pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	Renewal	Application No.	**PA0272736**
Facility Type	Non-Municipal	APS ID	**997438**
Major / Minor	Minor	Authorization ID	**1280420**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Applicant and Facility Information

Applicant Name	**Cochranton Vol Fire Department**	Facility Name	**Station 4 Firehouse Grille**
Applicant Address	21800 US Highway 322	Facility Address	21800 US Highway 322
	Meadville, PA 16335-5236		Meadville, PA 16335-5236
Applicant Contact	Kelsey Campbell	Facility Contact	Jason Gilliland
Applicant Phone	(814) 425-7332	Facility Phone	
Client ID	237139	Site ID	461893
Municipality	East Fairfield Township	County	Crawford
Ch 94 Load Status	NA	Connection Status	NA
SIC Code	5812 & 5813	SIC Code	34952
SIC Description	Retail Trade - Eating & Drinking Places	SIC Description	Sewage treatment
Application Received	June 27, 2019	EPA Waived?	Yes
Application Accepted	July 18, 2019	If No, Reason	

Application Purpose: NPDES permit renewal for a discharge of treated sewage.

Summary of Review

Late renewal submission.

Proposed is a technology based 4.0-mg/L minimum daily dissolved oxygen limitation. The self-monitoring reports show dissolved oxygen below 4.0-mg/L in June and August 2018.

The discharge is to hillside rip-rap that may affect effluent DO concentrations.

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		William H. Mentzer, P.E. Environmental Engineering Specialist	July 22, 2019
X		Justin C. Dickey, P.E. Environmental Engineer Manager	

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0083
Latitude DP	41° 33’ 55.00”	Longitude DP	80° 6’ 40.00”
Latitude NHD	41º 33' 55.75"	Longitude NHD	-80º 6' 40.85"
Quad Name	Cochranton	Quad Code	0605
Wastewater:	Treated wastes from grill and social hall operation		
Receiving Waters	Unnamed Tributary to French Creek	Stream Code	52393
NHD Com ID	127346283	RMI	0.4
Drainage Area	0.38	Yield (cfs/mi^2)	0
Q_{7-10} Flow (cfs)	0	Q_{7-10} Basis	Dry stream
Elevation (ft)	1081.82	Slope (ft/ft)	0.0172
Watershed No.	16-D	Chapter 93 Class.	WWF
Existing Use	statewide	Existing Use Qualifier	none
Exceptions to Use	none	Exceptions to Criteria	none
Comments	First-point-of-use RMI 0.24, 0.39-square mile drainage at 1059.67 feet elevation. Stream flow Is 0.04-cfs based on Sugar Creek USGS Sta 03025000 using 1934 through 1979 data.		
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	7.95	October 11, 2011 First Use Determination
Temperature (°C)	25	Warm water fishery default
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Aqua Pa (Emlenton Water Co) Emlenton	
PWS Waters	Allegheny River	Flow at Intake (cfs)	1250
PWS RMI	90.57	Distance from Outfall (mi)	34.53

Changes Since Last Permit Issuance: the Allegheny River has a minimum flow requirement of 1250-cfs upstream of the water intake at Franklin, PA.

Other Comments: None

Treatment Facility Summary				
Treatment Facility Name: Station 4 Firehouse Grille				
WQM Permit No.	**Issuance Date**			
2014402	12/17/14			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	advanced	Activated sludge	chlorine	0.00824
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.0083	24.0	No Requirements	holding	Off-site

Changes Since Last Permit Issuance: Operation start-up.

Other Comments:

Treatment: comminution with bypass bar screen, chemical addition, extended aeration, two cell flood dosed intermittent surface sand-filter with dosing tank and duplex pumps, chlorination, de-chlorination, and sludge holding. Treatment facilities specifications are for a Mack Industries 0.01-MGD facility.

Sludge is stored in a holding tank for off-site disposal.

A grease trap is provided. This unit is required by the Domestic Water Facilities Design Manual and municipality regulated according to the national building and plumbing codes.

Compliance History	
Summary of Inspections:	10/17/2017 Inspection NPDES REPORTING/SAMPLING: -Facility is an eDMR user. -An administrative review revealed 1 violation in April 2016. There have been no violations since that time. -Michael Davidson runs an accredited lab, therefore Station 4 does not need to register since Michael Davidson and his operators do all the testing. OPERATIONS AND MAINTENANCE: -Operators are at the site approximately 1 hour per day. -There is generally no flow from the plant. SOLIDS MANAGEMENT: -As this plant is relatively new, it has not needed to take out solids therefore no records are available. OUTFALL OBSERVATIONS: -Outfall was dry. There was no effluent flowing as this is a small plant. The stream bed that it discharges to is also dry. 2/10/2016 Start-up inspection. Appears built as permitted.

	Year	MGD	PPD	Min mg/L	mean mg/L	max mg/L	Analysis #	
Annual Average Design Flow	0.0083							NPDES monthly average maximum
Hydraulic Design Capacity		0.01						WQM design flow
Organic Design Capacity			80					WQM Permit has 24-PPD
Annual Average	2018	0.001						
	2017	< 0.001						
	2016	< 0.001						
pH				6.9		8.6	1460	
TRC					0.11	0.9	730	
Fecal Coliform					19	453	48	
CBOD5					4.5	9.0	48	
TSS					5	9.0	48	
Ammonia					0.7	1.0	48	
N					19.6	35.7	48	
P					5.4	7.67	48	

The 80.0-PPD organic load is not part of the WQM Permit documentation.

0.213-dry tons sludge produced with no removeable in the previous year
Sludge removal is by Charles Enterline.
0.225-dry tons sewage sludge disposed at other facilities.

Chemicals used:
Calcium hypochlorite for disinfection
Sodium sulfite for de-chlorination
Alum for phosphorus and ammonia control

Compliance History

DMR Data for Outfall 001 (from June 1, 2018 to May 31, 2019)

Parameter	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18
Flow (MGD) Average Monthly	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Flow (MGD) Daily Maximum	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.001	0.002	0.002	0.002	0.002
pH (S.U.) Minimum	7.1	7.1	7.4	7.4	7.7	8.0	7.4	7.1	7.1	7.1	7.1	6.9
pH (S.U.) Maximum	7.5	7.6	7.8	8.0	8.5	8.4	8.3	7.8	7.7	7.5	7.4	7.5
DO (mg/L) Minimum	4.1	4.4	5.5	6.2	7.5	7.2	6.4	4.0	6.2	**3.6**	4.1	**3.7**
TRC (mg/L) Average Monthly	0.04	0.04	0.1	0.02	0.05	0.02	0.1	0.05	0.1	0.1	0.1	0.03
TRC (mg/L) Instantaneous Maximum	0.4	0.1	0.1	0.1	0.6	0.1	0.3	0.4	0.4	0.8	0.1	0.08
CBOD5 (mg/L) Average Monthly	< 3	6	4	< 5	< 6	9	< 3	< 3	< 3	< 4	6	5
TSS (mg/L) Average Monthly	< 5	< 10	< 5	< 9	< 5	< 5	< 5	< 5	< 5	< 5	< 5	5
Fecal Coliform (#/100 ml) Geometric Mean	< 1	1	< 1	< 1	< 1	< 1	1	32	136	< 1	4	8
Fecal Coliform (#/100 ml) Instantaneous Max	1	1	1	1	< 1	< 1	2	37	158	< 1	20	58
Total Nitrogen (mg/L) Average Monthly	34.8	30	11.4	18.36	11.49	13.3	23.5	27.2	30.9	30.9	22.9	22.2
Ammonia (mg/L) Average Monthly	< 0.8	< 4	< 2	< 1	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Phosphorus (mg/L) Average Monthly	8.18	4.06	4.02	3.13	3.44	7.24	6.19	7.5	7.67	6.87	7.5	7.07

Compliance History

Currently nothing reported

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.0083
Latitude 41º 33' 55.00" **Longitude** -80º 6' 40.00"
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)
DO	4,0	Daily minimum		BPJ

Comments: The revised 4.0-mg/L technology based DO is to be proposed. Previously a 3.0-mg/L minimum DO was assumed.

Water Quality-Based Limitations

Based on the previous review the following parameters were candidates for limitations:

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Ammonia	5.0	NA	5.4
Dissolved Oxygen	4.0	NA	4.0

Comments:

The existing water quality-based limitation is a rounding up of a 4.92-mg/L model recommendation. The proposed 5.0-mg/L ammonia limit is a summer limitation based on rounding down of the 5.4-mg/L WQM7 recommendation. The summer stream pH modelled is 7.3-SU.

The 4.0-mg/L DO limitation is the current sewage effluent standard.

Best Professional Judgment (BPJ) Limitations

Comments: Because of review changes only DO is affected.

Anti-Backsliding

No existing non-compliance has been reported and the existing TRC instantaneous maximum has been retained.

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	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.2	1/day	Grab
CBOD5	XXX	XXX	XXX	10.0	XXX	20	2/month	Grab
TSS	XXX	XXX	XXX	10.0	XXX	20	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	15.0	XXX	29.5	2/month	Grab
Ammonia May 1 - Oct 31	XXX	XXX	XXX	5.0	XXX	10	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab

Compliance Sampling Location: Outfall 001 after disinfection