pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0222216**
Facility Type	**Non-Municipal**	APS ID	**1096164**
Major / Minor	**Minor**	Authorization ID	**1453647**

Applicant and Facility Information

Applicant Name	**Edinboro Conference Grounds**	Facility Name	**Edinboro Conference Grounds**
Applicant Address	12940 Fry Road	Facility Address	12940 Fry Road
	Edinboro, PA 16412-1825		Edinboro, PA 16412-1825
Applicant Contact	Dan Borchert	Facility Contact	
Applicant Phone	(814) 734-3601	Facility Phone	
Applicant Email	edinborocamp@gmail.com		
Client ID	51674	Site ID	446627
Ch 94 Load Status		Municipality	Washington Township
Connection Status		County	Erie
Date Application Received	August 25, 2023	EPA Waived?	Yes
Date Application Accepted	February 1, 2024	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an Existing Discharge of 0.0041

Summary of Review

This is a renewal Sewage Individual NPDES Permit for an Existing Discharge of 0.0041 MGD from a non-municipal minor sewage facility. Treatment facilities permitted under WQM Permit # 2597405 A-1 consist of: four (4) 1500-gallon dual chamber primary septic tank settlers, Two (2) 1500-gallon septic-dosing tanks and two (2) Myers Pentair dosing pumps Model SRM4PC-2 submersible pumps, 55 GPM at 11' of head. The pumps are to alternate between two 875.2-square foot surface sand filters. Chlorination is pump and contact tank limited to 0.156-MGD while the chlorinator itself is limited to 0.010-MGD.

Act 14 – Proof of Notification was submitted and received.

This facility is currently using eDMR system.

SPECTIAL CONDITIONS: NONE

The EPA waiver is in effect.

There are NO open violations in WMS for the subject Client ID (51674) as of April 5, 2024.

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		Aeshah Shameseldin Aeshah Shameseldin / Civil Engineer	April 5, 2024
		Vacant / Environmental Engineer Manager	Okay to Draft JCD 4/152024

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0041
Latitude	41º 51' 25.5"	Longitude	-80º 10' 9.22"
Quad Name	Edinboro South	Quad Code	41080G2
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to Boles Run (WWF)	Stream Code	The NHD discharge is downstream at tributary 52931
NHD Com ID	127348137	RMI	0.4000
Drainage Area	0.09 sq. mi. (dry), 2 sq. mi. (perennial)	Yield (cfs/mi^2)	0.001 (dry), 0.1 (perennial)
Q_{7-10} Flow (cfs)	0 (dry), 0.2 (perennial)	Q_{7-10} Basis	Dry Stream / Default
Elevation (ft)	1460	Slope (ft/ft)	---
Watershed No.	16-A	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	Final	Name	Boles Run

Background/Ambient Data		Data Source
pH (SU)	7.6	July 7, 1994
Temperature (°F)	77	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		Aqua Pennsylvania, Inc. - Emlenton	
PWS Waters	Allegheny River	Flow at Intake (cfs)	1376
PWS RMI	90	Distance from Outfall (mi)	---

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary

Treatment Facility Name: Edinboro Conference Grounds

WQM Permit No.	Issuance Date
2597405 A-1	August 30, 1999
2597405	April 4, 1997

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Septic Tank Sand Filter	Chlorine	0.0041

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0041	8.36	Not Overloaded	Anaerobic Digestion	Off Site

Changes Since Last Permit Issuance:

Other Comments:

Compliance History

DMR Data for Outfall 001 (from February 1, 2023 to January 31, 2024)

Parameter	JAN-24	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23
Flow (MGD) Average Monthly	0.0001	0.0003	0.0001	0.0001	0.0003	0.001	0.001	0.001	0.0001	0.001	0.0001	0.0001
pH (S.U.) Daily Minimum	6.8	6.6	6.6	6.4	6.6	6.6	6.6	6.6	6.5	6.7	6.6	6.7
pH (S.U.) Daily Maximum	7.7	7.7	7.9	8.0	8.0	7.4	7.4	7.7	7.7	7.7	7.2	7.8
DO (mg/L) Daily Minimum	13.6	12.5	11.4	5.8	9.7	3.4	3.7	0.3	4.9	7.1	5.0	6.0
TRC (mg/L) Average Monthly	0.1	0.1	0.2	0.3	0.4	0.2	0.3	0.2	0.1	0.1	0.1	0.2
TRC (mg/L) Instantaneous Maximum	0.5	0.54	1.5	1.5	2.2	0.9	1.5	1.2	0.5	0.5	0.2	1.5
CBOD5 (mg/L) Average Monthly	< 4.0	< 4.0	< 4.3	< 8.3	8.4	9.4	9.0	9.1	4.3	< 4.0	< 4.0	5.5
CBOD5 (mg/L) Instantaneous Maximum	< 4.0	< 4.0	4.5	12.6	12.0	9.8	13.9	13.8	4.6	< 4.0	< 4.0	6.9
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 6.5	6.0	6.3	< 5.0	5.8	22.5	< 5.0	5.3	< 5.0	< 5.0
TSS (mg/L) Instantaneous Maximum	< 5.0	< 5.0	8.0	7.0	7.0	< 5.0	6.5	38.5	< 5.0	5.5	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	2	2	< 1	2420	< 1	2	704	2420	< 11	288	997
Fecal Coliform (No./100 ml) Instantaneous Maximum	< 1	3	3	1	2420	2	4	2420	2420	131	387	2420
Total Nitrogen (mg/L) Daily Maximum		88.13			52.97			4.93			< 3.86	
Ammonia (mg/L) Daily Maximum		16.5			21.3			< 0.3			< 0.3	
Total Phosphorus (mg/L) Daily Maximum		13			17.6			1.04			1.01	

Compliance History

Effluent Violations for Outfall 001, from: March 1, 2023 To: January 31, 2024

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
DO	07/31/23	Daily Min	3.7	mg/L	4.0	mg/L
DO	06/30/23	Daily Min	0.3	mg/L	4.0	mg/L
DO	08/31/23	Daily Min	3.4	mg/L	4.0	mg/L
TRC	09/30/23	IMAX	2.2	mg/L	1.6	mg/L
Fecal Coliform	05/31/23	Geo Mean	2420	No./100 ml	200	No./100 ml
Fecal Coliform	06/30/23	Geo Mean	704	No./100 ml	200	No./100 ml
Fecal Coliform	09/30/23	Geo Mean	2420	No./100 ml	200	No./100 ml
Fecal Coliform	09/30/23	IMAX	2420	No./100 ml	1000	No./100 ml
Fecal Coliform	05/31/23	IMAX	2420	No./100 ml	1000	No./100 ml
Fecal Coliform	06/30/23	IMAX	2420	No./100 ml	1000	No./100 ml

Summary of Inspections: Site inspection has been conducted on October 15, 2019. The inspection report did not cite any violations.

Other Comments: ---

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0041
Latitude 41º 51' 25.5" **Longitude** -80º 10' 9.22"
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	Report (No./100 ml)	IMAX	-	§ 92a.61

Comments: Monitoring for E. Coli is placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Water Quality-Based Limitations

CBOD5, Ammonia, and DO are evaluated using WQM 7.0 (See Attachment 1 and 2). TRC is evaluated using the department's TRC evaluation spreadsheet (See Attachment 3).

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

Parameter	Limit (mg/l)	SBC	Model
Dissolved Oxygen	4.0	Daily Min.	WQM 7.0
CBOD5	25	Avg. Monthly	WQM 7.0
	50	IMAX	
Ammonia Nitrogen	25	Average Monthly	WQM 7.0
	50	IMAX	
TRC	0.5	Average Monthly	TRC evaluation spreadsheet

Comments: A two-step model was used. The first step was for a dry stream evaluation. The DO simulation end-of-reach data was then used to evaluate the second step perennial stream reach. The second step evaluated perennial stream conditions (See Attachment 1 and Attachment 2).

A review of the Discharge Monitoring Reports for the last three years indicates general compliance for Ammonia Nitrogen effluent results less than 25 mg/l 94% of the time. As a result, current monitoring requirements will be retained.

The TRC evaluation spreadsheet didn't calculate more stringent average monthly TRC limit at perennial conditions using the plant design flow, the technology-based limitations established in previous permits are attainable and will be retained.

Anti-Backsliding

No backsliding of limits is being proposed.

Proposed Effluent Limitations and Monitoring Requirements

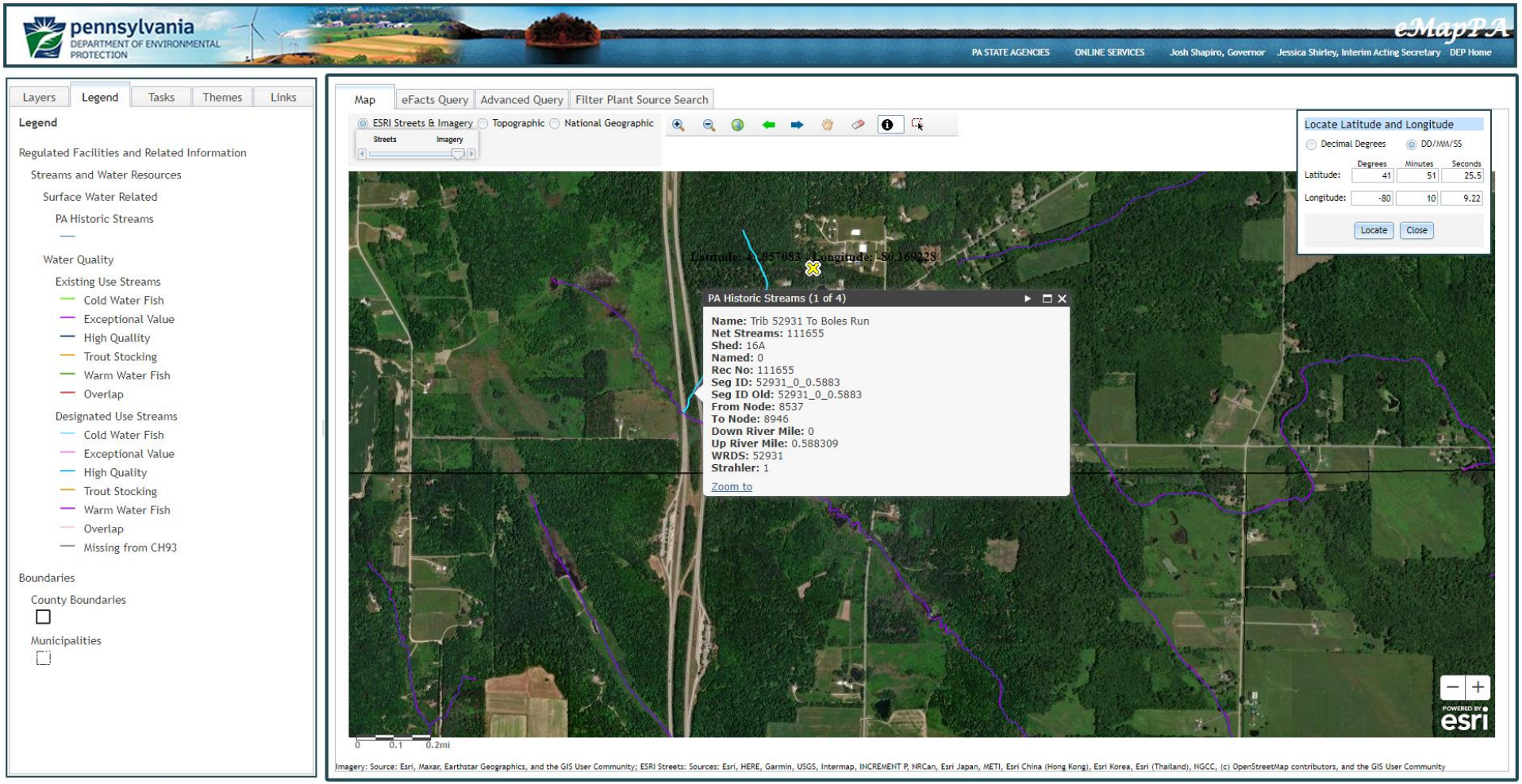
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), 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	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0 Daily Max	XXX	3/week	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	3/week	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	3/week	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	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
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Ammonia	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab
Total Phosphorus	XXX	XXX	XXX	XXX	Report Daily Max	XXX	1/quarter	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

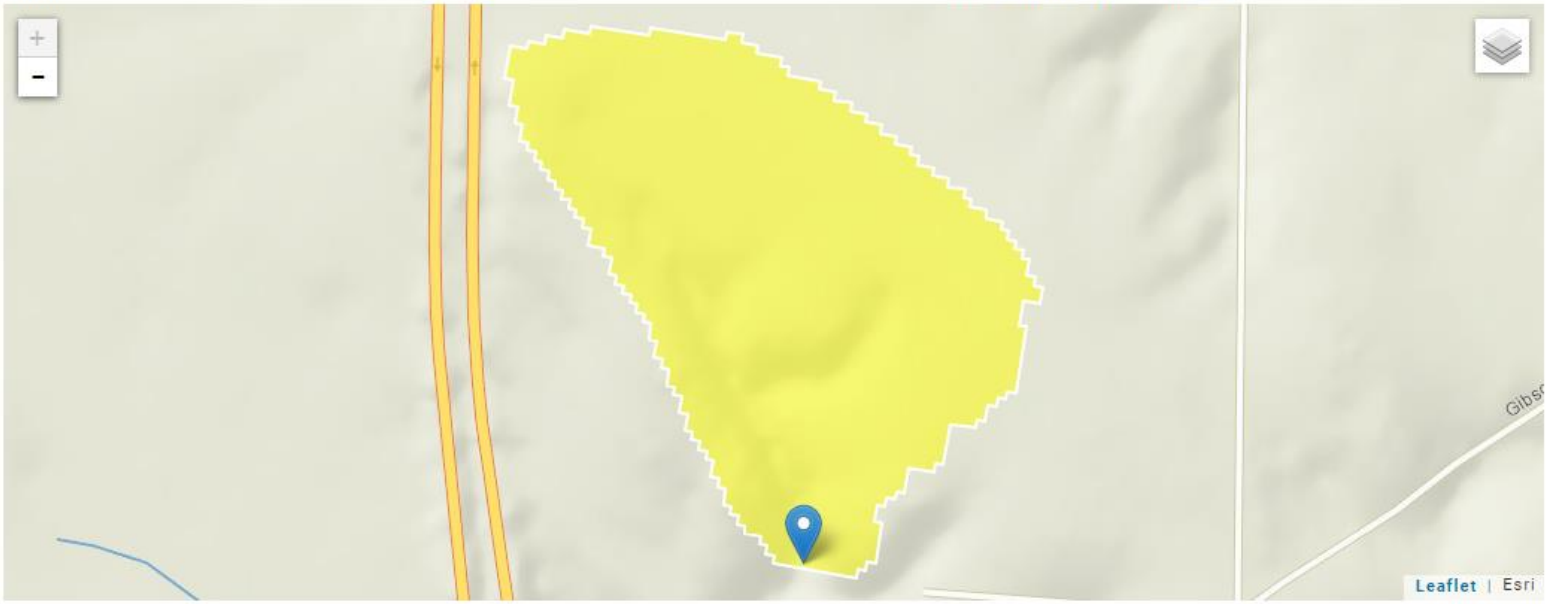
Outfall Location - eMap with Aerial Imagery



Dry Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240201190948701000
Clicked Point (Latitude, Longitude):	41.85618, -80.17176
Time:	2024-02-01 14:10:16 -0500



Collapse All

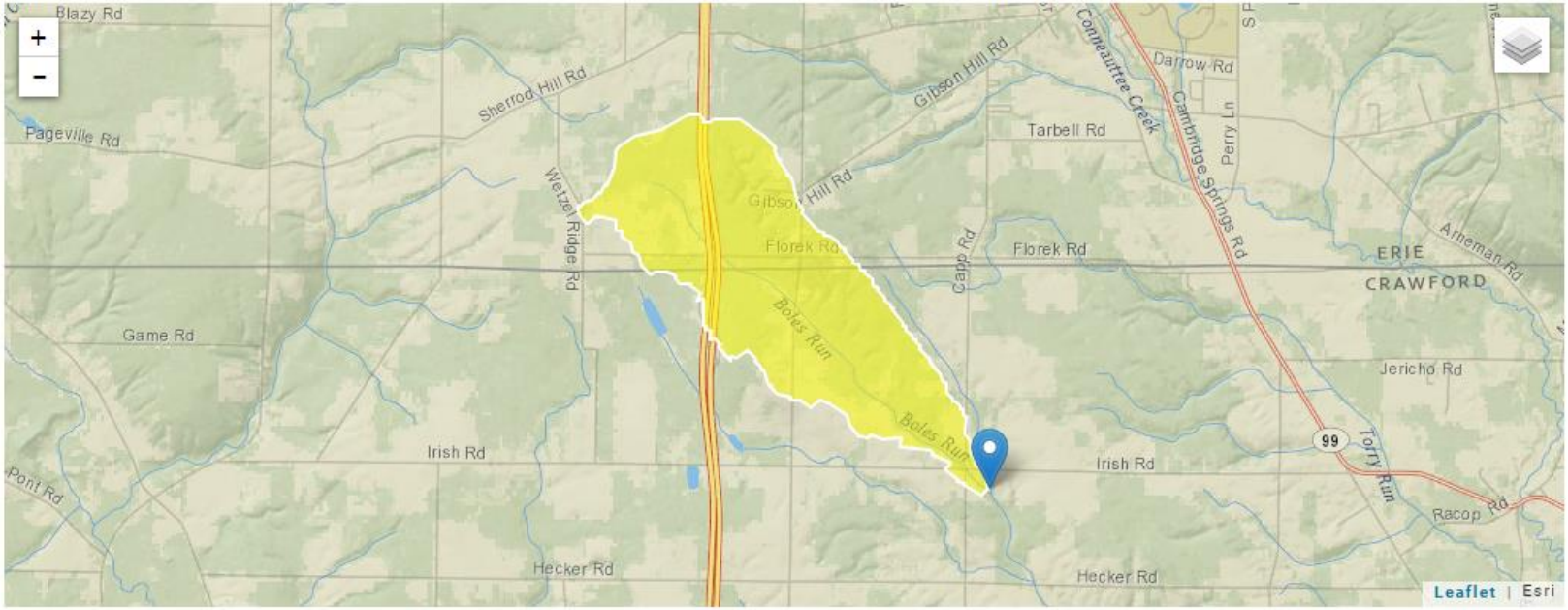
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0915	square miles

Perennial Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20240201191538845000
Clicked Point (Latitude, Longitude):	41.83058, -80.14426
Time:	2024-02-01 14:16:01 -0500



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Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	2	square miles

Attachment 1

Dry Reach Modeling

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

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)
2.890	Edinboro Confer	PA0222216	0.004	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.890	0.004	20.000	6.900
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
1.148	0.233	4.924	0.024
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
24.65	1.500	24.65	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
4.060	26.419	Owens	2
Reach Travel Time (days)			
0.991			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.099	21.24	22.99	4.39
0.198	18.31	21.45	4.84
0.297	15.78	20.02	5.24
0.396	13.60	18.67	5.61
0.495	11.72	17.42	5.93
0.595	10.10	16.26	6.22
0.694	8.71	15.17	6.49
0.793	7.50	14.15	6.72
0.892	6.47	13.20	6.93
0.991	5.57	12.32	7.12

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		

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
16A	52931	Trib 52931 to Boles Run	2.890	1460.00	0.09	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	6.90	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
Edinboro Confer	PA0222216	0.0041	0.0000	0.0000	0.000	20.00	6.90

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
16A	52931	Trib 52931 to Boles Run	**2.500**	1410.00	0.69	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	6.90	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	0.00	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
16A	52931	Trib 52931 to Boles Run

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)		
2.89	Edinboro Confer	25	25	25	25	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

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												
2.890	0.00	0.00	0.00	.0063	0.02428	.233	1.15	4.92	0.02	0.991	20.00	6.90
Q1-10 Flow												
2.890	0.00	0.00	0.00	.0063	0.02428	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
2.890	0.00	0.00	0.00	.0063	0.02428	NA	NA	NA	0.00	0.000	0.00	0.00

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Attachment 2

Perennial Reach Modeling

For CBOD5 and DO, the resulting limits are the same as the inputs from the Dry Stream model therefore secondary limits are sufficient.

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

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)
2.500	Edinboro Confer	PA0222216	0.004	CBOD5	5.57		
				NH3-N	12.32	24.64	
				Dissolved Oxygen			7.12

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WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.500	0.004	24.588	7.476
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.016	0.335	11.992	0.056
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.29	0.042	1.11	0.996
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.505	26.508	Owens	5
Reach Travel Time (days)			
2.624			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.262	2.26	0.85	7.54
0.525	2.23	0.66	7.54
0.787	2.20	0.50	7.54
1.050	2.17	0.39	7.54
1.312	2.14	0.30	7.54
1.574	2.11	0.23	7.54
1.837	2.08	0.18	7.54
2.099	2.06	0.14	7.54
2.361	2.03	0.11	7.54
2.624	2.00	0.10	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
16A	52931	Trib 52931 to Boles Run	**2.500**	1410.00	0.69	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	0.100	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.60	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
Edinboro Confer	PA0222216	0.0040	0.0000	0.0000	0.000	20.00	6.90

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	5.57	2.00	0.00	1.50
Dissolved Oxygen	7.12	7.54	0.00	0.00
NH3-N	12.32	0.10	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
16A	52931	Trib 52931 to Boles Run	**0.100**	1303.00	2.00	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	0.100	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.60	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
		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
16A	52931	Trib 52931 to Boles Run

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
2.500	Edinboro Confer	7.15	24.64	7.15	24.64	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
2.500	Edinboro Confer	1.03	12.32	1.03	12.32	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)		
2.50	Edinboro Confer	5.57	5.57	12.32	12.32	7.12	7.12	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
16A	52931	Trib 52931 to Boles Run

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												
2.500	0.07	0.00	0.07	.0062	0.00844	.335	4.02	11.99	0.06	2.624	24.59	7.48
Q1-10 Flow												
2.500	0.04	0.00	0.04	.0062	0.00844	NA	NA	NA	0.04	3.284	24.39	7.43
Q30-10 Flow												
2.500	0.09	0.00	0.09	.0062	0.00844	NA	NA	NA	0.07	2.236	24.69	7.50

Attachment 3

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

0.2	= Q stream (cfs)	0.5	= CV Daily
0.0041	= 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 Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)	0	=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	10.078	1.3.2.iii	WLA cfc =	9.818
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	3.755	5.1d	LTA_cfc =	5.707

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)**