

Application Type Renewal
 Facility Type Non-Municipal
 Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0034215
 APS ID 1136529
 Authorization ID 1525878

Applicant and Facility Information

Applicant Name	<u>Mary Ann Parish</u>	Facility Name	<u>White Haven Campground</u>
Applicant Address	<u>4007 Westford Road</u> <u>Jamestown, PA 16134-6735</u>	Facility Address	<u>4007 Westford Road</u> <u>Jamestown, PA 16134-6735</u>
Applicant Contact	<u>Mary Ann Parish</u>	Facility Contact	<u></u>
Applicant Phone	<u>(724) 927-2411</u>	Facility Phone	<u></u>
Client ID	<u>1931</u>	Site ID	<u>243944</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>South Shenango Township</u>
Connection Status	<u></u>	County	<u>Crawford</u>
Date Application Received	<u>April 10, 2025</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u></u>	If No, Reason	<u></u>

Purpose of Application This is an application to renew an Individual NPDES Permit that serves a campground with approximately 86 sites active to rent.

Summary of Review

Based on a recent inspection report, the campground has 86 spaces in-use, a maximum capacity of 98 spaces and is open from April 15 to October 15. There are currently no live-in tenants, and the campground is generally only open on the weekends with the exception that each tenant is allowed a single 2-week stay per season. The facility has measured the volume of the dosing tank to determine that each dose is just under 200-gallons. A pump counter corresponding with the dosing tank is recorded every month. The discharge is calculated to be approximately 1,000-gallons per month.

The facility has been reporting "No Discharge" since September of 2017. It was recommended to the operator/owners of the facility that monitoring and documentation of the discharge should be implemented at a frequency to conduct sampling when a discharge is anticipated. There may be issues with the current 1/day parameters such as D.O., pH, and TRC when the facility is not expected to be discharging; however, if the facility is discharging 5 times per month (as indicated by the dose counter) the facility should have no problems getting a sample analyzed for the remaining parameters that are on a less frequent testing schedule (i.e. 1/month, 2/month, 1/year).

There are no open violations in WMS for the subject Client ID (1931) as of 3/31/26.

Act 14 – Notifications were submitted and received.

Sludge use and disposal description and location(s): Information not provided.

Approve	Deny	Signatures	Date
X		Dustin Hargenrater Dustin Hargenrater / Project Manager	March 31, 2026
X		Adam Olesnanik Adam Olesnanik, P.E. / Environmental Engineer Manager	April 7, 2026

Summary of Review

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.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.02</u>
Latitude	<u>41° 32' 58.10"</u>	Longitude	<u>-80° 26' 59.44"</u>
Quad Name	<u>Hartstown</u>	Quad Code	<u>41080E4</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Shenango River (WWF)</u>	Stream Code	<u>36360</u>
NHD Com ID	<u>130028845</u>	RMI	<u>0.8400</u>
Drainage Area	<u>0.11</u>	Yield (cfs/mi ²)	<u>0.08</u>
Q ₇₋₁₀ Flow (cfs)	<u>0.008</u>	Q ₇₋₁₀ Basis	<u>USGS - StreamStats</u>
Elevation (ft)	<u>1232</u>	Slope (ft/ft)	<u>---</u>
Watershed No.	<u>20-A</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u></u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u></u>	Name	<u></u>
Background/Ambient Data		Data Source	
pH (SU)	<u>7.0</u>	Default	<u></u>
Temperature (°F)	<u>25</u>	Default – WWF	<u></u>
Hardness (mg/L)	<u>100</u>	Default	<u></u>
Other:	<u></u>		<u></u>
Nearest Downstream Public Water Supply Intake	<u>Greenville Municipal Water Authority</u>		
PWS Waters	<u>Shenango River</u>	Flow at Intake (cfs)	<u>10.6</u>
PWS RMI	<u>8.0</u>	Distance from Outfall (mi)	<u>14.8</u>

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

Other Comments: Default data was used in the models since no discharge data is available for the facility over the last 9 years.

Development of Effluent Limitations

Outfall No. <u>001</u>	Design Flow (MGD) <u>.02</u>
Latitude <u>41° 33' 16.42"</u>	Longitude <u>-80° 26' 42.00"</u>
Wastewater Description: <u>Sewage Effluent</u>	

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)

Water Quality-Based Limitations

Modeling was performed using WQM 7.0 v 1.1 per the SOP for Establishing Effluent Limitations in Individual Sewage Permits. The WQM 7.0 Model takes into consideration receiving stream flow, discharge flow rate, existing concentrations of parameters, and stream temperature to create a mass balance equation and produce WQBELs for CBOD₅, Ammonia-Nitrogen, and Dissolved Oxygen. Since this facility also uses Total Residual Chlorine for disinfection, the discharge was also modeled using TRC_CALC model which takes into consideration stream flow, discharge flow, and information regarding the chlorine demand of the stream and coefficients of variation to calculate limits for TRC.

There is no evidence of this discharge being modeled over the last 2 permit terms so the limits for this permit renewal will be considerably more stringent than the last several renewals. Since no discharge data is available for the discharge, the more stringent limits that the modeling suggests will be implemented into a 3-year compliance schedule. The parameters going on the compliance schedule for this permit term will be TRC and Ammonia-Nitrogen.

WQM 7.0 Modeling

The modeling results suggest that the limitations for CBOD₅ are adequate for the facility at 25 mg/l Average Monthly and 50 mg/l Instantaneous Maximum. The modeling results also suggested that the Dissolved Oxygen minimum limitation of 5.0 mg/l is also adequate. The modeling results suggested more stringent limits of 1.9 mg/l Average Monthly and 3.8 Instantaneous Maximum limits for Ammonia-Nitrogen.

Based on the SOP for New and Reissuance Individual Sewage NPDES Permits for new WQBELs in which the permittee has demonstrated it cannot comply, the draft permit will contain a schedule of compliance to meet final effluent limits that does not exceed three years. Since the facility is unable to meet the proposed Ammonia-Nitrogen limit upon issuance at least 75% of the time, a compliance schedule will be established in the permit.

TRC_CALC Modeling

The TRC_CALC Model suggested limits of 0.045 mg/L Average Monthly and 0.15 mg/L Instantaneous Maximum for TRC. As mentioned above, since there is no data available to suggest the facility can meet the limit the limit will be implemented after a 3-year compliance schedule. The department's QL for TRC is 0.02 mg/L so the Part C condition for TRC limits below the Quantitation Limit will not be implemented into the permit

Best Professional Judgment (BPJ) Limitations

E. Coli

Based on the SOP for Establishing Effluent Limitations in Individual Sewage Permits, E.Coli monitoring should be implemented on an annual basis for discharges between 0.002 and 0.05 MGD.

Anti-Backsliding

According to the Clean Water Act Section 402(o)(1) “In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the bases of effluent guidelines promulgated under section 1314(b) of this title subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. In the case of effluent limitations established on the bases of section 1311(b)(1)(C) or section 1313(d) or *e of this title, a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 1313(d)(4) of this title.”

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	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 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	50.0	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	2/month	Grab

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 Three Years After Permit Effective 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	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 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	50.0	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Ammonia	XXX	XXX	XXX	Report	XXX	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	2/month	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: Three Years After 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	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Daily Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.045	XXX	0.15	1/day	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
Total Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	1/month	Grab
Ammonia May 1 – October 31	XXX	XXX	XXX	1.9	XXX	3.8	2/month	Grab
Ammonia November 1 – April 30	XXX	XXX	XXX	5.7	XXX	11.4	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	1.0	XXX	2.0	2/month	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: 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		
E. Coli (No./100 ml)	XXX	XXX	XXX	XXX	XXX	Report	1/year	Grab

Compliance Sampling Location: Outfall 001, after disinfection.

Attachment 1
WQM 7.0 Modeling Results

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
20A	36360	Trib 36360 of Shenango River	1.150	1232.00	0.11	0.00000	0.00	<input checked="" type="checkbox"/>

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		Stream	
									Temp (°C)	pH	Temp (°C)	pH
Q7-10	0.080	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
White Haven Cam	PA0034215	0.0200	0.0200	0.0200	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	5.00	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
20A	36360	Trib 36360 of Shenango River	0.100	1174.00	1.04	0.00000	0.00	<input checked="" type="checkbox"/>

Stream Data

Design Cond.	LFY	Trib Flow	Stream Flow	Rch Trav Time	Rch Velocity	WD Ratio	Rch Width	Rch Depth	Tributary Temp	Tributary pH	Stream Temp	Stream pH
	(cfsm)	(cfs)	(cfs)	(days)	(fps)		(ft)	(ft)	(°C)		(°C)	
Q7-10	0.080	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

<u>SWP Basin</u>		<u>Stream Code</u>				<u>Stream Name</u>						
20A		36360				Trib 36360 of Shenango 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												
1.150	0.01	0.00	0.01	.0309	0.01046	.325	2.05	6.31	0.06	1.076	25.00	7.00
Q1-10 Flow												
1.150	0.01	0.00	0.01	.0309	0.01046	NA	NA	NA	0.06	1.127	25.00	7.00
Q30-10 Flow												
1.150	0.01	0.00	0.01	.0309	0.01046	NA	NA	NA	0.06	1.031	25.00	7.00

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	<input checked="" type="checkbox"/>
WLA Method	EMPR	Use Inputted W/D Ratio	<input type="checkbox"/>
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	<input type="checkbox"/>
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	<input checked="" type="checkbox"/>
D.O. Saturation	90.00%	Use Balanced Technology	<input checked="" type="checkbox"/>
D.O. Goal	5		

WQM 7.0 Wasteload Allocations

SWP Basin **Stream Code** **Stream Name**
20A 36360 Trib 36360 of Shenango River

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
	1.150 White Haven Ca	11.07	13.09	11.07	13.09	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
	1.150 White Haven Ca	1.37	1.9	1.37	1.9	0	0

Dissolved Oxygen Allocations

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
	1.15 White Haven Cam	25	25	1.9	1.9	5	5	0	0

WQM 7.0 D.O.Simulation

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>	
20A	36360	Trib 36360 of Shenango River	
<u>RMI</u>	<u>Total Discharge Flow (mgd)</u>	<u>Analysis Temperature (°C)</u>	<u>Analysis pH</u>
1.150	0.020	25.000	7.000
<u>Reach Width (ft)</u>	<u>Reach Depth (ft)</u>	<u>Reach WDRatio</u>	<u>Reach Velocity (fps)</u>
2.051	0.325	6.313	0.060
<u>Reach CBOD5 (mg/L)</u>	<u>Reach Kc (1/days)</u>	<u>Reach NH3-N (mg/L)</u>	<u>Reach Kn (1/days)</u>
19.91	1.399	1.48	1.029
<u>Reach DO (mg/L)</u>	<u>Reach Kr (1/days)</u>	<u>Kr Equation</u>	<u>Reach DO Goal (mg/L)</u>
5.718	29.564	Owens	5
<u>Reach Travel Time (days)</u>	Subreach Results		
1.076	<u>TravTime (days)</u>	<u>CBOD5 (mg/L)</u>	<u>NH3-N (mg/L)</u>
			<u>D.O. (mg/L)</u>
	0.108	16.47	1.32
	0.215	13.63	1.18
	0.323	11.28	1.06
	0.430	9.33	0.95
	0.538	7.72	0.85
	0.646	6.39	0.76
	0.753	5.29	0.68
	0.861	4.38	0.61
	0.968	3.62	0.55
	1.076	3.00	0.49

WQM 7.0 Effluent Limits

<u>SWP Basin</u>		<u>Stream Code</u>		<u>Stream Name</u>			
20A		36360		Trib 36360 of Shenango 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)
1.150	White Haven Cam	PA0034215	0.020	CBOD5	25		
				NH3-N	1.9	3.8	
				Dissolved Oxygen			5

Attachment 2
TRC_CALC Modeling Results

TRC_CALC

TRC EVALUATION					
Input appropriate values in A3:A9 and D3:D9					
0.008	= Q stream (cfs)		0.5		= CV Daily
0.02	= 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 = 0.101		1.3.2.iii	WLA_cfc = 0.091
PENTOXSD TRG	5.1a	LTAMULT_afc = 0.373		5.1c	LTAMULT_cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 0.038		5.1d	LTA_cfc = 0.053
Source	Effluent Limit Calculations				
PENTOXSD TRG	5.1f	AML_MULT = 1.231			
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.047		AFC	
		INST MAX LIMIT (mg/l) = 0.152			
WLA_afc	$(.019/e^{-k \cdot AFC_tc}) + [(AFC_Yc \cdot Qs \cdot 0.019 / Qd \cdot e^{-k \cdot AFC_tc}) \dots + Xd + (AFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
LTAMULT_afc	$EXP((0.5 \cdot LN(cvh^2 + 1)) - 2.326 \cdot LN(cvh^2 + 1)^{0.5})$				
LTA_afc	wla_afc * LTAMULT_afc				
WLA_cfc	$(.011/e^{-k \cdot CFC_tc}) + [(CFC_Yc \cdot Qs \cdot 0.011 / Qd \cdot e^{-k \cdot CFC_tc}) \dots + Xd + (CFC_Yc \cdot Qs \cdot Xs / Qd)] \cdot (1 - FOS / 100)$				
LTAMULT_cfc	$EXP((0.5 \cdot LN(cvd^2 / no_samples + 1)) - 2.326 \cdot LN(cvd^2 / no_samples + 1)^{0.5})$				
LTA_cfc	wla_cfc * LTAMULT_cfc				
AML_MULT	$EXP(2.326 \cdot LN((cvd^2 / no_samples + 1)^{0.5}) - 0.5 \cdot LN(cvd^2 / no_samples + 1))$				
AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc) * AML_MULT)				
INST MAX LIMIT	$1.5 \cdot ((av_mon_limit / AML_MULT) / LTAMULT_afc)$				