pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0024139**
Facility Type	**Municipal**	APS ID	**43536**
Major / Minor	**Minor**	Authorization ID	**1485152**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Cumberland Township Authority Adams County**	Facility Name	**Cumberland Township North STP**
Applicant Address	1370 Fairfield Road	Facility Address	1370 Fairfield Road
	Gettysburg, PA 17325-7267		Gettysburg, PA 17325-7267
Applicant Contact	Todd Williams	Facility Contact	Todd Williams
Applicant Phone	(717) 334-6435	Facility Phone	(717) 334-6485
Client ID	77638	Site ID	250960
Ch 94 Load Status	Not Overloaded	Municipality	Cumberland Township
Connection Status	No Limitations	County	Adams
Date Application Received	May 15, 2024	EPA Waived?	No
Date Application Accepted	May 16, 2024	If No, Reason	Significant CB Discharge
Purpose of Application	NPDES Permit Renewal		

Summary of Review

KPI Technology, on behalf of the Cumberland Township Municipal Authority North (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on November 13, 2019 and became effective on December 1, 2019. The permit expires on November 30, 2024.

The average annual design flow and hydraulic design capacity is 0.5 MGD, and the organic loading capacity is 1,251.0 lbs BOD_5/day. The renewal application indicated the STP receives its 100% from the Cumberland Township.

The WQM Part II permit No. 0101401 was issued on 5/31/2001. The WQM Part II permit No. WQG02010501 pump station was issued on 2/28/2006. The WQM Part II permit No. WQG02010902 pump station was issued on 3/17/2010.

Sludge use and disposal description and location(s): N/A

Changes from the previous permit: E. Coli monitoring and report requirements will add to the proposed permit. The $CBOD_5$ summer average weekly mass limit corrected to 30.0 lbs/day.

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	July 19, 2024
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	August 28, 2024

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.5
Latitude	39º 51' 1.87"	Longitude	-77º 13' 38.04"
Quad Name	Gettysburg	Quad Code	2028
Wastewater Description:	Sewage Effluent		
Receiving Waters	Rock Creek (WWF)	Stream Code	59401
NHD Com ID	53319806	RMI	13.4 miles
Drainage Area	14.4 mi.^{2}	Yield (cfs/mi^2)	0.03
Q_{7-10} Flow (cfs)	0.453	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	473	Slope (ft/ft)	
Watershed No.	13-D	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS,		
Source(s) of Impairment	AGRICULTURE, MUNICIPAL POINT SOURCE DISCHARGES		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	City of Frederick, MD		
PWS Waters	Monocacy River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	Approximate 43.0 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Rock Creek at RMI 13.4. A drainage area upstream of the point of discharge is estimated to be 14.4 sq.mi. using USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a Q7-10 flow of 0.453 cfs at the point of discharge. (0.453 cfs / 14.4 mi.2 = 0.03 cfs / mi.2)

Rock Creek
Under 25 Pa Code §93.9z, Rock Creek is designated as warm water fishes and supports migratory fishes. Rock Creek is a tributary of Monocacy River which is also designated as warm water fishes. No special protection water is therefore impacted by this discharge. No Class A Wild Trout Fishery is impacted by this discharge. DEP's latest integrated water quality report developed in 2024 indicated that Rock Creek at the point of discharge is impaired for nutrients as a result of agricultural activities as well as municipal point source discharges. This report indicates that the impairment was listed on 2002 and a TMDL was expected to be developed in 2015 to address the impairment. The status of TMDL development is not clear at this time. The Maryland Department of the Environment (MDE) has developed the TMDL for phosphorus in September 2012. This will be further discussed later in this fact sheet.

Public Water Supply Intake
The fact sheet developed for the last permit renewal indicates that the nearest downstream public water supply intake is located on the Monocacy River at Fredrick MD approximately 43.0 miles from the discharge. Given the distance, the discharge is not expected to impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Cumberland Township North STP				
WQM Permit No.	**Issuance Date**			
0101401	5/31/2001			
WQG02010501	2/28/2006			
WQG02010902	3/17/2010			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia And Phosphorus	Sequencing Batch Reactor	Ultraviolet	0.5
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.5	1251	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance:

Other Comments:
The process, according to the application, is as follows:

Screening → Influent Pump Station → SBRs (2) → UV Disinfection → Outfall 001 to Rock Creek.

The facility utilizes aerobic digesters (4) and sludge holding tank for sludge processing. Any waste generated from this facility is sent to CTA's South STP for further treatment.

Chemical used:
Sodium Aluminate is used for phosphorus removal at a rate of 8.0 gpd.

Industrial/Commercial Users:
The application lists a number of commercial/industrial users contributing wastewater to the existing sewer system. Based on the review of this list, it does not appear that industrial wastewater from these users, if any, contributes more than 5% of the existing hydraulic design capacity (i.e., 0.025 MGD). The facility does not have an EPA-approved pretreatment program at this time.

Compliance History	
Summary of DMRs:	A summary of past 12-month DMR data is presented on the next page.
Summary of Inspections:	**8/07/23:** Mr. Hoy, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted during inspection. The field test results were within permit limits. Recommendations were regular maintenance of the outfall path and placing a NIST thermometer in the sample storage refrigerator and recording temperature. DEP requested that individual aliquots be at least 100 mL for composite samples and completing the beneficial use information for future sewage sludge supplemental reports. **7/19/21:** Mr. Bettinger, DEP WQS, conducted a compliance evaluation inspection. There were no violations noted during inspection. The field test results were within permit limits.
Other Comments:	There are no violations against the permittee or applicant.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from June 1, 2023 to May 31, 2024)

Parameter	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23
Flow (MGD) Average Monthly	0.217	0.276	0.305	0.267	0.365	0.282	0.206	0.145	0.163	0.156	0.157	0.152
Flow (MGD) Daily Maximum	0.454	1.254	0.827	0.377	1.378	0.849	0.574	0.323	0.656	0.426	0.373	0.283
pH (S.U.) Instantaneous Minimum	6.8	6.3	7.0	7.1	7.2	7.2	7.2	7.5	7.3	7.4	7.0	7.0
pH (S.U.) Instantaneous Maximum	7.9	7.6	7.4	7.6	7.9	7.7	8.1	7.7	7.6	7.5	7.9	7.4
DO (mg/L) Instantaneous Minimum	5.2	6.5	7.0	7.1	7.5	6.7	5.3	5.2	6.2	6.0	6.5	6.3
CBOD5 (lbs/day) Average Monthly	12.3	< 5.3	< 7.0	4.4	< 6.3	< 11.7	7.1	< 4.9	< 3.8	< 4.2	< 2.9	< 3.1
CBOD5 (lbs/day) Weekly Average	23.1	< 10.3	11.2	5.8	< 9.1	21.5	9.5	10.4	< 6.1	< 8.5	< 3.4	< 4.9
CBOD5 (mg/L) Average Monthly	6.1	< 2.4	< 3.0	2.5	< 2.4	< 3.1	6.4	< 3.7	< 2.3	< 2.4	< 2.4	< 2.4
CBOD5 (mg/L) Weekly Average	7.2	< 2.8	4.0	2.7	< 2.4	4.6	9.0	6.5	< 2.4	< 2.4	< 2.4	< 2.4
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	322	379	368	427	537	484	337	283	303	337	222	291
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	564	613	488	624	721	758	514	525	432	568	300	423
BOD5 (mg/L) Raw Sewage Influent Average Monthly	157	212	154	239	224	161	281	226	202	210	188	233
TSS (lbs/day) Average Monthly	16.0	13.0	4	4	6	18	5.0	3	2	3.0	2.0	3.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	367	517	638	531	425	485	458	303	337	484	261	420
TSS (lbs/day) Raw Sewage Influent Daily Maximum	705	902	1024	788	746	821	812	558	460	1208	423	619

TSS (lbs/day) Weekly Average	44.8	38.5	8.0	7.7	15.1	49.5	8.2	4.5	3.8	4.5	2.8	4.1
TSS (mg/L) Average Monthly	6.8	9.0	1.5	2.5	2.4	3.3	4.3	2.8	1.5	2.0	1.6	3.0
TSS (mg/L) Raw Sewage Influent Average Monthly	175	288	255	299	204	156	372	247	223	241	214	328
TSS (mg/L) Weekly Average	6.0	5.0	2.0	4.0	4.0	7.0	8.0	2.0	2.0	4.0	2.0	2.0
Fecal Coliform (No./100 ml) Geometric Mean	< 18	< 2.0	< 2	< 1	< 3	7	12	< 3	< 1	< 1	< 1	< 1
Fecal Coliform (No./100 ml) Instantaneous Maximum	166	4.0	4	2	14	10	42	10	< 1	1	1	1
UV Transmittance (%) Instantaneous Minimum	65	65	65	65	65	65	65	65	65	65	65	65
Nitrate-Nitrite (mg/L) Average Monthly	< 1.69	< 1.44	< 1.74	< 2.4	< 4.1	< 4	< 4.09	< 2.9	< 4.3	< 3.5	< 5.9	< 6
Nitrate-Nitrite (lbs) Total Monthly	< 98	< 80	< 144	< 139	< 339	< 354	< 139	< 109	< 224	< 141	< 195	< 177
Total Nitrogen (mg/L) Average Monthly	< 6.43	< 4.11	< 3.35	< 3.68	< 5.18	< 7.33	< 7.29	< 4.55	< 5.08	< 4.26	< 6.69	< 6.28
Total Nitrogen (lbs) Total Monthly	< 438	< 189	< 268	< 200	< 444	< 688	< 238	< 177	< 267	< 174	< 222	< 218
Total Nitrogen (lbs) Effluent Net Total Annual									< 3152			
Total Nitrogen (lbs) Total Annual									< 3152			
Ammonia (lbs/day) Average Monthly	9.6	2.7	1.2	4.0	0.3	6.9	1.9	< 0.9	< 0.2	< 0.1	< 0.1	< 0.1
Ammonia (mg/L) Average Monthly	3.7	1.9	0.5	< 0.3	< 0.1	1.9	1.8	< 0.6	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (lbs) Total Monthly	298.8	80.2	36.3	16.4	9.8	215	57.9	< 27.4	< 5.9	< 4.5	< 3.8	3.8
Ammonia (lbs) Total Annual									< 102			
TKN (mg/L) Average Monthly	4.7	< 2.7	1.62	< 1.28	< 1.1	3.25	3.2	< 1.65	< 0.82	< 0.81	< 0.77	1.22
TKN (lbs) Total Monthly	339	< 109	124	< 62	< 105	334	99	< 68	< 43	< 32	< 28	41

Total Phosphorus (lbs/day) Average Monthly	0.8	0.4	0.5	0.4	0.7	1.0	0.5	1.0	1.5	0.6	0.7	0.9
Total Phosphorus (mg/L) Average Monthly	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.7	0.7	0.4	0.6	0.7
Total Phosphorus (lbs) Total Monthly	23.6	11.1	16.0	11.2	22.7	29.9	13.9	31.8	45.8	18.1	20.8	26.2
Total Phosphorus (lbs) Effluent Net Total Annual									< 204			
Total Phosphorus (lbs) Total Annual									< 204			
Total Copper (mg/L) Average Monthly	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Total Copper (mg/L) Daily Maximum	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.005	< 0.005
Total Hardness (mg/L) Average Monthly	168	124	148	152	187	175	257	173	245	228	228	270
Total Hardness (mg/L) Daily Maximum	168	1.24	148	152	187	175	257	173	245	228	228	270

Existing Effluent Limits and Monitoring Requirements

Tables below summarize effluent limits and monitoring requirements specified in the current permit.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	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
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet light transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Record
CBOD5 May 1 - Oct 31	20.0	29.0	XXX	5.0	7.5	10.0	1/week	24-Hr Composite
CBOD5 Nov 1 - Apr 30	60.0	90.0	XXX	15.0	22.0	30.0	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Suspended Solids	125.0	185.0	XXX	30.0	45.0	XXX	1/week	24-Hr Composite
Total Suspended Solids Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Ammonia-Nitrogen May 1 - Oct 31	6.0	XXX	XXX	1.5	XXX	3.0	2/week	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	18.0	XXX	XXX	4.5	XXX	9.0	2/week	24-Hr Composite
Total Phosphorus	8.0	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite
Total Copper (3)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite
Hardness, Total (as $CaCO_3$) (3)	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite

Parameter	Effluent Limitations					Monitoring Requirements	
	Mass Units (lbs)		Concentrations (mg/L)			Minimum Measurement Frequency	Required Sample Type
	Monthly	Annual	Minimum	Monthly Average	Maximum		
Ammonia---N	Report	Report	XXX	Report	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	2/week	4-Hr Composite
Net Total Nitrogen	Report	9,132	XXX	XXX	XXX	1/year	Calculation
Net Total Phosphorus	Report	1,218	XXX	XXX	XXX	1/year	Calculation

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.5
Latitude 39º 51' 1.87" **Longitude** -77º 13' 38.04"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

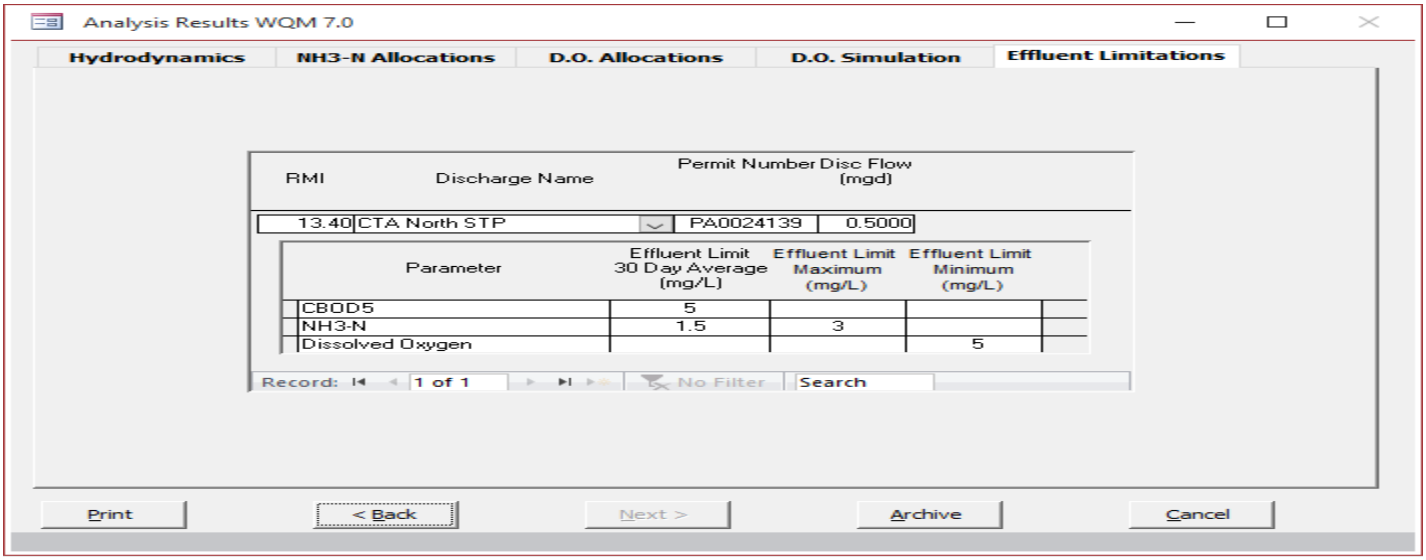
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.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

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	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	25ºC	(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 1.5 mg/L as a monthly average and 3.0 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. Therefore, the existing limits of 1.5 mg/L monthly average & 3.0 mg/L IMAX are same and will remain in the proposed permit. The existing winter average monthly limit of 4.5 mg/L & IMAX limit of 9.0 mg/L will remain in place. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits. Mass limits are calculated as follows:

Summer average monthly mass limit: 1.5 mg/L x 0.5 MGD x 8.34 = 6. 255 (6.0) lbs/day
Winter average monthly mass limit: 4.5 mg/L x 0.5 MGD x 8.34 = 18.765 (18.0) lbs/day

Dissolved Oxygen (D.O.):
The minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. It is recommended that this limit be maintained 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.

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 5.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Therefore, the existing summer permit 5.0 mg/L as AML, 7.5 mg/L as weekly average limit (AWL), & 10.0 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. Mass limits are calculated as follows:

Summer Average monthly mass limit: 5.0 mg/L x 0.5 MGD x 8.34 = 20.85 (20.0) lbs/day
Summer Average weekly mass limit: 7.5 mg/L x 0.5 MGD x 8.34 = 31.275 (30.0) lbs/day

These values are rounded down to 20.0 lbs/day and 30.0 lbs/day, respectively. The average weekly mass limit corrected from 29.0 lbs/day to 30.0 lbs/day.

The existing winter average monthly limit of 15.0 mg/L, weekly average limit (AWL) of 22.0 mg/L & IMAX limit of 30.0 mg/L will remain in place. Mass limits are calculated as follows:

Winter Average monthly mass limit: 15.0 mg/L x 0.5 MGD x 8.34 = 62.55 (60.0) lbs/day
Winter Average weekly mass limit: 22.0 mg/L x 0.5 MGD x 8.34 = 91.74 (90.0) lbs/day

These values are rounded down to 60.0 lbs/day and 90.0 lbs/day, respectively. The minimum monitoring frequency will remain the same as 1/week.

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 45.0 mg/L weekly average 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. Mass limits are calculated as follows:

Average monthly mass limit: 30.0 mg/L x 0.5 MGD x 8.34 = 125.1 (125.0) lbs/day
Average weekly mass limit: 45.0 mg/L x 0.5 MGD x 8.34 = 187.65 (185.0) lbs/day

The average monthly and weekly average mass loadings will be rounded down to 125.0 lbs/day and 185.0 lbs/day, respectively.

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/quarter will be included in the permit to be consistent with the recommendation from this SOP.

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 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 Phosphorus:
The existing permit average monthly TP concentration of 2.0 mg/L, and 4.0 mg/L IMAX will remain in the proposed permit. Mass average monthly is calculated and also in the proposed permit.

Average monthly mass limit: 2.0 mg/L x 0.5 MGD x 8.34 = 8.34 (8.0) lbs/day

The receiving stream, Rock Creek, is impaired for nutrients. As discussed before, the Maryland Department of the Environment developed a TMDL for Rock Creek for Total Phosphorus. These effluent limits should remain unchanged in the permit to contribute to such efforts to prevent further adverse impacts in the stream. This approach is supported by 25 Pa Code §96.5(c). Further, DEP finds no reason to remove or relax these effluent limits at this time. No changes are therefore recommended in accordance with 40 CFR §122.44(l)(1).

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

Toxics:
The data was analyzed based on the guidelines found in DEP's Water Quality Toxics Management Strategy (Document No. 361-0100-003, version 1.4, revised 5/2023) and DEP's SOP No. BPNPSM-PMT-033. Spreadsheet results are attached to this fact sheet. The Toxics Management Spreadsheet uses the following logic:

a. Establish average monthly and IMAX limits in the draft permit where the maximum reported concentration exceeds 50% of the WQBEL.
b. For non-conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 25% - 50% of the WQBEL.
c. For conservative pollutants, establish monitoring requirements where the maximum reported concentration is between 10%-50% of the WQBEL.

Therefore, the results are as follows.

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	0.026	AFC	Discharge Conc > 10% WQBEL (no RP)

- Total Copper pollutant has no reasonable potential (no-RP) discharge concentration greater than 10% WQBEL, therefore the 1/month monitoring and reporting requirements of this pollutant will remain in the proposed permit. During the next permit renewal cycle, the need for Copper monitoring in the permit will be re-evaluated.
- Since water quality criteria developed for Total Copper is hardness-based, monitoring for Total Hardness is also recommended at the time of sampling for Total Copper.

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).

Ultraviolet (UV) Monitoring
DEP's Standard Operating Procedure (SOP no. BPNPSM-PMT-033) recommends a routine monitoring of Ultraviolet (UV) transmittance or intensity when the facility is utilizing an UV disinfection system in lieu of chlorination. This is a reasonable approach and has been assigned to other facilities equipped with similar technology. Accordingly, the requirement to monitor for UV output transmittance (%) will be remain in the permit.

Total Dissolved Solids

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.

CTA reported maximum concentrations of 310.0 mg/L for TDS and < 0.5 mg/L for bromide. Accordingly, the requirement to monitor for these pollutants is not necessary.

Chesapeake Bay TMDL

In the Phase 3 WIP Wastewater Supplement revised on July 29, 2022, Table 5 (page 8) of this document shows that Cumberland Township Authority North has been allocated 9,132 lbs/year of TN and 1,218 lbs/year of TP. This approach is consistent with the Chesapeake Bay TMDL, based on the actual performance data previously evaluated by the Department. This facility is currently a significant discharger. Therefore, the facility's waste load allocation (WLA) will be tracked under an individual WLA as a significant discharger in the Phase 3 WIP Wastewater Supplement. Monitoring frequency for TN constituents will remain in the proposed permit. The Chesapeake Bay nutrient existing limitations and monitoring requirements will remain in the proposed permit.

Phase 3 WIP Wastewater Supplement
Revised, July 29, 2022

NPDES Permit No.	Phase	Facility	Latest Permit Issuance Date	Permit Expiration Date	Cap Load Compliance Start Date	TN Cap Load (lbs/yr)	TN Offsets Included in Cap Load (lbs/yr)	TP Cap Load (lbs/yr)	TN Delivery Ratio	TP Delivery Ratio
PA0023442	3	Wrightsville Borough Municipal Authority	8/3/2017	8/31/2022	10/1/2011	7,306	-	974	0.805	0.387
PA0023531	1	Danville Municipal Authority	2/26/2021	2/28/2026	10/1/2011	66,118	-	8,816	0.802	0.459
PA0023558	3	Ashland Borough	4/23/2012	4/30/2017	10/1/2013	23,744	-	3,166	0.793	0.458
PA0023736	3	Tri-Boro Municipal Authority	7/13/2021	7/31/2026	10/1/2013	9,132	-	1,218	0.515	0.372
PA0023744	1	Northeastern York County Sewer Authority	7/12/2022	7/31/2027	10/1/2010	33,485	-	4,627	0.836	0.486
PA0024040	1	Highspire Borough	2/24/2022	2/28/2027	10/1/2010	36,529	-	4,871	0.830	0.503
PA0024139	3	Cumberland Township Municipal Authority (North)	11/13/2019	11/30/2024	10/1/2013	9,132	-	1,218	0.563	0.720
PA0024147	3	Cumberland Township Municipal Authority (South)	11/13/2019	11/30/2024	10/1/2013	11,872	-	1,583	0.681	0.720
PA0024384	2	North Middleton Township Authority	5/10/2022	5/31/2027	10/1/2012	16,895	-	2,253	0.748	0.444
PA0024406	2	Mt. Carmel Municipal Sewage Authority	10/25/2017	10/31/2022	10/1/2010	41,095	-	5,479	0.792	0.517
PA0024431	1	Dillsburg Borough Authority	12/29/2021	12/31/2026	10/1/2011	27,945	-	3,726	0.635	0.408
PA0024708	3	Union Township	5/11/2022	5/31/2027	10/1/2012	11,872	-	1,583	0.705	0.416
PA0024759	3	Curwensville Municipal Authority	5/8/2018	5/31/2023	10/1/2014	13,698	-	1,826	0.630	0.386
PA0024902	3	Upper Allen Township	8/6/2020	10/31/2022	10/1/2012	20,091	-	2,679	0.682	0.410
PA0025381	3	Saxton Borough Municipal Authority	8/17/2017	8/31/2022	10/1/2011	7,306	-	974	0.641	0.200
PA0025933	1	Lock Haven Borough	9/16/2016	9/30/2021	10/1/2011	68,492	-	9,132	0.772	0.428
PA0026051	1	Chambersburg Borough	6/27/2022	6/30/2027	10/1/2012	124,199		16,560	0.997	0.742
PA0026077	1	Carlisle Borough	10/13/2017	10/31/2022	10/1/2008	127,852	-	17,047	0.748	0.444
PA0026107	1	Wyoming Valley Sewer Authority	2/4/2008	2/28/2013	10/1/2010	584,467	-	77,929	0.813	0.512
PA0026191	1	Huntingdon Borough	2/16/2017	2/28/2022	10/1/2011	73,058	-	9,741	0.796	0.373
PA0026239	1	University Area Joint Authority	9/11/2019	9/30/2024	10/1/2010	164,381	-	21,918	0.641	0.323

- 8 -

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

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 Requirements:
Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as those specified in the existing permit.

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

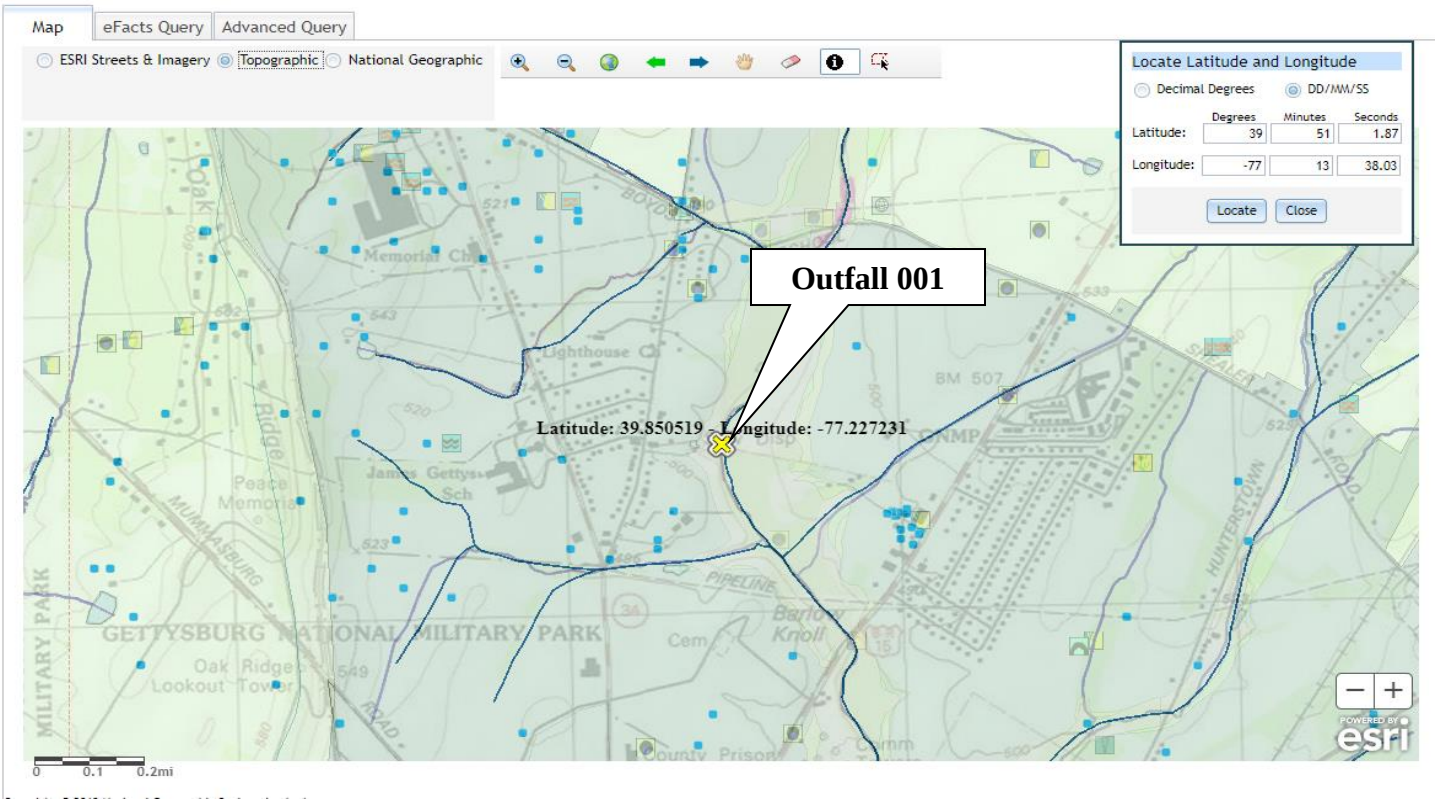
*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	25°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

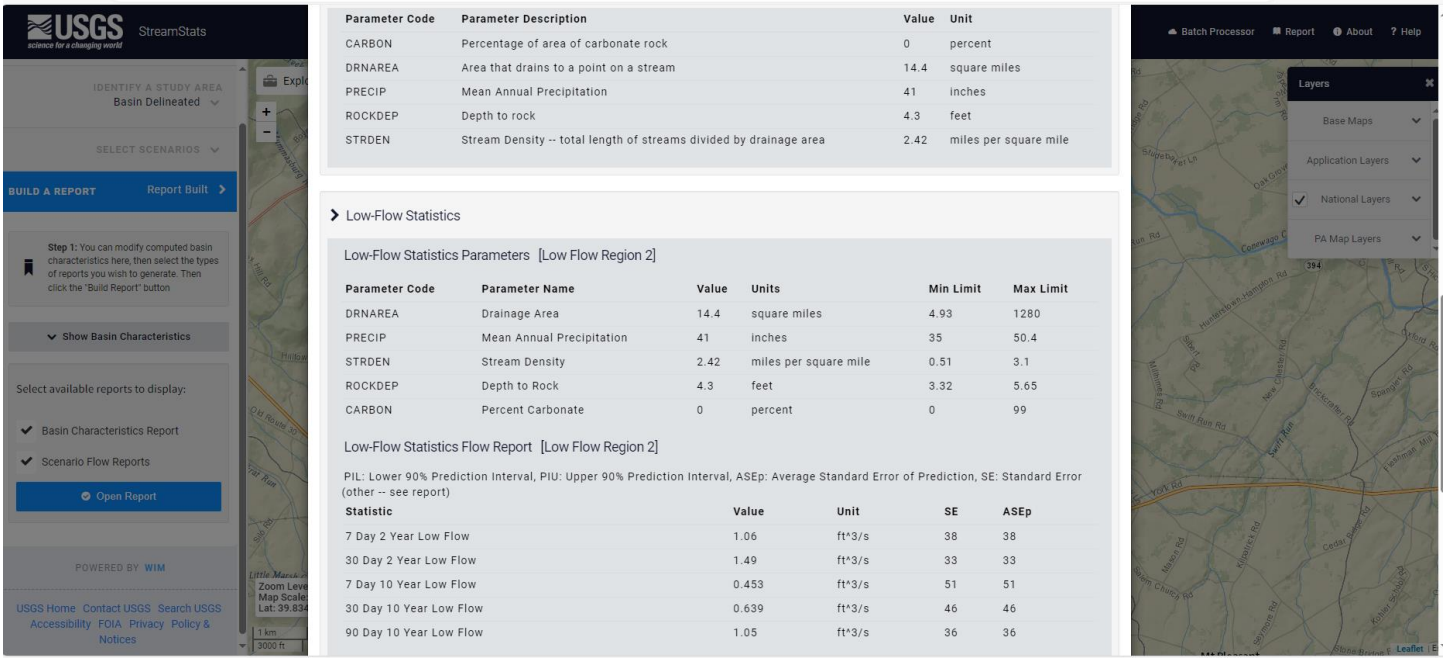
Node 1: Outfall 001 Rock Creek (59401)

Elevation:	473 ft (USGS National Map Viewer)
Drainage Area:	14.4 mi^2 (USGS PA StreamStats)
River Mile Index:	13.400 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.5 MGD

Node 2: GMA PA0021563 (59401)

Elevation:	458 ft (USGS National Map Viewer)
Drainage Area:	19.2 mi^2 (USGS PA StreamStats)
River Mile Index:	11.90 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	3.0 MGD





Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	14.4	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.42	miles per square mile

Low-Flow Statistics

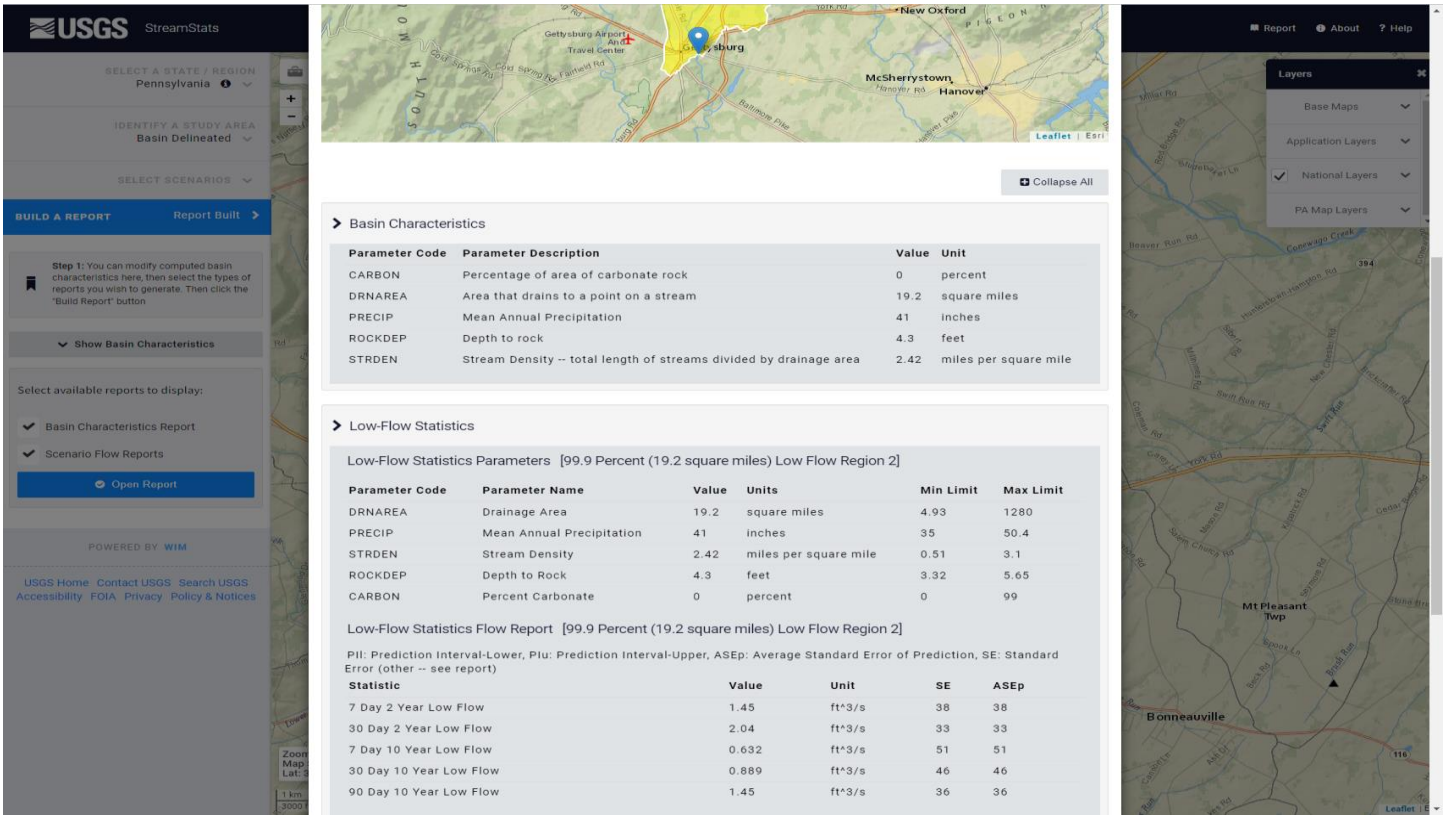
Low-Flow Statistics Parameters [Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	14.4	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	2.42	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.3	feet	3.32	5.65
CARBON	Percent Carbonate	0	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	1.06	ft^3/s	38	38
30 Day 2 Year Low Flow	1.49	ft^3/s	33	33
7 Day 10 Year Low Flow	0.453	ft^3/s	51	51
30 Day 10 Year Low Flow	0.639	ft^3/s	46	46
90 Day 10 Year Low Flow	1.05	ft^3/s	36	36



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	19.2	square miles
PRECIP	Mean Annual Precipitation	41	inches
ROCKDEP	Depth to rock	4.3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	2.42	miles per square mile

Low-Flow Statistics

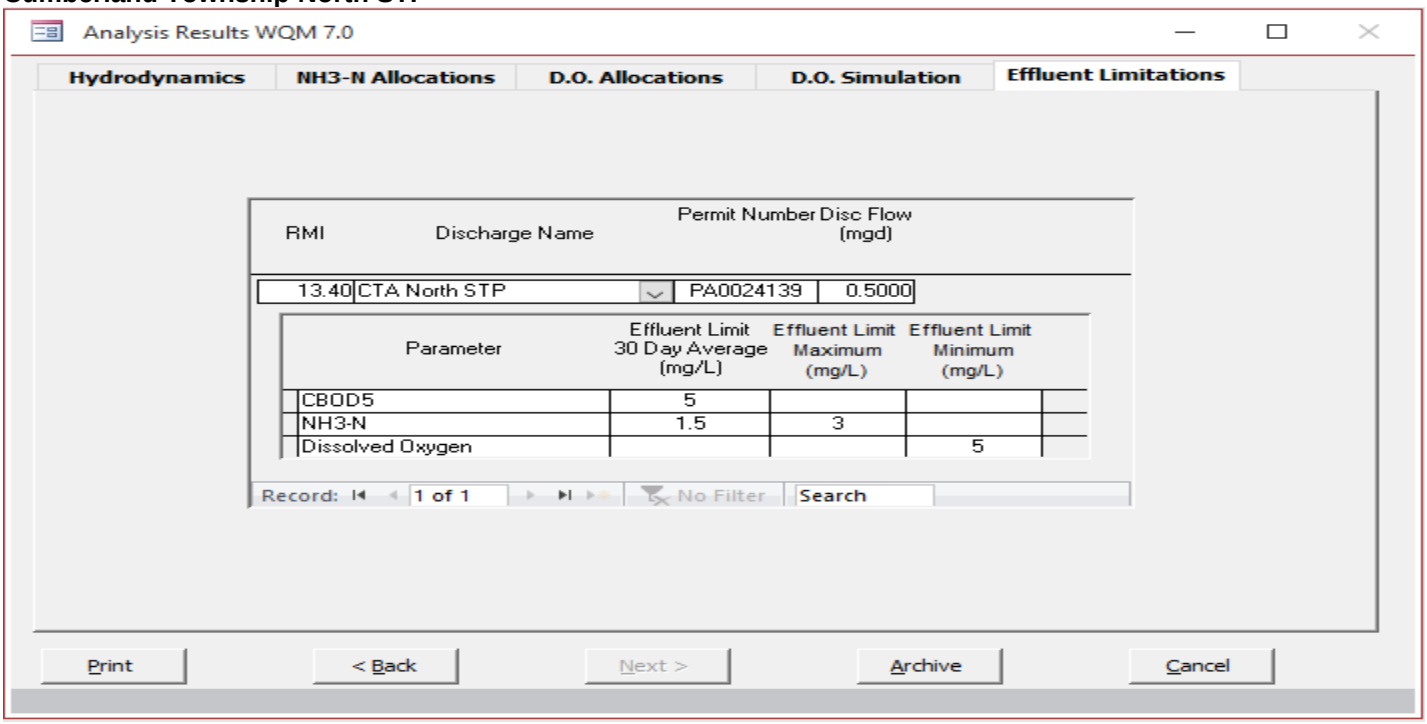
Low-Flow Statistics Parameters [99.9 Percent (19.2 square miles) Low Flow Region 2]

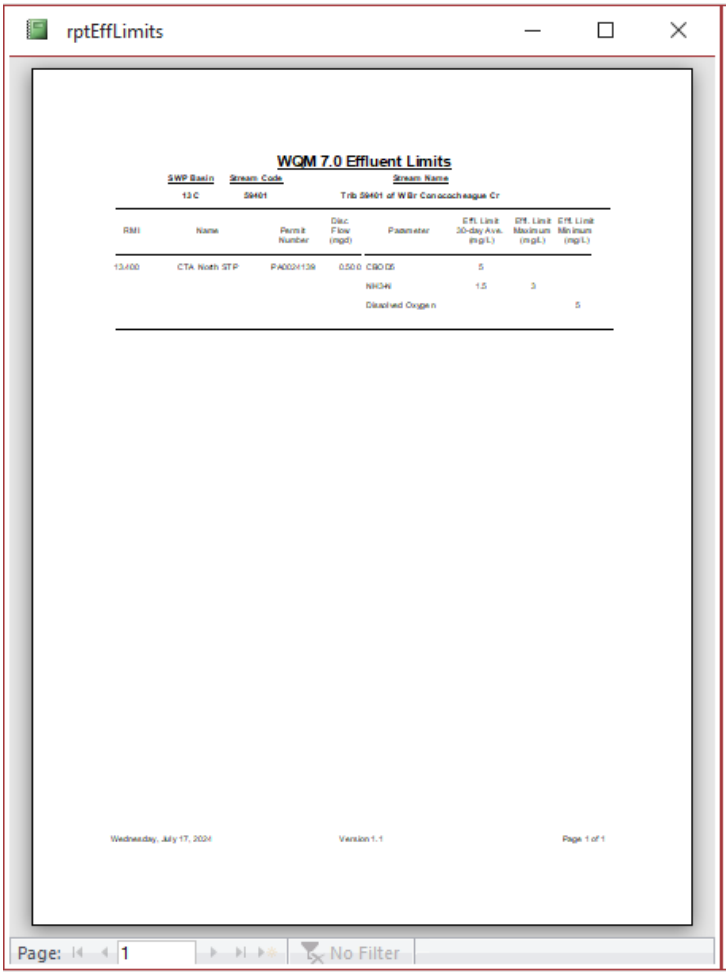
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	19.2	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	41	inches	35	50.4
STRDEN	Stream Density	2.42	miles per square mile	0.51	3.1
ROCKDEP	Depth to Rock	4.3	feet	3.32	5.65
CARBON	Percent Carbonate	0	percent	0	99

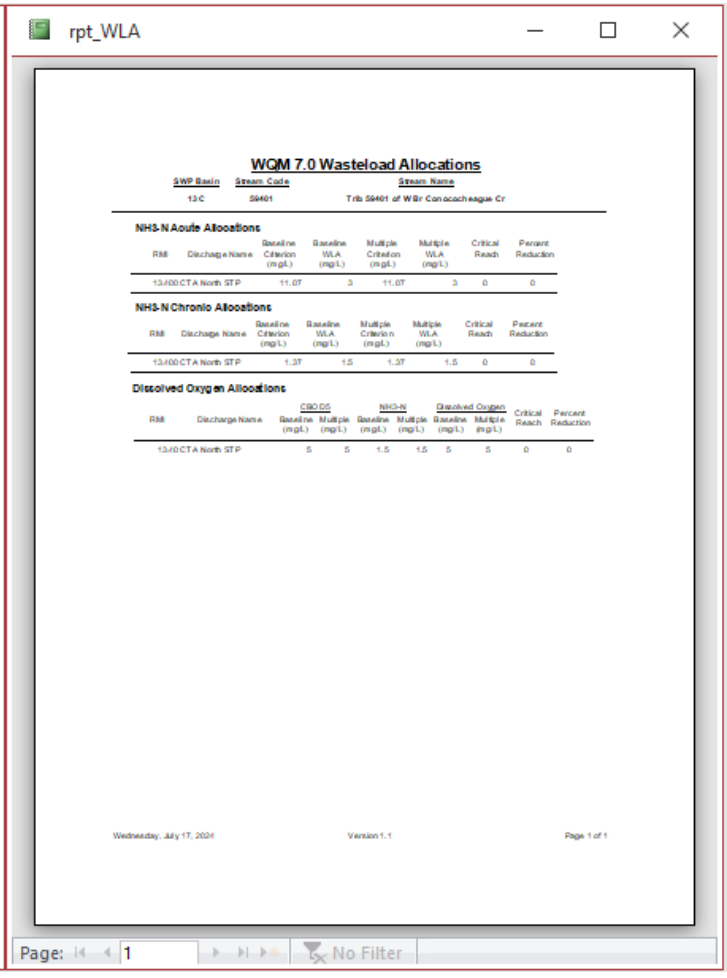
Low-Flow Statistics Flow Report [99.9 Percent (19.2 square miles) Low Flow Region 2]

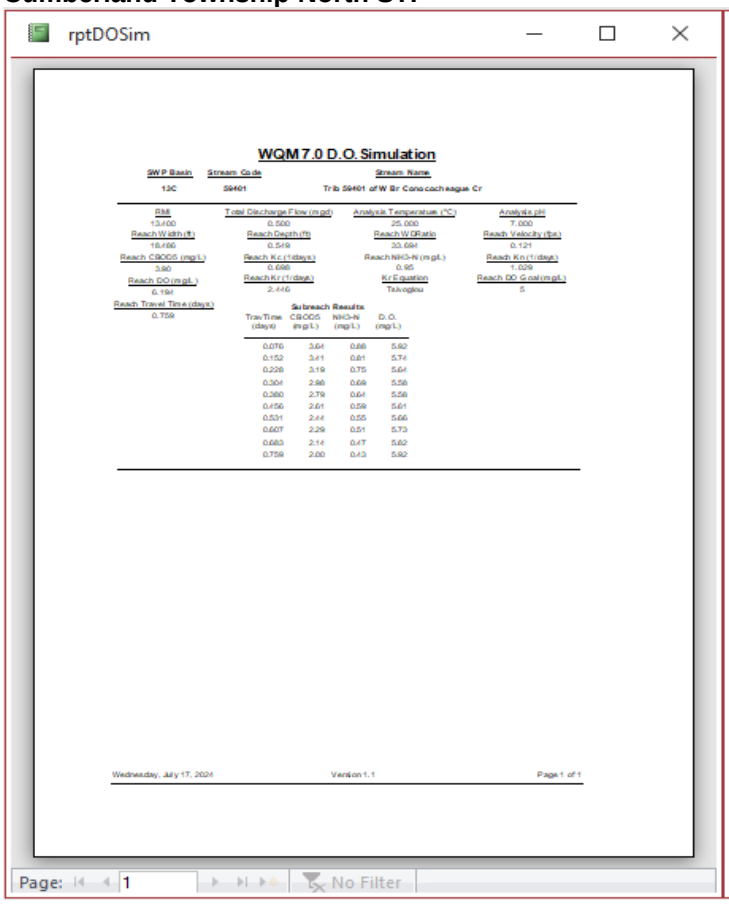
PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

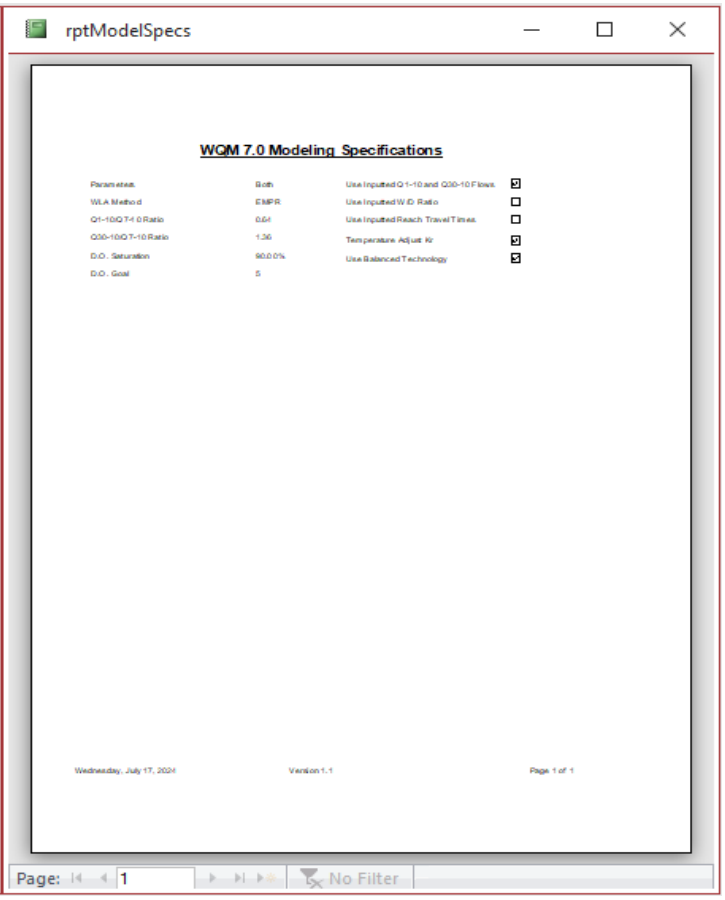
Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	1.45	ft^3/s	38	38
30 Day 2 Year Low Flow	2.04	ft^3/s	33	33
7 Day 10 Year Low Flow	0.632	ft^3/s	51	51
30 Day 10 Year Low Flow	0.889	ft^3/s	46	46
90 Day 10 Year Low Flow	1.45	ft^3/s	36	36

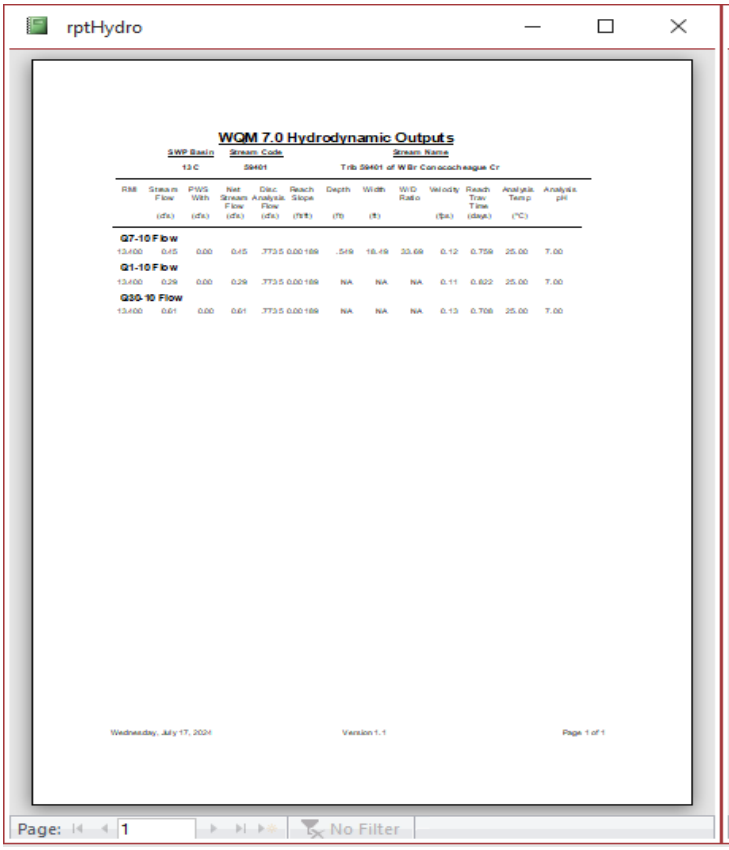

Analysis Results WQM 7.0
Hydrodynamics
NH3-N Allocations
D.O. Allocations
D.O. Simulation
Effluent Limitations
RMI
Discharge Name
Permit Number
Disc Flow (mgd)
13.40
CTA North STP
PA0024139
0.5000
Parameter
Effluent Limit 30 Day Average (mg/L)
Effluent Limit Maximum (mg/L)
Effluent Limit Minimum (mg/L)
CBOD5
5
NH3-N
1.5
3
Dissolved Oxygen
5
Record: 1 of 1
No Filter
Search
Print
< Back
Next >
Archive
Cancel

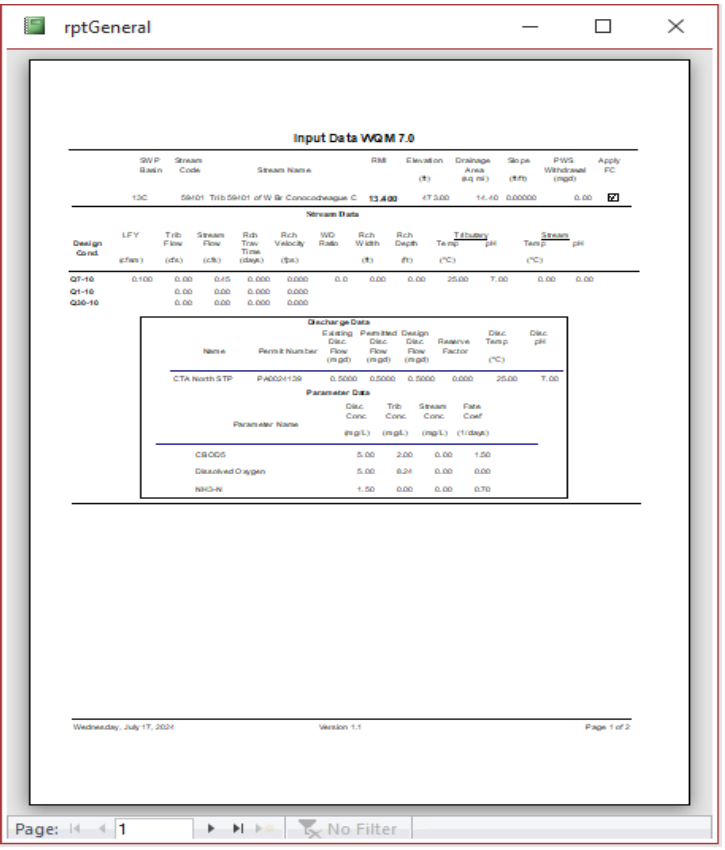

rptEffLimits
WQM 7.0 Effluent Limits
SWP Basin
Stream Code
Stream Name
13C
59401
Trib 59401 of WBr Conococheague Cr
RMI
Name
Permit Number
Disc Flow (mgd)
Parameter
Effl. Limit 30-day Ave. (mg/L)
Effl. Limit Maximum (mg/L)
Effl. Limit Minimum (mg/L)
13.400
CTA North STP
PA0024139
0.500
CBOD5
5
NH3-N
1.5
3
Dissolved Oxygen
5
Wednesday, July 17, 2024
Version 1.1
Page 1 of 1
Page: 1
No Filter

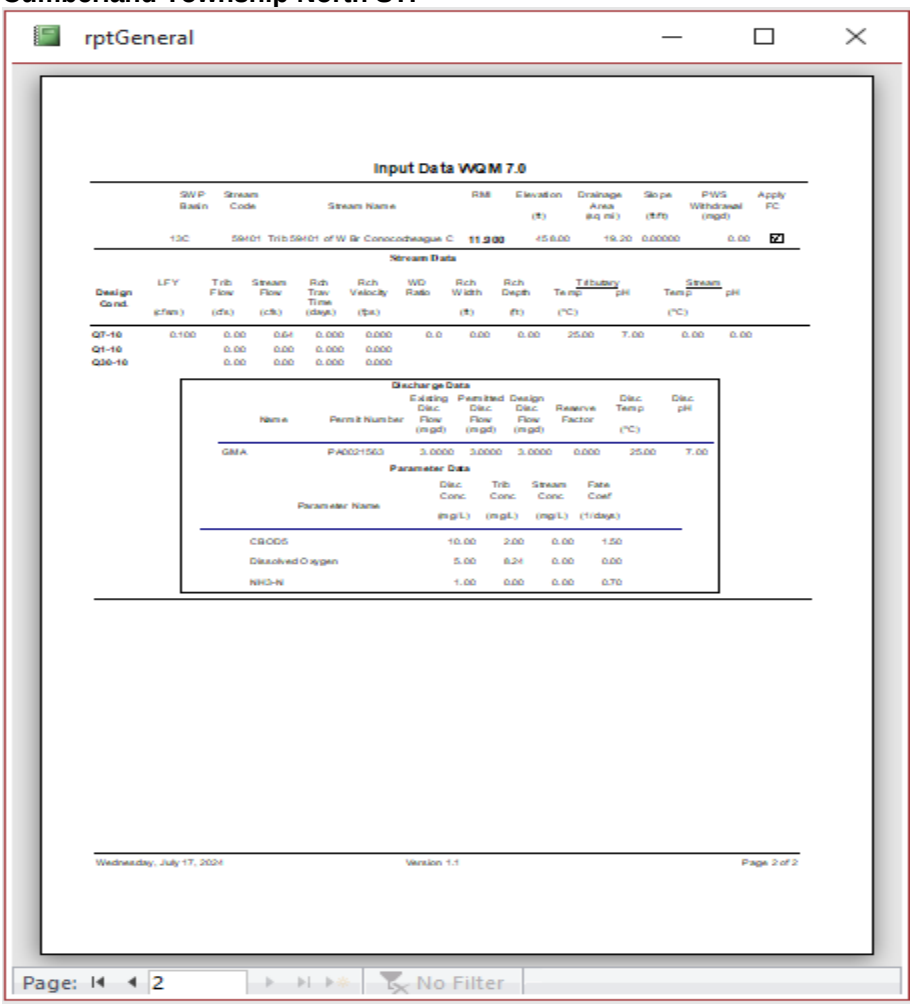

rpt_WLA
WQM 7.0 Wasteload Allocations
SWP Basin
Stream Code
Stream Name
13C
59401
Trib 59401 of WBr Conococheague Cr
NH3-N Acute Allocations
RMI
Discharge Name
Baseline Criterion (mg/L)
Baseline WLA (mg/L)
Multiple Criterion (mg/L)
Multiple WLA (mg/L)
Critical Reach
Percent Reduction
13.400 CTA North STP
11.07
3
11.07
3
0
0
NH3-N Chronic Allocations
13.400 CTA North STP
1.37
1.5
1.37
1.5
0
0
Dissolved Oxygen Allocations
CBOD5
NH3-N
Dissolved Oxygen
13.400 CTA North STP
5
5
1.5
1.5
5
5
0
0
Wednesday, July 17, 2024
Version 1.1
Page 1 of 1
Page: 1
No Filter


rptDOSim
WQM 7.0 D.O. Simulation
SWP Basin
13C
Stream Code
SH01
Stream Name
Trib SH01 of W Br Conocochague Cr
RMI
13.400
Total Discharge Flow (mgd)
0.500
Analysis Temperature (°C)
25.000
Analysis pH
7.000
Reach Width (ft)
18.486
Reach Depth (ft)
0.549
Reach W/D Ratio
33.694
Reach Velocity (fps)
0.121
Reach CBOD5 (mg/L)
3.60
Reach Kc (1/days)
0.680
Reach NH3-N (mg/L)
0.95
Reach Kn (1/days)
1.029
Reach DO (mg/L)
6.194
Reach Kr (1/days)
2.446
Kr Equation
Tsivoglou
Reach DO Goal (mg/L)
5
Reach Travel Time (days)
0.759
Subreach Results
TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L)
0.076 3.64 0.86 5.92
0.152 3.41 0.81 5.74
0.228 3.19 0.75 5.64
0.304 2.98 0.69 5.58
0.380 2.79 0.64 5.58
0.456 2.61 0.59 5.61
0.531 2.44 0.55 5.66
0.607 2.29 0.51 5.73
0.683 2.14 0.47 5.82
0.759 2.00 0.43 5.92
Wednesday, July 17, 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
0.61
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
Wednesday, July 17, 2024
Version 1.1
Page 1 of 1
Page: 1
No Filter


rptHydro
WQM 7.0 Hydrodynamic Outputs
SWP Basin
13C
Stream Code
SH01
Stream Name
Trib SH01 of W Br Conocochague Cr
RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Dilc. 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
13.400 0.45 0.00 0.45 .7735 0.00189 .549 18.49 33.69 0.12 0.759 25.00 7.00
Q1-10 Flow
13.400 0.29 0.00 0.29 .7735 0.00189 NA NA NA 0.11 0.822 25.00 7.00
Q30-10 Flow
13.400 0.61 0.00 0.61 .7735 0.00189 NA NA NA 0.13 0.708 25.00 7.00
Wednesday, July 17, 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
13C SH01 Trib SH01 of W Br Conocochague C 13.400 417.00 14.40 0.00000 0.00
Stream Data
Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH
Q7-10 0.100 0.00 0.45 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
CTA North STP PA0024139 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 5.00 2.00 0.00 1.50
Dissolved Oxygen 5.00 8.24 0.00 0.00
NH3-N 1.50 0.00 0.00 0.70
Wednesday, July 17, 2024
Version 1.1
Page 1 of 2
Page: 1
No Filter



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

*	Discharge pH	=	8.1 (2024 renewal application)	
*	Discharge Hardness	=	211.08 mg/L (DMR 2023 average)	
*	Stream pH	=	7.0	(Default)
*	Stream Hardness	=	100 mg/L	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 Rock Creek (59401)

Elevation:	473 ft (USGS National Map Viewer)
Drainage Area:	14.4 mi^2 (USGS PA StreamStats)
River Mile Index:	13.400 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.5 MGD

Node 2: GMA PA0021563 (59401)

Elevation:	458 ft (USGS National Map Viewer)
Drainage Area:	19.2 mi^2 (USGS PA StreamStats)
River Mile Index:	11.90 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	3.0 MGD

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Cumberland Township Authority North** NPDES Permit No.: **PA0024139** Outfall No.: **001**

Evaluation Type: **Custom / Additives** Wastewater Description: **Rock Creek**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
0.5	211.08	8.1						

				0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Strea m CV	Fate Coeff	FOS	Criteri a Mod	Chem Transl
Total Dissolved Solids (PWS)	mg/L		310									
Chloride (PWS)	mg/L		63									
Bromide	mg/L	<	0.5									
Sulfate (PWS)	mg/L		27									
Total Copper	mg/L		0.005									
Total Lead	mg/L	<	0.001									
Total Zinc	mg/L		0.021									

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Cumberland Township Authority North , NPDES Permit No. PA0024139, Outfall 001

Instructions | Discharge | Stream

Receiving Surface Water Name: Rock Creek

No. Reaches to Model: 1

- (•) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi²)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	059401	13.4	473	14.4			Yes
End of Reach 1	059401	11.9	458	19.2			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi²)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	13.4	0.1										100	7		
End of Reach 1	11.9	0.1										100	7		

Q_h

Location	RMI	LFY (cfs/mi²)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	13.4														
End of Reach 1	11.9														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Cumberland Township Authority North , NPDES Permit No. PA0024139, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | (•) All ( ) Inputs ( ) Results ( ) Limits

☐ *Hydrodynamics*

☑ *Wasteload Allocations*

☑ *AFC* CCT (min): 14.441 PMF: 1 Analysis Hardness (mg/l): 138.82 Analysis pH: 7.17

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	18.305	19.1	54.6	Chem Translator of 0.96 applied
Total Lead	0	0		0	92.123	124	355	Chem Translator of 0.743 applied
Total Zinc	0	0		0	154.720	158	453	Chem Translator of 0.978 applied

☑ *CFC* CCT (min): 14.441 PMF: 1 Analysis Hardness (mg/l): 138.82 Analysis pH: 7.17

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	11.853	12.3	35.3	Chem Translator of 0.96 applied
Total Lead	0	0		0	3.590	4.83	13.8	Chem Translator of 0.743 applied
Total Zinc	0	0		0	155.985	158	453	Chem Translator of 0.986 applied

☑ *THH* CCT (min): 14.441 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	N/A	
Chloride (PWS)	0	0		0	250,000	250,000	N/A	
Sulfate (PWS)	0	0		0	250,000	250,000	N/A	

Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***CRL*** CCT (min): 10.240 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 4

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	Report	Report	Report	Report	Report	mg/L	0.035	AFC	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	N/A	N/A	PWS Not Applicable
Chloride (PWS)	N/A	N/A	PWS Not Applicable
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	N/A	N/A	PWS Not Applicable
Total Lead	N/A	N/A	Discharge Conc < TQL
Total Zinc	0.29	mg/L	Discharge Conc ≤ 10% WQBEL

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
D.O.	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
CBOD5 Nov 1 - Apr 30	60.0	90.0	XXX	15.0	22.0	30.0	1/week	24-Hr Composite
CBOD5 May 1 - Oct 31	20.0	30.0	XXX	5.0	7.5	10.0	1/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	125	185.0	XXX	30.0	45.0	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Ammonia Nov 1 - Apr 30	18.0	XXX	XXX	4.5	XXX	9.0	2/week	24-Hr Composite
Ammonia May 1 - Oct 31	6.0	XXX	XXX	1.5	XXX	3.0	2/week	24-Hr Composite
Total Phosphorus	8.0	XXX	XXX	2.0	XXX	4.0	2/week	24-Hr Composite
Total Copper	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/month	24-Hr Composite

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		
Total Hardness	XXX	XXX	XXX	Report	Report Daily Max	XXX	1/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 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		
Ammonia---N	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/month	Calculation
Total Phosphorus	Report	Report	XXX	Report	XXX	XXX	2/week	24-Hr Composite
Net Total Nitrogen	XXX	9,132	XXX	XXX	XXX	XXX	1/year	Calculation
Net Total Phosphorus	XXX	1,218	XXX	XXX	XXX	XXX	1/year	Calculation

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: BPNPSM-PMT-033
☐	Other: