pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0024490**
Facility Type	**Municipal**	APS ID	**814317**
Major / Minor	**Minor**	Authorization ID	**1257359**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Rockwood Borough Municipal Authority Somerset County**	Facility Name	**Rockwood Borough STP**
Applicant Address	669 Somerset Avenue	Facility Address	163 River Road
	Rockwood, PA 15557-1034		Rockwood, PA 15557
Applicant Contact	Cary A. Phillippi	Facility Contact	Chet Cyga
Applicant Phone	(814)926-2833	Facility Phone	(814)279-5224
Client ID	64637	Site ID	238610
Ch 94 Load Status	Not Overloaded	Municipality	Black Township
Connection Status	No Limitations	County	Somerset
Date Application Received	January 2, 2019	EPA Waived?	No
Date Application Accepted	January 8, 2019	If No, Reason	Minor CSO

Purpose of Application: NPDES Permit Renewal for Discharge of Treated Sewage Effluent.

Summary of Review

The Rockwood Borough Municipal Authority has applied for a renewal of NPDES Permit PA0024490, which was last issued on July 1st, 2014 and it expired on June 30, 2019. The renewal permit was submitted to the Department on May 17, 2019 which was considered late.

The wastewater treatment plant includes the following facilities: influent pumping station, aerated grit chamber, comminutor / bypass bar screen, two aeration lagoons, two chlorine contact tanks, sludge drying beds, and effluent flow meter.

The NPDES permit authorized a discharge of 0.30 MGD from the Rockwood Borough STP to the Casselman River. The Casselman River is classified as WWF at the point of discharge.

The collection system is a combined system and contains two permitted CSO Outfalls No. 002 & 005, which the applicant requests to re-permit.

WQM Permit No. 56904045 A-3 issued at September 23, 2020 authorized to modify the disinfection system at the STP from chlorine gas to sodium hypochlorite. The Borough has proposed the change to provide a safer work environment for the operators and employees.

The permit writer did a site visit on August 10, 2022 with the consultant and the authority. A letter was sent on August 22, 2022 to address the following technical deficiencies:

Approve	Deny	Signatures	Date
X		Hazim Aldalli / Environmental Engineering Specialist	October 12, 2023
x		Mahbuba Iasmin, Ph.D., P.E./ Environmental Engineering Manager	January 5, 2023

Summary of Review

- The following effluent sampling results are missing within the renewal application: Total Residual Chlorine (TRC), Temperature, Total Nitrogen, Ammonia-Nitrogen, Total Phosphorus, Total Dissolved Solids (TDS), Bromide, Sulfate, Oil & Grease, Aluminum (Al), Iron (Fe), and Manganese (Mn).

- Application (pages 2 and 3) is not showing details about the sludge disposal process including (if any) land application, off-site disposal on a permitted landfill, and facility biosolids production in tons/day.

- On October 24, 2007, the Department received a Post Construction Compliance Monitoring Plan (PCCMP) within Addendum to Long Term Control Plan for Combined Sewer Overflows submitted by The EADS Group, Inc. The PCCMP received was not approvable due to technical deficiency, i.e., lack of technical information. DEP is requesting to resubmit a modified PCCMP and a report on PCCMP demonstrating compliance with elimination and/or capture of at least 85% of the wet weather overflows in its collection system on an annual average basis. USEPA's *CSO Post Construction Compliance Monitoring Guidance* (May 2012, EPA-833-K-11-001) need to be followed to develop PCCMP for your facility.

- In October 24, 2007 submission, it was noted that Outfall 004 was still operating as a combined sewer outfall (CSO) in addition to Outfalls 002 and 005. During the site visit on August 10, 2022, the Borough noted that only Outfalls 002 and 005 are currently operating as CSOs. DEP need to confirm the status of Outfall 004.

- Submit/re-submit the monthly CSO supplemental reports (Form 3800-FM-BPNPSM0441 and 0442) listed in Part A-IB of your current Permit.

- A Preparedness, Prevention, and Contingency (PPC) plan for the stormwater outfalls needs to be submitted and approved by the Department.

- Include the infiltration/inflow elimination program details outlined in Page 14 of 2021 Chapter 94 report.

The Authority's engineer responded back on October 20, 2022, with the requested information and documents.

CSO Status

DEP issued a conditional LTCP approval back on August 17, 2007. The Authority commenced a sewer separation project in 2007. CSOs 004, and 007 were closed and sealed. Outfalls 003, 006, and 008 were eliminated.

The Authority has taken the "Presumption Approach" for the remaining CSO Outfalls 002 and 005 to capture 85% of the CSO flow for treatment and limit the number of overflows from these CSOs to 4 events per year. The authority managed to achieve these goals which were verified through the renewal application data and the reviewed CSO (Monthly and Annually) reports. The submitted information were also confirmed during the site visit on September 12, 2023.

Nine Minimum Controls (NMCs) information submitted via CH94 reports and available in the Operation's inspection reports were reviewed. No work been mentioned towards "Maximize Flow to Sewage Treatment Plant" or "Plan to Implement Additional Collection Storage" under NMCs 2 & 4. DEP still missing any I&I removal work (proposed or implemented) within the NMCs plan. Applicant responded to these deficiencies with a revised plan that lightens the next steps for each control and the reporting mechanism under CH94 reports. Applicant was asked to show compliance and plan implementation progress within the coming CH94 report for 2023.

A Post Construction Compliance and Monitoring Plan (PCCMP) was submitted to DEP in October 2022 which was reviewed following USEPA's *CSO Post Construction Compliance Monitoring Guidance* (EPA-833-K-11-001, May 2012) and PADEP's "*Water Quality Monitoring Protocols for Streams and Rivers*, 2021" guidance document. The PCCMP includes the location, monitoring frequencies, and the monitored parameters. However, several deficiencies were noticed including the water quality sampling technique, the criteria for encountering the wet weather volume, and how to measure CSO flows entering the WWTP. The applicant responded to these deficiencies to start the approval process which included reviewing all the available information besides the received plan. The most updated available reports (CH94 reports, inspection reports, and site visits) were reviewed. The plan was finally approved, and it will be attached to the final permit so that the Rockwood Borough MA can start implementing the plan.

Summary of Review

Reviewing the updated LTCP addendum submitted on October 20, 2022 shows that the authority fulfilled the original LTCP conditional approval obligations, which are discussed above.

Part C-107 will be added to the permit outlining the CSO obligations and ongoing and future tasks under the approved LTCP.

A Preparedness, Prevention and Contingency (PPC) plan was submitted to DEP on November 8, 2022. The PPC plan was reviewed and approved following the current regulations and DEP's SOPs. The permittee is required to comply with this plan and make it available during DEP inspection events.

The permittee mentioned in the renewal application that there was/were bypass/overflow incident(s), but no separate sheet was filled based on DEP- SOP Permit Application Instructions (3800-PM-BCW0342a, Rev. 8/2021). In addition to the CSO requirements under the current permit, the permittee is required to develop and implement a High Flow Management Plan (HFMP) to address the impact of high flows to the treatment plant during wet weather. The permittee currently does not have a HFMP. The Part C-9 permit condition has been included in the permit to address HFMP requirement.

EPA Pretreatment Program Status

The Rockwood Borough STP treatment plant has the EPA waiver for Industrial Pretreatment Program development since it is a minor sewage treatment facility with design flow less than 5.0 MGD.

The facility has one industrial user, i.e., a plating factory named Rockwood Manufacturing. Rockwood Manufacturing is a categorial industrial facility and a significant industrial user (SIU) per 40 CFR § 403.3. The Department issued a No Exposure certification for stormwater associated with industrial activity (NOEXSW178) to this facility on March 27, 2020. The Borough enforces pretreatment standards through sanitary sewer regulations/ordinances.

Summary of Data Monitoring Reports (DMRs)

Checking on the eDMR reports from 2018-2023, several exceedances (especially for TRC and Fecal Coliform) over the last five years were noticed but no consistency with those violations were observed. Additionally, no DMR violations were noted on the inspection report dated July 15, 2021.

The Operations compliance report (attached to this factsheet) has an open enforcement for the STP based on the violations on failure to respond to the sampling frequency of Ammonia Nitrogen (NH_3-N) sampling of 1/month under the last permit. The Notice of Violation was issued on February 11, 2020. When checking the last two years of eDMRs (2022-2023), the permittee shows compliance with (NH_3-N) sampling frequency. Operations will be asked to resolve the open violations based on recent evaluation before issuing the draft permit. As an update to the previous statement, Operations resolved the open violation and it's showed within the open violations reports per Client ID over WMS.

An appropriate evidence of the Act – 14 PL 834 Municipal Notification was provided by October 4 & December 18, 2018 letters. No comments were received.

Sludge use and disposal description and location(s): No sludge was removed or applied according to the renewal application and DEP's site visits.

Anti-Backsliding

No effluent limits have been relaxed compared to the effluent limits imposed during the last permit cycle. Additionally, the permittee is not asking for relaxation of limits.

Summary of Review
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. Draft permit issuance is recommended. Following includes additional information and justification used to develop permit effluent limits and/or monitoring requirements.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.30
Latitude	39º 54' 42"	Longitude	-79º 9' 17"
Quad Name	Rockwood	Quad Code	39079H2
Wastewater Description:	Sewage Effluent		
Receiving Waters	Casselman River (WWF)	Stream Code	38579
NHD Com ID	134770226	RMI	21.89
Drainage Area	341	Yield (cfs/mi^2)	0.047
Q_{7-10} Flow (cfs)	16.1	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	2398	Slope (ft/ft)	0.0015
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s) Aquatic Life		
Cause(s) of Impairment	METALS; PH; ALUMINUM; IRON; MANGANESE; PH, LOW		
Source(s) of Impairment			
TMDL Status	Final	Name	Casselman River

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

Nearest Downstream Public Water Supply Intake	INDIAN CREEK VALLEY WATER AUTH		
PWS Waters	Youghiogheny River	Flow at Intake (cfs)	64.7
PWS RMI	62.7	Distance from Outfall (mi)	>30.0

Changes Since Last Permit Issuance:

- Q_{7-10} flow, elevation, drainage area, and low flow yield were all updated to match USGS Stream Stats new data (see Appendix E).
- DEP updated its WQM 7.0 criteria for Ammonia-Nitrogen (NH_3-N) in 2019. Limits and conditions of this permit need to be redeveloped to an adequate level to protect water quality.
- *E. Coli* monitoring requirements will be introduced to this renewal which is in compliance with DEP SOP No. BCW-PMT-033 revised March 24, 2021.

Other Comments: None.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0 (precipitation induced)
Latitude	39º 54' 44"	Longitude	-79º 9' 38"
Quad Name	Rockwood	Quad Code	39079H2
Wastewater Description:	Combined Sewer Overflow		

Receiving Waters	Casselman River (WWF)	Stream Code	38579
NHD Com ID	134770226	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status			
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	None.		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	005	Design Flow (MGD)	0 (precipitation induced)
Latitude	39º 54' 56"	Longitude	-79º 9' 07"
Quad Name	Rockwood	Quad Code	39079H2
Wastewater Description:	Combined Sewer Overflow		
Receiving Waters	Coxes Creek (WWF)	Stream Code	38944
NHD Com ID	134770226	RMI	
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	19-F	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	Site Clearance (Land Development or Redevelopment) - Habitat Alterations, Abandoned Mine Drainage		
Source(s) of Impairment	Suspended Solids		
TMDL Status	Final	Name	Coxes Creek Watershed

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

Nearest Downstream Public Water Supply Intake	None.		
PWS Waters		Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	

Treatment Facility Summary

Treatment Facility Name: Rockwood Borough STP

WQM Permit No.	Issuance Date
5690405 A-3	9/23/2020
5690405 A-2	8/21/2006
5690405 A-1	5/13/1999
5690405	7/30/1991

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Aerated Lagoon	Chlorine Gas	0.211

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.30	500	Not Overloaded	Off Site	Landfill

Changes Since Last Permit Issuance: WQM 5690405 A-3 issued on 9/23/2020 approved the modification of sewage facilities consisting of:

- One 44 gpd Chemical Feed Pump
- One 94 gpd Chemical Feed Pump
- A 250 mL Chlorine Calibration Column
- A 200 gallons Double Wall Chemical Storage Tank

The purpose of this project is to modify the disinfection system at the STP from chlorine gas to sodium hypochlorite. The Borough has proposed the change to provide a safer work environment for the operators and employees.

Other Comments: None.

Operations Compliance Check Summary Report

Facility: Rockwood Boro STP

NPDES Permit No.: PA0024490

Compliance Review Period: 2/2017 – 2/2022

Inspection Summary:

INSP ID	INSPECTED DATE	INSP TYPE	AGENCY	INSPECTION RESULT DESC
3220975	07/15/2021	Combined Sewer Overflow-Non-Sampling	PA Dept of Environmental Protection	No Violations Noted
3212689	06/15/2021	Routine/Partial Inspection	PA Dept of Environmental Protection	No Violations Noted
3008941	02/11/2020	Compliance Evaluation	PA Dept of Environmental Protection	Violation(s) Noted
2806317	10/10/2018	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted
2806320	10/10/2018	Compliance Evaluation	PA Dept of Environmental Protection	No Violations Noted

Violation Summary:

VIOL ID	VIOLATION DATE	VIOLATION TYPE	VIOLATION TYPE DESC	RESOLVED DATE
879708	02/11/2020	92A.61(C)	NPDES - Failure to monitor pollutants as required by the NPDES permit	03/10/2020

Open Violations by Client ID:

No open violations for Client ID 64637

Enforcement Summary:

ENF ID	ENF TYPE	ENF CREATION DATE	VIOLATIONS	# OF VIOLATIONS	PENALTY AMOUNT	AMOUNT RECEIVED	ENF FINALSTATUS	ENF CLOSED DATE
384630	NOV	03/10/2020	92A.61(C)	1				

DMR Violation Summary:

MONITORING END DATE	OUTFALL	PARAMETER	STATISTICAL BASE CODE	PERMIT VALUE	SAMPLE VALUE	UNIT OF MEASURE
8/31/2021	1	Fecal Coliform	Instantaneous Maximum	1000	2420	CFU/100 ml
8/31/2020	1	Total Suspended Solids	Weekly Average	112	120	lbs/day
8/31/2020	1	Total Suspended Solids	Weekly Average	45	70	mg/L
3/31/2020	1	Total Suspended Solids	Weekly Average	112	113.3	lbs/day
9/30/2018	1	Fecal Coliform	Instantaneous Maximum	1000	1733	CFU/100 ml
9/30/2018	1	Flow	Average Monthly	0.3	0.3295	MGD
8/31/2018	1	Fecal Coliform	Instantaneous Maximum	1000	2420	CFU/100 ml
2/28/2018	1	Flow	Average Monthly	0.3	0.3309	MGD

DMRs were evaluated from 2/2017 to present.

Compliance Status:

Permittee currently has an open enforcement.

Completed by: John Murphy

Completed date: 2/1/2022

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.30
Latitude 39º 54' 42.00" **Longitude** -79º 9' 17.00"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

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

Pollutant	Limit (mg/L)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)
E. Coli (No./100 ml)	Report	IMAX	-	92a.61
D.O. (mg/L)	4.0	Min	-	BPJ
NH_3-N (mg/L)	25	Average Monthly	-	BPJ
	50	IMAX		
Total N (mg/L)	Report	Average Monthly	-	92a.61
Total P (mg/L)	Report	Average Monthly	-	92a.61

Comments: The existing discharge was evaluated using WQM 7.0 for $CBOD_5$, Ammonia Nitrogen and Dissolved Oxygen. Stream water flow ratio to wastewater discharge = 10.406/0.3= 34.0.

The Total Suspended Solids (TSS), pH, and Fecal Coliform parameters are not evaluated using WQM 7.0. The bases for the proposed technology-based limitations are listed in the above table.

Water Quality-Based Limitations

The following limitations were determined through water quality modeling, output files attached (Appendix A, B, and D):

Parameter	Limit (mg/L)	SBC	Model
TRC	0.5	Average Monthly	DEP TRC Calculation
$CBOD_5$ (May1-Oct 31)	25	Average Monthly	WQM7.0
$CBOD_5$ (Nov 1- Apr 30)	25	Average Monthly	WQM7.0
NH_3-N (May1-Oct 31)	25	Average Monthly	WQM7.0
NH_3-N (Nov 1- Apr 30)	25	Average Monthly	WQM7.0
Dissolved Oxygen	4.0	Minimum	WQM7.0

Per *DEP-SOP – Establishing Effluent Limitations for Individual Sewage Permits, Revised, March 24, 2021*, for existing discharges, for Ammonia-Nitrogen if WQM modeling results for summer indicates that an average monthly limit of 25 mg/L is acceptable, the application manager will generally establish a year-round monitoring requirement for Ammonia-Nitrogen, at a minimum. A year around WQBEL AML of 25 mg/L and an Ins. Max of 50 mg/L with a weekly sampling frequency will be imposed for this renewal. The previous permit did not include a limit for Ammonia-Nitrogen, and only required monitoring.

Checking on the eDMR, the facility can meet the newly imposed Ammonia limit as the plant has achieved effluent limits of NH_3-N lower than the propose limit. No compliance schedule is necessary (see Appendix C for the last five years of Ammonia's eDMR).

Best Professional Judgment (BPJ) Limitations

A minimum Dissolved Oxygen (DO) limit of 4.0 mg/L was established based on Best Professional Judgment (BPJ) to ensure adequate operation and maintenance as listed in the table under Technology-Based Limitations section.

Casselman River TMDL

Casselman River segment (26 miles) is affected by pollution from Resource Extraction (RE). This pollution has developed a TMDL for metals over the watershed. All other river segments within the watershed are affected by Abandoned Mine Drains (AMD).

Parameter*	***Criterion Value (mg/L)***	***Total Recoverable/Dissolved***
Aluminum (Al)	0.75	Total Recoverable
Iron (Fe)	1.5	30 days average; Total Recoverable
Manganese (Mn)	1.00	Total Recoverable
pH	6.0-9.0	N/A

**Source: EPA "Final Casselman River TMDL" May 2009.*

This facility is considered a "negligible Discharge Facility" as identified in Casselman River Watershed TMDL report (approved June 9, 2009), and the aggregate WLAs were based on the sum of the available information regarding flow from each facility multiplied by the applicable numeric water quality criteria.

The contribution for Aluminum, Iron, and Manganese from a sewage plant of this nature is expected to be insignificant to the water quality criteria and therefore this facility been considered a "Negligible Discharge". The application's effluent sampling results for TMDL metals showed no in stream water quality criteria exceedance. Therefore, no limits or monitoring requirements are needed to be imposed for this renewal. The permittee will be asked again to show no violations to the water quality criteria for this TMDL through the renewal application effluent sampling.

Total Dissolved Solids (TDS) and its Major Constituents

Total Dissolved Solids (TDS) and its major constituents including sulfate, chloride, and bromide have emerged as pollutants of concern. The conservative nature of these solids allows them to accumulate in surface waters and they may remain a concern even if the immediate downstream public water supply is not directly impacted. Bromide has been linked to formation of disinfection byproducts at increased levels in public water systems.

Because of actions associated with Triennial Review 13, the Environmental Quality Board has directed DEP to collect additional data if the Bromide is greater than 1 mg/L, and the TDS is greater than 1000 mg/L or the TDS exceeds 20,000 lbs/day. The maximum reported concentration for Bromide is <0.152 mg/L as listed in the renewal application dated 12/19/2018. The maximum reported concentration for TDS is 373 mg/L as listed in the renewal application dated 12/19/2018.

Therefore, monitoring is not required for TDS, Bromide, Chloride, and Sulfate.

TN and TP Monitoring

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). Sewage discharges with design flows > 2,000 gpd require monitoring. Casselman River segment within the facility is not impaired for nutrients. Per DEP-SOP No. BCW-PMT-033 revised March 24, 2021, 1/year monitoring for Total Nitrogen and Total Phosphorus will be applied at Outfall 001.

Disinfection

Total Residual Chlorine (TRC) limits are updated based on the DEP preset values entered in the Department Calculation Sheet (see Appendix D) for chlorine stream and discharge demands. Pursuant to State Regulation 92a.48(b)(1), a BAT limit of 0.5 mg/L and IMAX of 1.6 mg/L will be imposed. Per eDMR values, the plant has achieved effluent limits of TRC lower than these limits; no compliance schedule is necessary to be given.

E. Coli

Pursuant to 25 Pa. code § 92a.61(b), quarterly monitoring for *E. Coli* will be imposed at Outfall 001 per DEP SOP No. BCW-PMT-033 revised March 24, 2021.

Mass Loadings

Mass loading limits are applicable for publicly owned treatment works (POTW). Current policy requires average monthly and average weekly mass loading limits be established for $CBOD_5$ and TSS.

Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

Influent Monitoring

Per DEP SOP No. BCW-PMT-033 revised March 24, 2021, for POTWs with design flows greater than 2,000 GPD, influent BOD_5 and TSS monitoring must be established in the permit, and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters.

Monitoring Frequency Considerations

For pH, Dissolved Oxygen (DO) and Total Residual Chloride (TRC), a monitoring frequency of “1/day” has been imposed. The daily monitoring frequencies are consistent with current policy and Table 6-3 of DEP’s Technical Guidance for the Development and Specification of Effluent Limitations. Daily monitoring is required for these parameters to provide minimum assurance that the facility is being operated properly.

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
Dissolved Oxygen	XXX	XXX	4.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	62	95	XXX	25.0	38.0	50	1/week	8-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	1/week	8-Hr Composite
TSS	75	112	XXX	30.0	45.0	60	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
Ammonia-Nitrogen	Report	XXX	XXX	25.0	XXX	50.0	1/week	8-Hr Composite
E. Coli (No./100ml)	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/year	Grab

Compliance Sampling Location: Outfall 001
Other Comments: None.

Appendix A – WQM 7.0 Modeling – Summer Conditions

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
19F	38579	CASSELMAN RIVER	**21.890**	2395.00	341.00	0.00150	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	0.047	16.10	0.00	0.000	0.000	0.0	144.00	2.95	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
Rockwood STP	PA0024490	0.3000	0.3000	0.3000	0.000	20.00	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	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
19F	38579	CASSELMAN RIVER	**18.950**	2386.00	351.00	0.00150	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	0.048	16.70	0.00	0.000	0.000	0.0	150.00	2.95	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
Rockwood STP	PA0024490	0.3000	0.3000	0.0000	0.000	20.00	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	4.00	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
19F	38579	CASSELMAN RIVER

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												
21.890	16.10	0.00	16.10	.4641	0.00150	2.95	144	48.81	0.04	4.608	24.86	7.00
Q1-10 Flow												
21.890	10.30	0.00	10.30	.4641	0.00150	NA	NA	NA	0.03	7.088	24.78	7.00
Q30-10 Flow												
21.890	21.90	0.00	21.90	.4641	0.00150	NA	NA	NA	0.05	3.413	24.90	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	5		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
21.890	0.300	24.860	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
144.000	2.950	48.814	0.039
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.64	0.048	0.70	1.017
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.124	0.503	O'Connor	5
Reach Travel Time (days)			
4.608			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.461	2.57	0.44	7.02
0.922	2.50	0.27	6.55
1.382	2.43	0.17	6.42
1.843	2.36	0.11	6.48
2.304	2.30	0.07	6.63
2.765	2.24	0.04	6.81
3.225	2.17	0.03	6.99
3.686	2.11	0.02	7.16
4.147	2.06	0.01	7.31
4.608	2.00	0.01	7.45

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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
21.890	Rockwood STP	11.27	50	11.27	50	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
21.890	Rockwood STP	1.38	25	1.38	25	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)		
21.89	Rockwood STP	25	25	25	25	4	4	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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)
21.890	Rockwood STP	PA0024490	0.300	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Appendix B – WQM 7.0 Modeling – Winter Conditions

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
19F	38579	CASSELMAN RIVER	**21.890**	2395.00	341.00	0.00150	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	0.094	16.10	0.00	0.000	0.000	0.0	144.00	2.95	5.00	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
Rockwood STP	PA0024490	0.3000	0.3000	0.3000	0.000	15.00	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	4.00	12.51	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
19F	38579	CASSELMAN RIVER	**18.950**	2386.00	351.00	0.00150	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	0.096	16.70	0.00	0.000	0.000	0.0	150.00	2.95	5.00	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
Rockwood STP	PA0024490	0.3000	0.3000	0.0000	0.000	15.00	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	4.00	12.51	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
19F	38579	CASSELMAN RIVER

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												
21.890	16.10	0.00	16.10	.4641	0.00150	2.95	144	48.81	0.04	4.608	5.28	7.00
Q1-10 Flow												
21.890	10.30	0.00	10.30	.4641	0.00150	NA	NA	NA	0.03	7.088	5.43	7.00
Q30-10 Flow												
21.890	21.90	0.00	21.90	.4641	0.00150	NA	NA	NA	0.05	3.413	5.21	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	5		

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
21.890	0.300	5.280	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
144.000	2.950	48.814	0.039
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.64	0.119	0.70	0.225
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
12.272	0.503	O'Connor	5
Reach Travel Time (days)			
4.608			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.461	2.57	0.63	11.37
0.922	2.50	0.57	11.37
1.382	2.43	0.51	11.37
1.843	2.36	0.46	11.37
2.304	2.30	0.42	11.37
2.765	2.24	0.38	11.37
3.225	2.17	0.34	11.37
3.686	2.11	0.31	11.37
4.147	2.06	0.27	11.37
4.608	2.00	0.25	11.37

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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
21.890	Rockwood STP	24.1	50	24.1	50	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
21.890	Rockwood STP	4.36	25	4.36	25	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)		
21.89	Rockwood STP	25	25	25	25	4	4	0	0

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
19F	38579	CASSELMAN RIVER

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)
21.890	Rockwood STP	PA0024490	0.300	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

Appendix C – Data Monitoring Reports –

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National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

4/26/2022 2:53:49 PM

Region: SWRO
County: 56 - Somerset
Municipality: All
Permit #: PA0024490
Monitoring Period Date Range: 7/1/2017 To 4/1/2022
Client: All
Parameter: Ammonia-Nitrogen (00610)

Permit #:	PA0024490	Facility Address:	ROCKWOOD BORO STP 163 RIVER RD ROCKWOOD, PA 15557
Client ID / Name:	64637 - ROCKWOOD BORO MUNI AUTH SOMERSET CNTY		
Primary Facility ID / Name:	241449 - ROCKWOOD BORO STP	County:	Somerset
Major Facility:	No	Municipality:	Rockwood Boro
Region:	SWRO	Latitude / Longitude:	39.911667 / -79.154722

Monitoring Period Begin Date	Monitoring Period End Date	DMR Received Date	Outfall	Discharge	Monitoring Location	Parameter Name	Parameter Code	DMR Value	Permit Limit	Units	Statistical Base Code
07/01/2017	07/31/2017	08/25/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
08/01/2017	08/31/2017	09/28/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
09/01/2017	09/30/2017	10/25/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
10/01/2017	10/31/2017	11/27/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
11/01/2017	11/30/2017	12/27/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly

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National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

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11/01/2017	11/30/2017	12/27/2017	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
12/01/2017	12/31/2017	01/27/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
01/01/2018	01/31/2018	02/28/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
02/01/2018	02/28/2018	03/27/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
03/01/2018	03/31/2018	04/30/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
04/01/2018	04/30/2018	05/30/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
05/01/2018	05/31/2018	06/21/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
06/01/2018	06/30/2018	07/26/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
07/01/2018	07/31/2018	08/28/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
08/01/2018	08/31/2018	09/28/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly

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National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

4/26/2022 2:53:49 PM

08/01/2018	08/31/2018	09/28/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
09/01/2018	09/30/2018	10/26/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
10/01/2018	10/31/2018	11/27/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
11/01/2018	11/30/2018	12/21/2018	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
12/01/2018	12/31/2018	01/23/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
01/01/2019	01/31/2019	02/28/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
02/01/2019	02/28/2019	03/28/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
03/01/2019	03/31/2019	04/23/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
04/01/2019	04/30/2019	05/27/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
05/01/2019	05/31/2019	06/27/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly

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National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

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05/01/2019	05/31/2019	06/27/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
06/01/2019	06/30/2019	07/28/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
07/01/2019	07/31/2019	08/27/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
08/01/2019	08/31/2019	09/25/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
09/01/2019	09/30/2019	10/24/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
10/01/2019	10/31/2019	11/29/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
11/01/2019	11/30/2019	12/26/2019	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	GG	Monitor and Report	mg/L	Weekly Average
12/01/2019	12/31/2019	01/27/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	< 1	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	1	Monitor and Report	mg/L	Weekly Average
01/01/2020	01/31/2020	02/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	2	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	2	Monitor and Report	mg/L	Weekly Average
02/01/2020	02/29/2020	03/27/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	12	Monitor and Report	mg/L	Average Monthly

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National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

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02/01/2020	02/29/2020	03/27/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	13.1	Monitor and Report	mg/L	Weekly Average
03/01/2020	03/31/2020	04/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	7.7	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	8.6	Monitor and Report	mg/L	Weekly Average
04/01/2020	04/30/2020	05/27/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	9.5	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	5.7	Monitor and Report	mg/L	Weekly Average
05/01/2020	05/31/2020	06/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	7.2	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	10.8	Monitor and Report	mg/L	Weekly Average
06/01/2020	06/30/2020	07/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	9	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	13.8	Monitor and Report	mg/L	Weekly Average
07/01/2020	07/31/2020	08/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	10.8	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	13.8	Monitor and Report	mg/L	Weekly Average
08/01/2020	08/31/2020	09/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	1.1	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	2	Monitor and Report	mg/L	Weekly Average
09/01/2020	09/30/2020	10/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	1.1	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	1.6	Monitor and Report	mg/L	Weekly Average
10/01/2020	10/31/2020	11/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	1.4	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	2	Monitor and Report	mg/L	Weekly Average
11/01/2020	11/30/2020	12/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	4.1	Monitor and Report	mg/L	Average Monthly

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

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11/01/2020	11/30/2020	12/28/2020	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	2.8	Monitor and Report	mg/L	Weekly Average
12/01/2020	12/31/2020	01/28/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	5.2	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	5	Monitor and Report	mg/L	Weekly Average
01/01/2021	01/31/2021	02/28/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	5.7	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	7.5	Monitor and Report	mg/L	Weekly Average
02/01/2021	02/28/2021	03/28/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	10.6	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	12.2	Monitor and Report	mg/L	Weekly Average
03/01/2021	03/31/2021	04/28/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	7	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	8.6	Monitor and Report	mg/L	Weekly Average
04/01/2021	04/30/2021	05/28/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	5.4	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	5.9	Monitor and Report	mg/L	Weekly Average
05/01/2021	05/31/2021	06/21/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	6.88	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	8.94	Monitor and Report	mg/L	Weekly Average
06/01/2021	06/30/2021	07/16/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	11.2	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	14.1	Monitor and Report	mg/L	Weekly Average
07/01/2021	07/31/2021	08/11/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	11.1	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	13.2	Monitor and Report	mg/L	Weekly Average
08/01/2021	08/31/2021	09/20/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	5.69	Monitor and Report	mg/L	Average Monthly

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

National Pollutant Discharge Elimination System (NPDES)
Electronic Discharge Monitoring Report (eDMR)

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08/01/2021	08/31/2021	09/20/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	8.56	Monitor and Report	mg/L	Weekly Average
09/01/2021	09/30/2021	10/18/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	3.06	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	8.06	Monitor and Report	mg/L	Weekly Average
10/01/2021	10/31/2021	11/10/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	1.33	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	2.00	Monitor and Report	mg/L	Weekly Average
11/01/2021	11/30/2021	12/21/2021	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	3.71	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	6.38	Monitor and Report	mg/L	Weekly Average
12/01/2021	12/31/2021	01/20/2022	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	10.54	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	12.70	Monitor and Report	mg/L	Weekly Average
01/01/2022	01/31/2022	02/19/2022	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	7.61	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	9.15	Monitor and Report	mg/L	Weekly Average
02/01/2022	02/28/2022	03/21/2022	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	7.79	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	9.31	Monitor and Report	mg/L	Weekly Average
03/01/2022	03/31/2022	04/12/2022	001	Yes	Final Effluent	Ammonia-Nitrogen	00610	6.59	Monitor and Report	mg/L	Average Monthly
					Final Effluent	Ammonia-Nitrogen	00610	9.37	Monitor and Report	mg/L	Weekly Average

Appendix D – DEP Total Residual Chlorine Sheet–

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

16.1	= Q stream (cfs)	0.5	= CV Daily
0.3	= 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 Discharg	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 = 11.085	1.3.2.iii	WLA cfc = 10.800
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 4.131	5.1d	LTA_cfc = 6.279

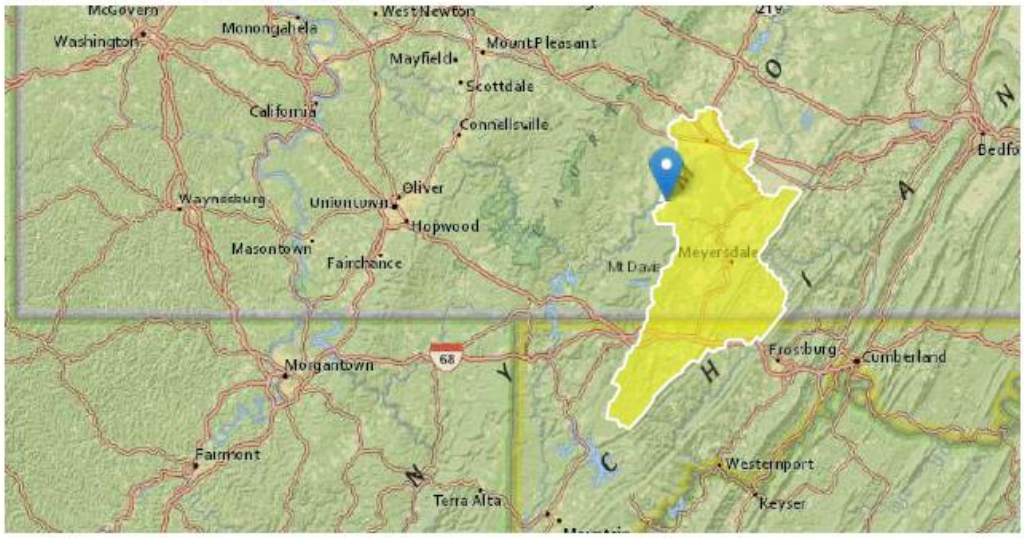
Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500	BAT/BPJ
		INST MAX LIMIT (mg/l) = 1.635	

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)**

Appendix E – StreamStats Report –

PA0024490_RockwoodSTP_StreamStats Report

Region ID: PA
Workspace ID: PA20221019171733539000
Clicked Point (Latitude, Longitude): 39.91246, -79.16308
Time: 2022-10-19 13:17:56 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	341	square miles
ELEV	Mean Basin Elevation	2395	feet

Low-Flow Statistics

Low-Flow Statistics Parameters [99.8 Percent (340 square miles) Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	341	square miles	2.26	1400
ELEV	Mean Basin Elevation	2395	feet	1050	2580

Low-Flow Statistics Flow Report [99.8 Percent (340 square miles) Low Flow Region 4]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	38.4	ft^3/s	43	43
30 Day 2 Year Low Flow	58.8	ft^3/s	38	38
7 Day 10 Year Low Flow	16.1	ft^3/s	66	66
30 Day 10 Year Low Flow	23.7	ft^3/s	54	54
90 Day 10 Year Low Flow	42.7	ft^3/s	41	41

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: 4.10.1
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1