pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0216992**
Facility Type	**Municipal**	APS ID	**1038225**
Major / Minor	**Minor**	Authorization ID	**1353733**

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Shannock Valley General Services Authority**	Facility Name	**Yatesboro STP**
Applicant Address	11 South Center Street	Facility Address	Off of Route 85
	NuMine, PA 16244		Yatesboro, PA 16263
Applicant Contact	Lee Calarie	Facility Contact	Lee Calarie
Applicant Phone	(724) 783-2454	Facility Phone	(724) 783-2454
Client ID	45258	Site ID	241588
Ch 94 Load Status	Not Overloaded	Municipality	Cowanshannock Township
Connection Status	No Limitations	County	Armstrong County
Date Application Received	April 23, 2021	EPA Waived?	Yes
Date Application Accepted	May 11, 2021	If No, Reason	-
Purpose of Application	Renewal of an existing NPDES Permit for an existing discharge of treated sanitary wastewater from a municipal sewer system.		

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:
- A. Stormwater into sewers
- B. Right of way
- C. Solids handling

SPECIAL CONDITIONS:
- II. Solids Management

There are no open violations in efacts associated with the subject Client ID (45258) as of 2/22/2022.

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	2/22/2022
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	2/28/2022

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.22
Latitude	40º 48' 2.87"	Longitude	-79º 21' 2.10"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Cowanshannock Creek (WWF)	Stream Code	46965
NHD Com ID	123853922	RMI	13.6
Drainage Area	26.3	Yield (cfs/mi^2)	0.02
Q_{7-10} Flow (cfs)	0.526	Q_{7-10} Basis	calculated
Elevation (ft)	1082	Slope (ft/ft)	0.003479
Watershed No.	17-E	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	-	Name	-

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

Nearest Downstream Public Water Supply Intake	PA American Water Company - Kittanning District		
PWS Waters	Allegheny River	Flow at Intake (cfs)	987
PWS RMI	45.6	Distance from Outfall (mi)	14.0

Sludge use and disposal description and location(s): Sludge is hauled by J&D Septic to the NuMine WWTP, where it ends up at an approved landfill.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.22 MGD of treated sewage from an existing Publicly Owned Treatment Works (POTW) in Cowanshannock Township, Armstrong County.

Permitted treatment consists of: (WQM Permit no. 0399403) A 49,667 gallon equalization tank, a 222,733 gallon extended aeration tank, a 44,766 gallon clarifier, ultraviolet (UV) light disinfection, and a 3,544 gallon post aeration tank. Sludge is handled through an 80,019 gallon holding tank.

1. Streamflow:

Crooked Creek at Crooked Creek Dam near Ford City, PA - USGS Gage no. 03039000 (1941-1991):

Q_{7-10}:	6.6	cfs	from StreamStats
Drainage Area:	278	sq. mi.	from StreamStats
Yieldrate:	0.023	cfsm	calculated

Cowanshannock Creek at Outfall 001:

Yieldrate:	0.023	cfsm	calculated above
Drainage Area:	0.0455	sq. mi.	from StreamStats
% of stream allocated:	100%	Basis:	No nearby discharges
Q_{7-10}:	0.455	cfs	

2. Wasteflow: Outfall 001:

Maximum discharge: 0.22 MGD = 0.34 cfs

Runoff flow period: 24 hours Basis: Runoff flow for a Municipal STP

There is less than 3 parts stream flow (Q7-10) to 1 part effluent (design flow) at the discharge point. However, since this is an existing discharge, the more stringent treatment requirements cannot be achieved, and the receiving stream is not impaired by the discharge, the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008, will not be implemented in this NPDES Permit renewal.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, Phosphorus, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine. NH_3-N, $CBOD_5$, and Dissolved Oxygen were evaluated using WQM 7.0 at the discharge point.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), which will be retained.

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 mg/l as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30: 200/100ml (monthly average geometric mean)
1,000/100ml (instantaneous maximum)

10/01 - 04/30: 2,000/100ml (monthly average geometric mean)
10,000/100ml (instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/quarter.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 0.05 MGD and less than 1.0 MGD.

e. Total Phosphorus

☒ Limit not necessary

Basis: The previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61.

☐ Limit necessary due to:

☐ Discharge to lake, pond, or impoundment
☐ Discharge to stream

Basis N/A

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used: 7.1 Standard Units (S.U.)

Basis: Average pH value from DMR summary

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background NH_3-N concentration: 0.1 mg/l

Basis: Default value.

Calculated NH_3-N Summer limits: 4.1 mg/l (monthly average)
8.2 mg/l (instantaneous maximum)

Calculated NH_3-N Winter limits: 12.3 mg/l (monthly average)
24.6 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated summer limits above (see Attachment 1), which are more restrictive than in the previous NPDES Permit. The winter limits are calculated as three times the summer limits. Since the new limits are attainable, they will be used with this renewal.

h. $CBOD_5$

Median discharge pH to be used: 7.1 Standard Units (S.U.)

Basis: Average pH value from DMR summary

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25°C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

Calculated $CBOD_5$ Summer limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Calculated $CBOD_5$ Winter limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated summer limits above (see Attachment 1), which are the same as the previous NPDES Permit and will be retained. The winter limits are calculated as three times the summer limits, but since the technology-based limits are more protective, they will be used. Since the summer limits and the winter limits are the same, the limits for $CBOD_5$ will be set year-round as in the previous NPDES Permit.

i. Influent Total Suspended Solids and BOD_5

Monitoring for these two parameters will be retained as recommended in the SOP for POTWs, as authorized under Chapter 92a.61.

j. Dissolved Oxygen (DO)

- ☒ 4.0 mg/l - minimum desired in effluent to protect all aquatic life.
- ☐ 5.0 mg/l - required in effluent for CWF, WWF, or TSF based on WQ Model.
- ☐ 6.0 mg/l - minimum required due to discharge going to a drainage swale or ditch.
- ☐ 8.0 mg/l - required due to discharge going to a naturally reproducing salmonid stream

Discussion: A Dissolved Oxygen technology-based minimum of 4.0 mg/l is recommended by the WQ Model (see Attachment 1), and the SOP, based on Chapter 93.7, under the authority of Chapter 92a.61. Since the Dissolved Oxygen minimum of 5.0 mg/l in the previous permit is attainable, it will be retained with this renewal.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), which will be retained.

k. Total Residual Chlorine (TRC)

☒ No limit necessary

Basis: Since Ultraviolet (UV) light is used for disinfection, limits for TRC are not necessary. UV Transmittance (%) reporting will be retained with this renewal.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), which will be retained.

☐ TRC limits: _____ mg/l (monthly average)
_____ mg/l (instantaneous maximum)

Basis: N/A

4. Reasonable Potential Analysis:

A Reasonable Potential Analysis was not performed in accordance with State practices for Outfall 001 by the Department's Toxics Management Spreadsheet due to a lack of non-sewage data.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Reasonable Potential Analysis above does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate). However, since no non-sewage sample data was provided, no calculations were performed.

Nearest Downstream potable water supply (PWS): PA American Water Company - Kittanning District
Distance downstream from the point of discharge: 14.0 miles (approximate)

☒ No limits necessary
☐ Limits needed

Basis: Significant dilution available.

6. Anti-Backsliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

7. Flow Information:

The Yatesboro STP receives 58% of its flow from the Rural Valley Borough and 42% from the Cowanshannock Township.

The Rural Valley Borough and the Cowanshannock Township are both 100% separate sewer systems.

8. Attachment List:

Attachment 1 - WQ Modeling Printouts

(The Attachments above can be found at the end of this document)

Compliance History

DMR Data for Outfall 001 (from January 1, 2021 to December 31, 2021)

Parameter	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21
Flow (MGD) Average Monthly	0.145	0.080	0.111	0.083	0.120	0.121	0.092	0.150	0.090	0.144	0.109	0.109
Flow (MGD) Daily Maximum	0.210	0.128	0.179	0.153	0.213	0.208	0.200	0.199	0.214	0.205	0.199	0.197
pH (S.U.) Minimum	7.1	7.0	7.0	7.0	6.9	7.0	6.8	6.8	6.7	6.8	6.6	6.9
pH (S.U.) Maximum	7.7	7.5	7.5	7.5	7.6	7.5	7.6	7.7	7.4	7.5	7.7	7.5
DO (mg/L) Minimum	5.1	5.0	5.0	5.0	5.0	5.0	5.0	5.5	5.6	6.3	6.0	6.0
CBOD5 (lbs/day) Average Monthly	7.9	2.0	2.77	2.1	2.88	2.2	1.73	4.3	2.6	3.2	2.0	1.8
CBOD5 (lbs/day) Weekly Average	11.3	3.2	4.48	3.8	5.11	3.8	3.75	5.7	6.1	4.6	3.7	3.3
CBOD5 (mg/L) Average Monthly	6.5	3.0	3.0	3.0	2.88	2.2	2.25	3.44	3.44	2.7	2.25	2.0
CBOD5 (mg/L) Weekly Average	8.83	3.0	3.0	3.0	2.88	2.2	2.25	3.44	3.44	2.7	2.25	2.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	117	161	140	101	121	79	9.1	153	153	137	195	211
BOD5 (lbs/day) Raw Sewage Influent Weekly Average	169	257	226	186	215	134	16.4	203	364	137	195	211
BOD5 (mg/L) Raw Sewage Influent Average Monthly	97	241	151.7	145.4	121	78	98.4	122.25	204	116	217	305
BOD5 (mg/L) Raw Sewage Influent Weekly Average	122	241	309	145.4	121	78	98.4	122.25	204	116	217	305
TSS (lbs/day) Average Monthly	8.0	2.29	5.6	5.2	4.34	5.2	4.1	7.0	5.2	9.0	8.3	10.0
TSS (lbs/day) Raw Sewage Influent Average Monthly	161	121.0	275	142.2	184.7	187	126	1.45	114	107	297	318
TSS (lbs/day) Raw Sewage Influent Weekly Average	233	193.6	444	262.2	327.9	321	275	1.93	273	107	297	318

TSS (lbs/day) Weekly Average	11.5	3.67	9.1	9.6	7.7	8.9	8.8	9.0	12.5	13.0	15.0	18.0
TSS (mg/L) Average Monthly	6.6	3.44	6.1	7.5	4.34	5.125	5.3	5.4	7.0	7.4	9.25	11.0
TSS (mg/L) Raw Sewage Influent Average Monthly	133	181.4	298	205.5	184.6	185	164.8	116	153	104	340	467
TSS (mg/L) Raw Sewage Influent Weekly Average	220	181.4	665	205.5	184.6	185	164.8	116	153	104	340	467
TSS (mg/L) Weekly Average	11.6	6.40	8.40	7.5	4.34	5.125	5.3	5.4	7.0	7.4	9.25	11.0
Fecal Coliform (CFU/100 ml) Geometric Mean	37.2	97.8	20	37.6	13.62	3.1	24.2	20.19	1	27	9.6	4.5
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	980.4	344.8	95.8	101.7	46.5	15.800	75.900	204.60	1.000	224.70	48.00	30.90
UV Transmittance (%) Average Monthly	13.0	13.1	12.9	12.8	12.8	12.7	12.8	12.9	13.0	13.1	13.1	13.1
Ammonia (lbs/day) Average Monthly	0.12	0.066	0.09	0.069	0.4009	0.10	0.077	0.125	0.34	0.22	0.10	0.10
Ammonia (lbs/day) Weekly Average	0.18	0.106	0.14	0.127	0.712	0.17	0.1668	0.166	0.82	0.31	0.18	0.18
Ammonia (mg/L) Average Monthly	0.1000	0.1000	0.1000	0.1000	0.4006	0.1	0.1000	0.1000	0.4575	0.18	0.11	0.11
Ammonia (mg/L) Weekly Average	0.1000	0.1000	0.1000	0.1000	0.4006	0.1	0.1000	0.1000	0.4575	0.18	0.11	0.11

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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Recorded
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
CBOD5 Nov 1 - Apr 30	45.9	69.8	XXX	25.0	38.0	50	1/week	8-Hr Composite
CBOD5 May 1 - Oct 31	36.7	55.1	XXX	20.0	30.0	40	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	8-Hr Composite
TSS	55.1	82.6	XXX	30.0	45.0	60	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	Report	XXX	1/week	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	1/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	1/week	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
UV Transmittance (%)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/day	Measured
Total Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	22.5	33.7	XXX	12.3	18.4	24.6	1/week	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	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia-Nitrogen May 1 - Oct 31	7.5	11.2	XXX	4.1	6.1	8.2	1/week	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliform are technology based on Chapter 92a.47. Monitoring for influent BOD5 and influent Total Suspended Solids is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based on Chapter 93.7. Monitoring for E. Coli, UV Transmittance, Total Nitrogen, and Total Phosphorus is based on Chapter 92a.61.

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17E	46965	COWANSHANNOCK CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
13.600	Yatesboro	PA0216992	0.220	CBOD5	25		
				NH3-N	4.19	8.38	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17E	46965	COWANSHANNOCK CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
13.600	0.220	25.000	7.037
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
17.793	0.532	33.423	0.091
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
11.04	0.462	1.65	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.576	15.794	Owens	5
Reach Travel Time (days)			
2.940			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.294	9.30	1.22	7.45
0.588	7.84	0.90	7.54
0.882	6.61	0.66	7.54
1.176	5.57	0.49	7.54
1.470	4.70	0.36	7.54
1.764	3.96	0.27	7.54
2.058	3.34	0.20	7.54
2.352	2.81	0.15	7.54
2.646	2.37	0.11	7.54
2.940	2.00	0.08	7.54

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

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
17E	46965	COWANSHANNOCK CREEK	**13.600**	1082.00	26.30	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	0.020	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Yatesboro	PA0216992	0.2200	0.0000	0.0000	0.000	25.00	7.10

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	2.00	0.00	1.50
Dissolved Oxygen	4.00	8.24	0.00	0.00
NH3-N	25.00	0.00	0.00	0.70

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
17E	46965	COWANSHANNOCK CREEK	**9.200**	1003.00	40.80	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	0.020	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		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 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17E	46965	COWANSHANNOCK CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
13.600	Yatesboro	10.61	21.1	10.61	21.1	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
13.600	Yatesboro	1.35	4.19	1.35	4.19	1	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)		
13.60	Yatesboro	25	25	4.19	4.19	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
17E	46965	COWANSHANNOCK CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
13.600	0.53	0.00	0.53	.3403	0.00340	.532	17.79	33.42	0.09	2.940	25.00	7.04
Q1-10 Flow												
13.600	0.34	0.00	0.34	.3403	0.00340	NA	NA	NA	0.08	3.375	25.00	7.05
Q30-10 Flow												
13.600	0.72	0.00	0.72	.3403	0.00340	NA	NA	NA	0.10	2.632	25.00	7.03