pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0081337**
Facility Type	**Non-Municipal**	APS ID	**328109**
Major / Minor	**Minor**	Authorization ID	**1244563**

Applicant and Facility Information

Applicant Name	**ATG Properties LLC**	Facility Name	**Northwood Manor MHP**
Applicant Address	PO Box 677	Facility Address	1300 York Haven Road
	Morgantown, PA 19543-0677		York Haven, PA 17370-9624
Applicant Contact	Frank Perano	Facility Contact	Steve Cawley
Applicant Phone	(610) 286-0490	Facility Phone	(610) 594-0101
Client ID	143577	Site ID	271671
Ch 94 Load Status	Not Overloaded	Municipality	Newberry Township
Connection Status		County	York
Date Application Received	August 23, 2018	EPA Waived?	Yes
Date Application Accepted	September 19, 2018	If No, Reason	

Purpose of Application: NPDES Renewal.

Summary of Review

ATG Properties has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit for the Northwood Manor MHP STP. The permit was last reissued on February 27, 2014 and became effective on April 1, 2014. The permit expired on March 31, 2019 but the terms and conditions of the permit have been administratively extended since that time.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted, and a notice of the draft permit be published in the *Pennsylvania Bulletin* for public comments for 30 days. A file review of documents associated with the discharge or permittee may be available at the PA DEP southcentral regional office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO file review coordinator at 717.705.4700.

Public Participation

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

Approve	Deny	Signatures	Date
x		Aaron Baar / Permits Section	November 15, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.019125
Latitude	40º 7' 17.21"	Longitude	-76º 45' 30.85"
Quad Name	Dover	Quad Code	1831
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Conewago Creek (WWF)	Stream Code	08450
NHD Com ID	57463769	RMI	0.25
Drainage Area	0.0358	Yield (cfs/mi^2)	0.15978
Q_{7-10} Flow (cfs)	0.00572	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	479.38	Slope (ft/ft)	
Watershed No.	7-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status			
Nearest Downstream Public Water Supply Intake	Wrightsville Water Supply Company		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI	43.54	Distance from Outfall (mi)	21

Drainage Area

The discharge is to UNT to Conewago Creek at RMI 0.25. A drainage area upstream of the discharge point is determined to be 0.0358 sq.mi. according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Stream Flow

According to StreamStats, this watershed has a Q_{7-10} of 0.00572 cfs and a drainage area of 0.0358 mi^2, which results in a LFY of 0.15978 cfs/mi^2.

UNT to Conewago Creek

25 Pa Code §93.9 classifies UNT to Conewago Creek as a WWF waterway. Effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The discharge is in a stream segment listed as attaining uses. No local TMDL has been taken into consideration during this review.

Public Water Supply Intake

The nearest downstream public water supply intake is the Wrightsville Borough Municipal Authority intake located on the Susquehanna River approximately 21 miles from the discharge. Considering the distance and nature, the discharge is not expected to significantly affect the water supply.

Class A Wild Trout Streams

The receiving stream is not a Class A Wild Trout stream.

Treatment Facility Summary				
Treatment Facility Name: Northwood Manor MHP				
WQM Permit No.	**Issuance Date**			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary With Ammonia Reduction	Extended Aeration	Hypochlorite	0.0191
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0191		Not Overloaded		Other WWTP

ATG Properties, LLC owns and operates the Northwood Manor MHP sanitary wastewater treatment facility located in Newberry Township, York County. The facility serves only the Northwood Manor MHP, all wastes are residential in nature, and all sewer systems are 100% separated. Having an annual average design flow of 0.019125 MGD and a hydraulic design capacity of 0.019125 MGD, this facility consists of a comminutor, an EQ tank, two aeration tanks, one secondary clarifier, two sand filters, a chlorinator, a chlorine contact tank/aeration tank, a dichlorination tank and the outfall (i.e., Outfall 001). Sodium hypochlorite (disinfection), sodium bisulfite (dichlorination) and sodium carbonate (alkalinity amendment) are all utilized at the facility. Solids are stored onsite in a sludge holding tank before being hauled offsite for disposal.

Compliance History	
Summary of DMRs:	A summary of past DMR data is presented on the next page.
Summary of Inspections:	Since the last NPDES permit renewal on February 27, 2014, there are records in the Department's File Room that the facility has been inspected two times. The notes from the inspections are as follows: 3/31/2014: Austin Pardoe, DEP Water Quality Specialist, conducted a routine inspection. Numerous operational issues were identified at the time of inspection. 5/3/2016: Austin Pardoe, DEP Water Quality Specialist, conducted a routine inspection; there was no discharge from the plant at the time of the inspection.

Other Comments: A file review revealed that there is no Clean Water open violation associated with this facility.

Compliance History

DMR Data for Outfall 001 (from October 1, 2018 to September 30, 2019)

Parameter	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18
Flow (MGD) Average Monthly	0.0037	0.0041	0.0044	0.005	0.0173	0.0058	0.0141	0.0088	0.0102	0.0102	0.0147	0.0061
Flow (MGD) Daily Maximum	0.0093	0.0055	0.0097	0.0091	0.0915	0.0234	0.0724	0.0259	0.0382	0.042	0.0414	0.0102
pH (S.U.) Minimum	7.3	7.53	7.0	7.5	7.2	6.9	7.3	7.6	7.4	7.3	7.5	7.9
pH (S.U.) Maximum	8.6	8.4	8.5	8.3	8.5	8.3	8.5	8.3	8.2	8.6	8.5	8.4
DO (mg/L) Minimum	5.92	6.68	2.76	5.67	7.97	7.5	8.93	8.09	8.89	6.71	6.97	7.91
TRC (mg/L) Average Monthly	< 0.017	< 0.020	< 0.015	< 0.010	< 0.016	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TRC (mg/L) Instantaneous Maximum	0.040	0.050	0.040	0.030	0.040	0.050	0.030	0.020	0.010	0.020	0.030	0.020
CBOD5 (mg/L) Average Monthly	< 2	< 2.0	< 2.3	< 3.8	< 2	< 2.1	< 9	< 2.2	< 2.6	< 3.1	< 2.4	< 2.1
CBOD5 (mg/L) Instantaneous Maximum	< 2	< 2.0	2.5	5.5	2	2.2	20.8	2.3	3.4	5.8	2.9	2.2
TSS (mg/L) Average Monthly	< 4	< 4	< 4.3	< 4	< 4.1	< 4	< 6.1	< 4	< 4	< 4.1	< 4	< 5
TSS (mg/L) Instantaneous Maximum	< 4	< 4	4.5	< 4	4.4	< 4	10.8	< 4	< 4	4.4	< 4	6
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1	50	137	< 10	< 2	< 1	< 1	< 1	< 2	< 1	< 2	37
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	2	108	20000	100	11	1	2	< 1	4	7	10	196
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 1.24	< 0.1	< 0.17	< 0.1	< 1.64	< 0.1	< 0.43	< 1.65	< 1.1	< 0.1
Ammonia (mg/L) Instantaneous Maximum	< 0.1	< 0.1	3.11	< 0.1	0.32	0.2	5.11	< 0.1	1.09	8.96	3.98	< 0.1

Compliance History

Effluent Violations for Outfall 001, from: November 1, 2018 To: September 30, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
DO	07/31/19	Min	2.76	mg/L	5.0	mg/L
TRC	08/31/19	Avg Mo	< 0.020	mg/L	0.017	mg/L
Fecal Coliform	07/31/19	IMAX	20000	CFU/100 ml	1000	CFU/100 ml
Ammonia	07/31/19	IMAX	3.11	mg/L	3.0	mg/L

Other Comments: It is this reviewer's understanding that the violations listed above are operational in nature and not a reflection of the treatment capabilities of the existing treatment plant. A file review revealed that there is no Clean Water open violation associated with this facility.

Existing Effluent Limitations and Monitoring Requirements

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	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.017	XXX	0.054	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20.0	XXX	40	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10.0	XXX	20	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	20.0	XXX	40	2/month	8-Hr Composite
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
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	8-Hr Composite

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .019125
Latitude 40º 7' 18.91" **Longitude** -76º 45' 31.01"
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)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Comments: These standards apply, subject to water quality analysis and BPJ where applicable.

Water Quality-Based Limitations

CBOD5, NH3-N and Dissolved Oxygen (DO)

WQM 7.0 version 1.0b is a water quality model designed to assist DEP to determine appropriate permit requirements for CBOD5, NH3-N and DO. DEP's guidance 391-2000-007 provides the technical methods contained in WQM 7.0 for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges.

The model output indicated that existing summer WQBEL of 10 mg/L for CBOD5 is still appropriate. The output also indicated that the existing summer WQBEL of 1.5 mg/L for NH3-N is still protective of water quality.

The monitoring frequency and sample type for NH3-N, CBOD5 and DO are proposed to remain unchanged.

Total Residual Chlorine

Since chlorine is used for disinfection, Total Residual Chlorine (TRC) effluent levels must be regulated in accordance with 25 Pa Code §92a.48(b). DEP's TRC_CALC worksheet is utilized to determine if the existing BAT TBEL is still appropriate. The worksheet indicates that existing limits of 0.017 mg/L (average monthly) and 0.054 mg/L (IMAX) are no longer protective of water quality. New limits of 0.012 mg/L (average monthly) and 0.038 mg/L (IMAX) are proposed in this amendment. Given that the average monthly TRC limit is decreasing by only 0.0056 mg/L and the instantaneous maximum TRC limit is decreasing by only 0.016 mg/L, the existing dechlorination system should be able to achieve the proposed new TRC limits with a minor feed adjustment.

Toxics

DEP's NPDES permit application for minor sewages (less than 1.0 MGD) does not require sampling for heavy metals including Total Copper, Total Lead, and Total Zinc.

Best Professional Judgment (BPJ) Limitations

Dissolved Oxygen

A minimum of 5.0 mg/L for DO is an existing effluent limit and will remain unchanged in the draft permit as recommended by DEP's SOP. This requirement has also been assigned to other sewage facilities in the region. 5.0 mg/L is taken directly from 25 Pa. Code § 93.7(a) and it is also determined to be appropriate according to water quality modeling.

Total Phosphorus & Total Nitrogen

DEP's SOP no. BPNPSM-PMT-033 recommends monitoring requirements for Total Phosphorus and Total Nitrogen for all sewage facilities. Therefore, a routine monitoring for TKN, Nitrate-Nitrite, Total Nitrogen and Total Phosphorus is recommended to be introduced into this permit renewal.

Additional Considerations

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Chesapeake Bay TMDL

The Department formulated a strategy in April 2007, to comply with the EPA's and Chesapeake Bay Foundation's requirements to reduce point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP) to the Bay. In the Strategy, sewage dischargers have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers received annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/l TN and 0.8 mg/l TP. Phase 4 (0.2 -0.4mgd) and Phase 5 (below 0.2mdg) facilities were required to monitor and report TN and TP during permit renewal at a monitoring frequency following Table 6-3 of DEP's Technical Guidance for Development and Specification of effluent Limitations (No. 362-0400-001).

EPA published the Chesapeake Bay Total Maximum Daily Load (TMDL) in December of 2010. Despite extensive restoration efforts during the past 25 years, the TMDL was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries.

In order to address the TMDL, Pennsylvania developed, in addition to the Bay Strategy, a Chesapeake Watershed Implementation Plan (WIP) Phase 1 in January 2011 and Phase 2 in March 2012. In accordance with the Phase 2 WIP and its supplement, re-issuing permits for significant dischargers follow the same phased approach formulated in the original Bay strategy, whilst Phase 4 and Phase 5 will be required to monitor and report TN and TP during permit renewal.

The Phase 2 WIP categorizes this facility as a phase 5 non-significant sewage facility that has a design flow less than 0.2 MGD but greater than 0.002 MGD. The WIP recommends monitoring and reporting for Total Nitrogen and Total Phosphorus throughout the permit term at a frequency no less than annual. The monitoring of these pollutants once every six months will be written in the permit in conformity with other permits issued in the region.

Monitoring Frequency and Sample Type

The facility currently is required to collect 8-hr composite effluent samples of non-Bay parameters twice a month, which is consistent with DEP Guidance 362-0400-001 (Table 6-3).

Antidegradation Requirements

All effluent limitations and monitoring requirements have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Anti-backsliding Requirement

All effluent limits proposed in this fact sheet are as stringent as effluent limits specified in the existing permit renewal. This approach is in accordance with 40 CFR §122.44(l(1).

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: Permit Effective Date through Permit Expiration Date.

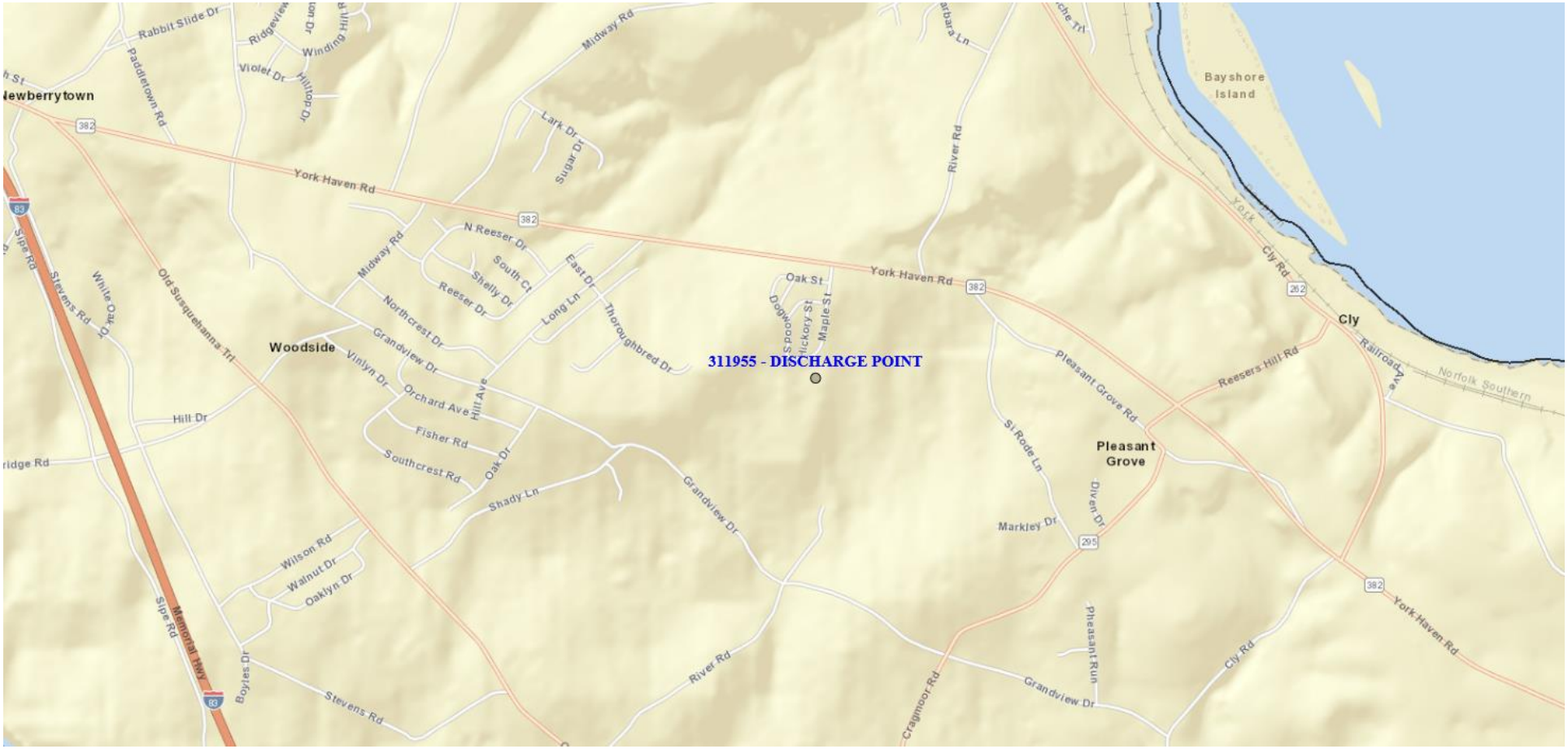
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.012	XXX	0.038	1/day	Grab
CBOD5 Nov 1 - Apr 30	XXX	XXX	XXX	20.0	XXX	40	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	XXX	XXX	XXX	10.0	XXX	20	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	20.0	XXX	40	2/month	8-Hr Composite
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
Nitrate-Nitrite	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Total Nitrogen	XXX	Report Daily Max	XXX	XXX	XXX	XXX	1/6 months	Calculation
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	1.5	XXX	3	2/month	8-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	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
TKN	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite
Total Phosphorus	XXX	Report Daily Max	XXX	Report Daily Max	XXX	XXX	1/6 months	8-Hr Composite

Compliance Sampling Location: Outfall 001

Permit No. PA0081337



Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	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:
☐	Other: