pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0209287**
Facility Type	**Non-Municipal**	APS ID	**1071606**
Major / Minor	**Minor**	Authorization ID	**1410750**

Applicant and Facility Information

Applicant Name	**Four Points RV Resorts of PA**	Facility Name	**Jellystone PA Wilds WWTF**
Applicant Address	P.O. Box 5123	Facility Address	130 Bucktail Road
	Lake Charles, LA 70606-5123		Mansfield, PA 16933-8710
Applicant Contact	Sean Vidrine	Facility Contact	Ted Elizondo
Applicant Phone	337-761-9157	Facility Phone	217-730-2082
Client ID	362631	Site ID	263319
Ch 94 Load Status	Not Overloaded	Municipality	Richmond Township
Connection Status	N/A	County	Tioga
Date Application Received	September 16, 2022	EPA Waived?	Yes
Date Application Accepted	September 30, 2022	If No, Reason	N/A
Purpose of Application	Renewal of NPDES Permit		

Summary of Review

INTRODUCTION

Sean Vidrine, owner of Four Points RV Resorts of PA (Four Points), has proposed the renewal of the NPDES permit authorizing the discharge from the wastewater treatment facility (WWTF) serving the Jellystone PA Wilds facility in Richmond Township, Tioga County.

APPLICATION

Four Points submitted the *NPDES Application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities* (DEP #3800-PM-BPNPSM0342b). This application was received by the Department on September 16, 2022 and considered administratively complete on September 30, 2022. Sean Vidrine's additional contact information is (email) sean@fourpointsrvresorts.com. Ted Elizondo, Manager, is the Client Contact. His contact information is (phone) 217-730-2082. Patrick Crowley is the licensed operator. His contact information is (phone) 570-439-0731 and (email) ameobe@ptd.net.

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.

The casefile, permit application package and draft permit will be available for public review at Department's Northcentral Regional Office. The address for this office is 208 West Third Street, Suite 101, Williamsport, PA 17701. An appointment can be made to review these materials during the comment period by calling the file coordinator at 570-327-3636.

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Approve	Deny	Signatures		Date
X		Jeffrey J. Gocek, EIT	Project Manager	02/12/2024
X		Nicholas W. Hartranft, PE	Environmental Engineer Manager	02/12/2024

DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION

Outfall No.	001	Design Flow (MGD)	0.01275
Latitude	41° 49' 04.89"	Longitude	-77° 06' 32.17"
Quad Name	Mansfield, PA	Quad Code	41077
Wastewater Description:	Sewage Effluent		
Receiving Waters	Manns Creek (POFU Tioga River)	Stream Code	31328 (POFU 30990)
NHD Com ID	57351793	RMI	1.2 (POFU 17.7 to PA/NY Border)
Drainage Area	2.03 (POFU 183)	Yield (cfs/mi^2)	0.0614
Q_{7-10} Flow (cfs)	0.125 (POFU 11.24)	Q_{7-10} Basis	USGS Gage #01516350
Elevation (ft)	1300 (POFU 1136)	Slope (ft/ft)	N/A
Watershed No.	4-A	Chapter 93 Class.	CWF
Existing Use	None	Existing Use Qualifier	N/A
Exceptions to Use	None	Exceptions to Criteria	None
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	Final	Name	Tioga River
Nearest Downstream Public Water Supply Intake	PA/NY Border		
PWS Waters	Tioga River	Flow at Intake (cfs)	N/A
PWS RMI	N/A	Distance from Outfall (mi)	17.7

Point of First Use

Due to the intermittent nature of the receiving stream (Manns Creek, stream code 31328), the Department considers a location on the downstream Tioga River (stream code 30990), to be the Point of First Use (POFU). A POFU is required when/where the discharge is to intermittent streams or wetlands where there is limited flow and/or no mixing. This POFU is approximately located at latitude 41°49'29.77" and longitude -77°05'26.89".

Perennial flow occurs at the POFU and the stream characteristics there will allow for modeling of parameters not outlined in the Department's guidance "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels, Swales and Storm Sewers" (DEP #391-2000-014). These are Ammonia Nitrogen and Total Residual Chlorine.

$Q_{7,10}$ Determination

The $Q_{7,10}$ is the lowest seven consecutive days of flow in a 10-year period and is used for modeling wastewater treatment plant discharges. 25 PA § 96.1 defines $Q_{7,10}$ as *the actual or estimated lowest seven consecutive day average flow that occurs once in 10 years for a stream with unregulated flow or the estimated minimum flow for a stream with regulated flow*.

Basin characteristics, for a watershed based on the POFU location, were obtained from the USGS StreamStats webpage. A downstream stream gage was selected as a reference. The selected gage is USGS #01516350 (Tioga River near Mansfield, PA). A $Q_{7,10}$ and drainage area for this gage were obtained from *Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania* (USGS Open Files Report 2011-1070). The drainage area at the POFU (183 mi^2) was calculated by the *USGS Pennsylvania StreamStats* application. Knowing the drainage area at the POFU (183 mi^2) and both the drainage area (153 mi^2) and $Q_{7,10}$ (9.4 CFS) at the reference gage, the $Q_{7,10}$ at the POFU was calculated to be 11.24 CFS.

See Attachment 01 for the $Q_{7,10}$ determination.

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TREATMENT FACILITY

The WWTF serving the Jellystone Park PA Wilds was designed to serve approximately 230 campsites and cabins, in addition to restrooms, shower facilities, dishwashing facilities and a store. Sewage planning, completed in 1995, allows for an additional 130 units. Because this is a seasonal campground, the WWTF is not operated in winter months. Both the resort and the WWTF are opened in early April and closed in late October. The 3-day holiday weekends are the most taxing to the WWTF and necessitated the addition of both flow and sludge storage since the original WWTF construction. See Attachment 02 for a map of the WWTF location.

Wastewater treatment is accomplished by an extended aeration package plant (Cromaglass model CA-120). Three equalization (EQ) tanks are employed before the package plant. One of these is a 10,000-gallon tank, while the other two are tanker trucks (6,700 gallon and 5,000 gallon). The package plant consists of an aeration chamber and a settling chamber. Following the package plant, wastewater is treated by a 4 sand filters (1,296-square feet, 36' x 36'). Disinfection is provided by an erosion tablet chlorinator (Sanuril model 1000) and a 2,000-gallon baffled chlorine contact tank. The 5,000-gallon (Cromaglass aerated) EQ tank is internally split into two 2,500-gallon tanks. When the package plant is hydraulically overloaded, wastewater is directed to the EQ tanks. Once high flows have passed, these EQ flows are directed back to the package plant. Two sludge holding tanks are employed, one of which is a sludge holding trailer (7,000 gallons total storage). The truck tanks are "road legal" and, if necessary, can be driven to the Mansfield WWTP for the disposal of sludge. See Attachment 03 for a site schematic.

The WWTF discharges treated wastewater via Outfall 001, which is located at latitude 41°49'04.89" and longitude -77°06'32.17". The receiving stream is Manns Creek, protected for Cold Water Fishes (CWF) and Migratory Fishes (MF).

The WWTF characteristics are as follows.

Waste Type	Degree of Treatment	Process Type	Disinfection	Average Annual Flow (MGD)
Sewage	Secondary	Activated Sludge	Hypochlorite	0.0062
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.01275	40.0	Not Overloaded	Storage	Offsite Disposal

The original design was approved by Water Quality Management (WQM) permit #5995406, which was issued on January 25, 1996. Since that issuance, several letter amendments were issued approving the addition of sludge digestion, sludge storage and flow equalization tanks.

COMPLIANCE HISTORY

The WMS Query *Open Violations by Client* revealed one open violation for the Four Points. This violation is summarized below.

Client ID	PF ID	Program ID	Inspection ID	Violation ID	Violation Date	Violation
362631	282446	PA0209287	3390537	961481	07/07/2022	Violation of effluent limits in Part A of Permit

The most recent Department inspection, a Compliance Evaluation Inspection (CEI), was performed July 07, 2022. At this inspection, treatment units were observed, onsite paperwork was reviewed and the outfall and receiving stream were also observed. Clear effluent was discharging and no impact to the receiving stream was observed. An Ammonia-Nitrogen limitation exceedance was noted for June 2021. Missing forms and data were noted for the 12 months prior to the inspection.

Effluent violations, from February 2023 through December 2023, are summarized in the table below.

Parameter	Date	SBC	DMR Value	Units	Limit Value
Fecal Coliform	08/31/23	IMAX	2420	No./100 ml	1000
Ammonia	08/31/23	Average Monthly	10.0	mg/L	5.0
Ammonia	07/31/23	Average Monthly	11.6	mg/L	5.0
Ammonia	06/30/23	Average Monthly	8.9	mg/L	5.0

Discharge Monitoring Reports (DMRs) are being submitted via the Department's eDMR system. 2023 DMR Data for Outfall 001 is presented below.

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Parameter	DEC-23	NOV-23	OCT-23	SEP-23	AUG-23	JUL-23	JUN-23	MAY-23	APR-23	MAR-23	FEB-23	JAN-23
Flow (MGD) Average Monthly			0.005	0.005	0.006	0.006	0.005	0.004	0.003			
Flow (MGD) Weekly Average			0.006	0.01	0.007	0.007	0.007	0.006	0.004			
pH (S.U.) Instantaneous Minimum			6.6	6.3	6.5	6.6	6.5	6.6	7.0			
pH (S.U.) Instantaneous Maximum			7.1	7.0	6.9	7.1	7.0	7.3	7.2			
DO (mg/L) Instantaneous Minimum			5.9	6.35	4.08	2.42	4.7	5.78	6.2			
TRC (mg/L) Average Monthly			0.2	0.3	0.2	0.3	0.4	0.3	0.3			
TRC (mg/L) Instantaneous Maximum			0.8	0.8	0.8	0.8	1.1	1.3	1.2			
CBOD5 (mg/L) Average Monthly			< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 5.0			
TSS (mg/L) Average Monthly			< 1.6	< 9.0	< 2.0	< 2.0	< 2.0	2.0	< 2.0			
Fecal Coliform (No./100 ml) Geometric Mean			443	< 4.0	133	< 2.0	< 18	< 1.0	< 1.0			
Fecal Coliform (No./100 ml) Instantaneous Maximum			961	16	2420	3.0	326	< 1.0	< 1.0			
Ammonia (mg/L) Average Monthly			< 1.5	0.5	10.0	11.6	8.9	< 0.1	< 0.1			
Total Nitrogen (mg/L) Annual Average			< 8.097									
Total Nitrogen (lb/day) Annual Average			1.69									
Total Phosphorus (mg/L) Annual Average			2.08									
Total Phosphorus (lb/day) Annual Average			0.087									
Total Aluminum (mg/L) Annual Average			< 0.10									
Total Aluminum (lb/day) Annual Average			< 0.004									
Total Iron (mg/L) Annual Average			< 0.20									
Total Iron (lb/day) Annual Average			< 0.008									
Total Manganese (mg/L) Annual Average			< 0.02									
Total Manganese (lb/day) Annual Average			< 0.001									

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EXISTING EFFLUENT LIMITATIONS

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	Report	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
$CBOD_5$ (05/01-10/31)	XXX	XXX	XXX	10	XXX	20	2/Month	8 Hour Comp
$CBOD_5$ (11/01-04/30)	XXX	XXX	XXX	20	XXX	40	2/Month	8 Hour Comp
TSS (05/01-10/31)	XXX	XXX	XXX	10	XXX	20	2/Month	8 Hour Comp
TSS (11/01-04/30)	XXX	XXX	XXX	20	XXX	40	2/Month	8 Hour Comp
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo. Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo. Mean	XXX	10,000	2/Month	Grab
Ammonia Nitrogen (05/01-10/31)	XXX	XXX	XXX	5.0	XXX	10	2/Month	8 Hour Comp
Ammonia Nitrogen (11/01-04/30)	XXX	XXX	XXX	15	XXX	30	2/Month	8 Hour Comp
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/Year	8 Hour Comp
Total Phosphorus	Report	XXX	XXX	Report	XXX	XXX	1/Year	8 Hour Comp
Total Aluminum	Report	XXX	XXX	Report	XXX	XXX	1/Year	8 Hour Comp
Total Iron	Report	XXX	XXX	Report	XXX	XXX	1/Year	8-Hour Comp
Total Manganese	Report	XXX	XXX	Report	XXX	XXX	1/Year	8-Hour Comp

DEVELOPMENT OF EFFLUENT LIMITATIONS

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)

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Total Residual Chlorine

The Department's *TRC_CALC spreadsheet* is a model used to evaluate Total Residual Chlorine (TRC) effluent limitations. This model determines applicable acute and chronic wasteload allocations (WLAs) for TRC based on the data supplied by the user and then compares the WLAs to the technology-based average monthly limit using the procedures described in the EPA Technical Support Document (for Water Quality-based Toxics Control).

Parameter	Effluent Limitations (mg/L)	
	Monthly Average	IMAX
Total Residual Chlorine	0.50	1.63

See Attachment 04 for the TRC_CALC output.

Water Quality-Based Limitations

$CBOD_5$, NH_3-N and DO

WQM 7.0 for Windows is a DEP computer model used to determine wasteload allocations and effluent limitations for $CBOD_5$, NH_3-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH_3-N module simulates the mixing and degradation of NH_3-N in the stream and compares calculated instream NH_3-N concentrations to the water quality criteria. The DO module simulates the mixing and consumption of DO in the stream due to degradation of $CBOD_5$ and NH_3-N and compares the calculated instream DO concentrations to the water quality criteria. The model then determines the highest pollutant loading the stream can assimilate and still meet water quality under design conditions.

This model was run at the POFU and recommended the following limitations.

Parameter	Effluent Limitations (mg/L)		
	30 Day Average	Maximum	Minimum
$CBOD_5$	10		
NH_3-N	5	10	
DO			3.0

See Attachment 05 for the WQM model output.

Toxics Screening Analysis

According to the application materials, there are no significant industrial or commercials users in the collection system. Because of this, no PENTOXSD modeling is required. *PENTOXSD for Windows* is a DEP computer model which considers mixing, first-order decay and other factors to determine recommended water quality-based effluent limitations (WQBELs).

Best Professional Judgment (BPJ) Limitations

In the absence of applicable effluent guidelines for the discharge or pollutant, permit writers must identify and/or develop needed technology-based effluent limitations (TBELs) TBELs on a case-by-case basis, in accordance with the statutory factors specified in the Clean Water Act.

Dissolved Oxygen (DO)

Department policy requires that sewage dischargers be limited to 4.0 mg/L of Dissolved Oxygen (as an instantaneous minimum) to ensure adequate operation and maintenance of the WWTF.

Seasonal Limitation

The applicable seasonal limit multipliers, in accordance with the Department's *Determining Water Quality-Based Effluent Limits* (DEP #391-2000-003), will be continued in this issuance. See below.

Parameter	Time Period	Multiplier
BOD	November 1 through April 30	2.0
TSS	November 1 through April 30	2.0
NH_3-N	May 1 through October 31	3.0

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Anti-Backsliding

In order to comply with 40 CFR § 122.44(l)(1) (anti-backsliding requirements), the Department must issue a renewed permit with limitations as stringent as that the of the previous permit.

No less stringent limitations have been proposed.

RECEIVING STREAM

Stream Characteristics

The receiving stream is Manns Creek. This stream, according to 25 PA § 93.9H, is protected for Cold Water Fishes (CWF) and Migratory Fishes (MF). These are the streams *Designated Uses*, which is defined in 25 PA § 93.1 as "those uses specified in §§ 93.9a – 93.9z for each waterbody or segment whether or not the use is being attained". Designated uses are regulations promulgated by the Environmental Quality Board (EQB) throughout the rulemaking process. This stream currently has no *Existing Use*, which is defined in 25 PA § 93.1 as "those uses actually attained in the waterbody on or after November 28, 1975 whether or not they are included in the water quality standards". Manns Creek is identified by Department stream code 31328. This stream is located in (Chapter 93) drainage list H and State Water Plan 4A (Cowanesque and Tioga Rivers).

The POFU is downstream, just below where the Manns Creek enters the Tioga River. The Tioga River, according to 25 PA § 93.9H, is protected for Cold Water Fishes (CWF) and Migratory Fishes (MF). This stream currently has no Existing Use. This stream is identified by stream code 30990.

Impairment/TMDL

According to Department data, Manns Creek is attaining its designated uses for supporting aquatic life. The Tioga River is impaired by metals and pH (Cause) due to Abandoned Mine Drainage (AMD, Source). A Total Maximum Daily Load (TMDL) was developed for the Department in March 2003 and approved by the Environmental Protection Agency (EPA) in April 2005. This TMDL recommended reductions in Aluminum, Iron, Manganese and Acidity at various stations throughout the Tioga River watershed to meet water quality standards.

The domestic effluent from this WWTF has no reasonable potential to discharge metals.

DEVELOPMENT OF EFFLUENT MONITORING

E.coli

The Department is requiring the monitoring of Eschericia coli (E.coli), a pathogenic bacterium normally found in the intestines of healthy people and animals which is used as a fecal contamination indicator in freshwater ecosystems. Section 303(c)(1) of the Clean Water Act requires that Pennsylvania periodically review and revise water quality standards, if necessary. The 2017 triennial review final form rulemaking, published in 2020, has revised the Chapter 93 water quality standards regulations for bacteria to include E. coli. To further characterize fecal contamination of surface waters during the swimming season, the Department is requiring the annual reporting of effluent E. coli effluent values. In accordance with 25 PA § 92a.61, the Department may impose reasonable monitoring requirements on pollutants which could have impact on the quality of the Commonwealth's waters or the quality of waters in other states.

Influent Monitoring

Department policy requires that all Publicly Owned Treatment Works (POTWs) with flows greater than 2,000 gallons per day (gpd) conduct influent BOD_5 and TSS monitoring at the same frequency and sample type as is used for the effluent $CBOD_5$ and TSS monitoring.

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REMOVAL OF EFFLUENT MONITORING

Chesapeake Bay TMDL

Despite 25 years of extensive restoration efforts, the Chesapeake Bay Total Maximum Daily Load (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by the Environmental Protection Agency (EPA). This document identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its Watershed Implementation Plan (WIP), which is incorporated into the TMDL. Pennsylvania's permitting strategy for significant dischargers has been outlined in the Phase I WIP and incorporated in the Phase III WIP by reference, and imposes Total Nitrogen (TN) and Total Phosphorus (TP) cap loads on the significant dischargers.

Because the design of this facility is less than 0.2 MGD, the Department considers this an existing Phase 5 sewage facility for the purposes of implementing the Chesapeake Bay TMDL. This system has a design flow of 0.01275 MGD. According to the Department's Wastewater Supplement to Phase II WIP (last revised October 14, 2016), renewed Phase 5 facilities are required to contain monitoring and reporting for TN and TP throughout the permit term at a frequency of no less than annually unless the facility has already conducted at least two years of nutrient monitoring.

Nutrient data was collected during the previous permit term. That data is summarized below.

Year	Parameter	Concentration (mg/L)	Loading (lb/day)
2020	Total Nitrogen	< 3.22	0.13
2020	Total Phosphorus	1.70	0.07
2021	Total Nitrogen	16.06	0.67
2021	Total Phosphorus	1.72	0.07
2022	Total Nitrogen	E	E
2022	Total Phosphorus	E	E
2023	Total Nitrogen	1.69	< 8.097
2023	Total Phosphorus	2.08	0.087

TMDL Parameters of Concern

The annual monitoring of the TMDL parameters of concern (Aluminum, Iron and Manganese) was required to ensure that the discharge is not contributing to the impairment of the receiving stream. The data over the last permit term has demonstrated that there is no reasonable potential for this discharge to contribute.

Metals data was collected during the previous permit term. That data is summarized below.

Year	Parameter	Concentration (mg/L)	Loading (lb/day)
2020	Total Aluminum	< 0.10	< 0.004
2020	Total Iron	< 0.20	< 0.008
2020	Total Manganese	< 0.0008	< 0.02
2021	Total Aluminum	< 0.10	< 0.004
2021	Total Iron	< 0.20	< 0.008
2021	Total Manganese	< 0.0008	<0.02
2022	Total Aluminum	E	E
2022	Total Iron	E	E
2022	Total Manganese	E	E
2023	Total Aluminum	< 0.10	< 0.004
2023	Total Iron	< 0.20	< 0.008
2023	Total Manganese	< 0.001	< 0.02

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ADDITIONAL CONSIDERATIONS

Hauled-In Wastes

According to the application materials, the Jellystone PA Wilds WWTF does not accept hauled-in wastes.

Whole Effluent Toxicity (WET) Testing

According to the application materials, the Jellystone PA Wilds WWTF does not accept from industrial or commercial users. Because of this, a WET test evaluation is not required.

Rounding of Limitations

Limitations have been rounded down in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Limit Multipliers

The instantaneous maximum limitations have been calculated using multipliers of 2.0 (for sewage discharges) for determining the IMAX. This practice is in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Sample Frequencies and Types

The sample type and minimum measurement frequencies are in accordance with the Department's *Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits* (#362-0400-001).

Standard Operating Procedures (SOPs)

The review of this permit application was performed in accordance with the Department's *SOP for New and Reissuance Sewage Individual NPDES Permit Applications* (unnumbered) and *SOP for Establishing Effluent Limitations for Individual Sewage Permits* (SOP #BPNPSM-PMT-033).

Special Permit Conditions

Stormwater Prohibition
Approval Contingencies
Proper Waste Disposal
Municipal Treatment Availability
Solids Management for Non-Lagoon Treatment Systems

Supplemental Discharge Monitoring Reports

Daily Effluent Monitoring
Non-Compliance Reporting
Biosolids Production and Disposal
Hauled-in Municipal Waste
Influent and Process Control
Lab Accreditation

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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

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Metered
pH (SU)	XXX	XXX	6.0	XXX	XXX	9.0	1/Day	Grab
Dissolved Oxygen	XXX	XXX	4.0 Inst. Min.	XXX	XXX	XXX	1/Day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/Day	Grab
$CBOD_5$ (05/01-10/31)	XXX	XXX	XXX	10	XXX	20	2/Month	8 Hour Comp
$CBOD_5$ (11/01-04/30)	XXX	XXX	XXX	20	XXX	40	2/Month	8 Hour Comp
TSS (05/01-10/31)	XXX	XXX	XXX	10	XXX	20	2/Month	8 Hour Comp
TSS (11/01-04/30)	XXX	XXX	XXX	20	XXX	40	2/Month	8 Hour Comp
Fecal Coliform (No./100mL) 05/01-09/30	XXX	XXX	XXX	200 Geo. Mean	XXX	1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30	XXX	XXX	XXX	2,000 Geo. Mean	XXX	10,000	2/Month	Grab
Ammonia Nitrogen (05/01-10/31)	XXX	XXX	XXX	5.0	XXX	10	2/Month	8 Hour Comp
Ammonia Nitrogen (11/01-04/30)	XXX	XXX	XXX	15	XXX	30	2/Month	8 Hour Comp
E. Coli (No./100mL)	XXX	XXX	XXX	XXX	XXX	Report	1/Year	Grab

END of Fact Sheet.

ATTACHMENT 01

Q_{7-10} Analysis	
Facility:	Bucktail Camping Resort
Outfall:	001

NPDES Permit No.:	PA0209287
RMI at 001:	17.7 to PA/NY Border @ POFU

Reference Stream Gage Information	
Stream Name	Tioga River
Reference Gage	1516350
Station Name	Tioga River near Mansfield, PA
Gage Drainage Area (sq. mi.)	153.00
Q_{7-10} at gage (cfs)	9.40
Yield Ratio (cfs/mi^2)	0.0614

Q7-10 at 001	
Drainage Area at 001 (sq. mi.)	183.00
Q7-10 at 001 (cfs)	11.243
Q7-10 at 001 (mgd)	7.2666

Table 1. List of U.S. Geological Survey streamgage locations in and near Pennsylvania with updated streamflow statistics.—Continued

[Latitude and Longitude in decimal degrees; mi², square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi²)	Regulated[1]
01508803	West Branch Tioughnioga River at Homer, N.Y.	42.638	-76.176	71.5	N
01509000	Tioughnioga River at Cortland, N.Y.	42.603	-76.159	292	N
01510000	Otselic River at Cincinnatus, N.Y.	42.541	-75.900	147	N
01512500	Chenango River near Chenango Forks, N.Y.	42.218	-75.848	1,483	N
01515000	Susquehanna River near Waverly, N.Y.	41.985	-76.501	4,773	N
01516350	Tioga River near Mansfield, Pa.	41.797	-77.080	153	N
01516500	Corey Creek near Mainesburg, Pa.	41.791	-77.015	12.2	N
01518000	Tioga River at Tioga, Pa.	41.908	-77.129	282	Y
01518700	Tioga River at Tioga Junction, Pa.	41.953	-77.115	446	Y
01518862	Cowanesque River at Westfield, Pa.	41.923	-77.532	90.6	N
01520000	Cowanesque River near Lawrenceville, Pa.	41.997	-77.140	298	Y
01520500	Tioga River at Lindley, N.Y.	42.029	-77.132	771	Y
01521500	Canisteo River at Arkport, N.Y.	42.396	-77.711	30.6	Y
01523500	Canacadea Creek near Hornell, N.Y.	42.335	-77.683	57.9	Y
01524500	Canisteo River below Canacadea Creek at Hornell, N.Y.	42.314	-77.651	158	Y
01526500	Tioga River near Erwins, N.Y.	42.121	-77.129	1,377	Y
01527000	Cohocton River at Cohocton, N.Y.	42.500	-77.500	52.2	N
01527500	Cohocton River at Avoca, N.Y.	42.398	-77.417	152	N
01528000	Fivemile Creek near Kanona, N.Y.	42.388	-77.358	66.8	N
01529000	Mud Creek near Savona, N.Y.	42.308	-77.197	76.6	Y
01529500	Cohocton River near Campbell, N.Y.	42.253	-77.217	470	N
01529950	Chemung River at Corning, N.Y.	42.146	-77.057	2,006	Y
01530332	Chemung River at Elmira, N.Y.	42.086	-76.801	2,162	Y
01530500	Newtown Creek at Elmira, N.Y.	42.105	-76.798	77.5	Y
01531000	Chemung River at Chemung, N.Y.	42.002	-76.635	2,506	Y
01531500	Susquehanna River at Towanda, Pa.	41.765	-76.441	7,797	Y
01532000	Towanda Creek near Monroeton, Pa.	41.707	-76.485	215	N
01532850	MB Wyalusing Creek near Birchardville, Pa.	41.863	-76.007	5.67	N
01533400	Susquehanna River at Meshoppen, Pa.	41.607	-76.050	8,720	Y
01533500	North Branch Mehoopany Creek near Lovelton, Pa.	41.531	-76.156	35.2	N
01533950	SB Tunkhannock Creek near Montdale, Pa.	41.575	-75.642	12.6	N
01534000	Tunkhannock Creek near Tunkhannock, Pa.	41.558	-75.895	383	N
01534300	Lackawanna River near Forest City, Pa.	41.680	-75.472	38.8	Y
01534500	Lackawanna River at Archbald, Pa.	41.505	-75.542	108	Y
01536000	Lackawanna River at Old Forge, Pa.	41.359	-75.744	332	Y
01536500	Susquehanna River at Wilkes-Barre, Pa.	41.251	-75.881	9,960	Y
01537000	Toby Creek at Luzerne, Pa.	41.281	-75.896	32.4	Y
01537500	Solomon Creek at Wilkes-Barre, Pa.	41.228	-75.904	15.7	N
01538000	Wapwallopen Creek near Wapwallopen, Pa.	41.059	-76.094	43.8	N
01539000	Fishing Creek near Bloomsburg, Pa.	41.078	-76.431	274	N
01539500	Little Fishing Creek at Eyers Grove, Pa.	41.080	-76.511	56.5	N
01540200	Trexler Run near Ringtown, Pa.	40.853	-76.280	1.77	N
01540500	Susquehanna River at Danville, Pa.	40.958	-76.619	11,220	Y
01541000	West Branch Susquehanna River at Bower, Pa.	40.897	-78.677	315	N
01541200	West Branch Susquehanna River near Curwensville, Pa.	40.961	-78.519	367	Y

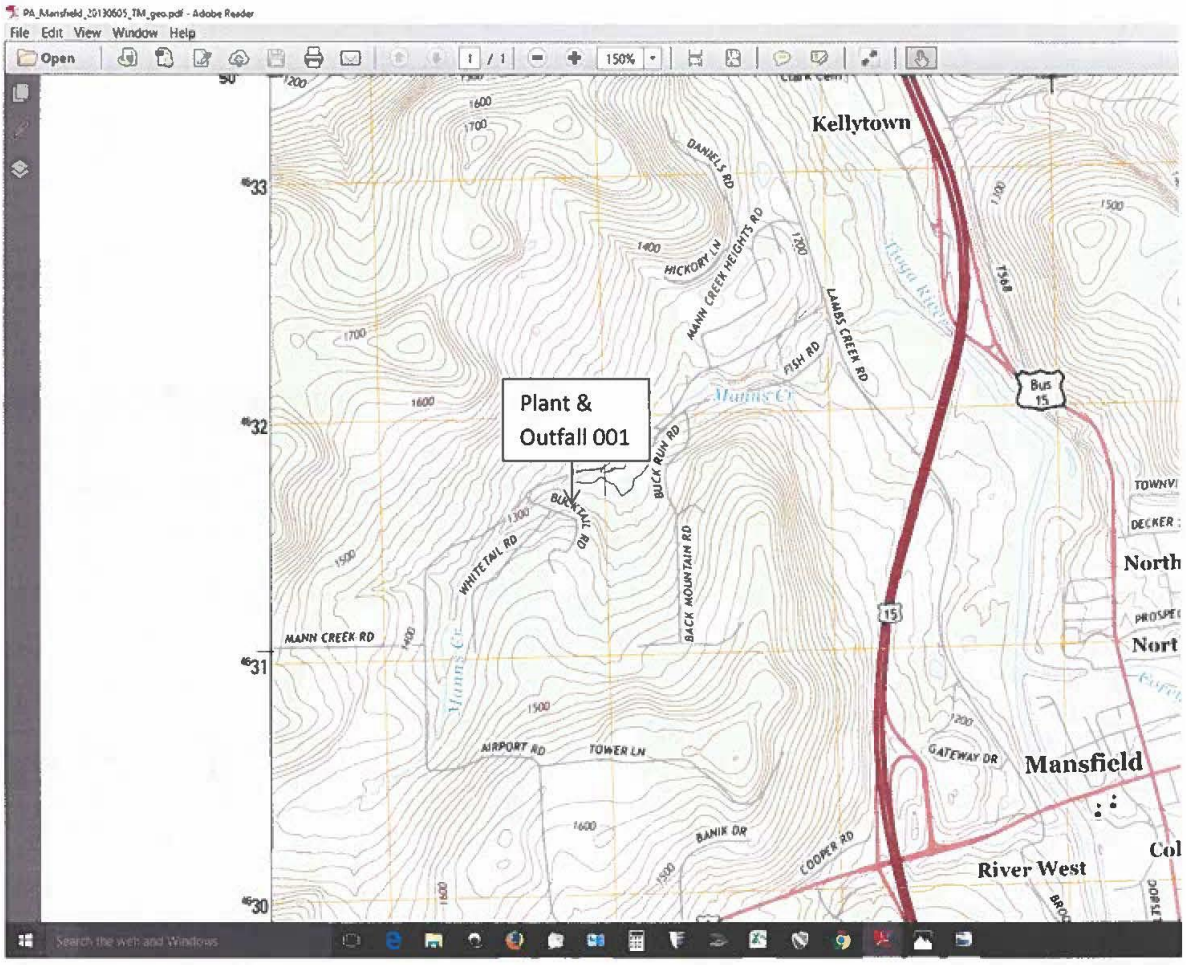
Table 2. Selected low-flow statistics for streamgage locations in and near Pennsylvania.—Continued

[ft³/s; cubic feet per second; —, statistic not computed; <, less than]

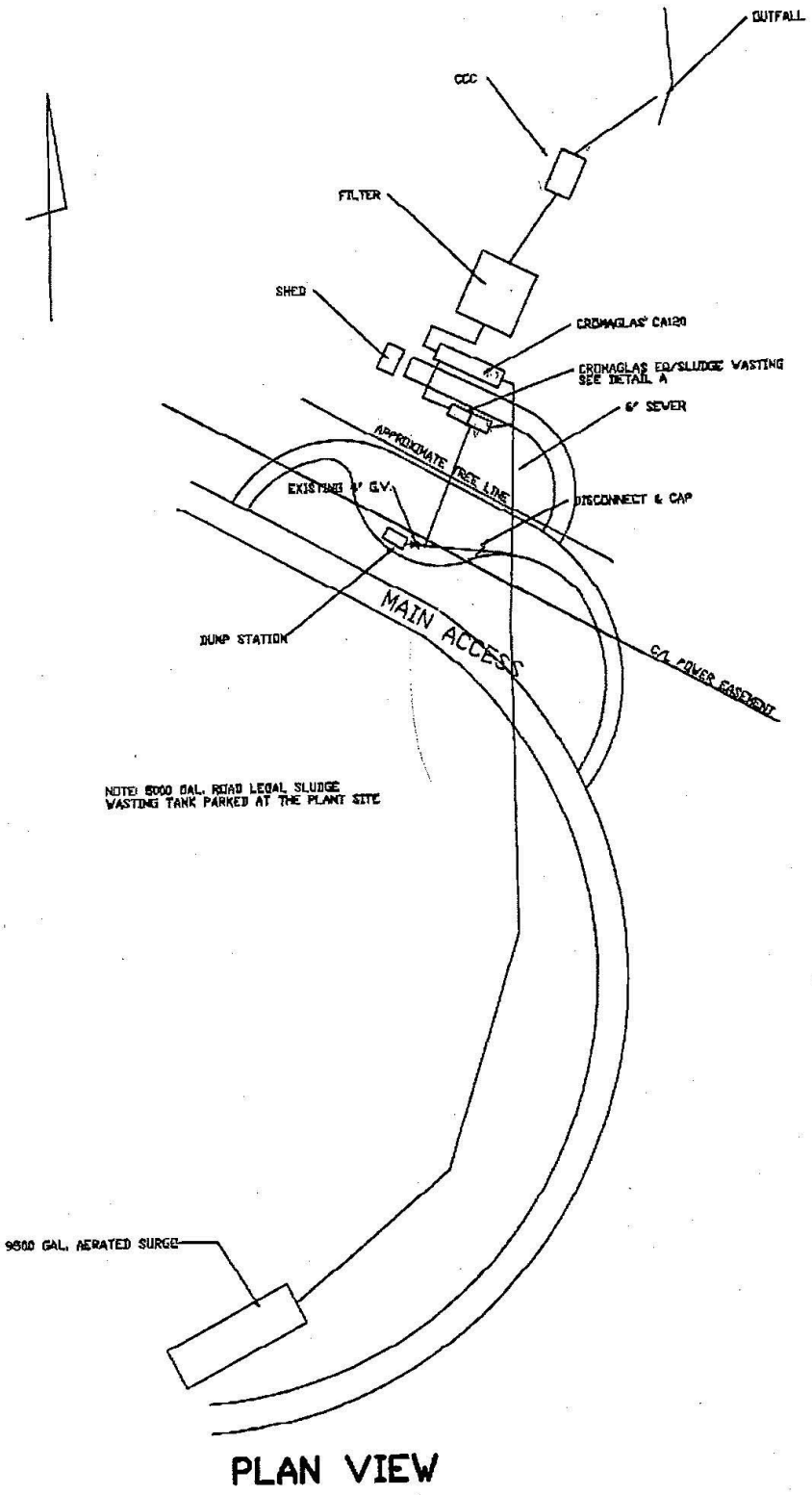
Streamgage number	Period of record used in analysis[1]	Number of years used in analysis	1-day, 10-year (ft³/s)	7-day, 10-year (ft³/s)	7-day, 2-year (ft³/s)	30-day, 10-year (ft³/s)	30-day, 2-year (ft³/s)	90-day, 10-year (ft³/s)
01481500	[3]1948–1973	26	64.5	70.5	115	83.5	138	111
01482500	1941–2008	47	0	.7	2.6	1.5	4.8	3.4
01483200	1958–2008	51	<.1	.1	.3	.1	.6	.3
01483700	1959–2008	50	.3	.7	2.2	1.2	4.3	3.6
01484000	1933–2008	27	1.4	1.7	2.7	2.0	3.3	2.7
01484100	1960–2008	49	.2	.3	.9	.4	1.0	.5
01484270	1973–2005	11	4.0	4.3	7.2	4.6	7.6	5.4
[4]01493000	1949–2008	56	.7	—	—	5.1	8.4	6.3
[4]01493500	1953–2008	54	1.5	1.7	3.4	2.1	4.1	2.9
[4]01495000	1933–2008	76	7.7	8.7	19.4	11.1	23.2	16.3
[4]01496000	1950–1984	35	2.3	2.7	5.5	3.4	6.8	5.0
[4]01496200	1969–1992	24	1.2	1.3	2.5	1.7	3.0	2.6
01496500	1931–1995	59	3.3	3.7	9.4	4.9	13.6	7.8
01500000	[2]1951–2008	58	2.7	4.1	9.3	5.6	13.6	9.1
01500500	1940–2008	57	71.1	82.9	139	101	179	138
01502000	1940–1995	56	2.4	4.4	7.8	5.3	9.9	7.1
01502500	1931–2008	68	43.6	46.6	78.6	56.1	100	72.8
01503000	1914–2008	95	170	188	327	223	418	311
01505000	1940–2008	60	21.5	23.7	41.0	28.3	51.6	37.8
01508803	1968–1986	14	12.2	13.8	21.7	17.5	27.4	21.9
01509000	1940–2008	67	31.0	33.9	59.4	39.8	70.8	49.4
01510000	1940–2008	63	7.9	8.9	17.4	11.8	23.6	17.1
01512500	1914–2008	95	127	137	235	169	297	225
01515000	1938–2008	65	374	396	660	478	840	654
01516350	1978–2008	31	8.7	9.4	16.2	11.4	21.1	15.9
01516500	1956–2008	53	0	<.1	.3	.1	.5	.3
01518000	[2]1979–2008	30	21.4	24.2	39.1	26.0	43.9	29.6
01518000	[3]1940–1977	38	7.5	8.8	17.7	10.9	23.6	16.5
01518700	[2]1981–2008	28	26.3	28.8	47.8	31.8	53.6	36.5
01518862	1985–2008	24	.9	1.2	3.4	2.0	5.2	4.1
01520000	[2]1981–2008	28	7.6	8.1	16.0	10.0	20.2	12.4
01520000	[3]1953–1978	26	1.7	2.2	7.0	3.4	11.3	6.2
01520500	[2]1981–1995	15	37.4	41.5	72.7	44.5	80.5	53.6
01520500	[3]1931–1979	49	14.3	16.2	37.3	20.8	51.8	32.5
01521500	[2]1941–2008	68	.6	.7	1.4	.8	1.8	1.2
01523500	[2]1950–2008	59	2.0	3.4	7.4	5.8	9.2	7.0
01524500	1944–2008	65	11.3	12.9	20.1	15.2	24.4	17.8
01526500	[2]1980–2008	29	69.5	73.7	116	87.4	145	103
01526500	[3]1920–1978	59	34.8	38.5	72.6	48.6	99.4	70.3
01527000	1952–1981	30	2.7	3.1	6.2	4.3	7.5	5.9
01527500	1940–2008	12	12.2	13.2	25.9	14.8	33.9	18.5
01528000	1938–1995	58	.6	.7	2.2	1.0	2.9	1.6
01529000	1938–1982	45	.6	.7	2.1	1.1	2.5	1.7
01529500	1920–2008	89	20.3	23.5	42.7	28.4	52.5	38.4
01529950	[2]1980–2008	29	116	121	185	142	235	168

ATTACHMENT 02

PA0209287- FourPoints RV Resorts Of PA
Jellystone PA Wilds
Treatment Plant & Outfall



ATTACHMENT 03



PLAN VIEW

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

11.24	= Q stream (cfs)	0.5	= CV Daily
0.01275	= 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)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 181.803	1.3.2.iii	WLA cfc = 177.236
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 67.744	5.1d	LTA_cfc = 103.037

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)**

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
04A	30990	TIOGA RIVER	**17.700**	1143.00	183.00	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	11.86	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
Jellystone	PA0209287	0.0130	0.0130	0.0130	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

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
04A	30990	TIOGA RIVER	**16.500**	1120.00	198.00	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	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
04A	30990	TIOGA 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												
17.700	11.86	0.00	11.86	.0201	0.00363	.816	56.01	68.68	0.26	0.282	20.01	7.00
Q1-10 Flow												
17.700	7.59	0.00	7.59	.0201	0.00363	NA	NA	NA	0.20	0.362	20.01	7.00
Q30-10 Flow												
17.700	16.13	0.00	16.13	.0201	0.00363	NA	NA	NA	0.31	0.237	20.01	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	5		

WQM 7.0 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
04A	30990	TIOGA 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
17.700	Jellystone	16.74	50	16.74	50	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
17.700	Jellystone	1.89	25	1.89	25	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)		
17.70	Jellystone	25	25	25	25	3	3	0	0

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
04A	30990	TIOGA RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
17.700	0.013	20.008	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
56.014	0.816	68.677	0.260
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.04	0.025	0.04	0.700
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.234	6.443	Tsivoglou	5
Reach Travel Time (days)			
0.282			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.028	2.04	0.04	8.24
0.056	2.04	0.04	8.24
0.085	2.03	0.04	8.24
0.113	2.03	0.04	8.24
0.141	2.03	0.04	8.24
0.169	2.03	0.04	8.24
0.197	2.03	0.04	8.24
0.226	2.03	0.04	8.24
0.254	2.03	0.04	8.24
0.282	2.02	0.03	8.24

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
04A	30990	TIOGA 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)
17.700	Jellystone	PA0209287	0.013	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			3