Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0024082**
Facility Type	**Municipal**	APS ID	**1102542**
Major / Minor	**Minor**	Authorization ID	**1464829**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Municipal Authority Of Westmoreland County**	Facility Name	**Avonmore STP**
Applicant Address	PO Box 730	Facility Address	First Street Ext
	Greensburg, PA 15601-0730		Avonmore, PA 15618
Applicant Contact	Katelyn Warheit	Facility Contact	Katelyn Warheit
Applicant Phone	(724) 755-5800	Facility Phone	(724) 755-5800
Client ID	64197	Site ID	255756
Ch 94 Load Status	Projected Hydraulic Overload	Municipality	Avonmore Borough
Connection Status	Self Imposed Connection Prohibition	County	Westmoreland
Date Application Received	December 12, 2023	EPA Waived?	No
Date Application Accepted	December 13, 2023	If No, Reason	Pretreatment

Purpose of Application: Renewal of a NPDES sewage permit

Summary of Review

The applicant has applied for the renewal of NPDES Permit PA0024082. The previous permit was issued on October 6, 2023 and expired on June 30, 2024.

Sewage from this plant is treated with Raw sewage wet well, aerated sludge holding tanks, final clarification, and ultraviolet disinfection.

The applicant is currently enrolled in and will continue to use eDMR.

The Notification letters were provided dated December 4, 2023 and no comments were received.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Jordan Coldsmith / Environmental Engineering Specialist	December 4, 2024
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	December 24, 2024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.257
Latitude	40º 31' 47.45"	Longitude	-79º 28' 29.40"
Quad Name	Avonmore	Quad Code	40079E4
Wastewater Description:	Sewage Effluent		
Receiving Waters	Kiskiminetas River (WWF)	Stream Code	42816
NHD Com ID	125291304	RMI	22
Drainage Area	1720	Yield (cfs/mi^2)	0.088
Q_{7-10} Flow (cfs)	153	Q_{7-10} Basis	USGS StreamStat
Elevation (ft)	1752	Slope (ft/ft)	
Watershed No.	18-B	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	FLOW REGIME MODIFICATION, FLOW REGIME MODIFICATION, METALS, METALS, TOTAL SUSPENDED SOLIDS (TSS), TOTAL SUSPENDED SOLIDS (TSS)		
Source(s) of Impairment	ACID MINE DRAINAGE, ACID MINE DRAINAGE, ACID MINE DRAINAGE, ACID MINE DRAINAGE, DAM OR IMPOUNDMENT, IMPACTS FROM HYDROSTRUCTURE FLOW REGULATION/MODIFICATION		
TMDL Status	Final	Name	Kiskiminetas-Conemaugh River Watersheds TMDL

Background/Ambient Data		Data Source
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake	BUFFALO TWP MUN AUTH FREEPORT		
PWS Waters	Allegheny River (WWF)	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	22.7

Changes Since Last Permit Issuance: None

Other Comments:

This discharge is tributary to the Kiskiminetas-Conemaugh River Watersheds that has a Final TMDL and is impaired by metals and pH. This sewage discharge is not expected to contribute to the stream impairment for which abandoned mine drainage is source of such impairment. A yearly monitor and report for Iron, Manganese, and Aluminum will once again be imposed to ensure this is correct. Furthermore, an aggregate waste load allocation was included in the TMDL for these types of facilities.

Treatment Facility Summary

Treatment Facility Name: Avonmore Borough STP

WQM Permit No.	Issuance Date
6570406	May 21, 1970
6570406 A-1	April 19, 2019

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aeration	Ultraviolet	0.257

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.257	405	Projected Hydraulic Overload		Other WWTP

Changes Since Last Permit Issuance:

WQM Permit No. 6570406 was issued by the Department of Environmental Resources on May 21, 1970 that approved the Avonmore Borough Sewage Treatment Plant (STP). DEP approved WQM Permit No. 6570406 A-1 to upgrade the plant to address and eliminate existing and future domestic, commercial, industrial and sanitary sewage problems that exist in the Avonmore Borough service area.

the permittee has constructed a new Sequencing Batch Reactor (SBR) treatment system capable of handling the peak flow rates seen in the system.

The existing chlorine system has been replaced by an ultraviolet radiation disinfection system.

The existing plant clarifiers has been converted to a raw sewage wet well. The wet well will receive raw sewage from the comminutor distribution chamber.

The existing plant's aeration tanks have been re-purposed as aerated sludge holding tanks.

Other Comments:

The new treatment process consists of:

- Raw sewage wet well
- Aerated sludge holding tanks
- final clarification
- ultraviolet disinfection.

Compliance History

Operations Compliance Check Summary Report

Facility: Avonmore STP

NPDES Permit No.: PA0024082

Compliance Review Period: 12/1/19-12/18/24

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	INSPECTION COMMENT
08/21/2024	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	
08/20/2024	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	DISCHARGE MONITORING REPORT ("DMR") REVIEW (Jan. 2023 – Dec. 2023): - The eDMR review for the indicated period revealed zero effluent exceedance(s). - The eDMR review for the indicated period revealed approximately 11 unauthorized discharges from the plant SSO. These discharges are addressed through the existing COA. - The eDMR review for the indicated period revealed one CBOD sample frequency issue during January 2023. The sample was collected properly by MAWC, but the contract lab failed to analyze within the prescribed hold time. No other issues with the DMRs submittals, such as late or incomplete submittals, was noted. - According to the Department's records, the permittee began utilizing the

				eDMR system with the ~June 2018 DMR submittal.
05/19/2023	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	DISCHARGE MONITORING REPORT ("DMR") REVIEW (January 2022 – December 2022) No exceedances noted.
05/18/2023	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	
05/17/2023	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	DISCHARGE MONITORING REPORT ("DMR") REVIEW (January 2021 – December 2021) 2 fecal exceedances in March 2021 (i-max and geo mean) due to use of > symbol. Permittee has discussed the reporting limits with the contract lab.
12/01/2022	Chapter 94 Inspection	PA Dept of Environmental Protection	No Violations Noted	
10/05/2022	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted	

Violation Summary: No violations noted during review period

Open Violations by Client ID:

No open violations for Client ID 64197 with Clean Water, but the following open violations exist for Safe Drinking Water Program in SWRO:

FACILITY	PROGRAM SPECIFIC ID	INSP ID	VIOLATION ID	VIOLATION DATE	VIOLATION CODE	VIOLATION
MAWC SWEENEY PLANT	5650032	3847017	8203730	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203731	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203732	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203733	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203734	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203735	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
MAWC SWEENEY PLANT	5650032	3847017	8203736	10/09/2024	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
WEST CNTY MUNI AUTH-MCKEESPORT	5020025	3636509	8163423	10/17/2023	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
WEST CNTY MUNI AUTH-MCKEESPORT	5020025	3636509	8163424	10/17/2023	C2D	FAILURE TO CALIBRATE TURBIDIMETERS USED FOR COMPLIANCE MONITORING
WEST CNTY MUNI AUTH-MCKEESPORT	5020025	3636509	8163425	10/17/2023	B5A	FAILURE OF A PUBLIC WATER SYSTEM TO OBTAIN A PERMIT
MAWC YOUGH PLANT	5260036	3570352	998602	06/15/2023	C4A	FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM

Enforcement Summary:

ENF TYPE	ENF TYPE DESC	EXECUTED DATE	VIOLATIONS	PENALTY AMOUNT	AMOUNT RECEIVED	TOTAL AMOUNT DUE	ENF FINALSTATUS	ENF CLOSED DATE	ENF COMMENT
COA	Consent Order and Agreement	07/26/2023	CSL201	$2,000.00	$24,000.00	$0.00			First Amendment to 5/10/2022 COA.
COA	Consent Order and Agreement	05/10/2022	CSL201	$1,000.00	$28,000.00	$0.00			COA for ongoing SSOs at the Avonmore STP. MAWC to construct new SBR Plant to address hydraulic overload.

Effluent Violation Summary:

MON_PD	PARAMETER	SAMPLE	PERMIT	UNIT	STAT_BASE_CODE
Apr-24	Total Suspended Solids	266.5	96.5	lbs/day	Weekly Average
Apr-24	Total Suspended Solids	74.3	64.3	lbs/day	Average Monthly
Mar-21	Fecal Coliform	> 2420	10000	No./100 ml	Instantaneous Maximum
Mar-21	Fecal Coliform	> 28	2000	No./100 ml	Geometric Mean

Other Non-Compliance:

Jan-23	Sample collection less frequent than required	Carbonaceous Biochemical Oxygen Demand (CBOD5)

Unauthorized Discharges:

DATE	DISCHARGE COMMENTS
6/27/24	Rainfall 0.70"
5/30/24	Rainfall 1.03"
5/28/24	Rainfall 1.40"
5/8/24	5/8/24 Rainfall 0.53"
4/16/24	Rainfall 4/14 .36 4/15 .12
4/15/24	Rainfall 4/11 1.27" 4/12 .82"
4/5/24	Basement backup caused by hydraulic overload due to wet weather. When field crew responded, fire department was pumping out basement. According to verbal communication with field crew, fire department had also pumped out basements of other houses on Railroad Avenue. Field crew was instructed to notify homeowners that they must call MAWC individually to report their own basement backups in order to be tracked in the system.
4/16/24	Basement backup caused by hydraulic overload due to wet weather. Rainfall 4/2/24- 2.57
4/4/24	4/3/24 - 1.11
3/11/24	Rainfall 1.10"
3/7/24	Rainfall 1.26"
2/29/24	Rainfall 0.53"
1/29/24	Rainfall 1.32
1/10/24	Rainfall 1.63"
11/22/23	Rainfall 1.02
8/25/23	Rainfall 1.49" Aeration tank spilled over during this SSO event; the affected area was cleaned up and spread with lime.
8/28/23	Basement backup caused by hydraulic overload due to wet weather.
8/15/23	Rainfall 0.84"
8/15/23	Rainfall 1.74" The comminutor and aeration tanks overflowed. The affected area was cleaned and lime was spread.
7/31/23	Rainfall 1.27" Comminutor trough overflowed.
7/21/23	Rainfall .85"

7/3/23	Rainfall recorded 0.18" (rain gauge malfunctioned)
3/24/23	Rainfall 0.82 inches
1/20/23	Rainfall- 0.65"
1/13/23	Rainfall .91"
1/4/23	Rainfall 1.45"
12/15/22	Rainfall .82"
11/15/22	Rainfall 1.88"
9/13/22	Rainfall .55"
9/7/22	Rainfall .69"
8/23/22	Rainfall .48"
8/23/22	Rainfall .48"
8/23/22	Rainfall 0.58"
8/23/22	Rainfall 2.12" Influent channel spilled over during this SSO event. The affected area was cleaned up and spread with lime.
8/5/22	Rainfall 0.58"
7/28/22	Rainfall .4"
7/6/22	Rainfall 1.02"
6/27/22	Rainfall 1.10"
6/9/22	Rainfall 0.28"
6/2/22	Rainfall 1.04" A power bump during the night caused the comminutor to fail, which increased the volume of the discharge. The power bump also caused the blowers to fail. All equipment was restarted when the operator arrived the next morning.
5/9/22	Rainfall 3.25" Influent channel spilled over during this SSO event; the affected area was cleaned up and spread with lime.
5/5/22	Rainfall 1.39"
4/7/22	Rainfall 0.54"
3/10/22	Rainfall 0.59"
3/10/22	Rainfall 1.28"
2/23/22	Rainfall 0.32"
2/23/22	Rainfall 0.57"
2/22/22	Rainfall 1.52"
2/7/22	Rainfall 1.75"
1/10/22	Rainfall 0.52" with snow melt
1/3/22	Rainfall 0.87"
12/29/21	Rainfall 0.63"
12/28/21	Rainfall 0.63"

12/28/21	Rainfall1.33"
12/13/21	Rainfall .80" Phone line to DEP was out of service. Zack was texted
12/13/21	Rainfall .21"
9/23/21	Rainfall 1.05"
9/16/21	Rainfall 0.45"
9/3/21	Firefighting water caused SSO. The flow was only a trickle so the flow meter did not register it.
9/2/21	Rainfall 1.84" Flow volume includes flow from 8/31 bypass that was recorded with 9/1 bypass. Influent channel and aeration tank spilled over during this SSO event. The affected area was cleaned up and spread with lime.
9/2/21	Rainfall 1.31" The total flow from the bypass on 8/31 was not recorded before the 9/1 bypass started. The total volume for the 8/31 and 9/1 bypass combined is included in the 9/1 bypass report.
8/19/21	Rainfall 1.49"
8/13/21	Rainfall 0.80"
7/13/21	Rainfall 0.33"
7/9/21	Rainfall 1.23"
7/9/21	Rainfall 1.23" Aeration tank spilled over a very minimal amount during this bypass event; the affected area was cleaned up and spread with lime
6/22/21	Rainfall 1.91" Influent channel spilled over during this SSO event; the affected area was cleaned up and spread with lime.
6/14/21	Rainfall 1.37"
6/14/21	Rainfall 1.37" Influent channel and aeration tank spilled over during this bypass event; the affected area was cleaned up and spread with lime
6/10/21	Rainfall 0.86"
5/10/21	Rainfall 1.39"
3/19/21	Rainfall 1.99"
3/1/21	Rainfall 0.42"
3/1/21	Rainfall 1.02"
1/4/21	Rainfall 0.51"
12/29/20	Rainfall (0.90")
11/12/20	Rainfall 1.04"
9/1/20	Rainfall (1.06") Discharge (00:00-02:00,13:00-18:00)
8/25/20	Rainfall 1.04"
7/21/20	Rainfall .52"
7/13/20	Rainfall 0.33"

6/22/20	Rainfall 0.58"
5/29/20	Rainfall (0.66")
4/27/20	Rainfall 1.7"
4/20/20	Rainfall 1.4"
4/14/20	Rainfall 1.3"
4/8/20	Rainfall 0.93"
3/31/20	Rainfall 1.48"
3/23/20	Rainfall 1.19"
2/27/20	Rainfall (0.75")
2/14/20	Rainfall (0.65")
2/11/20	0.69" of rain plus snow melt
1/27/20	1.04" of rain
1/20/20	0.17 inches of rain
12/17/19	0.32" of Rain
12/10/19	Rainfall (0.74")
12/10/19	Rainfall (0.44")

Compliance Status: Clean Water program has no open violations for this facility, which is under a COA. Several SSOs were reported in eDMR during the review period as shown above. As of summer 2024, remaining items for the construction of the new SBRs were in the process of being completed and they were evaluating the headworks for any necessary improvements to ensure all flows reach the wet well and do not discharge from the SSO during wet weather.

Completed by: Amanda Illar **Completed date:** 12/18/24

Compliance History

DMR Data for Outfall 001 (from November 1, 2023 to October 31, 2024)

Parameter	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23
Flow (MGD) Average Monthly	0.113	0.11	0.172	0.113	0.151	0.198	0.346	0.228	0.140	0.286	0.121	0.109
Flow (MGD) Daily Maximum	0.191	0.21	0.618	0.475	0.267	0.495	1.102	0.761	0.377	0.846	0.278	0.446
pH (S.U.) Instantaneous Minimum	6.3	6.2	6.2	6.4	6.4	6.2	6.1	6.1	6.0	6.0	6.0	6.3
pH (S.U.) Instantaneous Maximum	7.3	7.3	7.0	7.3	7.3	7.1	7.0	6.6	6.8	6.6	6.7	6.8
DO (mg/L) Instantaneous Minimum	5.1	6.4	6.5	5.9	6.2	7.9	7.1	5.2	5.5	5.1	5.8	4.8
TRC (mg/L) Average Monthly										0.03	0.04	0.03
TRC (mg/L) Instantaneous Maximum										0.12	0.09	0.07
CBOD5 (lbs/day) Average Monthly	< 2.5	2.1	< 4.2	< 4.0	< 2.7	< 3.2	13.0	< 2.8	< 2.5	< 3.9	< 2.0	< 3.1
CBOD5 (lbs/day) Weekly Average	4.6	2.5	< 9.2	11.0	3.6	4.1	32.1	< 4.2	< 3.0	< 7.7	< 2.0	< 7.4
CBOD5 (mg/L) Average Monthly	< 2.4	2.4	< 2.4	< 2.7	< 2.5	< 2.4	3.3	< 2.0	< 2.4	< 2.0	< 2.4	< 2.7
CBOD5 (mg/L) Weekly Average	3.0	3.1	3.6	3.8	3.7	3.2	3.8	< 2.0	3.7	< 2.0	< 4.6	5.3
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	76	72	135	116	75	76	188	145	153	164	147	193
BOD5 (lbs/day) Raw Sewage Influent Daily Maximum	95	114	374	279	101	92	351	174	198	234	285	554
BOD5 (mg/L) Raw Sewage Influent Average Monthly	83	87	65	87	70	59	88	106	141	103	121	141
TSS (lbs/day) Average Monthly	< 5.0	< 4.3	< 9.4	< 7.4	< 5.5	< 6.9	74.3	< 8.9	< 5.5	< 11.1	< 6.1	< 6.9

TSS (lbs/day) Raw Sewage Influent Average Monthly	77	77	199	152	88	73	801	257	188	301	139	271
TSS (lbs/day) Raw Sewage Influent Daily Maximum	88	146	586	444	101	117	2500	467	287	635	186	818
TSS (lbs/day) Weekly Average	< 7.8	< 5.1	< 22.9	< 19.8	< 7.3	< 8.8	266.5	16.7	< 7.5	23.0	< 11.6	< 18.6
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 11.0	< 6.0	< 5.0	< 5.6	< 5.0	< 5.2
TSS (mg/L) Raw Sewage Influent Average Monthly	84	87	87	96	83	59	172	174	169	170	129	190
TSS (mg/L) Weekly Average	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	29.0	8.0	< 5.0	7.0	< 5.0	6.0
Fecal Coliform (No./100 ml) Geometric Mean	< 10	97	< 17.0	< 11	< 11	< 7	< 37.0	< 6.0	< 16	< 4	< 5.0	< 6
Fecal Coliform (No./100 ml) Instantaneous Maximum	32	532	200	90	130	20	4902	10	142	10	< 5.0	10
UV Transmittance (%) Instantaneous Minimum	63.6	69.1	70.5	75.8	8.1	66.6	82.8	GG	GG			
Total Nitrogen (mg/L) Daily Maximum											14.2	
Ammonia (lbs/day) Average Monthly	0.7	0.2	< 0.5	< 0.382	< 0.1	0.3	< 2.0	< 0.6	< 0.4	< 0.8	< 0.5	< 0.5
Ammonia (mg/L) Average Monthly	0.751	0.287	< 0.264	< 0.6	< 0.112	0.181	< 0.77	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total Phosphorus (mg/L) Daily Maximum											2.3	
Total Aluminum (mg/L) Daily Maximum											0.036	
Total Iron (mg/L) Daily Maximum											0.126	
Total Manganese (mg/L) Daily Maximum											0.064	

Compliance History

Effluent Violations for Outfall 001, from: December 1, 2023 To: October 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	04/30/24	Avg Mo	74.3	lbs/day	64.3	lbs/day
TSS	04/30/24	Wkly Avg	266.5	lbs/day	96.5	lbs/day

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .257
Latitude 40º 31' 46.00" **Longitude** -79º 28' 29.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The discharge was evaluated using WQM7.0 to determine the $CBOD_5$, ammonia nitrogen, and dissolved oxygen parameters. The model results show less restrictive limits for $CBOD_5$ and dissolved oxygen.

To comply with anti-backsliding regulations, the previous, more restrictive limits for CBOD5 and DO, will again be implemented for the facility.

Parameter	Limit (mg/l)	SBC	Model
$CBOD_5$	25 50	Average Monthly IMAX	WQM7.0
Dissolved Oxygen	4	Minimum	WQM7.0
Ammonia Nitrogen	25 50	Average Monthly IMAX	WQM7.0

Per Department SOP “Establishing Effluent Limitations for Individual Sewage Permits” (BCW-PMT-033), For existing discharges, if WQM modeling results for summer indicates that an average monthly limit of 25 mg/L is acceptable, the application manager will generally establish a year-round monitoring requirement for ammonia-nitrogen, at a minimum. A seasonal multiplier of 3 times the summertime average monthly limit should be established for the winter period.

A weekly monitoring frequency for Ammonia-Nitrogen will again be imposed.

EPA Approved Pre-treatment

40 CFR section 403.8, states, “Any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from Industrial Users pollutants which Pass Through or Interfere with the operation of the POTW or are otherwise subject to Pretreatment Standards will be required to establish a POTW Pretreatment Program”. MAWC owns a number of POTWs with a net design flow greater than 5 MGD. They, therefore, have a pre-treatment program.

According to the renewal application, Avonmore STP does not have any industrial users. During review of NPDES Permit No. PA0024082, EPA and DEP worked together to generate pre-treatment permit language that would be approvable for MAWC NPDES Permits where the facility has no significant industrial users. Part II.C. and Part II.E. include this language.

According to the renewal application, Avonmore STP does not have any industrial users. Prior to accepting dischargers from industrial users, that meet the definition of significant industrial user in 40 CFR. 403.3(v)(1), MAWC shall obtain approval from EPA to reevaluate its local limits based on a headworks analysis of its treatment plant.

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

Mass Loading Limitations

Per Department SOP "Establishing Effluent Limitations for Individual Sewage Permits" (BCW-PMT-033), mass loading limits will be established for POTWs for $CBOD_5$, TSS, ammonia nitrogen. Average monthly mass loading limits will be established for $CBOD_5$, TSS, and ammonia nitrogen. Average weekly mass loading limits will be established for $CBOD_5$ and TSS. Mass loading limits will be calculated according to the formula below:

$$average\ annual\ design\ flow\ (MGD) \times concentration\ limit\ \left(\frac{mg}{L}\right) \times 8.34\ (converstion\ factor)$$
$$= mass\ loading\ limit\ (\frac{lbs}{day})$$

The following mass loading limitations were calculated:

Parameter	Average Monthly (lbs/day)	Average Weekly (lbs/day)
$CBOD_5$	**53.58**	**80.376**
TSS	64.3	96.45
Ammonia Nitrogen	N/A	N/A

Influent Monitoring

Per Department SOP "New and Reissuance Sewage Individual NPDES Permit Applications" (BCW-PMT-002), POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring will again be included in the permit. The influent monitoring will be established with the same frequency and sample type as the effluent sampling.

Additional Considerations

There is a TMDL for metals in the Kiski-Conemaugh watershed. The contribution for metals from a sewage plant of this nature is expected to be less than water quality criteria and therefore not contributing to stream impairment. A yearly monitor and report for Iron, Manganese, and Aluminum will once again be imposed to ensure this is correct. Furthermore, an aggregate waste load allocation was included in the TMDL for these types of facilities.

Sewage discharges will include monitoring, at a minimum, for *E. coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for design flows >= 0.05 and < 1 MGD.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Department's "Technical Guidance for the Development and Specification of Effluent Limitations".

An annual sampling frequency for total phosphorus and total nitrogen will again be imposed per 25 PA Code §92a.61.

Per Department SOP "New and Reissuance Sewage Individual NPDES Permit Applications" (BCW-PMT-002) Where ultraviolet (UV) disinfection is used, TRC limits are not applicable, but the limits table(s) in Part A will generally contain, at a minimum, routine monitoring of UV transmittance (%), UV dosage (µWs/cm2 or mWs/cm2 or mjoules/cm2) or UV intensity (µW/cm2 or mW/cm2) at the same monitoring frequency that would be used for TRC.

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	Recorded
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
CBOD5	53.6	80.4	XXX	25.0	37.5	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	64.3	96.5	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Recorded
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2)	Required
	Average Monthly	Weekly Average	Instantaneous Minimum	Average Monthly	Weekly Average	Instant. Maximum	Measurement Frequency	Sample Type
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Total Iron	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite
Total Manganese	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001

Other Comments: N/A

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Attachment 1
Summer WQM Results

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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
18B	42816	KISKIMINETAS RIVER	**22.000**	1752.00	1720.00	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	0.080	153.00	0.00	0.000	0.000	10.0	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
Avonmore STP	PA0024082	0.2570	0.0000	0.0000	0.000	20.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
22.000	153.00	0.00	153.00	.3976	0.00057	1.169	224.95	192.43	0.58	0.105	24.99	7.00
Q1-10 Flow												
22.000	97.92	0.00	97.92	.3976	0.00057	NA	NA	NA	0.45	0.134	24.98	7.00
Q30-10 Flow												
22.000	208.08	0.00	208.08	.3976	0.00057	NA	NA	NA	0.69	0.088	24.99	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

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
22.000	Avonmore STP	11.09	50	11.09	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
22.000	Avonmore STP	1.37	25	1.37	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
22.00	Avonmore STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
22.000	0.257	24.987	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
224.946	1.169	192.431	0.583
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.06	0.043	0.06	1.028
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.232	1.740	Tsivoglou	5
Reach Travel Time (days)			
0.105			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.010	2.06	0.06	7.54
0.021	2.06	0.06	7.54
0.031	2.06	0.06	7.54
0.042	2.05	0.06	7.54
0.052	2.05	0.06	7.54
0.063	2.05	0.06	7.54
0.073	2.05	0.06	7.54
0.084	2.05	0.06	7.54
0.094	2.05	0.06	7.54
0.105	2.05	0.06	7.54

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

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)
22.000	Avonmore STP	PA0024082	0.257	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

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Attachment 2
Winter WQM Results

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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
18B	42816	KISKIMINETAS RIVER	**22.000**	1752.00	1720.00	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	0.160	153.00	0.00	0.000	0.000	10.0	0.00	0.00	5.00	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
Avonmore STP	PA0024082	0.2570	0.0000	0.0000	0.000	15.00	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	4.00	12.51	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
22.000	153.00	0.00	153.00	.3976	0.00057	1.169	224.95	192.43	0.58	0.105	5.03	7.00
Q1-10 Flow												
22.000	97.92	0.00	97.92	.3976	0.00057	NA	NA	NA	0.45	0.134	5.04	7.00
Q30-10 Flow												
22.000	208.08	0.00	208.08	.3976	0.00057	NA	NA	NA	0.69	0.088	5.02	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

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
22.000	Avonmore STP	24.1	50	24.1	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
22.000	Avonmore STP	4.36	25	4.36	25	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5		NH3-N		Dissolved Oxygen		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
22.00	Avonmore STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
22.000	0.257	5.026	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
224.946	1.169	192.431	0.583
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.06	0.045	0.06	0.221
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.488	1.084	Tsivoglou	5
Reach Travel Time (days)			
0.105			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.010	2.06	0.06	11.45
0.021	2.06	0.06	11.45
0.031	2.06	0.06	11.45
0.042	2.06	0.06	11.45
0.052	2.06	0.06	11.45
0.063	2.06	0.06	11.45
0.073	2.06	0.06	11.45
0.084	2.06	0.06	11.45
0.094	2.06	0.06	11.45
0.105	2.05	0.06	11.45

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
18B	42816	KISKIMINETAS RIVER

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)
22.000	Avonmore STP	PA0024082	0.257	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

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Attachment 3
Upstream StreamStat

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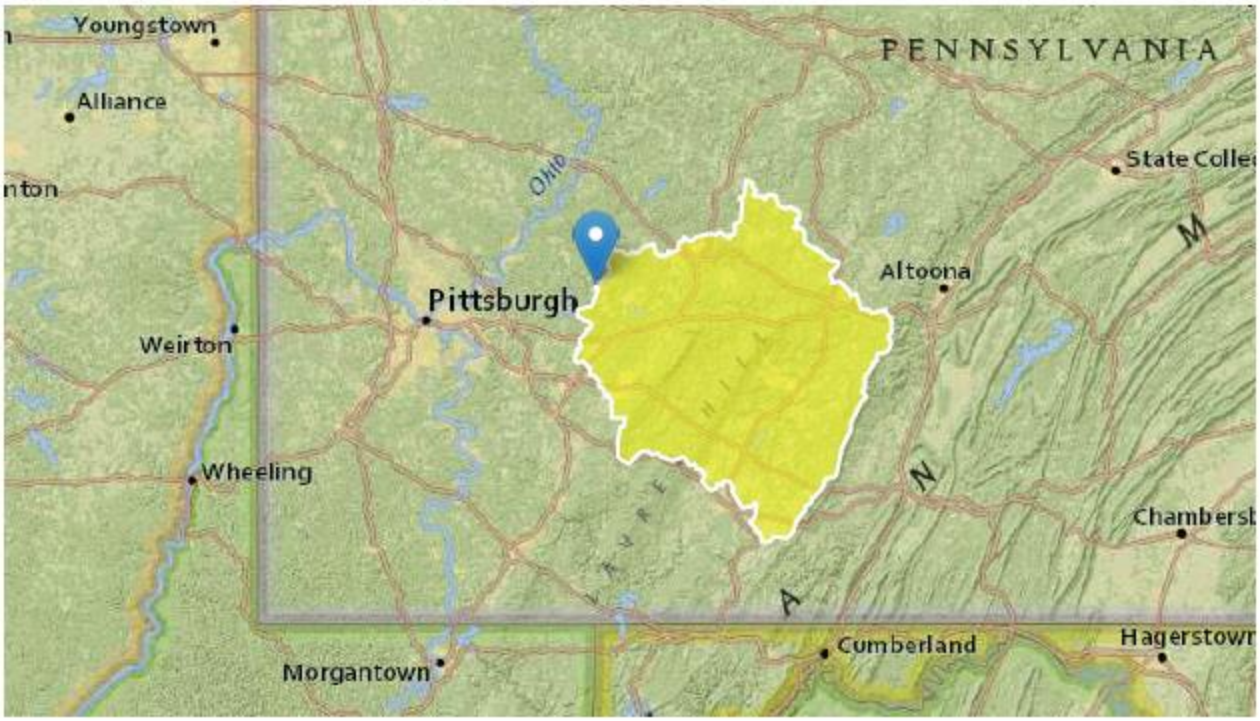
StreamStats Report

Region ID: PA
Workspace ID: PA20241210162940795000
Clicked Point (Latitude, Longitude): 40.52985, -79.47497
Time: 2024-12-10 11:30:16 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1720	square miles
ELEV	Mean Basin Elevation	1752	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1720	square miles	2.33	1720
ELEV	Mean Basin Elevation	1752	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Flow Report [Low Flow Region 3]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	245	ft^3/s	43	43
30 Day 2 Year Low Flow	321	ft^3/s	38	38
7 Day 10 Year Low Flow	153	ft^3/s	54	54
30 Day 10 Year Low Flow	185	ft^3/s	49	49
90 Day 10 Year Low Flow	254	ft^3/s	41	41

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

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Attachment 4
Downstream StreamStat

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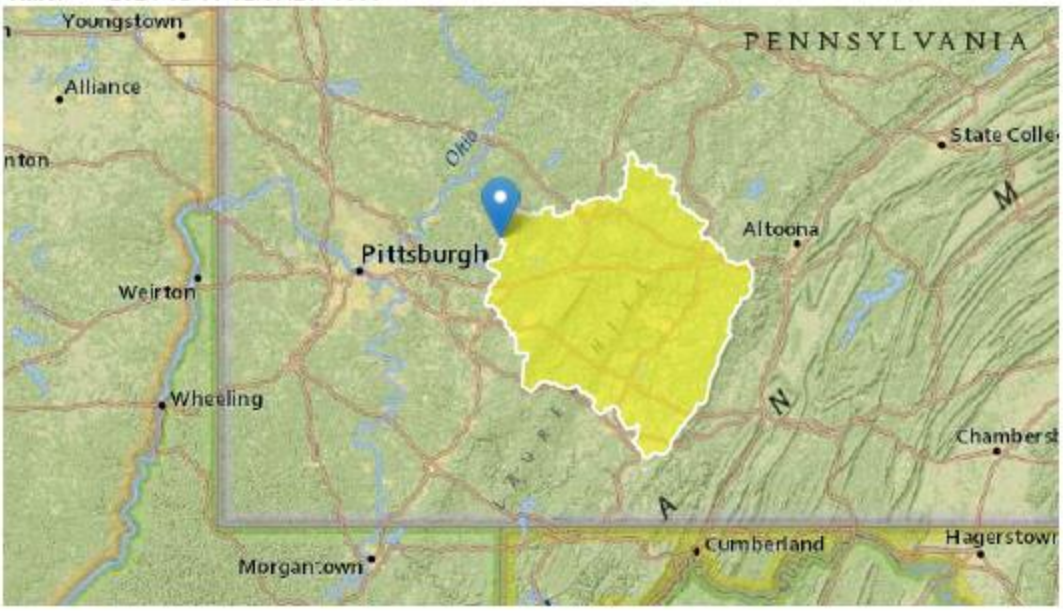
StreamStats Report

Region ID: PA
Workspace ID: PA20241210175853539000
Clicked Point (Latitude, Longitude): 40.53601, -79.48347
Time: 2024-12-10 12:59:20 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1730	square miles
ELEV	Mean Basin Elevation	1749	feet
PRECIP	Mean Annual Precipitation	45	inches

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1730	square miles	2.33	1720
ELEV	Mean Basin Elevation	1749	feet	898	2700
PRECIP	Mean Annual Precipitation	45	inches	38.7	47.9

Low-Flow Statistics Disclaimers [Low Flow Region 3]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 3]

Statistic	Value	Unit
7 Day 2 Year Low Flow	246	ft^3/s
30 Day 2 Year Low Flow	322	ft^3/s
7 Day 10 Year Low Flow	154	ft^3/s
30 Day 10 Year Low Flow	186	ft^3/s
90 Day 10 Year Low Flow	255	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)