Pennsylvania Department of Environmental Protection

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0253375**
Facility Type	**Municipal**	APS ID	**1098989**
Major / Minor	**Minor**	Authorization ID	**1458559**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Municipal Authority of Westmoreland County (MAWC)**	Facility Name	**Hutchinson STP**
Applicant Address	124 Park & Pool Road New Stanton, PA 15672	Facility Address	Seventh Street Hutchinson, PA 15640
Applicant Contact	Norman Stout	Facility Contact	Same as Applicant
Applicant Phone	(724) 755-5800	Facility Phone	Same as Applicant
Client ID	64197	Site ID	672514
Ch 94 Load Status	Not Overloaded	Municipality	Sewickley Township
Connection Status	No Limitations	County	Westmoreland
Date Application Received	October 17, 2023	EPA Waived?	No
Date Application Accepted	October 18, 2023	If No, Reason	Pretreatment Program

Purpose of Application: Application for renewal of an NPDES Permit for treated sewage

Summary of Review

Municipal Authority of Westmoreland County (MAWC) has applied for a renewal of NPDES Permit No. PA0253375. PA0253375 was previously issued by the Pennsylvania Department of Environmental Protection (DEP) on April 5, 2019 and expired on April 30, 2024. The renewal application was submitted in a timely manner, so the permit was granted administrative extension.

Sewage from this facility is treated by equalization, extended aeration, clarification, and UV disinfection. The facility discharges to Sewickley Creek, which is classified as a Warm Water Fishery (WWF) in State Watershed No. 19-D.

Biosolids are disposed of at Ligonier Water Pollution Control Plant (WPCP).

MAWC is currently enrolled in and will continue to use eDMR.

The applicant has complied with Act 14 Notifications with letters dated October 4, 2023 and sent to Sewickley Township and Westmoreland County.

The following permit changes are being made during this permit cycle:

- The daily maximum loading limits and monitoring requirements for $CBOD_5$, TSS, and ammonia-nitrogen were removed from this permit in accordance with 40 CFR 122.44.1.2.i.B.2.
- The daily maximum loading monitoring requirement for influent BOD_5 and TSS were removed to be consistent with the effluent monitoring requirements.
- Annual *E. coli* monitoring was added in accordance 25 Pa. Code 93.7(a).
- The frequency of DO, pH, and UV monitoring was increased from 5/week to 1/day in accordance with the guidance.

Approve	Deny	Signatures	Date
X		Stephanie Conrad / Environmental Engineer	November 19, 2024
X		Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager	November 22, 2024

Summary of Review

- The ammonia-nitrogen, $CBOD_5$ and TSS mass loading limits were reduced to reflect the department's rounding policy.
- Annual monitoring requirements for iron, manganese, and aluminum was added in accordance with 25 PA Code §92a.61.
- Pretreatment implementation language was added to Part C.II. in accordance with 40 CFR section 403.8.

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 daily maximum loading limits and monitoring requirements for $CBOD_5$, TSS, and ammonia-nitrogen were removed from this permit in accordance with 40 CFR 122.44.1.2.i.B.2.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.044
Latitude	40º 13' 30.5"	Longitude	-79º 44' 22.1
Quad Name	SMITHTON	Quad Code	1708
Wastewater Description:	Sewage Effluent		

Receiving Waters	Sewickley Creek (WWF)	Stream Code	37556
NHD Com ID	69913499	RMI	5.42
Drainage Area	130	Yield (cfs/mi^2)	0.0249
Q_{7-10} Flow (cfs)	3.24	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	800	Slope (ft/ft)	
Watershed No.	19-D	Chapter 93 Class.	WWF
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	Final	Name	Sewickley Creek Watershed

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

Nearest Downstream Public Water Supply Intake	West County Municipal Authority- McKeesport		
PWS Waters	Youghiogheny River	Flow at Intake (MGD)	12
PWS RMI	1.38	Distance from Outfall (mi)	21.11

Changes Since Last Permit Issuance:

Other Comments:

Treatment Facility Summary

Treatment Facility Name: Hutchinson STP

WQM Permit No.	Issuance Date	Purpose
6516401	June 23, 2016	Permit issued to Sewickley Township Municipal Sewer Authority by PA DEP approving conveyance and treatment infrastructure including: • 15,050 LF of 8-inch gravity • One, 200 gpm factory-built pump station • 4-inch PVC forcemain • Extended aeration Sewage treatment plant ○ One grinder ○ One, emergency bypass bar screen ○ One 15,710-gallon equalization basin with two (2) 200 gpm submersible pumps ○ One 196 sq ft clarifier with geyser sludge withdrawal pump. ○ One 47,380-gallon precast concrete aeration basin ○ One 5,237-gallon aerated sludge holding tank ○ One 140,000 gpd UV disinfection treatment unit ○ One post treatment aeration tank with membrane tube diffusers ○ Three 230 scfm blowers ○ One caustic soda feed pump • 715 LF 8” PVC discharge pipe • Headwall outfall
6516401 T-1	December 20,2019	Permit issued to Municipal Authority of Westmoreland County approving the transfer of Hutchinson STP

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Ultraviolet	0.044

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.044	95	Not Overloaded	None	Other WWTP

Changes Since Last Permit Issuance: None

Other Comments: None

Compliance History

DMR Data for Outfall 001 (from October 1, 2023 to September 30, 2024)

Parameter	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23	NOV-23	OCT-23
Flow (MGD) Average Monthly	0.009	0.009	0.009	0.009	0.012	0.014	0.01	0.009	0.011	0.009	0.009	0.009
Flow (MGD) Daily Maximum	0.01	0.011	0.011	0.012	0.028	0.074	0.017	0.015	0.031	0.011	0.016	0.012
pH (S.U.) Instantaneous Minimum	6.0	6.1	6.0	6.1	6.4	6.3	6.3	6.0	6.0	6.3	6.3	6.4
pH (S.U.) Instantaneous Maximum	7.2	6.8	6.9	7.1	7.8	7.6	7.7	7.1	7.2	7.3	7.3	7.4
DO (mg/L) Instantaneous Minimum	5.6	6.0	6.0	6.7	6.1	6.1	7.3	6.9	7.1	7.7	6.2	5.8
$CBOD_5$ (lbs/day) Average Monthly	0.4	0.2	< 0.2	< 0.2	0.3	0.5	0.3	< 0.2	< 0.2	< 0.2	0.4	< 0.2
$CBOD_5$ (lbs/day) Daily Maximum	0.5	0.2	< 0.2	0.3	0.3	0.7	0.4	0.4	< 0.2	< 0.2	0.6	0.3
$CBOD_5$ (mg/L) Average Monthly	4.4	2.7	< 2.0	< 3.3	4.2	2.6	3.0	< 3.3	< 2.0	< 2.0	5.9	< 3.9
$CBOD_5$ (mg/L) Instantaneous Maximum	6.4	2.75	< 2.0	4.51	4.84	2.89	3.43	4.69	< 2.0	< 2.0	8.96	5.82
BOD_5 (lbs/day) Raw Sewage Influent Average Monthly	14	16	17	17	17	23	27	25	17	18	15	26
BOD_5 (lbs/day) Raw Sewage Influent Daily Maximum	15	16	18	17	23	27	34	25	18	20	16	35
BOD_5 (mg/L) Raw Sewage Influent Average Monthly	171	220	214	289	233	208	313	381	221	253	266	416
TSS (lbs/day) Average Monthly	< 0.4	0.7	< 0.4	< 0.3	< 0.4	< 1.5	< 0.4	< 0.3	< 0.4	< 0.4	< 0.3	< 0.3

TSS (lbs/day) Raw Sewage Influent Average Monthly	26	14	21	15	20	29	35	25	20	23	22	36
TSS (lbs/day) Daily Maximum	0.4	0.8	< 0.4	< 0.3	< 0.4	2.7	< 0.5	< 0.4	< 0.5	< 0.5	< 0.3	< 0.4
TSS (lbs/day) Raw Sewage Influent Daily Maximum	28	18	24	17	26	31	42	35	21	27	25	52
TSS (mg/L) Average Monthly	< 5.0	9.5	< 5.0	< 5.0	< 5.0	< 6.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TSS (mg/L) Raw Sewage Influent Average Monthly	312	196	267	258	279	249	402	399	255	307	371	582
TSS (mg/L) Instantaneous Maximum	5.0	12.0	< 5.0	< 5.0	< 5.0	8.0	< 5.0	5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 5.0	< 5	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5	< 5
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 5.0	< 5	5	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5	< 5
UV Transmittance (%) Daily Minimum	44.2	54.1	60.1	59.9	60.8	57.9	61.2	59.4	60.3	58.2	60.1	57.8
Total Nitrogen (mg/L) Daily Maximum										17.6		
Ammonia (lbs/day) Average Monthly	0.03	0.02	< 0.03	< 0.006	< 0.009	< 0.08	< 0.04	< 0.03	< 0.03	< 0.03	< 0.02	< 0.03
Ammonia (lbs/day) Daily Maximum	0.05	0.03	< 0.03	< 0.006	0.01	< 0.1	< 0.04	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03
Ammonia (mg/L) Average Monthly	0.4	0.3	< 0.4	< 0.1	< 0.1	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Ammonia (mg/L) Instantaneous Maximum	0.6	0.408	< 0.4	< 0.1	0.163	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Total Phosphorus (mg/L) Daily Maximum										5.9		

Compliance History

Operations Compliance Check Summary Report

Facility: HUTCHINSON STP
NPDES Permit No.: PA0253375

Compliance Review Period: 11/1/19-11/21/24

Inspection Summary:

INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC	INSPECTION COMMENT
09/28/2022	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted	
09/27/2022	Administrative/File Review	PA Dept of Environmental Protection	No Violations Noted	An administrative review from 10/1/19 to 9/27/22 revealed no effluent violations.

Violation Summary: No violations noted during review period.

Open Violations by Client ID: No open violations exist for Client ID 64197 for Clean Water program. The following open violations are noted for Westmoreland County Municipal Authority at three facilities overseen by Safe Drinking Water program:

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:

No enforcements executed during review period

Effluent Violation Summary:

No effluent violations indicated on eDMRS during the review period.

Compliance Status: Facility is in compliance with no open violations or pending enforcements with Clean Water Program.

Completed by: Amanda Illar **Completed date:** 11/21/24.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .044
Latitude 40º 13' 30.5" **Longitude** -79º 44' 22.1"
Wastewater Description: Sewage Effluent

Technology-Based Limitations (TBELs)

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

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Flow (MGD)	Report	Average Monthly	-	92a.27, 92a.61
$CBOD_5$	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	3*0	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
Ammonia-Nitrogen	25	Average Monthly	-	BPJ
Dissolved Oxygen	4.0	Min	-	BPJ
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Total Nitrogen	Report	Average Monthly	-	92a.61
Total Phosphorus	Report	Average Monthly	-	92a.61
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)

Water Quality-Based Limitations (WQBELs)

Pursuant to EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding regulatory changes published in the *Pennsylvania Bulletin* on July 11, 2020, new water quality criteria for ammonia-nitrogen apply to waters of the commonwealth. Therefore, WQBELs for Outfall 001 are being re-evaluated even though there have been no changes to the treatment plant.

WQM 7.0 Water Quality Modeling

DEP's WQM 7.0 version 1.1 model is a Microsoft Access Program used for sewage dischargers to determine whether TBELs are sufficient to meet in-stream water quality criteria for ammonia-nitrogen, carbonaceous biochemical oxygen demand ($CBOD_5$), and dissolved oxygen (DO). To accomplish this, the model simultaneously simulates mixing and degradation of ammonia-nitrogen and mixing and consumption of DO through $CBOD_5$ and ammonia-nitrogen degradation. WQM 7.0 determines the highest pollutant loadings that the stream can assimilate while still meeting water quality criteria under design conditions.

The model is a two-step process. The discharge is first modeled for the summer period (May through October) because warm temperatures are more likely to result in critical loading conditions. Reduced DO levels likely also play a role in ammonia toxicity and solubility of DO decreases at increased water temperature. If summer modeling determines that WQBELs are appropriate for the summer period, then modeling is completed for the winter period (November through April). This is in accordance with DEP's *Implementation Guidance of Section 93.7 Ammonia Criteria* [Do. No. 391-2000-013] (Ammonia Guidance).

River Mile Index (RMI) was measured in eMAP PA as the distance from the facility's outfall to the mouth of Sewickley Creek. Elevation was read by applying a topo map in eMAP PA. Discharge point and downstream drainage areas was well as Q7-10 were generated by USGS Stream Stats. USGS Stream Stats output files are included in Attachment A. In the absence of site-specific data, discharge temperature, stream temperature, and stream pH were assumed to be 20, 25, and 7 in accordance with the Ammonia Guidance. Stream width to depth was assumed to be 10 in accordance with DEP's *Technical Reference Guide (TRG) WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1* [Doc. No. 391-2000-007].

WQM 7.0 modeling inputs are documented in the table below:

Discharge Characteristics		Basin/Stream Characteristics	
Parameter	**Value**	**Parameter**	**Value**
River Mile Index (RMI)	5.42	Drainage Area	130
Discharge Flow (MGD)	0.044	Q_{7-10} (cfs)	3.24
Discharge Temp (^oC)	20	Low-flow yield (cfs/mi^2)	0.0249
Ammonia-Nitrogen (mg/L)	25	Elevation (ft)	800
$CBOD_5$ (mg/L)	25	Stream Width/Depth	10
Dissolved Oxygen (mg/L)	4.0	Stream Temp (^oC)	25
		Stream pH (s.u.)	7

The discharge was modeled using WQM 7.0 to evaluate limits for ammonia-nitrogen, $CBOD_5$, and DO. The modeling confirmed that technology based effluent limitations were appropriate for ammonia-nitrogen and $CBOD_5$ while a Best Professional Judgement Limitation is adequate for DO. WQM 7.0 Modeling Results are included in Attachment B.

Best Professional Judgment (BPJ) Limitations

A Dissolved Oxygen minimum limitation of 4.0 mg/L will be implemented based on the standard in 25 PA Code §93 and best professional judgement.

Permit Limits

Modeling confirmed that Technology Based and Best Professional Judgement Limitations are appropriate for this permit. The limits provided below will be imposed for this permit cycle.

Parameter	Limit (mg/l)	SBC	Model	Basis
Dissolved Oxygen	4.0	Instantaneous Minimum	WQM 7.0	TBEL
$CBOD_5$	24	Average Monthly	WQM 7.0	TBEL
Ammonia-Nitrogen	25	Average Monthly	WQM 7.0	TBEL
Total Suspended Solids	30	Average Monthly	N/A	TBEL

Additional Considerations

In accordance with Section I.A. of DEP's SOP for *Establishing Effluent Limitations for Individual Sewage Permits* [SOP No. BCW-PMT-033 Version 1.9], pursuant to EPA's approval of Pennsylvania's 2017 Triennial Review of Water Quality Standards and corresponding regulatory changes published in the Pennsylvania Bulletin on July 11, 2020 and under the authority of 25 Pa. Code § 93.7(a) and § 92.a.61, sewage dischargers will include monitoring for *E. coli*. For new and reissued permit, a monitoring frequency of 1/year will be imposed for design flows ≥ 0.002 MGD and < 0.05 MGD.

In accordance with Section I.A of the DEP's SOP for *Establishing Effluent Limitations for Individual Sewage Permits* [SOP No. BCW-PMT-033 Version 1.9], and under the authority of 25 Pa. Code § 92a.61(b), nutrient monitoring for total nitrogen and total phosphorus will be imposed for sewage facilities with a design flow greater than 2,000 GPD. The intent of this

monitoring is to establish the nutrient load of the wastewater and evaluate the impact that load may have on the quality of the receiving stream. During the last permit cycle, total nitrogen monitoring resulted in four samples ranging from 13.1 to 31.7 mg/L. Total phosphorus was also sampled four times with results ranging from 1.5 to 5.9 mg/L. The SOP states that if the receiving stream is not impaired for nutrients, then discretion may be used in setting the monitoring frequency. Sewickley Creek is not impaired for nitrogen or phosphorus; therefore, a monitoring frequency of 1/year will again be imposed.

Monitoring frequency for the proposed effluent limits are based on Table 6-3, Self -Monitoring Requirements for Sewage Dischargers, from DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001]. Please note that the monitoring frequency for DO, pH, and UV transmittance have been changed from 5/ week to 1/week to be in compliance with the guidance.

Conventional concentration and mass loading limits are rounded in accordance with the guidelines in Chapter 5 Section C.2. of DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001]. Please note that mass loading limits for $CBOD_5$ has changed to be consistent with the rounding guidance.

Ammonia-nitrogen mass loading limits were changed to be consistent with the guidelines in Chapter 5 Section C.2. of DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001], which requires that values be rounded down to the appropriate decimal place. The mass loading limit has been rounded to three significant figures.

Table 5.3 DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001] documents that for Publicly Owned Treatment Works (POTWs), conventional pollutants should receive average monthly, weekly average, and instantaneous maximum concentration limits. DEP's SOP for *Establishing Effluent Limitations for Individual Sewage Permits* [SOP No. BCW-PMT-033 Version 1.9] clarifies that weekly average limits are not necessary when sampling frequency is less than 1/week. Average monthly and instantaneous maximum concentration limits will again be imposed for $CBOD_5$ and TSS.

Previously, a daily maximum loading limits of 13.8 lb/day and 16.5 lb/day were imposed for $CBOD_5$ and TSS respectively while a reporting requirement was imposed for daily maximum ammonia-nitrogen. These requirements were added to the permit during the 2018 renewal, but no justification was documented to support them. DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001] Table 5-3 documents that daily maximum mass loading limits are only appropriate for toxic pollutants. In accordance with 40 CFR 122.44.1.2.i.B.2, an exception can be made to antibacksliding if "the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit." The Department asserts that the guidance document was previously misinterpreted. Because of this, the daily maximum loading limits and monitoring requirements for $CBOD_5$, TSS, and ammonia-nitrogen were removed from this permit.

Mass Loading Limits

Section IV.C of DEP's SOP for Establishing Effluent Limitations for Individual Sewage Permits [SOP No. BCW-PMT-033 Version 1.9] establishes mass loading limits for POTWs at the discretion of the application manager. Mass loading limitations are imposed for POTWs in accordance with the SOP cited above and Table 5.3 of DEP's *Technical Guidance for the Development and Specification of Effluent Limitations* [Doc. No. 362-0400-001]. For the purposes of permitting limits, mass loading limits for ammonia-nitrogen, $CBOD_5$, and TSS will continue to be imposed based on the following equation:

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

The following mass loading limits are being imposed:

Parameter	Average Monthly (lbs/day)
Ammonia-Nitrogen (mg/L)	9.17
$CBOD_5$ (mg/L)	9.0
TSS (mg/L)	11.0

Mass loading limits for total nitrogen and total phosphorus are not being imposed at this time because no concentration limits exist for either parameter.

Influent Monitoring

Section IV.F.2 of DEP's SOP for *New and Reissuance Sewage Individual NPDES Permit Applications* [SOP No. BCW-PMT-002 Version 2.0] establishes influent BOD_5 and TSS for POTWs. The intent of influent BOD_5 and TSS monitoring is to verify compliance with the secondary treatment requirement of 85% removal defined in 40 CFR §133.102. Influent BOD_5 and TSS daily maximum load reporting has been removed from this permit to be consistent with the removal of the same limits for effluent sampling.

Sewickley Creek TMDL

Section 303(d) of the Clean Water Act and the U.S. Environmental Protection Agency's Water Quality Planning and Management Regulation (codified at Title 40 of the Code of Federal Regulations Part 130) requires states to develop a TMDL for impaired water quality criteria for the pollutant. TMDLs also provide a scientific basis for States to establish water-quality based controls for reducing pollution to both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a).

Hutchinson STP discharges to Sewickley Creek, for which a TMDL was finalized on March 12, 2009. Sewickley Creek (Segment 37556) was listed in the state's 1996 Section 303(d) list because of metals impairments and 2002 Section 303(d) list because of pH impairments. Both impairments were due to AMD.

Hutchinson STP is a minor sewage facility and is not expected to contribute to the TMDL impairment. In accordance with 25 PA Code §92a.61, an annual monitoring requirement for iron, manganese, and aluminum will be imposed in order to verify that the sewage discharge is not contributing to stream impairment.

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, Hutchinson STP does not have any industrial users. During review of NPDES Permit No. PA0216089, 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, Hutchinson 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.

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	Daily Maximum	Daily Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
$CBOD_5$	9.2	XXX	XXX	25.0	XXX	50.0	2/month	Grab
BOD_5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
TSS	11.0	XXX	XXX	30.0	XXX	60.0	2/month	Grab
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Ammonia-Nitrogen	9.17	XXX	XXX	25.0	XXX	50.0	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Aluminum	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

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

Compliance Sampling Location: Outfall 001

Other Comments: None

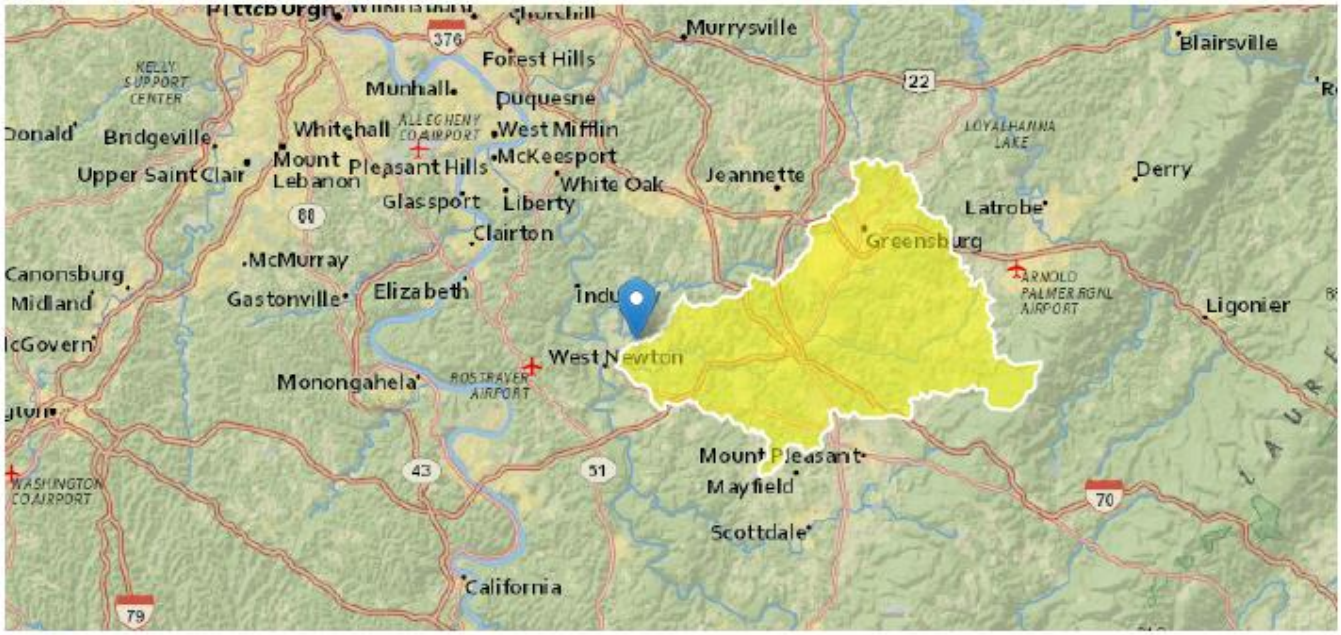
ATTACHMENT A

USGS Stream Stats Output Files

Discharge Point

StreamStats Report

Region ID: PA
Workspace ID: PA20241119165814527000
Clicked Point (Latitude, Longitude): 40.22482, -79.73874
Time: 2024-11-19 11:58:51 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	130	square miles
ELEV	Mean Basin Elevation	1143	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	130	square miles	2.26	1400
ELEV	Mean Basin Elevation	1143	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

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	6.9	ft^3/s	43	43
30 Day 2 Year Low Flow	10.6	ft^3/s	38	38
7 Day 10 Year Low Flow	3.24	ft^3/s	66	66
30 Day 10 Year Low Flow	4.78	ft^3/s	54	54
90 Day 10 Year Low Flow	7.64	ft^3/s	41	41

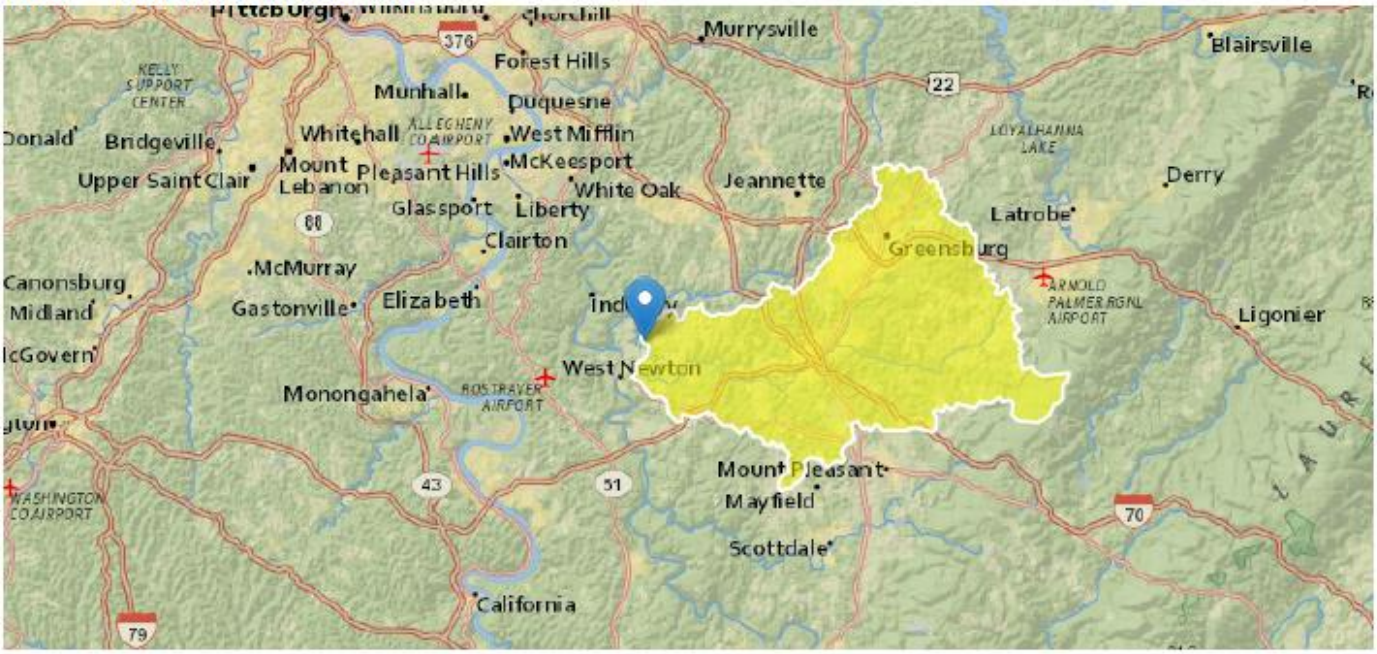
Low-Flow Statistics Citations

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/)

End of Reach

StreamStats Report

Region ID: PA
Workspace ID: PA20241119170736138000
Clicked Point (Latitude, Longitude): 40.23131, -79.74704
Time: 2024-11-19 12:08:02 -0500



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	133	square miles
ELEV	Mean Basin Elevation	1140	feet

ATTACHMENT B

WQM 7.0 Modeling Results

Summer Modeling

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
19D	37556	SEWICKLEY CREEK	5.420	800.00	130.00	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	0.025	0.00	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
Hutchinson STP	PA0253375	0.0000	0.0440	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

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
19D	37556	SEWICKLEY CREEK	4.420	780.00	133.00	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	0.025	0.00	0.00	0.000	0.000	10.0	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
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
19D	37556	SEWICKLEY CREEK

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												
5.420	3.24	0.00	3.24	.0681	0.00379	.695	34.58	49.72	0.14	0.445	24.90	7.00
Q1-10 Flow												
5.420	2.07	0.00	2.07	.0681	0.00379	NA	NA	NA	0.11	0.567	24.84	7.00
Q30-10 Flow												
5.420	4.40	0.00	4.40	.0681	0.00379	NA	NA	NA	0.16	0.375	24.92	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
19D	37556	SEWICKLEY 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
5.420	Hutchinson STP	11.22	50	11.22	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
5.420	Hutchinson 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)		
5.42	Hutchinson STP	25	25	25	25	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19D	37556	SEWICKLEY CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
5.420	0.044	24.897	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
34.579	0.695	49.719	0.137
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.47	0.225	0.51	1.020
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.156	5.556	Tsivoglou	5
Reach Travel Time (days)			
0.445			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.044	2.44	0.49	7.55
0.089	2.41	0.47	7.55
0.133	2.38	0.45	7.55
0.178	2.35	0.43	7.55
0.222	2.32	0.41	7.55
0.267	2.29	0.39	7.55
0.311	2.27	0.37	7.55
0.356	2.24	0.36	7.55
0.400	2.21	0.34	7.55
0.445	2.18	0.33	7.55

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19D	37556	SEWICKLEY CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
5.420	Hutchinson STP	PA0253375	0.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4