pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0032514**
Facility Type	**Non-Municipal**	APS ID	**1017382**
Major / Minor	**Minor**	Authorization ID	**1316175**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**PA DCNR**	Facility Name	**Denton Hill State Park**
Applicant Address	111 Spill Way Road	Facility Address	5661 Us 6 West
	Wellsboro, PA 16901-7022		Coudersport, PA 16915
Applicant Contact	Benjamin Stone, Park Manager	Facility Contact	Benjamin Stone, Park Manager
Applicant Phone	(570) 724-4246	Facility Phone	(570) 724-4246
Client ID	52524	Site ID	264675
Ch 94 Load Status	**N/A**	Municipality	Ulysses Township
Connection Status	**N/A**	County	Potter
Date Application Received	June 2, 2020	EPA Waived?	Yes
Date Application Accepted	June 16, 2020	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit

Summary of Review

The subject facility is a sewage treatment plant serving Denton Hill State Park and the PHMC Lumber Museum in Ulysses Township, Potter County.

A map of the discharge location is attached.

Public Participation

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

Approve	Deny	Signatures	Date
✓		*Keith C. Allison* Keith C. Allison / Project Manager	September 14, 2020
✓		*Nicholas W. Hartranft* Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	September 17, 2020

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.013
Latitude	41º 46' 31.95"	Longitude	-77º 49' 58.72"
Quad Name	Brookland, PA	Quad Code	0423
Wastewater Description:	Sewage Effluent		
Receiving Waters	Ninemile Run (HQ-CWF, MF)	Stream Code	22288
NHD Com ID	66536663	RMI	0.3500
Drainage Area	4.46 mi^2	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.446	Q_{7-10} Basis	Assumption
Elevation (ft)	1820	Slope (ft/ft)	0.0128
Watershed No.	9-A	Chapter 93 Class.	HQ-CWF, MF
Existing Use	N/A	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Nearest Downstream Public Water Supply Intake	Jersey Shore Water Authority		
PWS Waters	Pine Creek	Distance from Outfall (mi)	Approx. 82

Changes Since Last Permit Issuance: None.

Other Comments: All stream and discharge characteristics noted above were determined for the previous review and remain adequate. Flow was determined using the Department's default multiplier of 0.1 cfs/mi^2 because there is no nearby stream gauge and the drainage area is less than the threshold for the USGS StreamStats algorithm.

No additional requirements are necessary at this time pursuant to the anti-degradation requirements of 25 Pa Code 93.4c for this existing discharge to a high-quality stream.

No downstream water supplies are expected to be affected by this discharge at this time with the limitations and monitoring proposed.

Treatment Facility Summary

Treatment Facility Name: Denton Hill State Park WWTP

WQM Permit No.	Issuance Date	Permit For:
5303401	6/27/03	Treatment Facility

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	SBR	UV	0.013

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.013			Aerobic Digestion	Off Site

Changes Since Last Permit Issuance: None

Other Comments: The treatment facility, as approved by WQM Permit No. 5303401 consists of an SBR basin, UV disinfection, and aerated sludge digester.

Sludge/Biosolids Disposal

The facility's sludge is removed offsite for disposal or further processing.

Compliance History

DMR Data for Outfall 001 (from August 1, 2019 to July 30, 2020)

Parameter	JUL-20	JUN-20	MAY-20	APR-20	MAR-20	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19
Flow (MGD) Average Monthly	0.001448	0.001575	0.001773	0.001338	0.002636	0.001134	0.001216	0.001989	0.00219	0.001962	0.001324	0.002507
Flow (MGD) Daily Maximum	0.001939	0.003677	0.013459	0.005645	0.006564	0.002025	0.004068	0.007129	0.017157	0.009304	0.001965	0.008677
pH (S.U.) Minimum	6.11	6.74	6.94	6.87	6.83	6.74	6.96	6.85	6.68	6.60	6.69	6.07
pH (S.U.) Maximum	7.74	7.70	7.72	7.72	8.95	8.55	7.73	8.78	8.73	8.84	8.04	8.12
DO (mg/L) Minimum	3.57	3.85	4.47	4.31	4.08	5.17	4.37	3.27	4.00	2.65	3.01	2.63
CBOD5 (mg/L) Average Monthly	2	2	< 2	< 2	1	1	3	1	2	1	1	3
CBOD5 (mg/L) Instantaneous Maximum	2.4	2.1	< 2.1	< 2.2	0.6	1.8	4.5	1.6	1.9	1.7	2.2	2.6
TSS (mg/L) Average Monthly	14	< 6	4	< 6	< 5	< 35	< 65	< 5	< 5	16	< 5	< 5
TSS (mg/L) Instantaneous Maximum	15	6	4	8	< 5	65	124	< 5	< 5	18	< 5	< 5
Fecal Coliform (CFU/100 ml) Geometric Mean	<1	< 7	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	<1	48.5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
UV Intensity (mW/cm²) Minimum	5.3	5.4	3.9	4.5	00	0.00	0.0	0.0	0.0	4.5	5.1	3.3
Ammonia (mg/L) Average Monthly	0.1	0.1	< 0.1	0.1	FF	0.2	< 0.2	0.1	0.2	0.05	0.3	0.2
Ammonia (mg/L) Instantaneous Maximum	0.06	0.1	< 0.1	< 0.1	FF	0.19	0.2	0.13	0.22	0.06	0.44	0.17

Compliance History

Effluent Violations for Outfall 001, from: August 1, 2019 To: June 30, 2020

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	02/29/20	Avg Mo	< 35	mg/L	30	mg/L
TSS	01/31/20	Avg Mo	< 65	mg/L	30	mg/L
TSS	01/31/20	IMAX	124	mg/L	60	mg/L
TSS	02/29/20	IMAX	65	mg/L	60	mg/L

Compliance History

Summary of Inspections:	The facility has been inspected by the Department at least annually over the past permit term. The most recent full facility inspection on June 4, 2019 identified DMR effluent violations and a violation for failure to operate and maintain all facilities due to a malfunctioning pump station. A March 20, 2020 administrative inspection identified eDMR effluent violations and a routine partial inspection on May 14, 2020 identified a violation for a malfunctioning pump station.
Other Comments	A WMS query found the open violations listed below for PA DCNR in eFACTS.

Open Violations for PA DCNR

FACILITY	INSP PROGRAM	PROGRAM SPECIFIC ID	VIOLATION ID	VIOLATION DATE	VIOLATION	INSP REGION
MORAINE STATE PARK WATER SYST	Safe Drinking Water	5100804	873855	09/09/2019	Failure to Address a Significant Deficiency	NWRO
RICKETTS GLEN STATE PRK	WPC NPDES	PA0032115	893343	09/03/2020	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	NERO
FRANCES SLOCUM STATE PRK	WPC NPDES	PA0032433	863003	08/06/2019	NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance	NERO

Existing 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" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Phase 1 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.) Oct 1 - Apr 30	XXX	XXX	6.0	XXX	9.0	XXX	3/week	Grab
pH (S.U.) May 1 - Sep 30	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO Oct 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	3/week	Grab
DO May 1 - Sep 30	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
UV Intensity (mW/cm^2) Oct 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	3/week	Measured
UV Intensity (mW/cm^2) May 1 - Sep 30	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Ammonia Nov 1 - May 31	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Ammonia Jun 1 - Oct 31	XXX	XXX	XXX	8.5	XXX	17	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .013
Latitude 41º 46' 37.00" **Longitude** -77º 49' 43.00"
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)
	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Total Suspended Solids	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)

Comments: The above applicable limitations are included in the existing permit and will remain in this renewal.

Water Quality-Based Limitations

CBOD5, NH3-N, and DO

The WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD ($CBOD_5$), and ammonia-nitrogen (NH_3-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH_3-N in the stream and the mixing and consumption of DO in the stream due to the degradation of $CBOD_5$ and NH_3-N. The WQM7.0 modeling from the previous renewal for the discharge to Ninemile Run verified that the secondary treatment limitation for $CBOD_5$ listed above and the existing summer water quality-based NH_3-N limit of 8.5 mg/l are adequate to protect the receiving stream (see Attachment B).

Disinfection

Because the facility uses UV disinfection, the discharge has existing monitoring for Ultraviolet Light Intensity in mW/cm^2.

Chesapeake Bay/Nutrient Requirements

According to the Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, this facility is an existing Phase 5 Chesapeake Bay sewage discharger that is not expanding, and as such requires no nutrient cap loads but does require Total Nitrogen and Total Phosphorus monitoring. Annual nutrient monitoring was required for the previous permit term consistent the Phase III Watershed Implementation Plan. The monitoring for the past permit term showed the Total Nitrogen to average 9.39 mg/L and the Total Phosphorus to average 1.4 mg/L. Therefore, because the nutrient levels of the discharge have been adequately characterized at this time the existing annual monitoring for TN and TP will be removed from the proposed draft permit.

Toxics Management

No further "Reasonable Potential Analysis" was performed for this minor sewage facility with no industrial discharges to determine whether additional toxic parameters are candidates for limitations or monitoring.

Antidegradation

Because this is an existing discharge to a special protection watershed, the antidegradation ABACT requirements of the Department's Water Quality Antidegradation Implementation Guidance, (0300-002) will not be required of the discharge at this time.

Best Professional Judgment (BPJ) Limitations

Comments: No BPJ limitations are necessary at this time beyond the technology and water quality-based limitations mentioned above.

Anti-Backsliding

No proposed limitations have been made less stringent than existing limits consistent with the anti-backsliding requirements of the Clean Water Act and 40 CFR 122.44(l).

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" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Phase 1 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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.) Oct 1 - Apr 30	XXX	XXX	6.0	XXX	9.0	XXX	3/week	Grab
pH (S.U.) May 1 - Sep 30	XXX	XXX	6.0	XXX	9.0	XXX	1/day	Grab
DO Oct 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	3/week	Grab
DO May 1 - Sep 30	XXX	XXX	Report	XXX	XXX	XXX	1/day	Grab
CBOD5	XXX	XXX	XXX	25	XXX	50	2/month	Grab
TSS	XXX	XXX	XXX	30	XXX	60	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
UV Intensity (mW/cm²) Oct 1 - Apr 30	XXX	XXX	Report	XXX	XXX	XXX	3/week	Measured
UV Intensity (mW/cm²) May 1 - Sep 30	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured
Ammonia Nov 1 - May 31	XXX	XXX	XXX	25	XXX	50	2/month	Grab
Ammonia Jun 1 - Oct 31	XXX	XXX	XXX	8.5	XXX	17	2/month	Grab

Compliance Sampling Location: Outfall 001

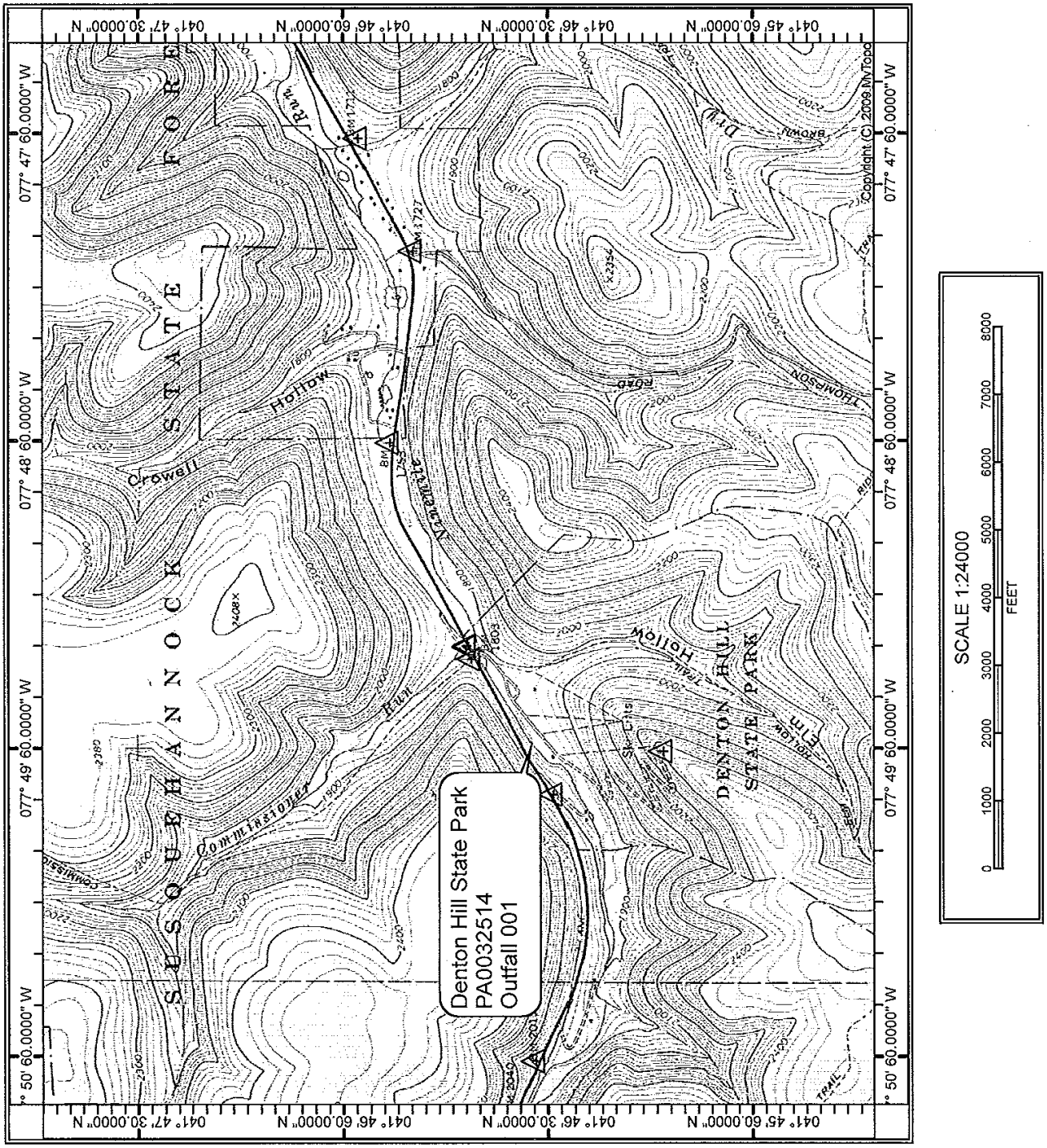
Other Comments: The above limitations and monitoring requirements are unchanged from the existing permit except for the removal of Total Nitrogen and Total Phosphorus monitoring. The existing monitoring frequencies are consistent with the monitoring requirements previously negotiated between the DEP and DCNR.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment **B**)
☐	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Toxics Screening Analysis Spreadsheet (see Attachment)
☒	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☒	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☒	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 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, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 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, 391-2000-022, 3/1999.
☒	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☒	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: Establishing Effluent Limitations for Individual Sewage Permits, rev. 8/23/13
☐	Other:

Attachments:

A. Discharge Location Map
B. WQM7.0 Modeling

Permit No. PA0032514



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
09A	22288	NINEMILE RUN	4.000	1820.00	4.46	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	0.00	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
Denton Hill S P	PA0032514	0.0130	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	8.50	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
09A	22288	NINEMILE RUN	**3.630**	1795.00	6.00	0.00000	0.00	☑

Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	Tributary pH	Stream Temp (°C)	Stream pH
Q7-10	0.100	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
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
09A	22288	NINEMILE 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												
4.000	0.45	0.00	0.45	.0201	0.01280	.45	9.71	21.55	0.11	0.212	20.22	7.00
Q1-10 Flow												
4.000	0.29	0.00	0.29	.0201	0.01280	NA	NA	NA	0.08	0.269	20.33	7.00
Q30-10 Flow												
4.000	0.61	0.00	0.61	.0201	0.01280	NA	NA	NA	0.13	0.180	20.16	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
09A	22288	NINEMILE 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
4.000	Denton Hill S P	9.44	17	9.44	17	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
4.000	Denton Hill S P	1.9	8.5	1.9	8.5	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)		
4.00	Denton Hill S P	25	25	8.5	8.5	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
09A	22288	NINEMILE RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
4.000	0.013	20.216	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
9.706	0.450	21.549	0.107
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.99	0.487	0.37	0.712
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.017	21.285	Owens	6
Reach Travel Time (days)			
0.212			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.021	2.96	0.36	8.21
0.042	2.93	0.36	8.21
0.064	2.90	0.35	8.21
0.085	2.87	0.35	8.21
0.106	2.84	0.34	8.21
0.127	2.81	0.33	8.21
0.148	2.78	0.33	8.21
0.170	2.75	0.33	8.21
0.191	2.72	0.32	8.21
0.212	2.70	0.32	8.21

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
09A	22288	NINEMILE 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)
4.000	Denton Hill S P	PA0032514	0.013	CBOD5	25		
				NH3-N	8.5	17	
				Dissolved Oxygen			3