Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0070271**
Facility Type	**Municipal**	APS ID	**275435**
Major / Minor	**Minor**	Authorization ID	**1477580**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Maidencreek Township Authority Berks County**	Facility Name	**Maidencreek Township STP**
Applicant Address	1A Quarry Road	Facility Address	81 Willow Creek Road
	Blandon, PA 19510		Ontelaunee Twp, PA 19605
Applicant Contact	Patrick Donovan	Facility Contact	Russell Stoudt
Applicant Phone	(610) 926-4173	Facility Phone	(610) 621-0757
Client ID	87676	Site ID	445512
Ch 94 Load Status	Not Overloaded	Municipality	Maidencreek Township
Connection Status	No Limitations	County	Berks
Date Application Received	March 18, 2024	EPA Waived?	Yes
Date Application Accepted	March 28, 2024	If No, Reason	
Purpose of Application	NPDES Renewal Permit		

Summary of Review

System Design Engineers, Inc., on behalf of the Maidencreek Township Authority (Authority/Permittee), applied to the Pennsylvania Department of Environmental Protection (DEP) for issuance of the NPDES permit. The permit was reissued on September 20, 2019, and became effective on October 1, 2019. The permit expired on September 30, 2024, and the permit has been administratively extended since that time.

The facility is a minor sewage facility that serves 82.5% from Maidencreek Township and 17.5% from Ontelaunee Township. The facility's annual average design flow is 0.8 million gallons per day (MGD), and the hydraulic design capacity is 1.0 MGD. The organic design capacity is 1,834 lbs BOD_5/day. The facility has two outfalls (# 001 & # 002).

The Water Quality Management (WQM) Permit No. 0600404 was issued on 7/26/2000, and 0600404 amendment was issued on 8/22/2005. The WQM No. 0607402 was issued on 8/16/2007, 0607402 A-1 amendment was issued on 7/16/2014, and 0607402 A-2 amendment was issued on 5/23/2016.

Sludge use and disposal description and location(s): N/A because sludge is hauled by Rinehart's Sanitation Services, Inc.

DRBC Docket No. D-2000-028 CP-4 will expire on September 30, 2029, *see copy in this fact sheet pages 27-32*.

Changes from the previous permit:

Outfall # 001:
- The E. Coli monitoring and report requirements will add to the proposed permit.
- Total Zinc monitoring and report requirements is added in the proposed permit.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and publish in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
X		*Hilaryle* Hilary H. Le / Environmental Engineering Specialist	January 24, 2025
X		*Maria D. Bebenek for* Daniel W. Martin, P.E. / Environmental Engineer Manager	January 27, 2025

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.8
Latitude	40º 25' 46.00"	Longitude	-75º 55' 15.00"
Quad Name	Temple	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Willow Creek (CWF)	Stream Code	01986
NHD Com ID	133228672	RMI	1.21
Drainage Area	20.8 mi.^{2}	Yield (cfs/mi^2)	See comments below
Q_{7-10} Flow (cfs)	See comments below	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	280	Slope (ft/ft)	
Watershed No.	3-B	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients, Pathogens		
Source(s) of Impairment	Industrial Point Source Discharge, Source Unknown		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake	Pottstown Borough Authority, Montgomery County		
PWS Waters	Schuylkill River	Flow at Intake (cfs)	
PWS RMI	Approximate 57 miles	Distance from Outfall (mi)	Approximate 31.4 miles

Changes Since Last Permit Issuance:

Drainage Area
The discharge is to Willow Creek at RMI 1.21 miles. A drainage area upstream of the point of discharge is estimated to be 20.8 sq.mi., according to USGS StreamStats available at https://streamstats.usgs.gov/ss/.

Streamflow
USGS StreamStats produced a 12.0 cfs Q_{7-10} at the point of discharge. However, the estimated drainage area used in regression equations to calculate this Q_{7-10} is lower than the minimum required value to accurately calculate the Q_{7-10}. As a result, USGS gage station No. 01470756 on Maiden Creek at Virginville, PA is used to calculate the Q_{7-10} as follows:

$$\text{Low Flow Yield} = Q_{7-10gage} / \text{Drainage Area}_{gage} = 16.3 \text{ cfs} / 158 \text{ sq.mi} = 0.103 \text{ cfs/sq.mi.}$$
$$Q_{7-10site} = \text{Low Flow Yield} * \text{Drainage Area}_{site} = 0.103 \text{ cfs/sq.mi} * 20.8 \text{ sq.mi} = 2.08 \text{ cfs}$$
$$Q_{30-10} = 1.36 * 2.08 \text{ cfs} \approx 2.83 \text{ cfs}$$
$$Q_{1-10} = 0.64 * 2.08 \text{ cfs} \approx 1.33 \text{ cfs}$$

Willow Creek
Under 25 Pa Code §93.9f, the Willow Creek basin from Source to a point upstream of T 708 Bridge at 40°25'39.2"N; 75°55'26.3"W is designated as Cold Water and Migratory Fishes. The designated use of Willow Creek changes downstream of the discharge to High-Quality Cold- Water Fishes (HQ-CWF) and is also classified as a designated Class A Wild Trout stream at this point.

Willow Creek in the vicinity of the facility is impaired due to flow alterations, nutrients, and pathogens. Additionally, Willow Creek is also impaired by agriculture and municipal and industrial discharges. Therefore, a limit for phosphorus was applied to the discharge in accordance with 25 Pa. Code § 96.5(c). There is currently no total maximum daily load (TMDL) for Willow Creek; however, a TMDL is scheduled to be completed in the future on a date that is to be determined.

Public Water Supply Intake

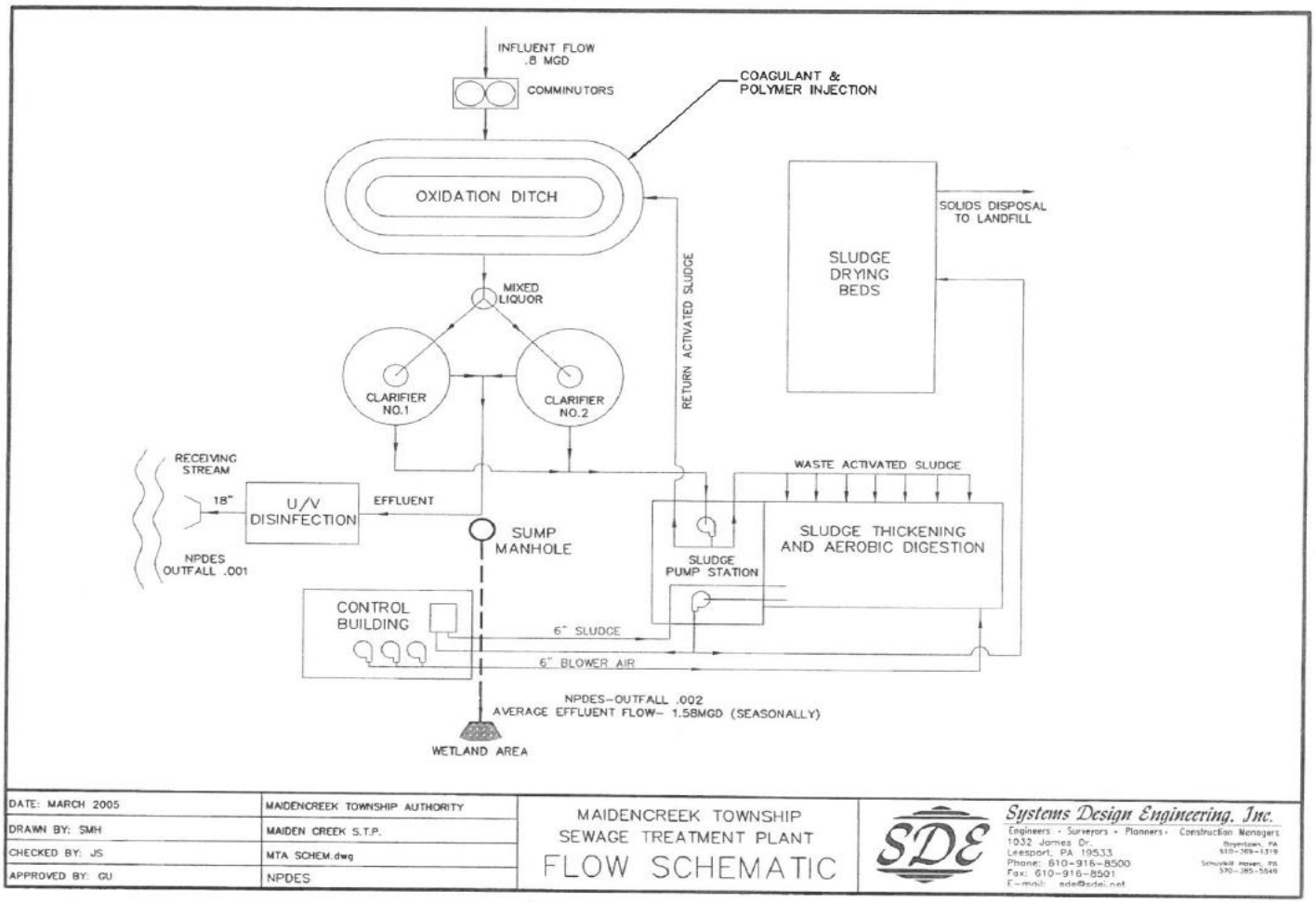
The nearest downstream water supply intake is Pottstown Borough Authority, Montgomery County located on Schuylkill River approximately 31.4 miles downstream of this discharge. Given its distance, the discharge is not expected to affect the water supply.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0
Latitude	40º 25' 46.00"	Longitude	-75º 55' 15.00"
Quad Name	Temple	Quad Code	
Wastewater Description:	Pumped groundwater from treatment unit area		
Receiving Waters	Willow Creek (CWF)	Stream Code	01986
NHD Com ID	133228672	RMI	1.15
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3-B	Chapter 93 Class.	CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Flow Regime Modification, Nutrients, Pathogens		
Source(s) of Impairment	Industrial Point Source Discharge, Source Unknown		
TMDL Status	Name		
Nearest Downstream Public Water Supply Intake			
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Changes Since Last Permit Issuance:

Other Comments: Outfall 002 discharges to a wetland area. Per the flow schematic provided in the application (*see picture below*). The application indicates that, “Outfall 002 is used when groundwater levels at the plant rise.”



Treatment Facility Summary

Treatment Facility Name: Maidencreek Township STP

WQM Permit No.	Issuance Date
0607402 A-2	5/23/2016
0607402 A-1	7/16/2014
0607402	8/16/2007
0600404 A-1	8/22/2005
0600404	7/26/2000

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Oxidation Ditch	Ultraviolet	0.8

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
1	1,834	Not Overloaded	Aerobic Digestion	Land Application

Other Comments:
The WWTP train after construction will be as follows:

1.) fine screen; 2.) oxidation ditch; 3.) two 45-ft diameter final clarifiers; 4.) ultraviolet (UV) disinfection; 5.) sludge pump station; 6.) aerobic digester/holding tanks; and 7.) sludge thickening.

Chemical used:
The system incorporates chemical addition in the form of aluminum sulfate (for phosphorus removal).

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

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

Compliance History	
Summary of DMRs:	DMRs reported last 12 months are summarized in the next page.
Summary of Inspections:	7/10/2023: Mr. Buss, DEP WQS, conducted an incident inspection. There were violations noted during inspection. DEP's recommendations: 1. Please submit a 5-day report summarizing the incident. 2. Discuss process changes such as installation of UV units or chlorine disinfection systems with DEP permitting staff. 3. Provide updates to DEP as site conditions change.
Other Comments:	There are no open violations associated with the permittee or the facility.

Other Comments:

Compliance History

DMR Data for Outfall 001 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
Flow (MGD) Average Monthly	0.414	0.355	0.399	0.467	0.432	0.417	0.489	0.763	0.795	0.523	0.971	0.920
Flow (MGD) Daily Maximum	0.648	0.415	0.621	0.841	0.681	0.688	0.632	1.889	1.547	0.692	1.913	1.811
pH (S.U.) Instantaneous Minimum	7.0	6.9	6.9	6.9	7.0	7.0	7.0	6.8	7.1	6.7	6.8	6.5
pH (S.U.) Instantaneous Maximum	7.3	7.4	7.3	7.5	7.6	7.4	7.3	7.3	7.5	7.4	7.2	7.1
DO (mg/L) Instantaneous Minimum	6.4	6.1	6.1	6.1	6.3	6.2	6.2	6.6	6.5	7.0	6.6	7.1
CBOD5 (lbs/day) Average Monthly	7.89	6	6	9	7	7	11	30.86	31.06	15.41	33.72	42.20
CBOD5 (lbs/day) Weekly Average	10.43	6	8	18	8	12	18	77.20	42.43	30.60	45.89	53.64
CBOD5 (mg/L) Average Monthly	2.0	< 2.0	2.1	< 2.0	< 2.0	< 2.0	3.0	3.0	5.0	4.0	4.0	4.0
CBOD5 (mg/L) Weekly Average	2.0	< 2.0	2.3	4.0	< 2.0	< 2.0	5.0	5.0	6.0	4.0	6.0	4.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	2005	429	636	654	801	827	597	1227	905	870	1041	1067
BOD5 (mg/L) Raw Sewage Influent Average Monthly	566.3	150.0	202.75	193.5	220.40	237.25	151.76	131.5	134.3	192.5	145.0	137.5
TSS (lbs/day) Average Monthly	10	10	9	21	12	9	10	51	34	17	55	54
TSS (lbs/day) Raw Sewage Influent Average Monthly	1350	216	828	452	577	636	329	856	556	534	693	816
TSS (lbs/day) Weekly Average	22	14	13	45	23	15	32	173	39	33	101	77
TSS (mg/L) Average Monthly	3.0	4.0	3.0	6.0	3.0	3.0	3.0	4.0	5.0	4.0	6.0	5.0

TSS (mg/L) Raw Sewage Influent Average Monthly	360.5	75.8	262.8	138.0	160.0	181.5	84.2	113.0	82.3	122.0	92.0	98.5
TSS (mg/L) Weekly Average	5.0	5.0	4.0	9.0	6.0	5.0	8.0	11.0	6.0	7.0	9.0	8.0
Total Dissolved Solids (mg/L) Average Monthly	472.0	470.0	480.0	478.0	474.0	465.0	477.0	398.0	378.0	456.0	398.0	376.0
Total Dissolved Solids (mg/L) Instantaneous Maximum	516.0	478.0	506.0	496.0	516.0	492.0	505.0	419.0	399.0	496.0	439.0	490.0
Fecal Coliform (No./100 ml) Geometric Mean	3	3	23	24	30	7	5	5.0	4	4	4	24
Fecal Coliform (No./100 ml) Instantaneous Maximum	11	7	74	44	58	11	16	60.0	10	8	11	2900
UV Intensity (mW/cm²) Instantaneous Minimum	5.7	5.7	5.7	6.6	9.9	9.9	10.1	10.3	10.6	10.8	11.1	11.4
UV Intensity (mW/cm²) Average Monthly	5.7	5.7	6.0	9.3	9.9	10.0	10.2	10.4	10.7	11.0	11.2	11.5
Ammonia (lbs/day) Average Monthly	0.3	0.2	0.2	1.5	0.2	0.2	0.2	6.8	4.1	1.0	8.3	17.6
Ammonia (mg/L) Average Monthly	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.5	0.6	0.3	0.8	1.5
Total Phosphorus (lbs/day) Average Monthly	2.8	0.2	0.5	2.2	2.5	0.5	0.6	1.0	8.6	3.1	2.2	3.4
Total Phosphorus (mg/L) Average Monthly	0.7	0.1	0.155	0.608	0.676	0.125	0.136	0.2	1.3	0.9	0.3	0.3
Total Phosphorus (mg/L) Instantaneous Maximum	2.2	0.1	0.260	0.930	1.980	0.230	0.210	0.2	4.6	3.0	0.5	1.4
Total Copper (lbs/day) Average Monthly	0.019	0.010	0.009	0.012	0.011	0.013	0.009	0.020	0.023	0.013	0.029	0.039
Total Copper (mg/L) Average Monthly	0.005	0.003	0.003	0.003	0.003	0.004	0.002	0.002	0.004	0.003	0.004	0.004

DMR Data for Outfall 002 (from December 1, 2023 to November 30, 2024)

Parameter	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24	JAN-24	DEC-23
Flow (MGD) Average Monthly	0.0004	0.002	0.011	0.103	0.050	0.075	0.386	0.736	0.806	0.864	0.720	0.351
Flow (MGD) Daily Maximum	0.007	0.036	0.072	0.724	0.277	0.871	0.626	0.886	0.875	0.918	0.896	0.857
pH (S.U.) Instantaneous Minimum	7.2	7.1	7.1	7.0	7.0	7.0	7.0	6.9	7.1	6.9	7.0	6.9
pH (S.U.) Instantaneous Maximum	7.2	7.3	7.3	7.3	7.2	7.3	7.3	7.4	7.7	7.7	7.2	7.1
TSS (lbs/day) Average Monthly	0.003	0.03	0.09	3.4	2.1	1	3.2	6.1	6.7	7	6.0	2.9
TSS (lbs/day) Weekly Average	0.06	0.6	1	24.2	11.55	15	5	7.4	7	8	7.0	7
TSS (mg/L) Average Monthly	1.0	2.0	1.0	4.0	5.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
TSS (mg/L) Weekly Average	1.0	2.0	1.0	4.0	5.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
Fecal Coliform (No./100 ml) Daily Maximum	16	48	16	31	44	13	2	7.0	2	2	118	2
Total Nitrogen (lbs/day) Daily Maximum	0.38	1.93	4	37.7	19.52	49	36	50.0	49	53	50	47
Total Nitrogen (mg/L) Daily Maximum	6.49	6.42	6.27	6.25	8.45	6.71	6.85	6.76	6.76	6.91	6.63	6.60
Ammonia (lbs/day) Daily Maximum	0.001	0.01	0.01	0.12	0.05	0.15	0.1	0.1	0.1	0.2	0.15	0.1
Ammonia (mg/L) Daily Maximum	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Existing Effluent Limitations and Monitoring Requirements

Outfall 001,

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
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	6.0	XXX	XXX	XXX	1/day	Grab
Ultraviolet Light Transmittance (%)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured
$CBOD_5$ Oct 1 - Apr 30	93	133	XXX	14.0	20.0	28.0	1/week	24-Hr Composite
$CBOD_5$ May 1 - Sep 30	47	67	XXX	7.0	10.0	14.0	1/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	67	100	XXX	10.0	15.0	20.0	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	1,000	XXX	2,000	1/week	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	,2000 Geo Mean	XXX	10,000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
Ammonia Nov 1 - Apr 30	30	XXX	XXX	4.5	XXX	9.0	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	10	XXX	XXX	1.5	XXX	3.0	1/week	24-Hr Composite
Total Phosphorus	13.3	XXX	XXX	2.0	XXX	4.0	1/week	24-Hr Composite
Total Copper	0.14	XXX	XXX	0.021	XXX	0.042	1/week	24-Hr Composite

Outfall 002,

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Instant. 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
TSS	Report	Report	XXX	10.0	15.0	20.0	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	2/month	Grab
Total Nitrogen	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/month	Grab
Ammonia	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/month	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.8
Latitude 40º 25' 46.00" **Longitude** -75º 55' 15.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

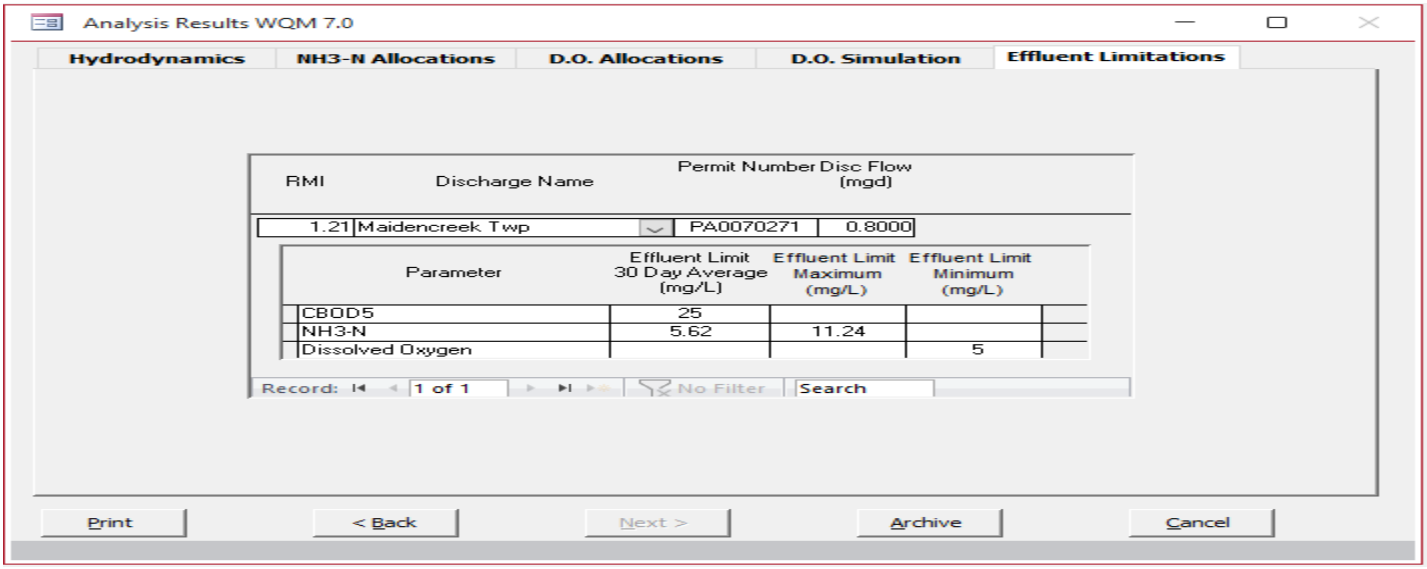
Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.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

Comments: The TRC is not applied because the facility uses UV disinfection.

Water Quality-Based Limitations

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

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



Regarding NH_3-N limits, the attached computer printout of the WQM 7.0 stream model (version 1.1) indicates that a limit of 5.62 mg/L as a monthly average and 11.24 mg/L instantaneous maximum (IMAX) are necessary to protect the aquatic life from toxicity effects at the point of discharge. Therefore, the existing summer limits of 1.5 mg/L monthly average & 3.0 mg/L IMAX are more stringent 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 0.8 MGD x 8.34 = 10.0 lbs/day
Winter average monthly mass limit: 4.5 mg/L x 0.8 MGD x 8.34 = 30.0 lbs/day

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The attached computer printout of the WQM 7.0 stream model (ver. 1.1) indicates that a monthly average limit of 25.0 mg/L, or secondary treatment, is adequate to protect the water quality of the stream. Therefore, the existing summer limits of 7.0 mg/L monthly average (AML), 10.0 mg/L average weekly limit (AWL), and 14.0 mg/L instantaneous maximum (IMAX) are more stringent and will remain in the amendment permit. Mass limits are calculated as follows:

Average monthly mass limit: 7.0 mg/L x 0.8 MGD x 8.34 = 46.7 (47.0) lbs/day
Average weekly mass limit: 10.0 mg/L x 0.8 MGD x 8.34 = 66.7 (67.0) lbs/day

The existing winter limits of 14.0 mg/L monthly average (AML), 20.0 mg/L average weekly limit (AWL), and 28.0 mg/L instantaneous maximum are more stringent and will remain in the amendment permit. Mass limits are calculated as follows:

Average monthly mass limit: 14.0 mg/L x 0.8 MGD x 8.34 = 493.4 (93.0) lbs/day
Average weekly mass limit: 20.0 mg/L x 0.8 MGD x 8.34 = 133.4 (133.0) lbs/day

Dissolved Oxygen (D.O.):
The limit D.O. of 6.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

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 1,000/100 ml and 25 Pa Code § 92a.47.(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean and an instantaneous maximum not greater than 10,000/100 ml.

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.

Total Suspended Solids (TSS):
The existing technology-based limits of 10.0 mg/L average monthly, 15.0 mg/L average weekly, and 20.0 mg/L instantaneous maximum will remain in the amendment permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Mass limits are calculated as follows:

Average monthly mass limit: 10.0 mg/L x 0.8 MGD x 8.34 = 66.7 (67.0) lbs/day
Average weekly mass limit: 15.0 mg/L x 0.8 MGD x 8.34 = 100.08 (10.0) lbs/day

UV:
The UV system daily monitor and report the UV light intensity (mW/cm^2) will remain in the proposed permit.

Influent BOD_5 and TSS Monitoring:
The amendment permit will continue influent BOD_5 and TSS weekly monitoring at the same frequency as is done for effluent in order to implement Chapter 94.12 and assess percent removal requirements, per DEP policy.

Total Dissolved Solids (TDS):
Additionally, DRBC's regulations, 18 CFR Part 410 Section 3.10.4D.2., state: "*Total dissolved solids shall not exceed 1,000 mg/L, or a concentration established by the Commission which is compatible with designated water uses and stream quality objectives, and recognizes the need for reserve capacity to serve future dischargers*."

Therefore, the existing TDS limit 1,000 mg/L average monthly & 2,000 mg/L IMAX will remain in the proposed permit.

Toxic:

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	0.16	0.25	0.024	0.038	0.06	mg/L	0.024	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.21	AFC	Discharge Conc > 10% WQBEL (no RP)

- Monitoring is recommended for Total Copper, the limits of 0.024 mg/L average monthly, 0.038 mg/L maximum daily, and 0.06 mg/L IMAX; and 0.16 lbs/day AML & 0.25 lbs/day MDL. Therefore, the existing permit limits of 0.021 mg/L average monthly, & 0.042 mg/L IMAX; and 0.14 lbs/day AML are more stringent and will remain in the proposed permit.

- Total Zinc monitoring and report concentration & mass of average monthly requirements will be added in the proposed permit. During the next permit renewal cycle, the need for Zinc monitoring in the permit will be re-evaluated.

Total Phosphorus:

Technology-based phosphorus limits of 2.0 mg/L average monthly and 4.0 mg/L instantaneous maximum were applied by the original 1998 protection report. The limits will remain in the proposed permit. Recent DMR data and inspection reports indicate consistent achievement.

Average monthly mass limit: 2.0 mg/L x 0.800 MGD x 8.34 = 13.3 lbs/day

Additional Considerations

Flow Monitoring

Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

Antidegradation

The proposed limits will protect the designated and existing uses of the receiving water consistent with the State's Antidegradation regulations and policy. No Exceptional Value or High-Quality water will be impacted.

Anti-Backsliding

The limits in the current permit have been compared to WQBELs and TBELs. In all cases, the current NPDES permit is more stringent than the TBELs or the developed WQBELs. Therefore, due to anti-backsliding requirements, these effluent limitations will remain in the draft permit.

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0
Latitude 40º 25' 46.00" **Longitude** -75º 55' 15.00"
Wastewater Description: Pumped groundwater from treatment unit area

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
Total Suspended Solids	10	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	15	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	Report Daily Max	Geo Mean	-	92a.47(a)(4)

Outfall 002 consists of pumped groundwater from the treatment unit area. Therefore, individual sewage TBELs are not applicable to this discharge.

Water Quality-Based Limitations

Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

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

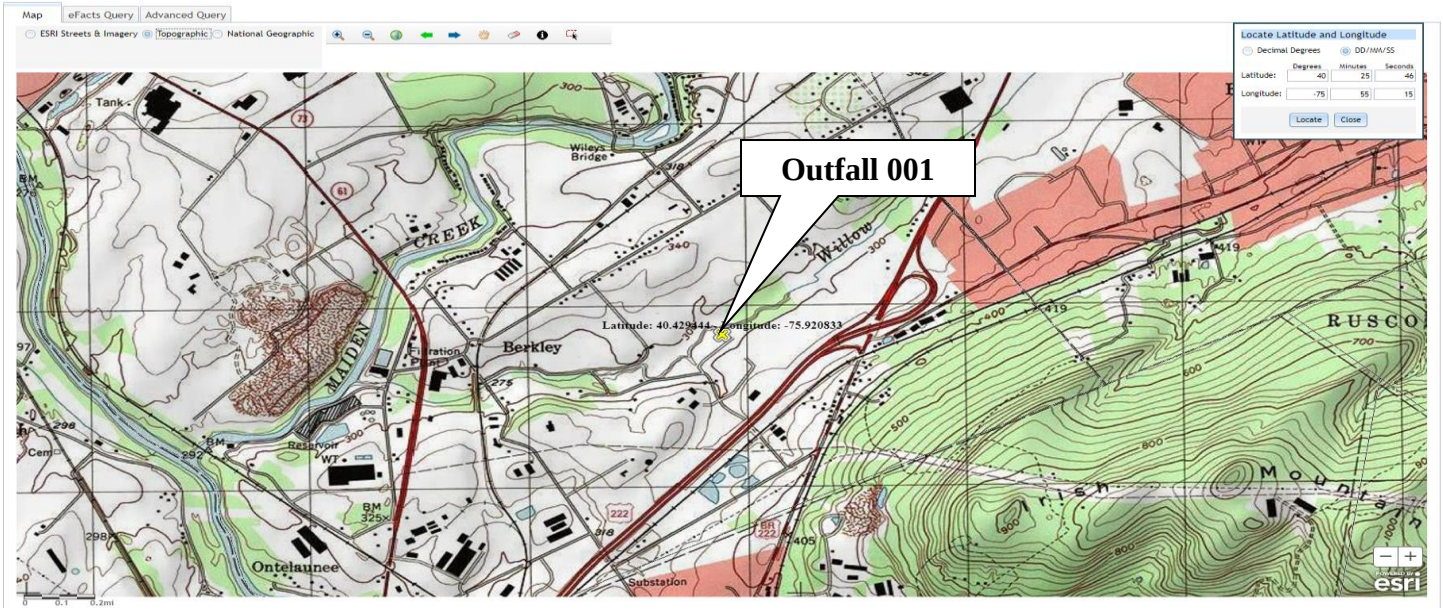
The monitoring frequency for Total Suspended Solids (TSS) limits of 10.0 mg/L AML, 15.0 mg/L AWL, & 20.0 mg/L IMAX will remain the same in the proposed permit as in the current permit (i.e., monthly).

Fecal Coliform monitoring and report Daily Max 2/month will remain in the proposed permit.

The existing Total Nitrogen and Ammonia-Nitrogen monitoring and report concentration & mass Daily Max requirements will remain in the proposed permit with the same monitoring frequency (i.e., monthly).

Anti-Backsliding

There is no recommendation of a reduction in parameters or parameter limits; therefore, all current parameters and limits will remain in the draft permit.



WQM 7.0:

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

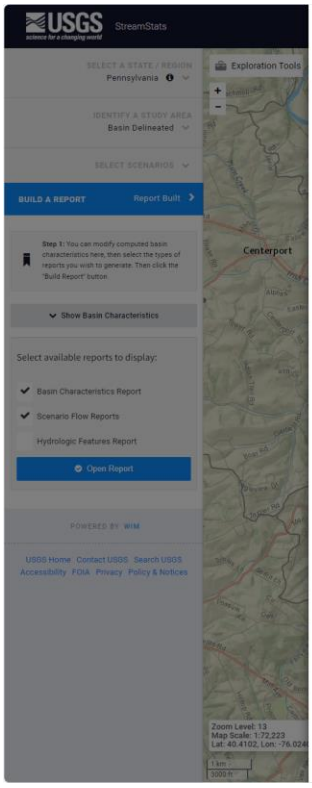
*	Discharge pH	=	7.0	(Default)
*	Discharge Temperature	=	25°C	(Default)
*	Stream pH	=	7.0	(Default)
*	Stream Temperature	=	20°C	(Default)
*	Background NH_3-N	=	0 mg/L	(Default)

Node 1: Outfall 001 Willow Creek (1986)

Elevation:	280.0 ft (USGS National Map Viewer)
Drainage Area:	20.8 mi^2 (USGS PA StreamStats)
River Mile Index:	1.21 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.8 MGD

Node 2: At confluence with Maiden Creek 1985

Elevation:	250.0 ft (USGS National Map Viewer)
Drainage Area:	21.7 mi^2 (USGS PA StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.0 MGD



Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.3102	degrees	1.7	6.4
DRNAREA	Drainage Area	20.8	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.2	feet	4.13	5.21
URBAN	Percent Urban	7.4817	percent	0	89

Low-Flow Statistics Parameters [99.0 Percent (20.7 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	62.75	percent	0	99
DRNAREA	Drainage Area	20.8	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	46	inches	35	50.4
ROCKDEP	Depth to Rock	5.2	feet	3.32	5.65
STRDEN	Stream Density	0.93	miles per square mile	0.51	3.1

Low-Flow Statistics Flow Report [1.0 Percent (0.124 square miles) Low Flow Region 1]

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	6.4	ft^3/s	46	46
30 Day 2 Year Low Flow	7.93	ft^3/s	38	38
7 Day 10 Year Low Flow	3.37	ft^3/s	51	51
30 Day 10 Year Low Flow	4.2	ft^3/s	46	46
90 Day 10 Year Low Flow	6.21	ft^3/s	41	41

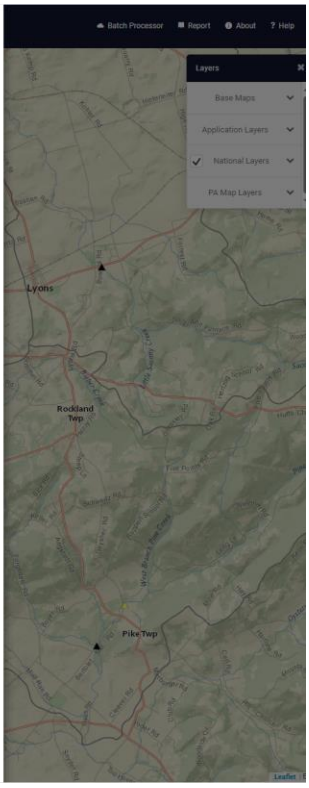
Low-Flow Statistics Flow Report [99.0 Percent (20.7 square miles) Low Flow Region 2]

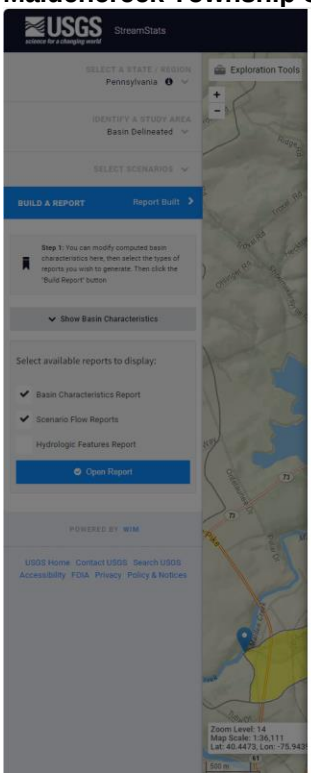
PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	16.8	ft^3/s	38	38
30 Day 2 Year Low Flow	17.9	ft^3/s	33	33
7 Day 10 Year Low Flow	12.2	ft^3/s	51	51
30 Day 10 Year Low Flow	12.8	ft^3/s	46	46
90 Day 10 Year Low Flow	13.6	ft^3/s	36	36

Low-Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
7 Day 2 Year Low Flow	16.7	ft^3/s
30 Day 2 Year Low Flow	17.8	ft^3/s
7 Day 10 Year Low Flow	12.1	ft^3/s
30 Day 10 Year Low Flow	12.7	ft^3/s
90 Day 10 Year Low Flow	13.5	ft^3/s





Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.3112	degrees
CARBON	Percentage of area of carbonate rock	63.96	percent
DRNAREA	Area that drains to a point on a stream	21.7	square miles
PRECIP	Mean Annual Precipitation	46	inches
ROCKDEP	Depth to rock	5.2	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	0.95	miles per square mile
URBAN	Percentage of basin with urban development	7.3916	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [1.0 Percent (0.124 square miles) Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
BSLOPD	Mean Basin Slope degrees	4.3112	degrees	1.7	6.4
DRNAREA	Drainage Area	21.7	square miles	4.78	1150
ROCKDEP	Depth to Rock	5.2	feet	4.13	5.21
URBAN	Percent Urban	7.3916	percent	0	89

Low-Flow Statistics Parameters [99.0 Percent (21.6 square miles) Low Flow Region 2]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CARBON	Percent Carbonate	63.96	percent	0	99
DRNAREA	Drainage Area	21.7	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	46	inches	35	50.4
ROCKDEP	Depth to Rock	5.2	feet	3.32	5.65
STRDEN	Stream Density	0.95	miles per square mile	0.51	3.1

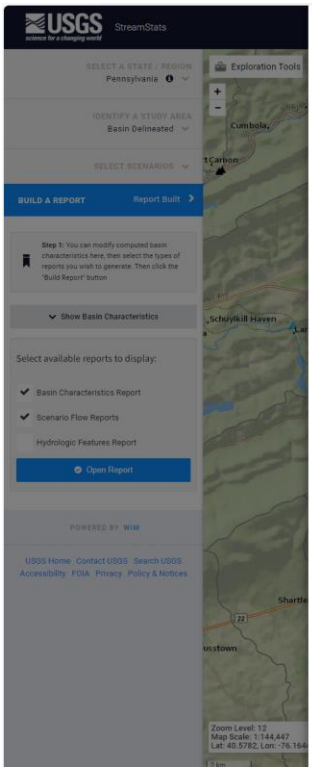
Low-Flow Statistics Flow Report [1.0 Percent (0.124 square miles) Low Flow Region 1]

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	6.67	ft^3/s	46	46
30 Day 2 Year Low Flow	8.26	ft^3/s	38	38
7 Day 10 Year Low Flow	3.52	ft^3/s	51	51
30 Day 10 Year Low Flow	4.39	ft^3/s	46	46
90 Day 10 Year Low Flow	6.47	ft^3/s	41	41

Low-Flow Statistics Flow Report [99.0 Percent (21.6 square miles) Low Flow Region 2]

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



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	10.94	percent
DRNAREA	Area that drains to a point on a stream	158	square miles
PRECIP	Mean Annual Precipitation	47	inches
ROCKDEP	Depth to rock	3.8	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	1.52	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
CARBON	Percent Carbonate	10.94	percent	0	99
DRNAREA	Drainage Area	158	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	47	inches	35	50.4
ROCKDEP	Depth to Rock	3.8	feet	3.32	5.65
STRDEN	Stream Density	1.52	miles per square mile	0.51	3.1

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, 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	35	ft^3/s	38	38
30 Day 2 Year Low Flow	46.2	ft^3/s	33	33
7 Day 10 Year Low Flow	16.3	ft^3/s	51	51
30 Day 10 Year Low Flow	22.2	ft^3/s	46	46
90 Day 10 Year Low Flow	32.7	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)
1.21	Maidencreek Twp	PA0070271	0.8000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	25		
NH3-N	5.62	11.24	
Dissolved Oxygen			5

Record: 1 of 1 | No Filter | Search

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rptEffLimits

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
03D	1986	WILLOW 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)
1.210	Maidencree Twp	PA0070271	0.800	CBOD5	25		
				NH3-N	5.62	11.24	
				Dissolved Oxygen			5

Thursday, January 23, 2025 Version 1.1 Page 1 of 1

Page: 1 | No Filter

rpt_WLA

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
03D	1986	WILLOW 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
1.210	Maidencree Twp	13.73	28.49	13.73	28.49	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
1.210	Maidencree Twp	1.71	5.62	1.71	5.62	1	0

Dissolved Oxygen Allocations

RMI	Discharge Name	CBOD5 Baseline (mg/L)	CBOD5 Multiple (mg/L)	NH3-N Baseline (mg/L)	NH3-N Multiple (mg/L)	Dissolved Oxygen Baseline (mg/L)	Dissolved Oxygen Multiple (mg/L)	Critical Reach	Percent Reduction
1.21	Maidencree Twp	25	25	5.62	5.62	5	5	0	0

Thursday, January 23, 2025 Version 1.1 Page 1 of 1

Page: 1 | No Filter

rptDOSim

WQM 7.0 D.O. Simulation

SWP Basin	Stream Code	Stream Name
03B	1986	WILLOW CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
1.210	0.600	21.665	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach W/D Ratio**	**Reach Velocity (fps)**
25.490	0.630	41.081	0.210
Reach CBOD5 (mg/L)	**Reach Kr (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
10.56	1.270	2.10	0.808
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.035	8.794	Tsivoglou	5
Reach Travel Time (days)			
0.352			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.035	10.08	2.01	6.70
0.070	9.60	1.96	6.50
0.106	9.14	1.93	6.39
0.141	8.71	1.87	6.35
0.176	8.29	1.82	6.35
0.211	7.90	1.77	6.38
0.246	7.52	1.72	6.44
0.282	7.16	1.67	6.50
0.317	6.82	1.62	6.57
0.352	6.50	1.58	6.65

Thursday, January 23, 2025 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	☑
W.L.A. Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

Thursday, January 23, 2025 Version 1.1 Page 1 of 1

Page: 1 No Filter

rptHydro

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
03B	1986	WILLOW CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Dis. 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												
1.210	2.08	0.00	2.08	1.2376	0.00470	.62	25.49	41.08	0.21	0.352	21.67	7.00
Q1-10 Flow												
1.210	1.33	0.00	1.33	1.2376	0.00470	NA	NA	NA	0.18	0.406	22.41	7.00
Q30-10 Flow												
1.210	2.83	0.00	2.83	1.2376	0.00470	NA	NA	NA	0.24	0.294	21.52	7.00

Thursday, January 23, 2025 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
03B	1986	WILLOW CREEK	1.210	280.00	20.60	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	W/D Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

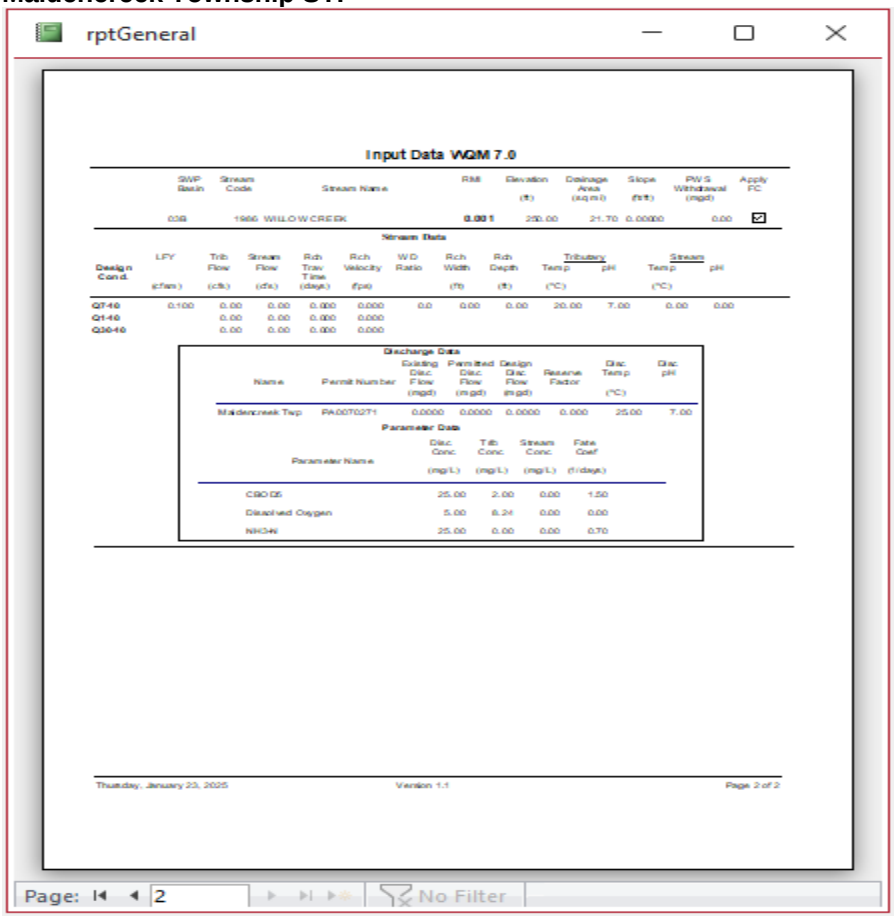
Name	Permit Number	Existing Disc. Flow (mgd)	Permitted Disc. Flow (mgd)	Design Disc. Flow (mgd)	Reserve Factor	Disc. Temp (°C)	Disc. pH
Maidencreek Twp	PA0070271	0.6000	0.6000	0.6000	0.000	25.00	7.00

Parameter Data

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

Thursday, January 23, 2025 Version 1.1 Page 1 of 2

Page: 1 No Filter



Toxic (TMS)

- Discharge pH = 7.8 (2024 NPDES renew application)
- Hardness = 100 (Default)
- Stream pH = 7.0 (Default)
- Hardness Stream = 100 (Default)

Node 1: Outfall 001 Willow Creek (1986)

Elevation:	280.0 ft (USGS National Map Viewer)
Drainage Area:	20.8 mi^2 (USGS PA StreamStats)
River Mile Index:	1.21 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.8 MGD

Node 2: At confluence with Maiden Creek 1985

Elevation:	250.0 ft (USGS National Map Viewer)
Drainage Area:	21.7 mi^2 (USGS PA StreamStats)
River Mile Index:	0.001 (PA DEP eMapPA)
Low Flow Yield:	0.1 cfs/mi^2
Discharge Flow:	0.0 MGD

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Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions | Discharge | Stream

Facility: **Maidencreek Township Authority** NPDES Permit No.: **PA0070271** Outfall No.: **001**

Evaluation Type: **Custom / Additives** Wastewater Description: **Willow 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
0.8	100	7.8						

				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	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Total Dissolved Solids (PWS)	mg/L		906									
Chloride (PWS)	mg/L		115									
Bromide	mg/L		0.2									
Sulfate (PWS)	mg/L		29.5									
Total Copper	mg/L		0.021									
Total Lead	mg/L	<	0.001									
Total Zinc	mg/L		0.032									

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Toxics Management Spreadsheet
Version 1.4, May 2023

Stream / Surface Water Information

Maidencreek Township Authority, NPDES Permit No. PA0070271, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Willow Creek**

No. Reaches to Model: 1

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

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001986	1.21	280	20.8			Yes
End of Reach 1	001986	0.001	250	21.7			Yes

Q_{7-10}

Location	RMI	LFY (cfs/mi^2)*	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	1.21	0.1										100	7		
End of Reach 1	0.001	0.1										100	7		

Q_h

Location	RMI	LFY (cfs/mi^2)	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	1.21														
End of Reach 1	0.001														

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Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

Maidencreek Township Authority, NPDES Permit No. PA0070271, Outfall 001

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 10.447 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.16

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	13.439	14.0	37.5	Chem Translator of 0.96 applied
Total Lead	0	0		0	64.581	81.6	219	Chem Translator of 0.791 applied
Total Zinc	0	0		0	117.180	120	321	Chem Translator of 0.978 applied

☑ ***CFC*** CCT (min): 10.447 PMF: 1 Analysis Hardness (mg/l): 100 Analysis pH: 7.16

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	8.956	9.33	25.0	Chem Translator of 0.96 applied
Total Lead	0	0		0	2.517	3.18	8.53	Chem Translator of 0.791 applied
Total Zinc	0	0		0	118.139	120	321	Chem Translator of 0.986 applied

☑ ***THH*** CCT (min): 10.447 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): 8.179 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

Pollutants	*Mass Limits* AML (lbs/day)	*Mass Limits* MDL (lbs/day)	*Concentration Limits* AML	*Concentration Limits* MDL	*Concentration Limits* IMAX	*Concentration Limits* Units	Governing WQBEL	WQBEL Basis	Comments
Total Copper	0.16	0.25	0.024	0.038	0.06	mg/L	0.024	AFC	Discharge Conc ≥ 50% WQBEL (RP)
Total Zinc	Report	Report	Report	Report	Report	mg/L	0.21	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

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	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	6.0	XXX	XXX	XXX	1/day	Grab
$CBOD_5$ Oct 1 - Apr 30	93.0	133.0	XXX	14.0	20.0	28.0	1/week	24-Hr Composite
$CBOD_5$ May 1 - Sep 30	47.0	67.0	XXX	7.0	10.0	14.0	1/week	24-Hr Composite
BOD_5 Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
TSS	67.0	100.0	XXX	10.0	15.0	20.0	1/week	24-Hr Composite
TSS Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	1,000 Avg Mo	XXX	XXX	2,000	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
UV Intensity (mW/cm^2)	XXX	XXX	Report	Report	XXX	XXX	1/day	Measured
Ammonia Nov 1 - Apr 30	30.0	XXX	XXX	4.5	XXX	9.0	1/week	24-Hr Composite
Ammonia May 1 - Oct 31	10.0	XXX	XXX	1.5	XXX	3.0	1/week	24-Hr Composite

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) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Total Phosphorus	13.3	XXX	XXX	2.0	XXX	4.0	1/week	24-Hr Composite
Total Copper	0.14	XXX	XXX	0.021	XXX	0.042	1/week	24-Hr Composite
Total Zinc	Report	XXX	XXX	Report	XXX	XXX	1/week	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 002, 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	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
TSS	Report	Report	XXX	10.0	15.0	20	1/month	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	2/month	Grab
Total Nitrogen	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/month	Grab
Ammonia	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/month	Grab

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: BCW-PMT-033
☒	Other: DRBC

DOCKET NO. D-2000-028 CP-4

DELAWARE RIVER BASIN COMMISSION

Maidencreek Township Authority
Wastewater Treatment Plant
Ontelaunee Township, Berks County, Pennsylvania

PROCEEDINGS

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) on February 26, 2020 (Application), for renewal of the docket holder's existing municipal wastewater treatment plant (WWTP) and its discharge. The discharge was approved by the Pennsylvania Department of Environmental Protection (PADEP) in National Pollutant Discharge Elimination System (NPDES) Permit No. PA0070271.

The application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Berks County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on May 12, 2021.

A. DESCRIPTION

1. **Purpose**. The purpose of this docket is to renew approval of the docket holder's existing 0.8 million gallons per day (mgd) WWTP and its discharge.

2. **Location**. The docket holder's WWTP is located off Willow Creek Road, approximately ¼ mile northwest of its intersection with East Hullers Lane in Ontelaunnee Township, Berks County, Pennsylvania. The WWTP will continue to discharge treated effluent to Willow Creek, at River Mile 92.47 – 86.1 – 0.6 – 1.0 (Delaware River – Schuylkill River – Maiden Creek – Willow Creek).

Specific location information has been withheld for security reasons.

3. **Area Served**. The project WWTP will continue to serve Maidencreek and Ontelaunee Townships, in Berks County, Pennsylvania. For the purpose of defining the Area Served, Section B (Type of Discharge) and D (Service Area) of the docket holder's Application are incorporated herein by reference, to the extent consistent with all other conditions contained in the DECISION Section of this docket.

4. **Design Criteria**. The existing WWTP is designed to treat an average annual flow of 0.8 mgd and a monthly hydraulic design capacity of 1.0 mgd via an activated sludge process through an oxidation ditch treatment system.

5. Facilities. The WWTP facilities consists of a fine screen comminutor, an oxidation ditch, a chemical feed system for phosphorous removal, two 45-foot diameter final clarifiers, an ultraviolet light (UV) disinfection system, a sludge pump station, aerobic digesters/sludge holding tanks, and sludge thickening.

The project facilities are not located in the 100-year floodplain.

Wasted sludge will continue to be hauled off-site for disposal.

6. Water withdrawals. The potable water supply in the project service area is provided by groundwater wells owned by the docket holder as described in Docket No. D-1991-058 CP-4, which was approved on September 27, 2006. An application for the renewal of this docket is currently being reviewed by DRBC staff.

7. NPDES Permit / DRBC Effluent Requirements. NPDES Permit No. PA0070271 was issued by the PADEP on September 20, 2019 and includes final effluent limitations for the project discharge to surface waters classified by the PADEP as supporting cold water fishes (CWF). EFFLUENT TABLE C-1 included in Section C. DECISION Condition C.1. of this docket contains effluent requirements for DRBC parameters that must be met as a condition of this approval. Effluent requirements for Outfall No. 001 are based on a discharge rate of 0.8 mgd.

8. Relationship to the Comprehensive Plan. The existing WWTP was added to the Comprehensive Plan by Docket No. D-1978-014 CP-1 on March 22, 1978. The WWTP approval was renewed and modified by Docket Nos. D-2000-028 and D-2008-028 CP-3 on September 28, 2000 and December 10, 2014, respectively. Issuance of this docket will renew and continue the WWTP and its discharge in the Comprehensive Plan.

B. FINDINGS

The docket holder submitted an application to renew approval of their existing 0.8 mgd WWTP and its discharge.

The Docket holder also discharges pumped groundwater from the treatment area unit through a separate outfall (No. 002).

At the WWTP discharge location, Willow Creek has an estimated seven-day low flow with a recurrence interval of ten years (Q-7-10) of 1.4 mgd (2.1 cfs). The ratio of this low flow to the design wastewater discharge from the WWTP (1.0 mgd) is 1.4 to 1.

D-2000-028 CP-4 (Maidencreek Township Authority – WWTP) 3

The nearest surface water intake of record for public water supply is located on the Schuylkill River approximately 32 River Miles downstream of the docket holder's WWTP and is operated by the City of Pottstown.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.

The effluent limits in the NPDES Permit conform with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge that meets the effluent requirements as set forth in the Commission's *Water Quality Regulations (WQR)*.

D-2000-028 CP-4 (Maidencreek Township Authority – WWTP) 4

C. DECISION

Effective on the approval date for Docket No. D-2000-028 CP-4 below, the project described in Docket No. D-2000-028 CP-3 is removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-2000-028 CP-4; Docket No. D-2000-028 CP-3 is terminated and replaced by Docket No. 2000-028 CP-4; and the project and the appurtenant facilities described in Section A "DESCRIPTION" of this docket shall be continued in the Comprehensive Plan. The project and appurtenant facilities as described in Section A of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

Monitoring and Reporting

1. The docket holder shall comply with the requirements contained in the EFFLUENT TABLES below. The docket holder shall submit the required monitoring results electronically to the DRBC Project Review Section via email aemr@drbc.gov on the **Annual Effluent Monitoring Report Form** located at this web address: https://www.nj.gov/drbc/programs/project/docket-app-info.html#3. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations. The following average monthly effluent limits are among those listed in the NPDES Permit and meet or are more stringent than the effluent requirements of the DRBC.

EFFLUENT TABLE C-1: DRBC Parameters Included in NPDES Permit

OUTFALL 001 (Sewage Effluent)		
PARAMETER	**LIMIT**	**MONITORING**
pH (Standard Units)	6 to 9 at all times	As required by NPDES Permit
Total Suspended Solids	10 mg/l	As required by NPDES Permit
BOD_5 (at 20° C) Influent	Monitor & Report	As required by NPDES Permit
$CBOD_5$ (at 20° C) (10-1 to 4-30) (5-1 to 9-30)	14 mg/l 7 mg/l	As required by NPDES Permit
$CBOD_5$ (at 20° C) Removal	Minimum 85% Removal	As required by NPDES Permit
Ammonia Nitrogen (5-1 to 10-31) (11-1 to 4-30)	1.5 mg/l 4.5 mg/l	As required by NPDES Permit
Fecal Coliform (5-1 to 9-30) (10-1 to 4-30)	200 colonies per 100 ml as a geo. avg. 2000 colonies per 100 ml as a geo. avg.	As required by NPDES Permit
Total Dissolved Solids*	1000 mg/l	As required by NPDES Permit

* See Condition C.3.

D-2000-028 CP-4 (Maidencreek Township Authority – WWTP) **5**

Other Conditions

2. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC water quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

3. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

4. The docket holder is responsible for timely submittal to the DRBC of a docket renewal application on the appropriate application form including the appropriate docket application filing fee (see 18 CFR 401.43) at least 6 months in advance of the docket expiration date set forth below. The docket holder will be subject to late filed renewal surcharges in the event of untimely submittal of its renewal application, whether or not DRBC issues a reminder notice in advance of the deadline or the docket holder receives such notice. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of the current docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

5. The docket holder is permitted to treat and discharge wastewater as set forth in the Area Served Section of this docket, which incorporates by reference Sections B (Type of Discharge) and D (Service Area) of the docket holder's Application to the extent consistent with all other conditions of this DECISION Section.

6. The docket holder is prohibited from treating/pre-treating any hydraulic fracturing wastewater from sources in or out of the Basin at this time. Should the docket holder wish to treat/pre-treat hydraulic fracturing wastewater in the future, the docket holder will need to first apply to the Commission to renew this docket and be issued a revised docket allowing such treatment and an expanded service area. Failure to obtain this approval prior to treatment/pre-treatment will result in action by the Commission.

7. The facility and operational records shall be available at all times for inspection by the DRBC.

8. The facility shall be operated at all times to comply with the requirements of the Commission's WQR.

9. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

D-2000-028 CP-4 (Maidencreek Township Authority – WWTP) **6**

10. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

11. The docket holder shall discharge wastewater in such a manner as to avoid injury or damage to fish or wildlife and shall avoid any injury to public or private property.

12. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

13. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

14. The docket holder shall be subject to applicable DRBC regulatory program fees, in accordance with duly adopted DRBC resolutions and/or regulations (see 18 CFR 401.43).

15. This approval is transferable by request to the DRBC Executive Director provided that the project purpose and area served approved by the Commission in this docket will not be materially altered because of the change in project ownership. The request shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

16. The docket holder shall request a name change of the entity to which this approval is issued if the name of the entity to which this approval is issued changes its name. The request for name change shall be submitted on the appropriate form and be accompanied by the appropriate fee (see 18 CFR 401.43).

17. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

18. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the *Delaware River Basin Compact*, cases and controversies arising under the *Compact* are reviewable in the United States district courts.

BY THE COMMISSION

APPROVAL DATE:

EXPIRATION DATE: **September 30, 2029**