pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0239071**
Facility Type	**Non-Municipal**	APS ID	**1020965**
Major / Minor	**Minor**	Authorization ID	**1322483**

Applicant and Facility Information

Applicant Name	**Clarion Vista Lofts, LLC**	Facility Name	**Exit 60 Sewerage**
Applicant Address	1768 N Main Street Ext Suite 4	Facility Address	I-80 Exit 60 State Route 66 North
	Butler, PA 16001		Clarion, PA 16214
Applicant Contact	Jerry Oliver	Facility Contact	Jerry Oliver
Applicant Phone	(724) 496-2222	Facility Phone	(724) 496-2222
Client ID	314564	Site ID	609574
Ch 94 Load Status	Not Overloaded	Municipality	Paint Township
Connection Status	No Limitations	County	Clarion
Date Application Received	July 28, 2020	EPA Waived?	Yes
Date Application Accepted	August 26, 2020	If No, Reason	-

Purpose of Application: NPDES renewal application for a minor sewage treatment facility.

Summary of Review

Act 14 – Proof of notification were submitted and received.

There are no open violations for subject client no. 314564 as of 10/13/2021.

This facility is currently submitting eDMR reports.

There has been no change to the discharge or receiving stream since the last permit issuance.

Sludge use and disposal description and location(s): Septage must be pumped and hauled off-site by a septage hauler for land application under a general permit authorized by DEP or disposal at an STP.

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		Jon F. Bucha Jonathan F. Bucha / Civil Engineer General	October 19, 2021
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	October 21, 2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.004
Latitude	41º 11' 45"	Longitude	-79º 25' 33"
Quad Name	Clarion	Quad Code	0910
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Clarion River (CWF)	Stream Code	49631
NHD Com ID	102670605	RMI	0.3
Drainage Area	0.72 mi^2	Yield (cfs/mi^2)	0.001
Q_{7-10} Flow (cfs)	(0 cfs) Intermittent Stream	Q_{7-10} Basis	Intermittent Stream
Elevation (ft)	1300	Slope (ft/ft)	-
Watershed No.	17-B	Chapter 93 Class.	CWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	METALS		
Source(s) of Impairment	ACID MINE DRAINAGE		
TMDL Status	Pending	Name	-

Background/Ambient Data		Data Source
pH (SU)	6.6	Based on discharge data set
Temperature (°C)	20	Dry stream default
Hardness (mg/L)		
Other: $CBOD_5$	0 mg/L	Dry stream default

Nearest Downstream Public Water Supply Intake		Parker Area Water Authority	
PWS Waters	Allegheny River	Flow at Intake (cfs)	951
PWS RMI	85	Distance from Outfall (mi)	28

Changes Since Last Permit Issuance: N/A

Other Comments: This treatment system is capable of meeting effluent requirements.

Treatment Facility Summary				
Treatment Facility Name: Exit 60 Sewerage				
WQM Permit No.	**Issuance Date**			
1605402 A-1	4/11/2011			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Extended Aeration	Hypochlorite	0.004
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.004	5.95	Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: No changes to the facility since the last permit issuance.

Other Comments: Treatment consists of collection system, pump station, a comminutor, aeration basin, clarifier, chlorination, and a digestor. The equalization tank is currently off-line, since the 2011 WQM permit amendment, which consisted of adding a steel plate wall to the 33,270 gallon aeration tank to reduce the size to 4,742 gallon, bypassing of the flow equalization tank, and adjusting the gravity pipe inlet, sludge return fittings and the skimmer discharge lines to adjust to the new aeration tank. These modifications were completed on September 16, 2014.

Compliance History	
Summary of DMRs:	There have been no effluent exceedances in the past 3 years of eDMR review.
Summary of Inspections:	An inspection occurred on 4/5/2018 where no violations were noted.

Other Comments: **Due to low raw sewage influent and system underloading, it has been difficult at times to collect an 8-hour composite sample. In some cases, grab samples have been used in order to collect a sample. The client has been warned about indicating grab samples in greenport where they were used.**

Compliance History

DMR Data for Outfall 001 (from September 1, 2020 to August 31, 2021)

Parameter	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20
Flow (MGD) Average Monthly	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Flow (MGD) Daily Maximum	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
pH (S.U.) Minimum	6.2	6.1	6.1	6.1	6.0	6.6	7.54	7.45	7.39	7.03	6.47	6.32
pH (S.U.) Maximum	7.3	6.8	6.6	6.7	7.3	7.7	7.80	7.83	7.71	7.62	7.34	6.91
DO (mg/L) Minimum	5.6	5.18	5.74	5.72	5.71	4.82	4.63	7.29	7.19	6.80	6.15	6.23
TRC (mg/L) Average Monthly	0.05	0.04	0.03	0.03	0.09	0.09	0.05	0.08	0.07	0.07	0.06	0.06
TRC (mg/L) Instantaneous Maximum	0.24	0.24	0.15	0.12	0.24	0.38	0.11	0.19	0.11	0.11	0.11	0.11
CBOD5 (mg/L) Average Monthly	4.26	2.07	8.27	3.2	2.49	3.7	4.0	2.1	2.0	2.0	2.1	2.1
TSS (mg/L) Average Monthly	11.5	4.0	13.0	6.75	15.7	16.5	11	13.5	8.0	8.0	2.0	5.5
Fecal Coliform (CFU/100 ml) Geometric Mean	2.02	1	1	1	7	1	1	1	1	1	1	1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	4.1	1	1	1	49	1	1	1	1	1	1	1
Total Nitrogen (mg/L) Annual Average									2.24			
Ammonia (mg/L) Average Monthly	5.81	E	E	0.1	16.8	9.0	23.7	6.5	0.25	0.27	1.88	3.23
Total Phosphorus (mg/L) Annual Average									0.60			
Total Aluminum (mg/L) Annual Average									< 0.05			
Total Iron (mg/L) Annual Average									0.57			
Total Manganese (mg/L) Annual Average									0.04			

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .004
Latitude 41º 11' 45.00" **Longitude** -79º 25' 33.00"
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)

Comments: TRC limits will remain at 0.5 mg/L average monthly, and 1.6 mg/L imax due to significant dilution available at the Clarion River.

Water Quality-Based Limitations

Comments: WQM 7.0 modeling was conducted and attached at the bottom of the fact sheet. A D.O. sim for the dry reach shows that secondary limits for dissolved oxygen, ammonia nitrogen, and $CBOD_5$ are sufficient to protect water quality prior to entering the Clarion River. D.O. increases as it travels downstream, and significant dilution is available in Clarion River. Ammonia nitrogen monitoring will remain at 1/year monitoring based on an eDMR data showing adequate effluent samples.

Best Professional Judgment (BPJ) Limitations

Comments: Once per year monitoring for Total Nitrogen, Total Phosphorus, and E. Coli monitoring is based on Ch. 92a.61 and the Departments SOP for Establishing Effluent Limitations for Individual Sewage Permits (SOP No. BPNPSM-PMT-033). E. Coli monitoring is a new addition to this permit renewal. Annual monitoring for Total Aluminum, Total Manganese, and Total Iron will remain in the permit due to the stream being impaired for acid mine drainage (AMD), which will help collect data for a possible future TMDL.

Anti-Backsliding

Anti-Backsliding considerations do not apply since the effluent limitations are all remaining the same as in the previous permit renewal

Proposed Effluent Limitations and Monitoring Requirements

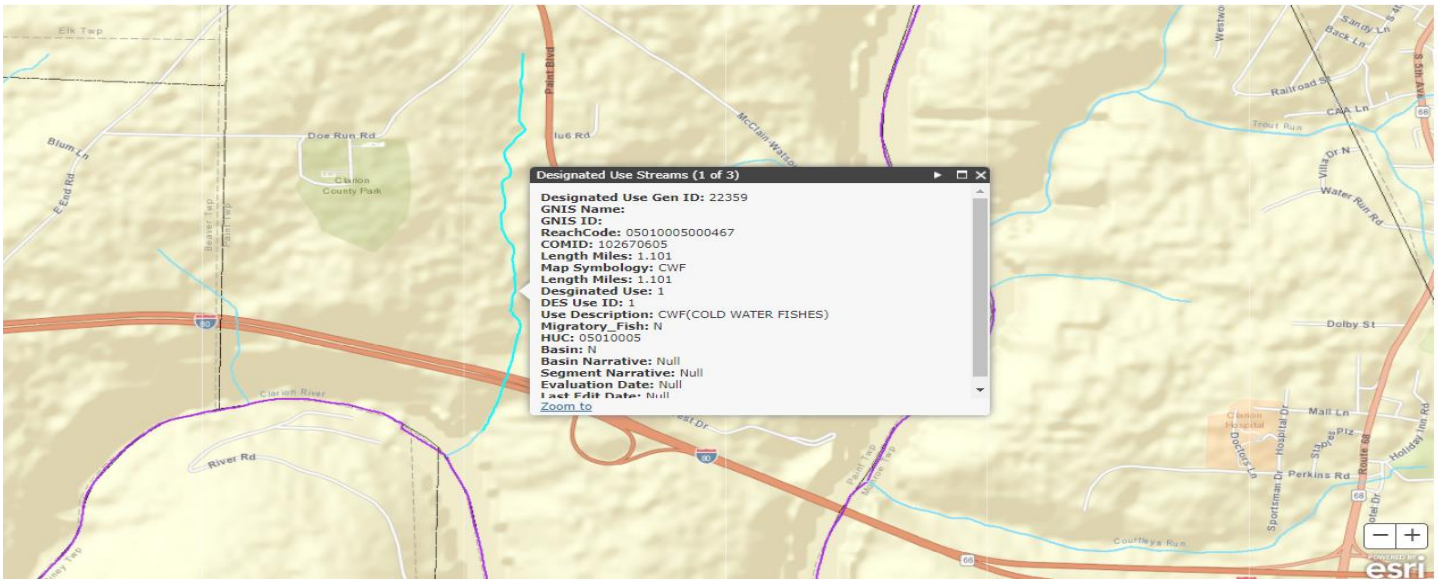
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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.

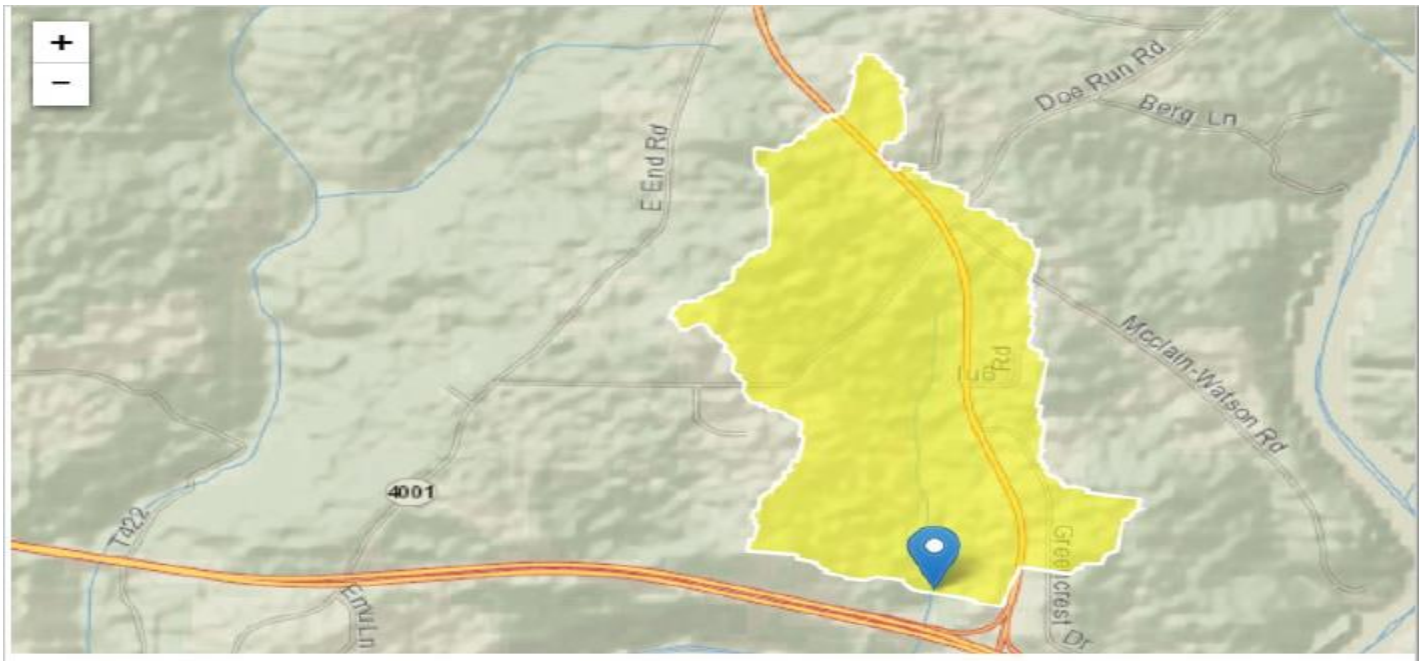
Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily 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	1.6	1/day	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
TSS	XXX	XXX	XXX	30.0	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Aluminum	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Iron	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Manganese	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite

Compliance Sampling Location: Outfall 001 after disinfection.

Attachment A – eMAP Stream Designation



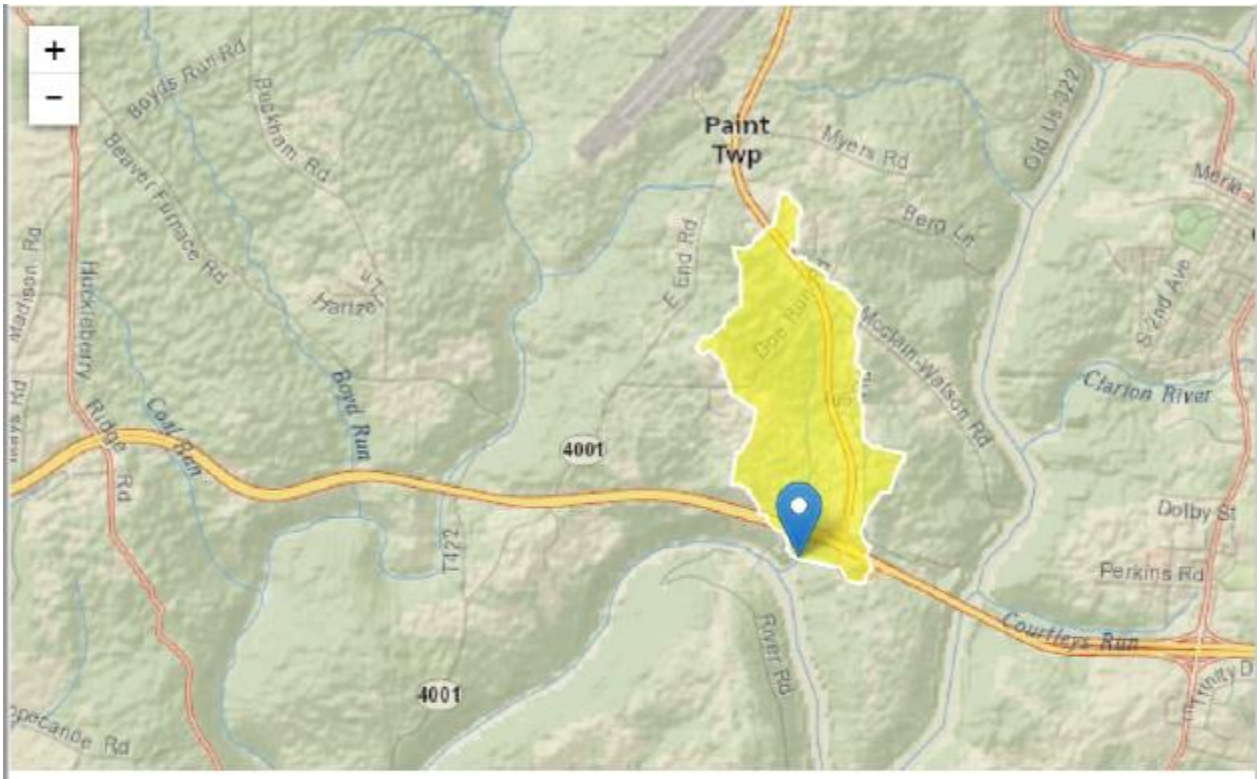
Attachment B – Streamstats Drainage Area (Discharge Point)



Basin Characteristics

Parameter Code	Parameter Description	Value
DRNAREA	Area that drains to a point on a stream	0.72
ELEV	Mean Basin Elevation	1427

Attachment C – Streamstats Drainage Area (End of Reach)



Basin Characteristics

Parameter Code	Parameter Description	Value
DRNAREA	Area that drains to a point on a stream	0.85
ELEV	Mean Basin Elevation	1411

Attachment D – WQM 7.0 Modeling

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
17B	49631	Trib 49631 to Clarion 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)
0.300	Exit 60 Sewerag	PA0239071	0.000	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
17B	49631	Trib 49631 to Clarion River

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.300	0.004	20.000	6.600
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.404	0.270	5.207	0.018
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
22.39	1.500	22.39	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
4.442	16.773	Owens	NA
Reach Travel Time (days)			
1.001			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.100	19.27	20.88	2.73
0.200	16.58	19.47	2.95
0.300	14.27	18.15	3.46
0.401	12.28	16.92	3.99
0.501	10.57	15.77	4.46
0.601	9.09	14.71	4.89
0.701	7.83	13.71	5.28
0.801	6.73	12.78	5.62
0.901	5.80	11.92	5.93
1.001	4.99	11.11	6.21

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
17B	49631	Trib 49631 to Clarion River	**0.300**	1300.00	0.72	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	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	6.60	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
Exit 60 Sewerag	PA0239071	0.0000	0.0000	0.0040	0.000	20.00	6.60

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	0.00	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
17B	49631	Trib 49631 to Clarion River	**0.001**	1095.00	0.85	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	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
		0.0000	0.0000	0.0000	0.000	25.00	7.00

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
17B	49631	Trib 49631 to Clarion 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												
0.300	0.00	0.00	0.00	.0062	0.12985	.27	1.4	5.21	0.02	1.001	20.00	6.60
Q1-10 Flow												
0.300	0.00	0.00	0.00	.0062	0.12985	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.300	0.00	0.00	0.00	.0062	0.12985	NA	NA	NA	0.00	0.000	0.00	0.00

WQM 7.0 Modeling Specifications

Parameters	D.O.	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	2		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
17B	49631	Trib 49631 to Clarion River

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)		
0.30	Exit 60 Sewerag	25	25	25	25	4	4	0	0

Attachment E – Discharge pH

Exit 60 Sewerage
Paint Twp, Clarion County
PA0239071 Discharge pH

Date	pH min	pH max	10^ -pH min	10^ -pH max	& pH max)	-Log (Ave pH)
Aug-21	6.2	7.3	6.30957E-07	5.0119E-08	3.4054E-07	6.5
Jul-21	6.1	6.8	7.94328E-07	1.5849E-07	4.7641E-07	6.3
Sep-20	6.32	6.91	4.7863E-07	1.2303E-07	3.0083E-07	6.5
Aug-20	6.41	7.39	3.89045E-07	4.0738E-08	2.1489E-07	6.7
Jul-20	6.67	7.89	2.13796E-07	1.2882E-08	1.1334E-07	6.9
Sep-19	6.43	7.46	3.71535E-07	3.4674E-08	2.031E-07	6.7
Aug-19	6.43	7.46	3.71535E-07	3.4674E-08	2.031E-07	6.7
Jul-19	6.48	7.78	3.31131E-07	1.6596E-08	1.7386E-07	6.8
Sep-18	6.03	6.75	9.33254E-07	1.7783E-07	5.5554E-07	6.3
Aug-18	6.21	7.9	6.16595E-07	1.2589E-08	3.1459E-07	6.5
					Median:	6.6