Pennsylvania Department of Environmental Protection

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**New**	Application No.	**PA0033316**
Facility Type	**Non-Municipal**	APS ID	**1087664**
Major / Minor	**Minor**	Authorization ID	**1438261**

Applicant and Facility Information

Applicant Name	**Patrick Boyle**	Facility Name	**Pinecrest Village MHP WWTP**
Applicant Address	127 Charles Drive	Facility Address	24 Pinecrest Drive
	Havertown, PA 19083-1008		Williamsport, PA 17701-8402
Applicant Contact	Patrick Boyle	Facility Contact	Patrick Boyle
Applicant Phone	610-420-5115	Facility Phone	610-420-5115
Client ID	309221	Site ID	242149
Ch 94 Load Status	Not Applicable	Municipality	Eldred Township
Connection Status	Not Applicable	County	Lycoming
Date Application Received	April 27, 2023	EPA Waived?	Yes
Date Application Accepted	May 10, 2023	If No, Reason	Not Applicable
Purpose of Application	Renewal of NPDES permit		

Summary of Review

INTRODUCTION

Patrick Boyle, owner, proposed the renewal of the existing National Pollution Discharge Elimination System (NPDES) permit authorizing the discharge from the Pinecrest Village Mobile Home Park (MHP) on-site wastewater treatment plant (WWTP).

APPLICATION

The NPDES Application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities (DEP #3800-PMBCW0342b) was submitted by Clyde Phipps on Patrick Boyle's behalf. This application was received by the Department on April 28, 2023, and considered administratively complete on May 10, 2023. The client contact is Patrick Boyle, owner, of Havertown, PA. His additional contact information is (email) ohhhnellie@yahoo.com. The current WWTP operator is Patrick Crowley. His contact information is (phone) 570-439-0731 and (email) ameobe@ptd.net.

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.

The case file, permit application package and the draft permit will be available for public review at the Department's Northcentral Regional Office. The address is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

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Approve	Deny	Signatures	Date
X		Jeffrey J. Gocek, EIT — Project Manager	06/26/2025
X		Nicholas W. Hartranft, PE — Environmental Engineer Manager	06/26/2025

DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	001	Design Flow (MGD)	0.013
Latitude	41° 17' 47.55"	Longitude	-76° 59' 29.35"
Quad Name	Montoursville North	Quad Code	41076
Wastewater Description:	Treated domestic wastewater from mobile home park		
Receiving Waters	Unnamed Tributary of Millers Run	Stream Code	20488 @ POFU
NHD Com ID	66913903	RMI	0.97
Drainage Area	0.14 @ POFU	Yield (cfs/mi^2)	N/A
Q_{7-10} Flow (cfs)	0.033 @ POFU	Q_{7-10} Basis	USGS Gage #01553130
Elevation (ft)	971 @ POFU	Slope (ft/ft)	N/A
Watershed No.	10-B	Chapter 93 Class.	WWF, MF
Existing Use	None	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Pennsylvania-American Water Company @ Milton, PA		
PWS Waters	West Branch Susquehanna River	Flow at Intake (cfs)	1740
PWS RMI	10.6	Distance from Outfall (mi)	132

POINT OF FIRST USE

The effluent from the treatment system discharges to a dry drainage ditch along the eastern side of Pleasant Hill Road. The discharge is conveyed under the road by a sewer lateral where it flows into the Unnamed Tributary (UNT) to Millers Run (stream code 20488). Department staff performed an updated POFU survey in the watershed on March 26, 2025, and determined that the Unnamed Tributary to Millers Run (stream code 20488) is a perennial stream at the discharge location.

A POFU is required when/where the discharge is to intermittent streams or wetlands where there is limited flow and/or no mixing. This POFU is located at latitude 41°17'45.90" and longitude -76°59'27.65". Perennial flow occurs at the POFU and the stream characteristics there will allow for modeling of parameters not outlined in the Department's guidance *Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels, Swales and Storm Sewers* (DEP #391-2000-014). These are Ammonia Nitrogen and Total Residual Chlorine.

$Q_{7,10}$ DETERMINATION

The $Q_{7,10}$ is the lowest seven consecutive days of flow in a 10-year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines $Q_{7,10}$ as *the actual or estimated lowest seven consecutive day average flow that occurs once in 10 years for a stream with unregulated flow or the estimated minimum flow for a stream with regulated flow*.

Basin characteristics, for a watershed based on the POFU location, were obtained from the USGS *StreamStats* webpage. A stream gage utilized during the previous renewal was again selected as a reference. The selected gage is USGS #01553130 (Sand Spring Run near White Deer, PA). A $Q_{7,10}$ and drainage area for this gage were obtained from *Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania* (USGS Open Files Report 2011-1070). The drainage area at the POFU (0.15 mi^2) was calculated by the *USGS Pennsylvania StreamStats* application. Knowing the drainage area at the POFU (0.15 mi^2) and both the drainage area (4.93 mi^2) and $Q_{7,10}$ (1.1 CFS) at the reference gage, the $Q_{7,10}$ at the POFU was calculated to be 0.033 CFS.

See Attachment 01 for the $Q_{7,10}$ determination.

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TREATMENT FACILITY SUMMARY

The Pinecrest Village MHP WWTP is an extended aeration treatment system consisting of an equalization tank, bar screen, two aeration tanks, two settling tanks, one dosing tank, two sand filter beds, one sodium hypochlorite chlorinator, one chlorine contact tank, one sludge holding tank and an outfall. This WWTP was designed to handle 0.024 MGD. See Attachment 02 for a map of the site.

The WWTP characteristics are as follows:

Waste Type	Degree of Treatment	Process Type	Disinfection	Average Annual Design Flow (MGD)
Sewage	Secondary	Extended Aeration With Solids Removal	Sodium Hypochlorite	0.013
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.024	22.0	Not Overloaded	Aerobic Digestion	Other WWTP

This design was authorized by Water Quality Management (WQM) permit #4170408, which was issued by the Department of Health on November 19, 1970 to Ben A. Burgoyne. This permit was transferred to John H. Knittle on March 30, 1973 (WQM #4170408-T1). The permit was again transferred, this time to Knittle Enterprises on August 24, 1990 (WQM #4170408-T2). Another WQM permit, #4186406, was issued September 25, 1986 to authorize the construction of an equalization tank. This permit was transferred to Knittle Enterprises on August 24, 1990 (WQM #4186406-T1). Both WQM permits were transferred to the current owner on February 10, 2014 (#4170408 T-3 and #418640).

All sludge produced by the WWTP is hauled off-site by a contractor for disposal at a near-by WWTP.

COMPLIANCE HISTORY

The WMS Query Open Violations by Client revealed 21 unresolved violations for Patrick Boyle. The violations are summarized below.

#	Facility	Inspection ID	Violation ID	Program	Region	Violation
1	Pinecrest Village MHP WWTP	3652798	8166850	Water Planning & Conservation	NCRO	Reporting for all water withdrawals and usage
2	Pinecrest Village MHP WWTP	3866400	8207388	SDW	NCRO	Failure of a public water system to obtain a permit
3	Pinecrest Village MHP WWTP	3918963	8217349	SDW	NCRO	Failure of a community water system to prepare and/or maintain a monthly operating report
4	Pinecrest Village MHP WWTP	3918963	8217350	SDW	NCRO	Failure to filter-to-waste as required
5	Pinecrest Village MHP WWTP	3918963	8217351	SDW	NCRO	Chronic failure to calibrate turbidimeters used for compliance monitoring
6	Pinecrest Village MHP WWTP	3918963	8217352	SDW	NCRO	Chronic failure to monitor
7	Pinecrest Village MHP WWTP	3918963	8217353	SDW	NCRO	Chronic failure to report
8	Pinecrest Village MHP WWTP	3918963	8217354	SDW	NCRO	Failure to meet design and construction standards
9	Pinecrest Village MHP WWTP	3918963	8217355	SDW	NCRO	Failure or significant interruption in a pathogenic treatment technique
10	Pinecrest Village MHP WWTP	3918963	8217356	SDW	NCRO	Failure or significant interruption in key water treatment process
11	Pinecrest Village MHP WWTP	3918963	8217357	SDW	NCRO	Failure to accurately report data
12	Pinecrest Village MHP WWTP	3918963	8217358	SDW	NCRO	Chronic failure to report
13	Pinecrest Village MHP WWTP	3918963	8217359	SDW	NCRO	Failure to follow approved methods for sampling and analysis
14	Pinecrest Village MHP WWTP	3918963	8217360	SDW	NCRO	Failure to submit or revise a comprehensive monitoring plan
15	Pinecrest Village MHP WWTP	3918963	8217361	SDW	NCRO	Failure to maintain facility records for the appropriate amount of time
16	Pinecrest Village MHP WWTP	3918963	8217362	SDW	NCRO	Failure to test alarm and shutdown capabilities or respond to alarm and shutdown equipment failures
17	Pinecrest Village MHP WWTP	3918963	8217363	SDW	NCRO	Other violations deemed to be significant deficiencies
18	Pinecrest Village MHP WWTP	3918963	8217364	SDW	NCRO	Failure of a community water system to develop and/or update an operation and maintenance plan
19	Pinecrest Village MHP WWTP	3918963	8217365	SDW	NCRO	Failure to comply with a permit condition
20	Pinecrest Village MHP WWTP	3918963	8217366	SDW	NCRO	Failure of a CWS to develop and/or update an emergency response plan
21	Pinecrest Village MHP WWTP	3918963	8217367	SDW	NCRO	Failure to comply with uninterrupted system service requirements

Recent Discharge Monitoring Report (DMR) data is as follows.

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Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	0.008	0.0068	0.0061	0.0058	0.0043	0.0057	0.0060	0.0074	0.0076	0.0070	0.0112	0.0114
pH (S.U.) Minimum	7.1	7.1	7.1	6.7	6.1	6.3	7.0	6.9	6.4	6.4	6.3	6.6
pH (S.U.) Maximum	7.5	7.5	8.7	7.8	7.3	7.7	7.5	8.2	7.5	7.6	7.6	7.2
DO (mg/L) Minimum	4.1	4.1	4	3.2	2.3	3.2	3.3	3.2	4.2	3.9	3.0	7.1
TRC (mg/L) Average Monthly	0.4	**1.0**	**1.4**	**1.4**	**1.1**	**0.9**	**0.6**	0.5	**0.7**	**0.9**	**0.7**	**0.6**
TRC (mg/L) Instantaneous Maximum	0.5	1.5	1.6	2.0	1.4	2.2	1.6	1.6	1.6	1.6	1.6	1.3
CBOD5 (mg/L) Average Monthly	24	< 5	< 2.0	< 3.0	< 2.0	2.0	< 2.0	< 8.0	< 2.0	< 6.0	8.0	14
CBOD5 (mg/L) Instantaneous Maximum	41	7.0	< 2.0	< 4.0	< 2.0	2.0	< 2.0	14	< 2.0	10	13	19
TSS (mg/L) Average Monthly	7.0	< 6.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 7.0	< 5.0	11	< 8.0	< 12
TSS (mg/L) Instantaneous Maximum	8.0	7.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.0	5.0	15	11	16
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	**< 446**	< 10	< 10	< 377	< 10
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	2.0	< 1.0	< 1.0	< 1.0	**19860**	< 10	< 10	3724	< 10
Total Nitrogen (mg/L) Annual Average		31.7										
Ammonia (mg/L) Average Quarterly		14.9			0.226			13.3			9.45	
Total Phosphorus (mg/L) Annual Average		21.4										

Recent effluent limit violations are as follows.

Parameter	Date	SBC	DMR Value	Units	Limit Value
TRC	03/31/24	Avg Mo	0.7	mg/L	0.5
TRC	04/30/24	Avg Mo	0.9	mg/L	0.5
TRC	05/31/24	Avg Mo	0.7	mg/L	0.5
TRC	07/31/24	Avg Mo	0.6	mg/L	0.5
TRC	08/31/24	Avg Mo	0.9	mg/L	0.5
TRC	09/30/24	Avg Mo	1.1	mg/L	0.5
TRC	10/31/24	Avg Mo	1.4	mg/L	0.5
TRC	11/30/24	Avg Mo	1.4	mg/L	0.5
TRC	12/31/24	Avg Mo	1.0	mg/L	0.5
TRC	10/31/24	IMAX	2.0	mg/L	1.6
TRC	08/31/24	IMAX	2.2	mg/L	1.6
TRC	10/31/24	IMAX	2.0	mg/L	1.6
Fecal Coliform	06/30/24	Geo Mean	< 446	CFU/100 ml	200
Fecal Coliform	06/30/24	IMAX	19860	CFU/100 ml	1000

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2023 CONSENT ORDER AND AGREEMENT

The Department and Patrick Boyle entered into a Consent Order & Agreement (CO&A) on March 14, 2023. This CO&A documented numerous violations, including a late renewal application in 2022, non-submittal of electronic discharge monitoring reports (eDMR) in 2022, effluent violations from 2019 through 2022, letters and administrative conferences. The CO&A required a complete NPDES permit renewal application, a civil penalty and stipulated penalties should compliance not be achieved.

2024 INSPECTIONS

Three Department inspections were performed in 2024. The first inspection, performed April 24, 2024, was a routine partial inspection (RTPT). This inspection documented violations including 1. failure to properly operate and maintain all facilities installed or used to achieve compliance (malfunctioning west sand filter) and 2. effluent limit violations in Part A. Effluent exceedances occurred in July 2023 (pH), August 2023 (pH, Fecal Coliforms), September 2023 (TRC), October 2023 (TRC), December 2023 (TRC), January 2024 (TRC, CBOD5, TSS, Fecal Coliforms) and February 2024 (TRC). Numerous operational concerns were noted and included low aeration tank levels, ponded wastewater on top of the sand filter, evidence of sand filter overflow and corrosion of the sludge holding tank. Damage to one of the sand filter liners was reported to the Department.

The second inspection, performed August 21, 2024, was a compliance evaluation inspection (CEI). This inspection documented violations including 1. failure to maintain permitted treatment units in operable condition (the east treatment train was not being utilized due to corrosion), 2. effluent limit violations in Part A and 3. failure to monitor pollutants as required by the NPDES permit (grab samples instead of 8-hour composite samples). Effluent exceedances occurred in March 2024 (TRC), April 2024 (TRC), May 2024 (TRC) and June 2024 (Fecal Coliforms). Numerous operational concerns were noted and included a scum layer in the equalization tank, holes in the east aeration tank currently used as a digester (with evidence of sludge on the ground), a layer of scum on the supernatant surface of the west aeration tank, a layer of solids in the dosing tank, and solids on the surface of both sand filters along with ponded water on the east sand filter. The chlorine pump was replaced to remedy the TRC exceedances. It was documented that the owner purchased new treatment tanks and it was suggested he obtain proper permits from the Department to install them.

The third inspection, performed October 16, 2024, was a complaint investigation. This inspection documented violations including 1. failure to properly operate and maintain all facilities installed or used to achieve compliance (solids on sand filters) and 2. failure to maintain permitted treatment units in operable condition (east treatment train not used due to corrosion). The complaints included 1. new equipment damaged in a fire, 2. odors from the treatment system, 3. sewage being leaked to the ground and 4. the WWTP is not secured. As a result of this inspection, it was determined that no new equipment was damaged by fire, only a minimal sewage odor was emanating from the equalization tank, no wastewater was observed leaking to the ground surface and the site contact indicated that the WWTP is locked when staff are not onsite. The problems documented in the earlier inspections had not been remediated by the time of the third inspection.

EXISTING PERMIT LIMITATIONS

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/Week	Measured
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	Report	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
$CBOD_5$ 05/01-10/31	XXX	XXX	XXX	12	XXX	24	2/Month	8 Hour Comp
$CBOD_5$ 11/01-04/30	XXX	XXX	XXX	25		50	2/Month	8 Hour Comp
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/Month	8 Hour Comp
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo. Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo. Mean	XXX	10,000	2/Month	Grab
Ammonia Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/Quarter	8 Hour Comp
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/Year	8 Hour Comp
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/Year	8 Hour Comp

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DEVELOPMENT OF EFFLUENT LIMITATIONS

Technology-Based Limitations

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

Pollutant	Limit (mg/l)	SBC[1]	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)

[1] – Statistical Base Code

Dry Stream Guidance

The Department's *Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels, Swales and Storm Sewers* (DEP #391-2000-014, "Dry Stream Guidance") establishes criteria for the purpose of protecting the intermittent waterbody. According to the guidance, a high degree of treatment is required to compensate for the lack of available assimilative capacity and to minimize the potential for nuisance conditions.

Because the original design and construction of this WWTP (1970) predates the above referenced guidance (1997), the facility will not be held to the recommended quality requirements.

Water Quality-Based Limitations

Total Residual Chlorine

The Department's *TRC_CALC spreadsheet* is a model used to evaluate Total Residual Chlorine (TRC) effluent limitations. This model determines applicable acute and chronic wasteload allocations (WLAs) for TRC based on the data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (for Water Quality-based Toxics Control).

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.249	0.814

See Attachment 03 for the TRC_CALC output.

$CBOD_5$, NH_3-N and DO

WQM 7.0 for Windows (WQM 7.0) is a DEP computer model used to determine wasteload allocations (WLAs) and effluent limitations for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Ammonia-Nitrogen (NH_3-N) and Dissolved Oxygen (DO) for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH_3-N module simulates the mixing and degradation of NH3-N in the stream and compares calculated instream NH_3-N concentrations to the water quality criteria.

The DO module simulates mixing and consumption of DO in the stream due to degradation of $CBOD_5$ and NH_3-N and compares the calculated instream DO concentrations to the water quality criteria. The model then determines the highest pollutant loading the stream can assimilate and still meet water quality criteria under design conditions.

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This model was run at the POFU. The existing permit limitation of 12 mg/L $CBOD_5$ was used as a model input. The model default inputs of 25 mg/L NH3-N and 3.0 mg/L Dissolved Oxygen (DO) were also used. To comply with the (in-stream) water quality criteria for Dissolved Oxygen (DO) (25 PA § 93.7), a target DO Goal of 6.0 was used to run the model.

The model recommended the following limitations.

Parameter	Effluent Limitations (mg/L)		
	30 Day Average	Maximum	Minimum
$CBOD_5$	12		
NH_3-N	5.52	11.04	
DO			3.0

In accordance with the Department's *Standard Operating Procedure (SOP) For Clean Water Program – Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BCW-PMT-033), the Department will utilize a seasonal multiplier of 3.0 to develop a winter period limitation.

See Attachment 04 for the existing WQM 7.0 model output.

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis, in accordance with the statutory factors specified in the Clean Water Act.

Dissolved Oxygen

Department policy requires that a minimum limit of 4.0 mg/L be established as BPJ to ensure adequate WWTF operation and maintenance.

Seasonal Limitation

The applicable seasonal limit multiplier, in accordance with the Department's *Determining Water Quality-Based Effluent Limits* (DEP #391-2000-003), will be continued in this issuance. See below.

Parameter	Time Period	Multiplier
$CBOD_5$	November 01 through April 30	2.0

Anti-Backsliding

To comply with 40 CFR § 122.44(l)(1) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that the of the previous permit.

No less stringent limitations have been proposed for this draft.

DEVELOPMENT OF EFFLUENT MONITORING

E. Coli

The Department is requiring the monitoring of Eschericia coli (E.coli), a pathogenic bacterium normally found in the intestines of healthy people and animals which is used as a fecal contamination indicator in freshwater ecosystems. Section 303(c)(1) of the Clean Water Act requires that Pennsylvania periodically review and revise water quality standards, if necessary. The 2017 triennial review final form rulemaking, published in 2020, has revised the Chapter 93 water quality standards regulations for bacteria to include E. coli. To further characterize fecal contamination of surface waters during the swimming season, the Department is requiring the annual reporting of effluent E. coli effluent values. In accordance with 25 PA § 92a.61, the Department may impose reasonable monitoring requirements on pollutants which could have impact on the quality of the Commonwealth's waters or the quality of waters in other states.

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REMOVAL OF EFFLUENT MONITORING

Chesapeake Bay TMDL

Despite 25 years of extensive restoration efforts, the Chesapeake Bay Total Maximum Daily Load (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by the Environmental Protection Agency (EPA). This document identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its Watershed Implementation Plan (WIP), which is incorporated into the TMDL. Pennsylvania's permitting strategy for significant dischargers has been outlined in the Phase I WIP and incorporated in the Phase III WIP by reference and imposes Total Nitrogen (TN) and Total Phosphorus (TP) cap loads on the significant dischargers.

Because the design of this facility is less than 0.2 MGD, the Department considers this an existing Phase 5 sewage facility for the purposes of implementing the Chesapeake Bay TMDL. According to the Department's Wastewater Supplement to Phase III WIP (last revised July 2022), renewed Phase 5 facilities are required to contain monitoring and reporting for TN and TP throughout the permit term at a frequency of no less than annually unless the facility has already conducted at least two years of nutrient monitoring.

Nutrient data was collected during the previous permit term. That data is summarized below.

Year	Parameter	Concentration (mg/L)
2019	Total Nitrogen	34.30
2019	Total Phosphorus	4.30
2020	Total Nitrogen	20.29
2020	Total Phosphorus	6.19
2021	Total Nitrogen	48.60
2021	Total Phosphorus	2.97
2022	Total Nitrogen	48.60
2022	Total Phosphorus	2.87
2023	Total Nitrogen	21.40
2023	Total Phosphorus	0.69
2024	Total Nitrogen	31.70
2024	Total Phosphorus	21.40

RECEIVING STREAM

Stream Characteristics

The receiving stream is an unnamed tributary (UNT) to Millers Run. This UNT to Millers Run, according to 25 PA § 93.9L, is protected for Warm Water Fishes (WWF) and Migratory Fishes (MF). WWF and MF are Designated Uses. There is currently no Existing Use for this stream. UNT to Millers Run is identified by stream code 20488. This stream is located in (Chapter 93) drainage list L and State Water Plan 10B (Loyalsock Creek).

The POFU is downstream, just below where the UNT to Millers Run enters another UNT to Millers Run. The second UNT to Millers Run (downstream) is also protected for WWF and MF. This stream is identified by stream code 20487.

Impairment/TMDL

According to Department data, both UNTs to Millers Run are attaining their designated uses for supporting aquatic life. There is no TMDL associated with these stream segments.

A TMDL for Polychlorinated Biphenyls (PCBs) was established for the downstream Susquehanna River in 1999. This TMDL was also approved by EPA in 1999. The TMDL recommends fish consumption advisories due to concentrations of PCBs in the water column in excess of the Department's water quality and human health criteria for PCBs. The TMDL calculated a required reduction of 99.8% in order to achieve the reduction goal of the TMDL.

The domestic effluent from the Pinecrest Village MHP WWTP has no reasonable potential to discharge PCBs.

CONTINUED on the next page.

COMPLIANCE SCHEDULE

Based on recent DMR data, the WWTP is unable to meet the proposed limitations for TRC and Ammonia Nitrogen at issuance of this permit. The Department is proposing a compliance schedule, with the proposed limitations for TRC and Ammonia-Nitrogen to become effective in the 60th (last) month of the upcoming permit term. Interim milestones will be established, including the requirement to submit a Water Quality Management (WQM) permit application for the upgrades to meet the new limitations.

ADDITIONAL CONSIDERATIONS

Hauled-In Wastes

According to the application materials, Pinecrest Village MHP WWTP does not accept hauled-in wastes.

Whole Effluent Toxicity (WET) Testing

According to the application materials, the Pinecrest Village MHP WWTP does not accept wastewater from industrial or commercial users. Because of this a WET test evaluation is not required.

Rounding of Limitations

Limitations have been rounded down in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Limit Multipliers

The instantaneous maximum limitations have been calculated using multipliers of 2.0 (for sewage discharges) for determining the IMAX. This practice is in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Sample Frequencies and Types

The sample type and minimum measurement frequencies are in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Standard Operating Procedures (SOPs)

The review of this permit application was performed in accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* (unnumbered) and *SOP for Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BPNPSM-PMT-033).

Special Permit Conditions

Stormwater Prohibition
Approval Contingencies
Proper Waste Disposal
Municipal Treatment Availability
Dry Stream Discharge
Solids Management for Non-Lagoon Treatment Systems
Compliance Schedule

Supplemental Discharge Monitoring Reports

Daily Effluent Monitoring
Non-Compliance Reporting
Biosolids Production and Disposal
Hauled-in Municipal Waste
Influent and Process Control
Lab Accreditation

CONTINUED on the next page.

PROPOSED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The limitations and monitoring requirements specified below reflect the most stringent limitations amongst technology, water quality and BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/Week	Measured
pH (SU)	XXX	XXX	6.0 Instant. Min.	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Instant. Min.	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine INTERIM	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
Total Residual Chlorine FINAL	XXX	XXX	XXX	0.2	XXX	0.8	1/Day	Grab
$CBOD_5$ 05/01-10/31	XXX	XXX	XXX	12	XXX	24	2/Month	8 Hour Composite
$CBOD_5$ 11/01-04/30	XXX	XXX	XXX	25	XXX	50	2/Month	8 Hour Composite
Total Suspended Solids	XXX	XXX	XXX	30	XXX	60	2/Month	8 Hour Composite
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo. Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo. Mean	XXX	10,000	2/Month	Grab
Ammonia Nitrogen INTERIM	XXX	XXX	XXX	Report	XXX	XXX	1/Month	8 Hour Composite
Ammonia Nitrogen FINAL - 05/01-10/31	XXX	XXX	XXX	5.0	7.5	11	1/Month	8 Hour Composite
Ammonia Nitrogen FINAL - 11/01-04/30	XXX	XXX	XXX	15.0	22	33	1/Month	8 Hour Composite
E. Coli (No./100mL)	XXX	XXX	XXX	XXX	XXX	Report	1/Year	Grab

FINAL effluent limitations become effective in the last month of the permit term.

END of Fact Sheet.

ATTACHMENT 01

Q_{7-10} Analysis	
Facility:	Pinecrest Village MHP
Outfall:	001
NPDES Permit No.:	PA0033316
RMI at Outfall:	135.66

Reference Stream Gage Information	
Stream Name	UNT to Millers Run (20488)
Reference Gage	01553130
Station Name	Sand Spring Run near White Deer, PA
Gage Drainage Area (sq. mi.)	4.93
Q_{7-10} at gage (cfs)	1.10
Yield Ratio (cfs/mi^2)	0.2231

Q_{7-10} at Outfall	
Drainage Area at site (sq. mi.)	0.15
Q_{7-10} at discharge site (cfs)	0.033
Q_{7-10} at discharge site (mgd)	0.0216

Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	[2]1971–2008	38	28.2	109	151	131	172	153
01547500	[3]1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	[2]1971–2000	25	142	151	206	178	241	223
01548005	[3]1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	[2]1963–2008	46	520	578	1,020	678	1,330	919
01551500	[3]1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	[2]1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	[3]1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	[2]1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	[3]1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	[2]1974–2008	35	—	—	—	112	266	129
01563200	[3]1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	[2]1974–2008	35	384	415	519	441	580	493
01563500	[3]1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville, Pa.	40.509	-78.584	6.77	N
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01542000	Moshannon Creek at Osceola Mills, Pa.	40.850	-78.268	68.8	N
01542500	WB Susquehanna River at Karthaus, Pa.	41.118	-78.109	1,462	Y
01542810	Waldy Run near Emporium, Pa.	41.579	-78.293	5.24	N
01543000	Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	41.413	-78.197	272	N
01543500	Sinnemahoning Creek at Sinnemahoning, Pa.	41.317	-78.103	685	N
01544000	First Fork Sinnemahoning Creek near Sinnemahoning, Pa.	41.402	-78.024	245	Y
01544500	Kettle Creek at Cross Fork, Pa.	41.476	-77.826	136	N
01545000	Kettle Creek near Westport, Pa.	41.320	-77.874	233	Y
01545500	West Branch Susquehanna River at Renovo, Pa.	41.325	-77.751	2,975	Y
01545600	Young Womans Creek near Renovo, Pa.	41.390	-77.691	46.2	N
01546000	North Bald Eagle Creek at Milesburg, Pa.	40.942	-77.794	119	N
01546400	Spring Creek at Houserville, Pa.	40.834	-77.828	58.5	N
01546500	Spring Creek near Axemann, Pa.	40.890	-77.794	87.2	N
01547100	Spring Creek at Milesburg, Pa.	40.932	-77.786	142	N
01547200	Bald Eagle Creek below Spring Creek at Milesburg, Pa.	40.943	-77.786	265	N
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77.604	339	Y
01547700	Marsh Creek at Blanchard, Pa.	41.060	-77.606	44.1	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77.904	12.2	N
01547950	Beech Creek at Monument, Pa.	41.112	-77.702	152	N
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.081	-77.549	562	Y
01548500	Pine Creek at Cedar Run, Pa.	41.522	-77.447	604	N
01549000	Pine Creek near Waterville, Pa.	41.313	-77.379	750	N
01549500	Blockhouse Creek near English Center, Pa.	41.474	-77.231	37.7	N
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	Y
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77.033	173	N
01551500	WB Susquehanna River at Williamsport, Pa.	41.236	-76.997	5,682	Y
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	435	N
01552500	Muncy Creek near Sonestown, Pa.	41.357	-76.535	23.8	N
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Y
01553700	Chillisquaque Creek at Washingtonville, Pa.	41.062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54.2	N
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40.684	-78.234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40.524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N

StreamStats Report

Region ID: PA
Workspace ID: PA20250624135112548000
Clicked Point (Latitude, Longitude): 41.29651, -76.99150
Time: 2025-06-24 09:51:35 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.15	square miles
PRECIP	Mean Annual Precipitation	43	inches
ROCKDEP	Depth to rock	3	feet
STRDEN	Stream Density -- total length of streams divided by drainage area	0.78	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	0	percent	0	99
DRNAREA	Drainage Area	0.15	square miles	4.93	1280
PRECIP	Mean Annual Precipitation	43	inches	35	50.4
ROCKDEP	Depth to Rock	3	feet	3.32	5.65
STRDEN	Stream Density	0.78	miles per square mile	0.51	3.1

Low-Flow Statistics Disclaimers [Low Flow Region 2]

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

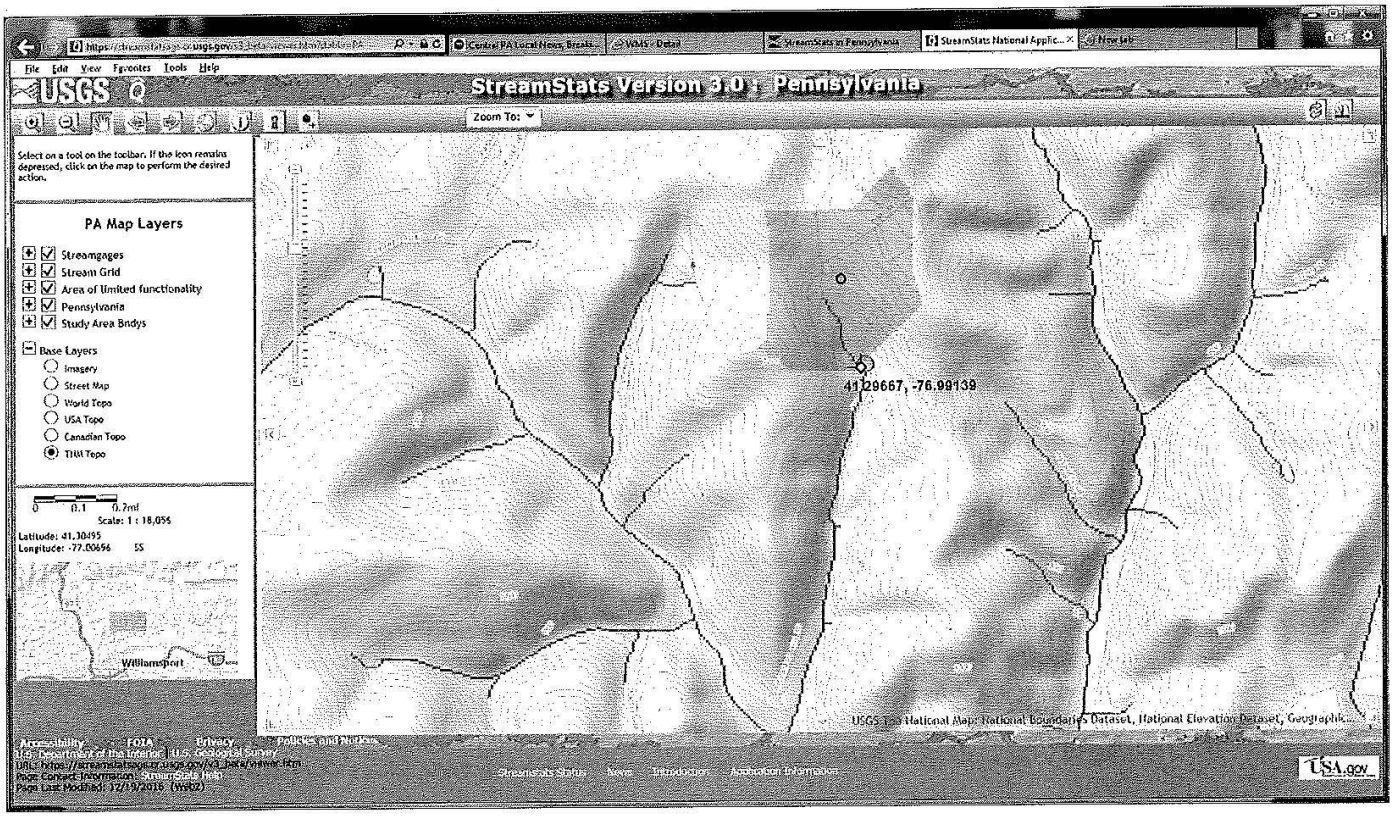
Low-Flow Statistics Flow Report [Low Flow Region 2]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.012	ft^3/s
30 Day 2 Year Low Flow	0.0197	ft^3/s
7 Day 10 Year Low Flow	0.00276	ft^3/s
30 Day 10 Year Low Flow	0.00501	ft^3/s
90 Day 10 Year Low Flow	0.0118	ft^3/s

Low-Flow Statistics Citations

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

Application Version: 4.29.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1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Zoom To:
Select on a tool on the toolbar. If the icon remains depressed, click on the map to perform the desired action.
PA Map Layers
Streamgages
Stream Grid
Area of Limited functionality
Pennsylvania
Study Area Bndys
Base Layers
Imagery
Street Map
World Topo
USA Topo
Canadian Topo
TNM Topo
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Latitude: 41.30495
Longitude: -77.00696
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Accessibility
FOIA
Privacy
Policies and Notices
U.S. Department of the Interior | U.S. Geological Survey
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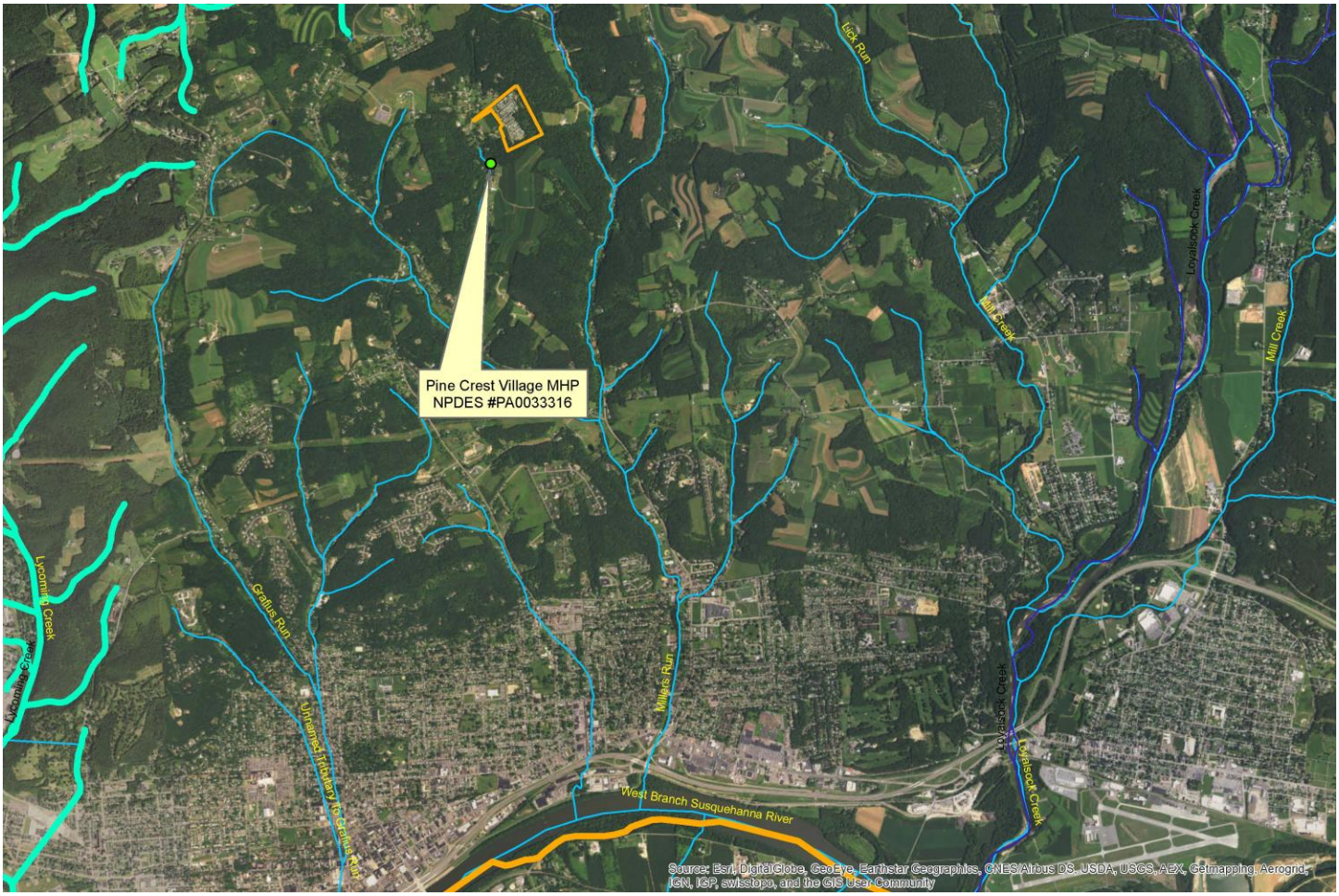
Page Last Modified: 12/19/2018 (WSO)
StreamStats Status
News
Introduction
Publication Information
USA.gov

ATTACHMENT 02



TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.033	= Q stream (cfs)	0.5	= CV Daily
0.013	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.542	1.3.2.iii	WLA cfc =	0.521
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.202	5.1d	LTA_cfc =	0.303

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.249	AFC
		INST MAX LIMIT (mg/l) =	0.814	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))... ...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))... ...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

ATTACHMENT 04

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
10B	20488	Trib 20488 of Millers Run

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)
0.970	Pinecrest V MHP	PA0033316	0.013	CBOD5	12		
				NH3-N	5.52	11.04	
				Dissolved Oxygen			3

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
10B	20488	Trib 20488 of Millers Run	**0.970**	971.00	0.15	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.03	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
Pinecrest V MHP	PA0033316	0.0130	0.0130	0.0130	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	12.00	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

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
10B	20488	Trib 20488 of Millers Run	**0.100**	706.00	0.49	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	0.00	0.11	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
		0.0000	0.0000	0.0000	0.000	0.00	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
10B	20488	Trib 20488 of Millers Run

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												
0.970	0.03	0.00	0.03	.0201	0.05769	.346	2.03	5.86	0.08	0.704	21.89	7.00
Q1-10 Flow												
0.970	0.02	0.00	0.02	.0201	0.05769	NA	NA	NA	0.07	0.811	22.44	7.00
Q30-10 Flow												
0.970	0.04	0.00	0.04	.0201	0.05769	NA	NA	NA	0.08	0.629	21.55	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	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
10B	20488	Trib 20488 of Millers Run

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.970	Pinecrest V MHP	13.69	28.07	13.69	28.07	0	0

NH3-N Chronic Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
0.970	Pinecrest V MHP	1.71	5.52	1.71	5.52	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)		
0.97	Pinecrest V MHP	12	12	5.52	5.52	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
10B	20488	Trib 20488 of Millers Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.970	0.013	21.893	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
2.031	0.346	5.862	0.075
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
5.79	1.003	2.09	0.810
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.258	28.568	Owens	6
Reach Travel Time (days)			
0.704			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.070	5.36	1.97	7.96
0.141	4.96	1.86	7.96
0.211	4.59	1.76	7.96
0.282	4.25	1.66	7.96
0.352	3.94	1.57	7.96
0.423	3.64	1.48	7.96
0.493	3.37	1.40	7.96
0.563	3.12	1.32	7.96
0.634	2.89	1.25	7.96
0.704	2.68	1.18	7.96