Pennsylvania Department of Environmental Protection

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0104299**
Facility Type	**Non-Municipal**	APS ID	**1136420**
Major / Minor	**Minor**	Authorization ID	**1525675**

Applicant and Facility Information

Applicant Name	**Camp Lutherlyn**	Facility Name	**Camp Lutherlyn**
Applicant Address	PO Box 355	Facility Address	500 Lutherlyn Lane
	Prospect, PA 16052-0355		Prospect, PA 16052-0355
Applicant Contact	Debra Roberts	Facility Contact	Debra Roberts
Applicant Phone	(724) 865-2161	Facility Phone	(724) 865-2161
Client ID	63315	Site ID	453389
Ch 94 Load Status	Not Overloaded	Municipality	Connoquenessing Township
Connection Status	No Limitations	County	Butler
Date Application Received	May 1, 2025	EPA Waived?	Yes
Date Application Accepted		If No, Reason	---

Purpose of Application: Renewal application for a Minor Sewage Treatment Facility

Summary of Review

The permittee is requesting reissuance of Individual Permit No. PA0104299. This is an existing discharge which serves a year-around camp and retreat center that discharges to Semiconon Run (CWF).

Act 14 notifications were submitted and received.

The facility is currently using the eDMR system.

There are 10 open violations in WMS for the subject Client (63315) as of May 22, 2025, with the Safe Drinking Water program. A list of violations has been provided below. It has been discussed in the cover letter that unless these violations are resolved, a final permit may not be issued.

This permit renewal has changes in effluent limitations including the addition of E. coli, and compliance schedules for Total Residual Chlorine (TRC) and Ammonia-Nitrogen (NH3-N).

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		Carlee Wilson Carlee Wilson / Environmental Engineering Trainee	May 22, 2025
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	May 29, 2025

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.0155
Latitude	40º 53' 4.26"	Longitude	-80º 1' 28.97"
Quad Name	Prospect	Quad Code	1105
Wastewater Description:	Sewage Effluent		

Receiving Waters	Semiconon Run (CWF)	Stream Code	34982
NHD Com ID	126217094	RMI	2.8
Drainage Area	2.41	Yield (cfs/mi^2)	0.01
Q_{7-10} Flow (cfs)	0.0256	Q_{7-10} Basis	USGS - StreamStats
Elevation (ft)	1173	Slope (ft/ft)	-
Watershed No.	20-C	Chapter 93 Class.	CWF
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	Little Connoquenessing Creek Watershed

Background/Ambient Data		Data Source
pH (SU)	7.0	Default
Temperature (°F)	68	Default
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake		Harmony Borough Water Authority	
PWS Waters	Little Connoquenessing Creek	Flow at Intake (cfs)	2.0
PWS RMI	1.1	Distance from Outfall (mi)	12.68

Changes Since Last Permit Issuance: Elevation, drainage area, and Q_{7-10} flow, were revised using Streamstats and Google Earth. These revisions changed the effluent limits for Ammonia-Nitrogen (NH3-N) and Total Residual Chlorine (TRC).

Other Comments: N/A

LIST OF VIOLATIONS
FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
FAILURE TO OPERATE AND MAINTAIN THE WATER SYSTEM
FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS
FAILURE OF A NONCOMMUNITY WATER SYSTEM TO OBTAIN A PERMIT OR APPROVAL
OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
FAILURE TO COMPLY WITH A PERMIT CONDITION
OTHER VIOLATIONS DEEMED TO BE SIGNIFICANT DEFICIENCIES
EXCEEDANCE OF A SECONDARY MCL

Treatment Facility Summary

Treatment Facility Name: Camp Lutherlyn

WQM Permit No.	Issuance Date
1091401	

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary With Ammonia Reduction	Aerated Lagoon	Hypochlorite	0.0155

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0155		Not Overloaded		

Changes Since Last Permit Issuance: N/A

Other Comments: The existing technology and processes consist of (WQM Permit No. 1091401): The raw sewage flows to a central pump station where it is directed to the head of the treatment process during which Ferric Chloride and Aluminum Sulfate are added. The treatment process consists of a two-cell aerated lagoon followed by a single facultative polishing pond. The effluent flows through a chlorine contact tank and is then discharged into Semiconon Run.

Compliance History

DMR Data for Outfall 001 (from April 1, 2024 to March 31, 2025)

Parameter	MAR-25	FEB-25	JAN-25	DEC-24	NOV-24	OCT-24	SEP-24	AUG-24	JUL-24	JUN-24	MAY-24	APR-24
Flow (MGD) Average Monthly	0.005	0.0143	0.0070	0.0040	0.0027	0.0019	0.0027	0.0020	0.0010	0.001	0.001	0.0062
pH (S.U.) Daily Minimum	7.0	7.0	7.3	6.3	6.8	6.8	6.9	6.8	6.8	6.8	6.8	6.8
pH (S.U.) Instantaneous Maximum	7.9	7.4	8.1	7.3	7.2	7.4	7.4	7.4	7.2	7.2	7.3	7.3
DO (mg/L) Daily Minimum	6.7	9.4	10.80	9.30	5.3	5.60	5.0	5.0	4.20	4.6	4.70	7.2
TRC (mg/L) Average Monthly	0.13	0.05	0.07	0.12	0.13	0.14	0.05	0.07	0.04	0.05	0.05	0.06
TRC (mg/L) Instantaneous Maximum	0.20	0.11	0.11	0.18	0.18	0.18	0.11	0.12	0.11	0.10	0.10	0.10
CBOD5 (mg/L) Average Monthly	8.0	5.6	4.7	6.6	6.6	5.6	4.5	4.5	5.2	5.0	4.1	3.8
TSS (mg/L) Average Monthly	10.0	12.0	14.0	11.0	11.0	11.0	9.0	9.0	6.0	11.0	14.0	18.0
Fecal Coliform (No./100 ml) Geometric Mean	1	750	291	1	1	17	356	356	181	83	4	475
Fecal Coliform (No./100 ml) Instantaneous Maximum	1	817	338	1	1	262	1733	1733	291	687	14	548
Total Nitrogen (mg/L) Average Monthly	2.98	5.27	5.04	5.61	5.41	7.58	10.70	10.70	9.59	6.0	6.48	2.73
Ammonia (mg/L) Average Monthly	0.65	2.31	1.04	2.49	2.49	4.98	6.27	6.27	6.59	3.33	1.72	0.49
Total Phosphorus (mg/L) Average Monthly	0.39	0.57	0.39	0.68	0.68	1.46	1.45	1.45	1.60	0.88	0.65	0.41

Compliance History

Effluent Violations for Outfall 001, from: May 1, 2024, To: March 31, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Fecal Coliform	09/30/24	Geo Mean	356	No./100 ml	200	No./100 ml
Fecal Coliform	08/31/24	Geo Mean	356	No./100 ml	200	No./100 ml
Fecal Coliform	09/30/24	IMAX	1733	No./100 ml	1000	No./100 ml
Fecal Coliform	08/31/24	IMAX	1733	No./100 ml	1000	No./100 ml

Summary of Inspections: The last compliance inspection at the site was conducted on June 7, 2023, by inspector Bruce Leidy, and no violations were noted.

Other Comments: In 2024, fecal coliform effluent limits were exceeded in August and September, which are expected to be the camps busiest months of the year. Fecal Coliform limits will need to be closely monitored. The permittee should be able to meet these limits based on historical DMR data and the treatment plant design.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0155
Latitude 40º 53' 4.40" **Longitude** -80º 1' 29.50"
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)
E. Coli	Report (No./100 ml)	IMAX	-	92a.61
Total Phosphorus	2.0	Average Monthly	-	92a.61
	4.0	IMAX	-	
Total Nitrogen	Report	Average Monthly	-	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 6). TRC is evaluated using the Department's TRC evaluation spreadsheet (Attachment 5). A Water Quality Based Phosphorus limit of 2 mg/L is being re-imposed from the previous permit renewal to help control eutrophication in Connoquenessing Creek.

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

Parameter	Limit (mg/l)	SBC	Model
CBOD5	25	Average Monthly	WQM 7.0
	50	IMAX	
NH3-N (Nov 1 – Apr 30)	13.5	Average Monthly	WQM 7.0
	27	IMAX	
NH3-N (May 1 – Oct 31)	4.5	Average Monthly	WQM 7.0
	9	IMAX	WQM 7.0
DO	4.0	Daily Minimum	WQM 7.0
TRC	0.16	Average Monthly	TRC Spreadsheet
	0.53	IMAX	

Comments: Modeling results show that the present limits are less stringent than the Water Quality-Based Limitations for NH3-N and TRC required to protect water quality. It is recommended that the current limits be replaced with the WQBEL limits from above to protect the stream.

Best Professional Judgment (BPJ) Limitations

Comments: A Dissolved Oxygen limit of 4 mg/L is being carried over from the previous permit renewal. This D.O. limit is based on the Chapter 93 Instream Standard for Warm Water Fisheries. Total Nitrogen monitoring is based on Ch. 92a.61 and the Departments SOP for Establishing Effluent Limitations for Individual Sewage Permits (SOP No. BPNPSM-PMT-033).

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 End of Interim Period 1.

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	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 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	1/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	21.0	XXX	42	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	7.0	XXX	14	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

Proposed Effluent Limitations and Monitoring Requirements

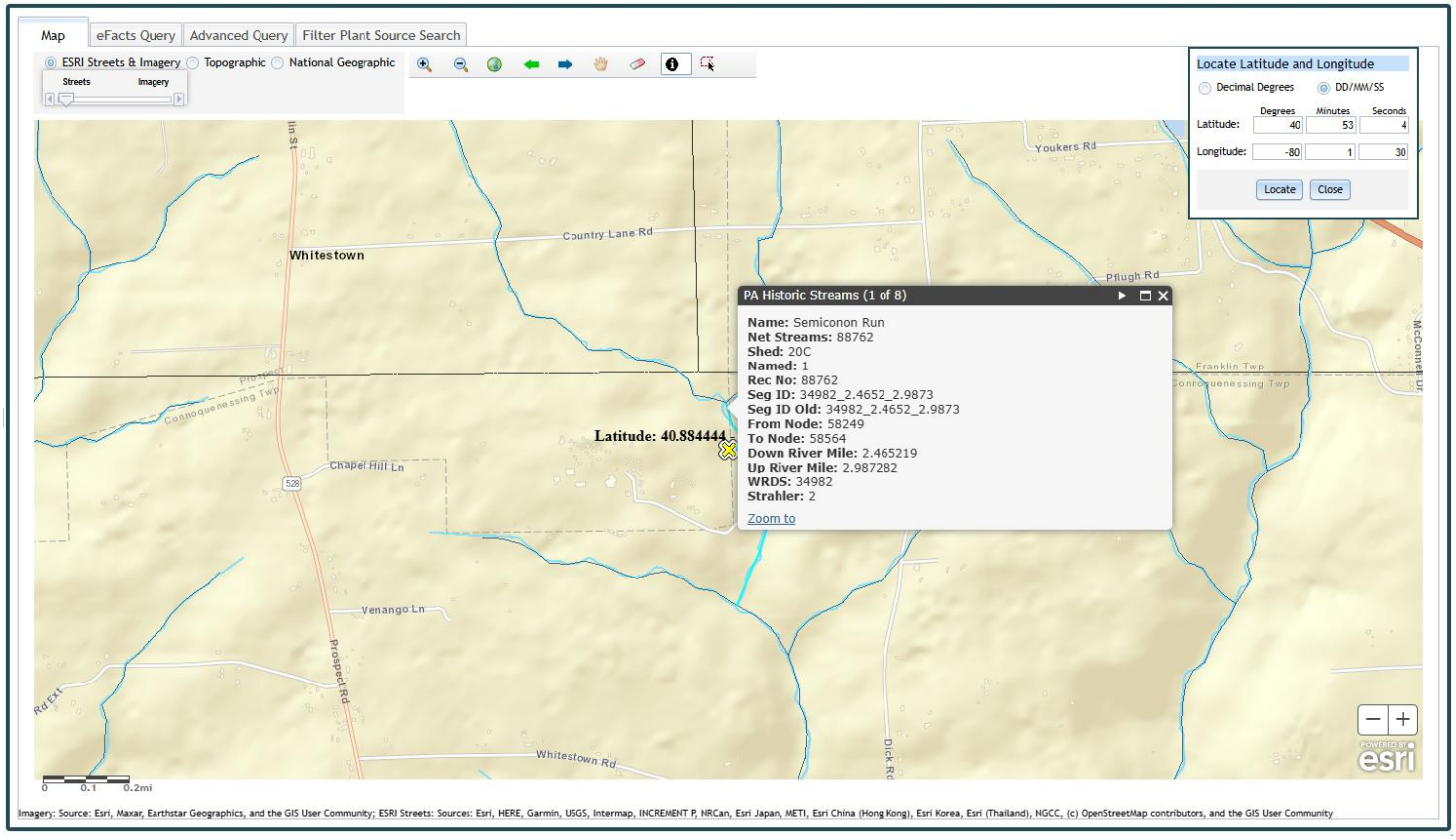
The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: End of Interim Period 1 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	XXX	9.0	1/day	Grab
DO	XXX	XXX	4.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.16	XXX	0.53	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	8-Hr Composite
Ammonia Nov 1 - Apr 30	XXX	XXX	XXX	13.5	XXX	27	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	XXX	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Compliance Sampling Location: Outfall 001 – after disinfection

Attachment 1
eMapPA – Receiving Stream Data and Location

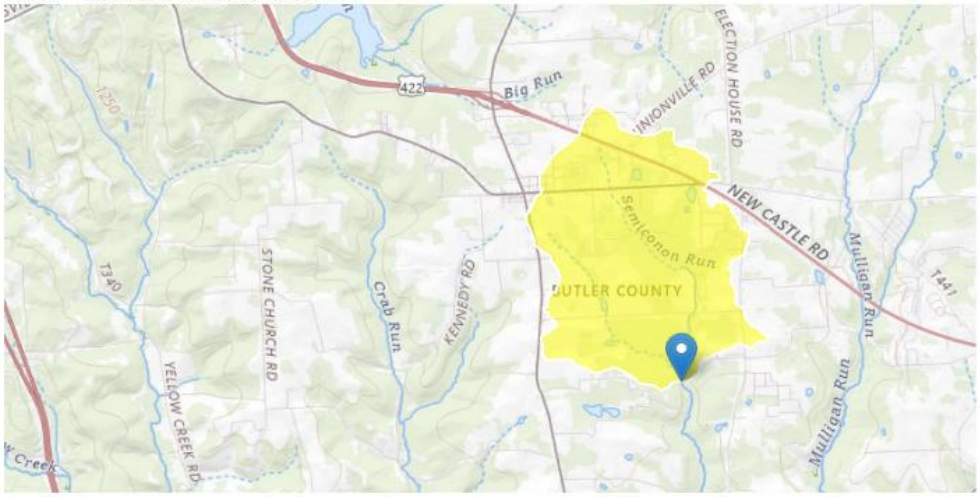


Attachment 2
Google Earth – Aerial Site View

Attachment 3
USGS (StreamStats) – Rivermile 2.8 (Outfall) Discharge Data

StreamStats Report

Region ID: PA
Workspace ID: PA20250521152637032000
Clicked Point (Latitude, Longitude): 40.88446, -80.02467
Time: 2025-05-21 11:26:58 -0400



Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	2.41	square miles	2.26	1400
ELEV	Mean Basin Elevation	1316	feet	1050	2580

Low-Flow Statistics Flow Report [Low Flow Region 4]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	SE	ASEp
7 Day 2 Year Low Flow	0.0826	ft^3/s	43	43
30 Day 2 Year Low Flow	0.154	ft^3/s	38	38
7 Day 10 Year Low Flow	0.0256	ft^3/s	66	66
30 Day 10 Year Low Flow	0.0518	ft^3/s	54	54
90 Day 10 Year Low Flow	0.104	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/)

Attachment 5
TRC Spreadsheet

TRC EVALUATION

0.0256	= Q stream (cfs)	0.5	= CV Daily
0.0155	= 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)
	= %Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.360	1.3.2.iii	WLA cfc =	0.343
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.134	5.1d	LTA_cfc =	0.199

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.165	AFC
		INST MAX LIMIT (mg/l) =	0.539	

Attachment 6
WQM 7.0 Model

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
	20C	34982	SEMICONON RUN	**2.800**	1173.00	2.41	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	0.010	0.00	0.03	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
Outfall 001	PA0104299	0.0155	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	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
20C	34982	SEMICONON RUN	**2.400**	1115.00	2.61	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	0.010	0.00	0.03	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
20C	34982	SEMICONON 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												
2.800	0.03	0.00	0.03	.024	0.02746	.325	4.27	13.11	0.04	0.629	22.22	7.00
Q1-10 Flow												
2.800	0.02	0.00	0.02	.024	0.02746	NA	NA	NA	0.03	0.712	22.78	7.00
Q30-10 Flow												
2.800	0.04	0.00	0.04	.024	0.02746	NA	NA	NA	0.04	0.568	21.85	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	6		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20C	34982	SEMICONON 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
2.800	Outfall 001	13.31	23.98	13.31	23.98	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
2.800	Outfall 001	1.67	4.52	1.67	4.52	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)		
2.80	Outfall 001	25	25	4.52	4.52	4	4	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20C	34982	SEMICONON RUN

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
2.800	0.015	22.221	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
4.266	0.325	13.110	0.039
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
12.22	1.278	2.01	0.830
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.358	20.729	Owens	6
Reach Travel Time (days)			
0.629			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.063	11.18	1.91	7.01
0.126	10.23	1.81	7.27
0.189	9.36	1.72	7.42
0.251	8.56	1.63	7.54
0.314	7.83	1.55	7.64
0.377	7.17	1.47	7.73
0.440	6.56	1.39	7.81
0.503	6.00	1.32	7.88
0.566	5.49	1.26	7.91
0.629	5.02	1.19	7.91

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20C	34982	SEMICONON 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)
2.800	Outfall 001	PA0104299	0.015	CBOD5	25		
				NH3-N	4.52	9.04	
				Dissolved Oxygen			4