Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0238724**
Facility Type	**Non-Municipal**	APS ID	**1095903**
Major / Minor	**Minor**	Authorization ID	**1452694**

Applicant and Facility Information

Applicant Name	**Gary Freligh**	Facility Name	**Frelighs Whispering Pines MHP**
Applicant Address	900 Sirak Drive	Facility Address	9921 Ridge Road
	Fairview, PA 16415-1410		Girard, PA 16417
Applicant Contact	Gary Freligh	Facility Contact	Gary Freligh
Applicant Phone	(814) 440-3167	Facility Phone	
Applicant Email	money_when_yousleep@yahoo.com		
Client ID	160779	Site ID	547275
Ch 94 Load Status	Not Overloaded	Municipality	Girard Township
Connection Status	No Limitations	County	Erie
Date Application Received	August 21, 2023	EPA Waived?	Yes
Date Application Accepted	March 20, 2025	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for an Existing Discharge of 0.01 MGD

Summary of Review

This is a renewal Sewage Individual NPDES Permit for an Existing Design Flow of 0.01 MGD from a non-municipal minor sewage facility.

There are no proposed changes to effluent limitations as part of this permit renewal.

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 (160779) as of March 24, 2025.

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 / Project Manager	March 24, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 7, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.01
Latitude	41º 59' 42.00"	Longitude	-80º 19' 45.00"
Quad Name	Albion	Quad Code	41080H3
Wastewater Description:	Sewage Effluent		
Receiving Waters	UNT to Elk Creek (WWF, MF)	Stream Code	62491
NHD Com ID	123919817	RMI	Confluence with Elk Creek is at RMI 3.7
Drainage Area	0.00015 (Dry), 92.9 (Perennial)	Yield (cfs/mi^2)	0.001 (Dry Stream), 0.045 (Perennial)
Q_{7-10} Flow (cfs)	0 (Dry), 4.18 (Perennial)	Q_{7-10} Basis	Calculated
Elevation (ft)	676	Slope (ft/ft)	---
Watershed No.	15-A	Chapter 93 Class.	WWF, MF
Existing Use	----	Existing Use Qualifier	---
Exceptions to Use	---	Exceptions to Criteria	---
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	---		
Source(s) of Impairment	---		
TMDL Status	---	Name	---

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	77	Default
Hardness (mg/L)	100	Default
Other:		

Nearest Downstream Public Water Supply Intake		PA – Canadian International Boundary in Lake Erie	
PWS Waters	Lake Erie	Flow at Intake (cfs)	---
PWS RMI	---	Distance from Outfall (mi)	---

Changes Since Last Permit Issuance: None.

Other Comments: None.

Treatment Facility Summary				
Treatment Facility Name: Freligh'S Whispering Pines MHP				
WQM Permit No.	**Issuance Date**			
2502428	February 13, 2003			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Tertiary	Extended Aeration with Solids Removal	Chlorine With Dechlorination	0.01
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.01	20	Not Overloaded	Holding Tank	Other WWTP

Changes Since Last Permit Issuance: None.

Other Comments: Treatment facilities permitted under WQM Permit # 2502428 consist of: A comminutor with bypass bar screen, Alum feed for phosphorus control, a 10,400-gallon extended aeration tank, a 1,626 gallon settling tank, a 2,500 gallon aerated sludge holding tank, a 1,500 gallon dosing tank, two 528 square foot (22' x 24') surface sand filters, tablet chlorine disinfection with a 936 gallon contact tank, sodium sulfite tablet dechlorination with a 500 gallon contact tank.

Compliance History

DMR Data for Outfall 001 (from February 1, 2024 to January 31, 2025)

Parameter	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24	MAR-24	FEB-24
Flow (MGD) Average Monthly	2029	2489	2190	1847	1836	1836	2018	1897	1915	1944	1666	1959
pH (S.U.) Instantaneous Minimum	7.7	7.6	7.6	7.6	7.6	7.5	8.0	7.3	7.6	7.0	7.9	7.6
pH (S.U.) Instantaneous Maximum	8.1	8.0	8.1	8.0	8.6	8.6	8.9	8.4	7.78	7.9	8.2	8.1
DO (mg/L) Daily Minimum	6.0	6.0	6.0	6.2	6.2	6.0	6.0	6.0	6.2	6.0	6.0	6.25
TRC (mg/L) Average Monthly	0.08	0.09	0.08	0.08	0.08	0.06	0.04	0.04	0.09	0.08	0.08	0.11
TRC (mg/L) Instantaneous Maximum	0.12	0.12	0.12	0.12	0.11	0.12	0.08	0.08	0.14	0.14	0.11	0.14
CBOD5 (mg/L) Average Monthly	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	3.795
TSS (mg/L) Average Monthly	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Fecal Coliform (No./100 ml) Geometric Mean	< 1	1	2.23	1	1	1	7.16	1	3.47	1	1	1
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	1	1	1	1	1	7.16	1	12	1	1	1
Total Nitrogen (mg/L) Average Monthly	1.84	4.81	4.85	3.79	4.95	3.81	2.05	4.13	1.81	0.819	1.16	0.737
Ammonia (mg/L) Average Monthly	< 0.150	0.115	< 0.100	< 0.100	< 0.100	< 0.100	< 0.400	< 0.100	< 0.100	< 0.400	< 0.400	< 0.400
Total Phosphorus (mg/L) Average Monthly	< 0.150	< 0.100	< 0.300	< 0.100	0.1065	< 0.10	< 0.10	< 0.107	0.10	< 0.10	< 0.10	< 0.10

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .01
Latitude 41º 59' 42.00" **Longitude** -80º 19' 45.00"
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	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 (Attachment 1 and 2). TRC is evaluated using the Department's TRC evaluation spreadsheet (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	Average Monthly	WQM 7.0
	50	IMAX	
Ammonia Nitrogen (May 1 – Oct 31)	12.72	Average Monthly	WQM 7.0
	25.44	IMAX	
TRC	0.5	Average Monthly	TRC Evaluation Spreadsheet

Comments: WQM modeling didn't calculate more stringent average monthly Ammonia Nitrogen limit at perennial conditions. Current monitoring requirements are attainable and 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 limits established in previous permits are attainable and will be retained.

The previous technology-based minimum Dissolved Oxygen limit of 6.0 mg/l was retained, as this is the minimum required for discharge into a drainage swale or ditch.

Best Professional Judgment (BPJ) Limitations

Comments: Monitoring for total nitrogen, total phosphorus and raw sewage influent monitoring for $CBOD_5$ and TSS are placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Sewage Permits."

Anti-Backsliding

N/A

Proposed Effluent Limitations and Monitoring Requirements

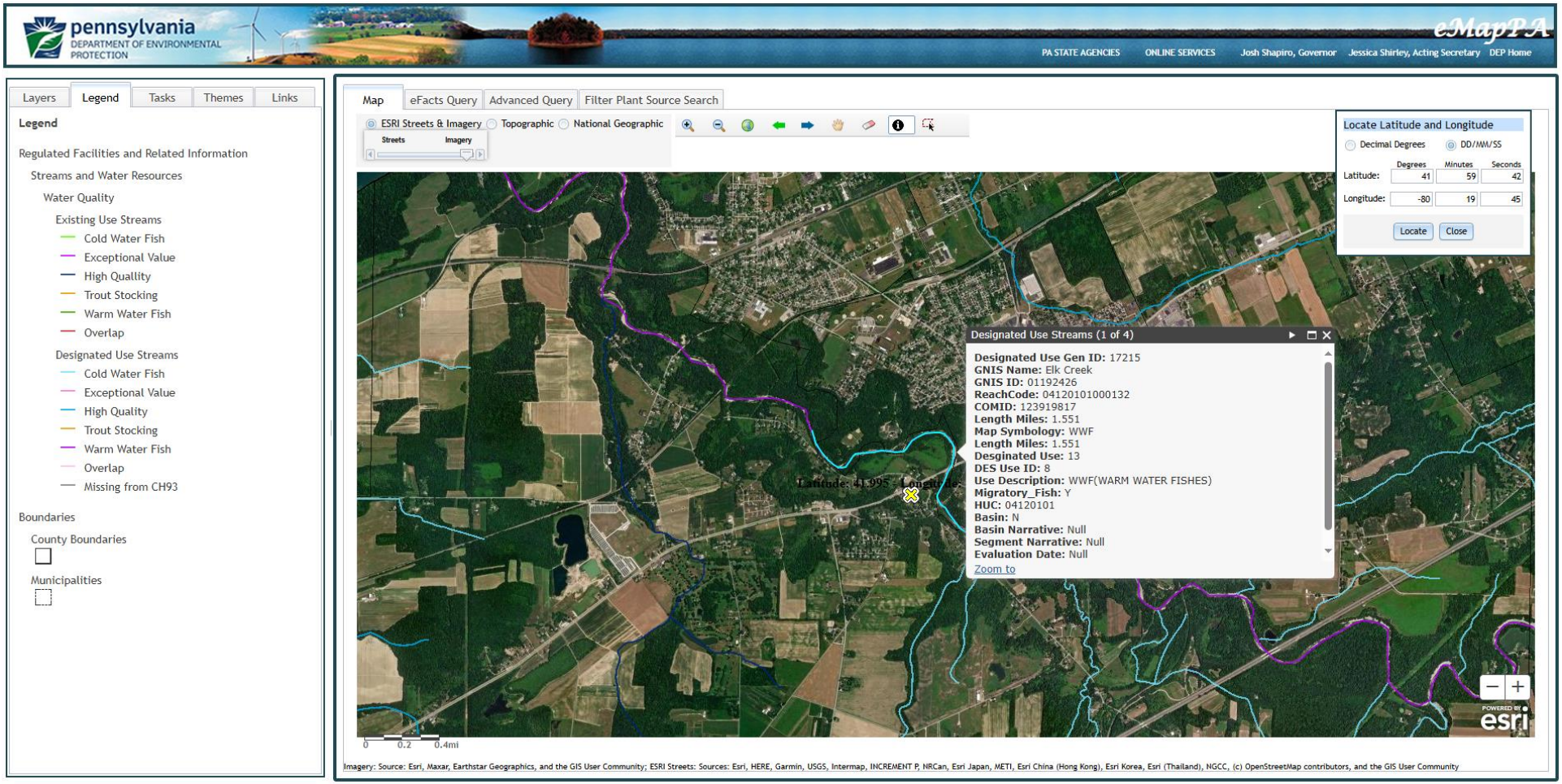
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). 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 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.27	XXX	0.63	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 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	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	6.0	XXX	12	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	XXX	2/month	8-Hr Composite

Compliance Sampling Location: Outfall 001, after disinfection.

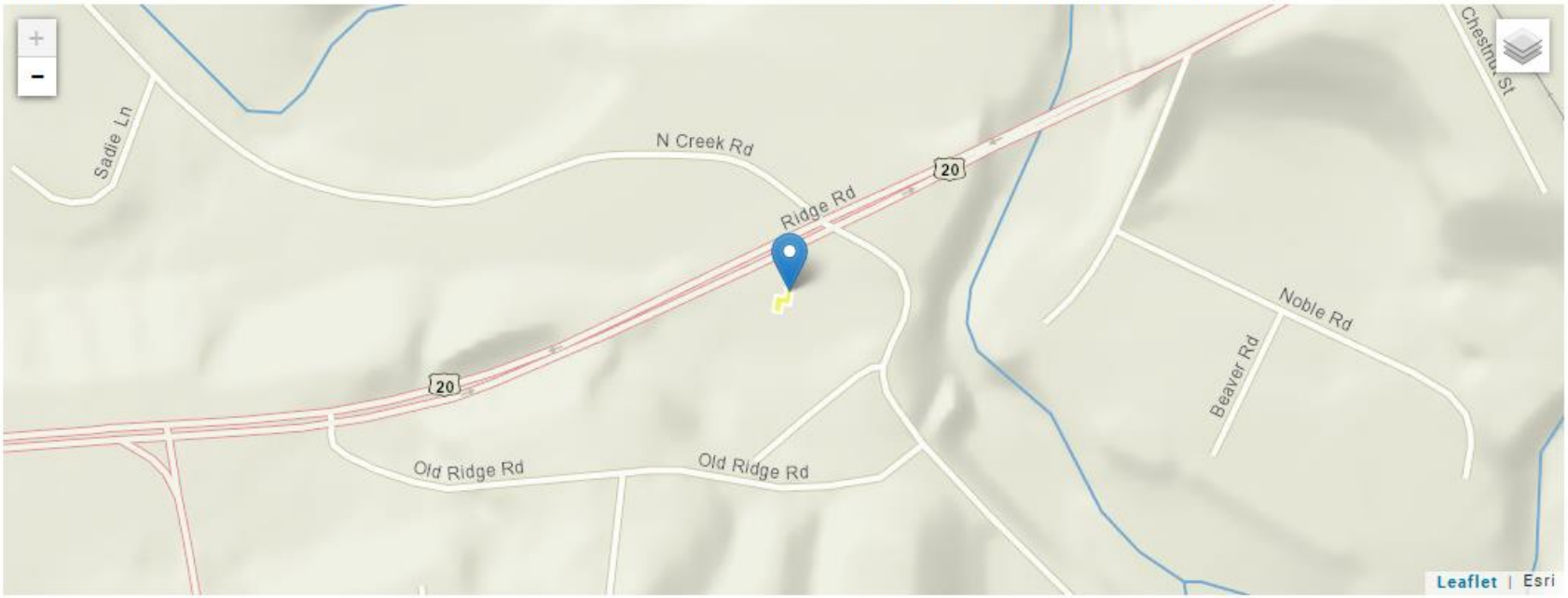
Outfall Location - eMap with Aerial Imagery



Dry Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250320193949422000
Clicked Point (Latitude, Longitude):	41.99520, -80.32896
Time:	2025-03-20 15:40:18 -0400



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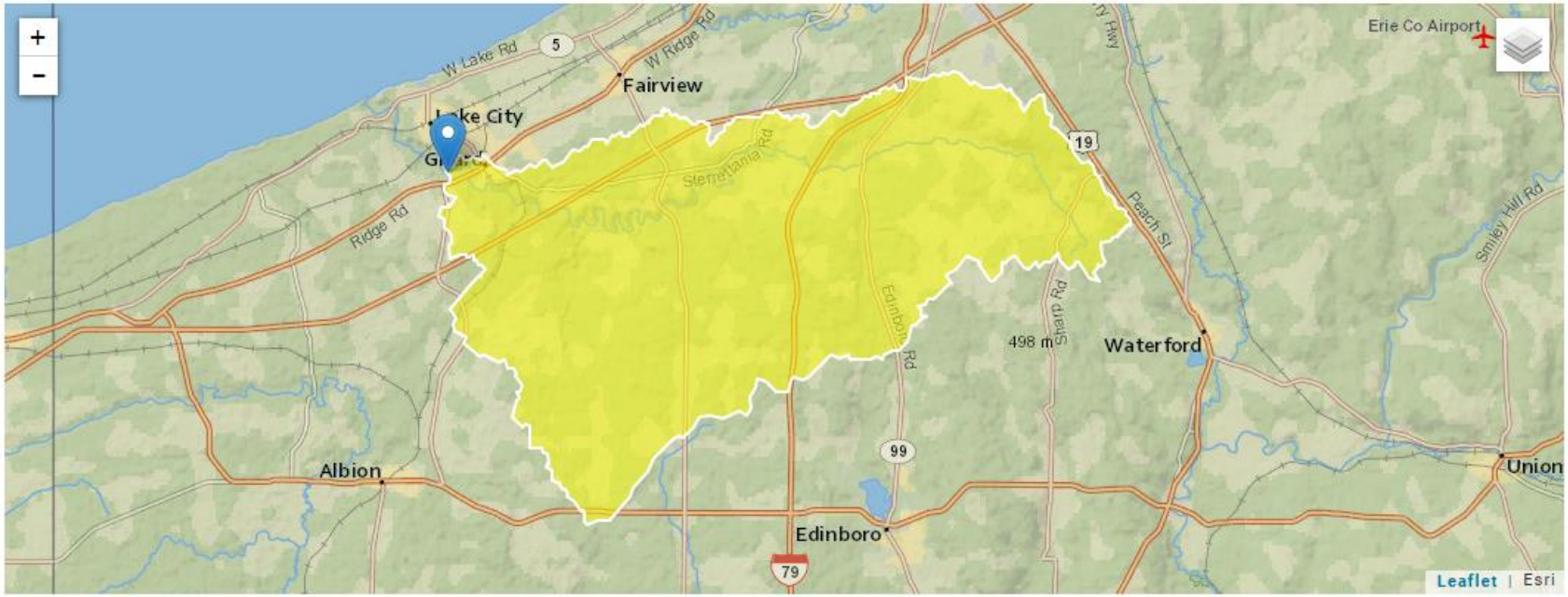
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.000154	square miles

Perennial Reach - Drainage Area Location – StreamStats with Aerial Imagery

StreamStats Report

Region ID:	PA
Workspace ID:	PA20250320131359733000
Clicked Point (Latitude, Longitude):	41.99738, -80.33583
Time:	2025-03-20 09:14:29 -0400



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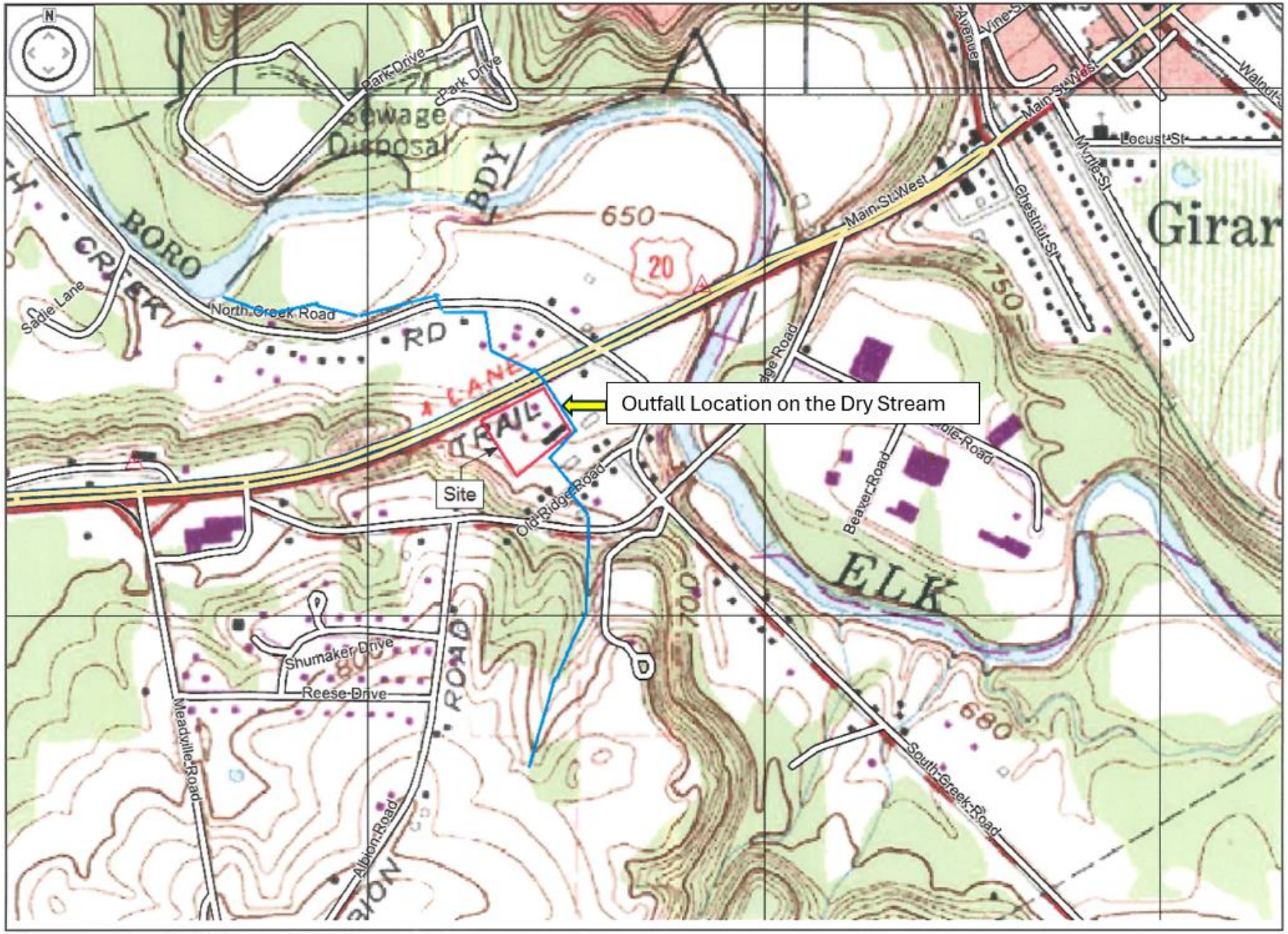
Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	92.9	square miles

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.


Outfall Location on the Dry Stream
Site
Park Drive
Sewage Disposal
BORO
CREEK
Sadie Lane
North Creek Road
RD
LANE
TRAIL
Old Ridge Road
Main St West
650
20
750
Chestnut St
Myrtle St
Locust St
Vine St
Avenue
Walnut St
Girar
Beaver Road
ELK
Shumaker Drive
Reese Drive
Meadville Road
ROAD
Albion Road
South Creek Road
680

Attachment 1

Dry Reach Modeling

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
0.460	Frelighs Whispe	PA0238724	0.010	CBOD5	25		
				NH3-N	12.72	25.44	
				Dissolved Oxygen			4

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 D.O.Simulation

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
0.460	0.010	20.000	7.800
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
0.138	0.712	0.194	0.158
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
25.00	1.500	12.72	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
4.000	11.810	Owens	2
Reach Travel Time (days)			
0.174			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.017	24.35	12.57	3.45
0.035	23.73	12.42	3.03
0.052	23.11	12.26	2.72
0.070	22.52	12.12	2.49
0.087	21.93	11.97	2.34
0.105	21.37	11.82	2.24
0.122	20.82	11.68	2.19
0.140	20.28	11.54	2.17
0.157	19.76	11.40	2.19
0.174	19.25	11.26	2.22

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
15	62491	ELK CREEK	**0.460**	676.00	0.00	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	0.001	0.00	0.00	0.000	0.000	0.0	0.00	0.00	20.00	7.80	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
Frelighs Whispe	PA0238724	0.0100	0.0000	0.0000	0.000	20.00	7.80

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
15	62491	ELK CREEK	**0.010**	631.00	0.17	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	7.80	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
15	62491	ELK CREEK

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)		
0.46	Frelighs Whispe	25	25	12.72	12.72	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
0.460	0.00	0.00	0.00	.0155	0.01894	.712	.14	.19	0.16	0.174	20.00	7.80
Q1-10 Flow												
0.460	0.00	0.00	0.00	.0155	0.01894	NA	NA	NA	0.00	0.000	0.00	0.00
Q30-10 Flow												
0.460	0.00	0.00	0.00	.0155	0.01894	NA	NA	NA	0.00	0.000	0.00	0.00

Perennial Reach Modeling

For CBOD5, Ammonia Nitrogen and DO, the resulting limits are the same as the inputs from the dry stream model therefore dry stream inputs are sufficient.

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
3.700	Frelighs Whispe	PA0238724	0.010	CBOD5	19.25		
				NH3-N	11.26	22.52	
				Dissolved Oxygen			2.22

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
15	62491	ELK CREEK

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
3.700	0.010	24.982	7.001
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
35.577	0.697	51.059	0.169
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.06	0.031	0.14	1.027
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
7.520	6.987	Tsivoglou	5
Reach Travel Time (days)			
0.602			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.060	2.06	0.13	7.54
0.120	2.05	0.12	7.54
0.181	2.05	0.12	7.54
0.241	2.04	0.11	7.54
0.301	2.04	0.10	7.54
0.361	2.03	0.10	7.54
0.422	2.03	0.10	7.54
0.482	2.02	0.10	7.54
0.542	2.02	0.10	7.54
0.602	2.02	0.10	7.54

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
15	62491	ELK CREEK	**3.700**	623.00	93.00	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	0.045	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (°C)	Disc pH
Frelighs Whispe	PA0238724	0.0100	0.0000	0.0000	0.000	20.00	7.80

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	19.25	2.00	0.00	1.50
Dissolved Oxygen	2.22	7.54	0.00	0.00
NH3-N	11.26	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
15	62491	ELK CREEK	**2.030**	589.00	94.20	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	0.045	0.00	0.00	0.000	0.000	0.0	0.00	0.00	25.00	7.00	0.00	0.00
Q1-10		0.00	0.00	0.000	0.000							
Q30-10		0.00	0.00	0.000	0.000							

Discharge Data

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

Parameter Data

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

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

RMI	Stream Flow (cfs)	PWS With (cfs)	Net Stream Flow (cfs)	Disc Analysis Flow (cfs)	Reach Slope (ft/ft)	Depth (ft)	Width (ft)	W/D Ratio	Velocity (fps)	Reach Trav Time (days)	Analysis Temp (°C)	Analysis pH
Q7-10 Flow												
3.700	4.18	0.00	4.18	.0155	0.00386	.697	35.58	51.06	0.17	0.602	24.98	7.00
Q1-10 Flow												
3.700	2.68	0.00	2.68	.0155	0.00386	NA	NA	NA	0.13	0.772	24.97	7.00
Q30-10 Flow												
3.700	5.69	0.00	5.69	.0155	0.00386	NA	NA	NA	0.20	0.507	24.99	7.00

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
15	62491	ELK CREEK

NH3-N Acute Allocations

RMI	Discharge Name	Baseline Criterion (mg/L)	Baseline WLA (mg/L)	Multiple Criterion (mg/L)	Multiple WLA (mg/L)	Critical Reach	Percent Reduction
3.700	Frelighs Whispe	11.08	22.52	11.08	22.52	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
3.700	Frelighs Whispe	1.37	11.26	1.37	11.26	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)		
3.70	Frelighs Whispe	19.25	19.25	11.26	11.26	2.22	2.22	0	0

Flow at End of Dry Reach / Start of Perennial Conditions was used for TRC Evaluation.

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

4.18	= Q stream (cfs)	0.5	= CV Daily
0.01	= 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 = 86.213	1.3.2.iii	WLA cfc = 84.043
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 32.125	5.1d	LTA_cfc = 48.859

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)**