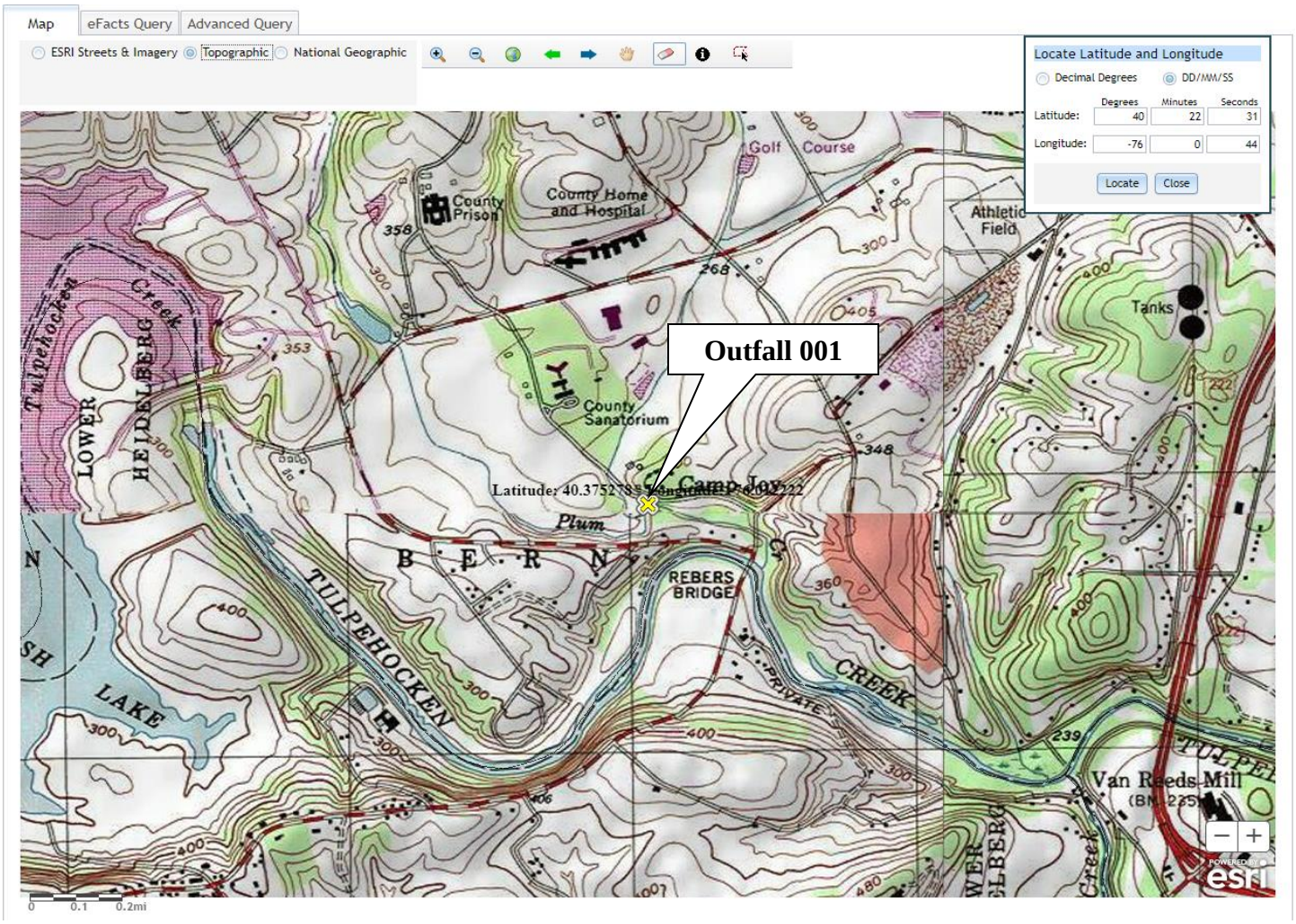
Map
eFacts Query
Advanced Query
ESRI Streets & Imagery
Topographic
National Geographic
Locate Latitude and Longitude
Decimal Degrees
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Close
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Golf Course
County Home and Hospital
County Prison
Athletic Field
Tanks
Tulpehocken Creek
LOWER HEIDELBERG
County Sanatorium
Camp Joy
Plum
B E R N
REBERS BRIDGE
TULPEHOCKEN
PRIVATE
CREEK
LAKE
Van Reeds Mill
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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	Weekly Average	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.36	XXX	1.2	1/day*	Grab
UV Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	Report	Report	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	Report	Report	XXX	30.0	45.0	60	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Ammonia May 1 - Oct 31	Report	XXX	XXX	5.5	XXX	11	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	16.5	XXX	33	1/week	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite

Comments:

*Daily monitoring for TRC must be conducted whenever chlorine is in use at the facility. When chlorine is not in use at the facility for an entire monitoring period, DMRs may be coded as 'GG' for condition not met, in accordance with DEP Publication 3830-BK-DEP3047.

Existing Effluent Limitations and Monitoring Requirements

Outfall 101

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

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	Weekly Average	Instantaneous 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	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Intensity (µw/cm²)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5	Report	Report	XXX	25.0	40.0	50	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	Report	Report	XXX	30.0	45.0	60	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	Report	XXX	XXX	Report	XXX	XXX	1/month	24-Hr Composite
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia May 1 - Oct 31	Report	XXX	XXX	5.5	XXX	11	1/week	24-Hr Composite
Ammonia Nov 1 - Apr 30	Report	XXX	XXX	16.5	XXX	33	1/week	24-Hr Composite
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite

Compliance Sampling Location:

Other Comments:

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 101, 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

Compliance Sampling Location:

Other Comments:

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: SOP No. BPNPSM-PMT-033
☒	Other: Delaware River Basin Commission Water Quality Regulations 18 CFR Part 410 .