pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET

Application Type	**Renewal**	Application No.	**PA0103942**
Facility Type	**Sewage**	APS ID	**1004497**
Major / Minor	**Minor**	Authorization ID	**1293358**

Applicant and Facility Information

Applicant Name	**American Carpatho Russian Church**	Facility Name	**Camp Nazareth**
Applicant Address	339 Pew Road	Facility Address	339 Pew Road
	Mercer, PA 16137		Mercer, PA 16137
Applicant Contact	Reverend Stephen Loposky	Facility Contact	Reverend Stephen Loposky
Applicant Phone	(724) 662-4840	Facility Phone	(724) 662-4840
Client ID	44257	Site ID	261575
SIC Code	4952	Municipality	Delaware Township
SIC Description	Trans. & Utilities - Sewerage Systems	County	Mercer County
Date Application Received	October 2, 2019	EPA Waived?	Yes
Date Application Accepted	October 24, 2019	If No, Reason	-

Purpose of Application: Renewal of an NPDES Permit for an existing discharge of treated sanitary wastewater.

Summary of Review

Act 14 - Proof of Notification was submitted and received.

A Part II Water Quality Management permit is not required at this time.

The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

A. Stormwater into sewers
B. Right of way
C. Solids handling
D. Public sewerage availability
E. Effluent Chlorine Optimization and Minimization

SPECIAL CONDITIONS:

II. Solids Management

There are 2 open violations in efacts associated with the subject Client ID (44257) as of 9/10/2021 (see Attachment 3).

Approve	Deny	Signatures	Date
X		Stephen A. McCauley Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist	9/10/2021
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	9/13/2021

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.0085
Latitude	41º 18' 25.95"	Longitude	-80º 19' 21.17"
Quad Name	-	Quad Code	-
Wastewater Description:	Sewage Effluent		
Receiving Waters	Shenango River (WWF)	Stream Code	35482
NHD Com ID	130025949	RMI	45.25
Drainage Area	354.6	Yield (cfs/mi^2)	0.16*
Q_{7-10} Flow (cfs)	56.7	Q_{7-10} Basis	Shenango R. @ Transfer gage
Elevation (ft)	898	Slope (ft/ft)	0.000511
Watershed No.	20-A	Chapter 93 Class.	WWF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

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

Nearest Downstream Public Water Supply Intake	Aqua Pennsylvania, Inc. - Shenango Valley		
PWS Waters	Shenango River	Flow at Intake (cfs)	97
PWS RMI	30.0	Distance from Outfall (mi)	15.8

* The yieldrate is calculated from the same stream gage that was used in evaluating the Reynolds Disposal Company and the Greenville STP, which also discharge to the same stretch of river between the Pymatuning and Shenango Reservoirs. The period of record is 1967-2008.

Sludge use and disposal description and location(s): Sludge is not used, it is disposed of at an approved landfill.

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.

Narrative: This Fact Sheet details the determination of draft NPDES Permit limits for an existing discharge of 0.0085 MGD of treated sewage from a campground in Delaware Township, Mercer County.

Treatment permitted under Water Quality Management Permit No. 4377401 consists of the following: A 3-chamber 6,295 gallon septic tank, a dosing tank with two alternating siphons, a 2,913 square foot split bed sand filter, and calcium hypochlorite disinfection with a 1,881 gallon contact tank.

1. Streamflow:

Shenango River at Transfer, PA - USGS Gage No. 03102850 (1967-2008):

Q_{7-10}:	54.4	cfs	(USGS StreamStats)
Drainage Area:	337	sq. mi.	(USGS StreamStats)
Yieldrate:	0.16	cfsm	calculated

Shenango River at Outfall 001:

Yieldrate:	0.16	cfsm	calculated average from above
Drainage Area:	354.6	sq. mi.	(USGS StreamStats)
Q_{7-10}:	56.7	cfs	calculated

% of stream allocated: 100% Basis: No nearby discharges

2. Wasteflow:

Maximum discharge: 0.0085 MGD = 0.0131 cfs

Runoff flow period: 24 hours Basis: Runoff flow from sand filters

There is greater than 3 parts stream flow (Q7-10) to 1 part effluent (design flow). In accordance with the SOP, the treatment requirements in document number 391-2000-014, titled, “Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers”, dated April 12, 2008, are not required to be evaluated for this facility.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, E. Coli, Total Phosphorus, Total Nitrogen, NH_3-N, $CBOD_5$, Dissolved Oxygen, and Total Residual Chlorine (TRC).

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits. The measurement frequency was increased from 1/week to 1/day as recommended in the SOP, based on Table 6-3 in the “Technical Guidance for the Development and Specification of Effluent Limitations” (362-0400-001).

b. Total Suspended Solids

Limits are 30 mg/l as a monthly average and 60 as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30:	200/100ml	(monthly average geometric mean)
	1,000/100ml	(instantaneous maximum)
10/01 - 04/30:	2,000/100ml	(monthly average geometric mean)
	10,000/100ml	(instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/year.

Basis: Application of Chapter 92a.61 as recommended by the SOP.

e. Phosphorus

☐ Limit necessary due to:

☐ Discharge to lake, pond, or impoundment
☐ Discharge to stream

Basis: N/A

☒ Limit not necessary

Basis: The previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61.

g. Ammonia-Nitrogen (NH_3-N)

Median discharge pH to be used:	6.9	Standard Units (S.U.)
	Basis: eDMR data	
Discharge temperature:	25°C	(default value used in the absence of data)
Median stream pH to be used:	7.0	Standard Units (S.U.)
	Basis: default value used in the absence of data	
Stream Temperature:	25˚C	(default value used for WWF modeling)
Background NH_3-N concentration:	0.1	mg/l
	Basis: Default value.	
Calculated NH_3-N Summer limits:	25.0	mg/l (monthly average)
	50.0	mg/l (instantaneous maximum)
Calculated NH_3-N Winter limits:	25.0	mg/l (monthly average)
	50.0	mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer limits above (see Attachment 1). The winter limits are calculated as three times the summer limits, but since the technology-based limits would govern, they will be used. Since the summer and winter limits are technology-based, per the SOP, the previously set year-round monitoring will be retained with this renewal.

h. $CBOD_5$

Median discharge pH to be used: 6.9 Standard Units (S.U.)

Basis: eDMR data

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25˚C (default value used for WWF modeling)

Background $CBOD_5$ concentration: 2.0 mg/l

Basis: Default value

$CBOD_5$ Summer limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

$CBOD_5$ Winter limits: 25.0 mg/l (monthly average)
50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer limits above (see Attachment 1). The winter limits are calculated as three times the summer limits, but since the technology-based limits would govern, they will be used. Since the summer and winter limits are technology-based, per the SOP, the year-round limit of 25.0 mg/l monthly average and 50.0 mg/l instantaneous maximum will be retained with this renewal.

i. Dissolved Oxygen (DO)

☒ 4.0 mg/l - minimum desired in effluent to protect all aquatic life
☐ 5.0 mg/l - desired in effluent for CWF, WWF, or TSF
☐ 6.0 mg/l - minimum required due to discharge falling under guidance document 391-2000-014
☐ 8.0 mg/l - required due to discharge going to a naturally reproducing salmonid stream

Discussion: The Dissolved Oxygen minimum of 4.0 mg/l will be retained with this renewal. The technology-based minimum of 4.0 mg/l is recommended by the WQ Model (see Attachment 1) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61. The measurement frequency was increased from 1/week to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

j. Total Residual Chlorine (TRC)

☐ No limit necessary

Basis: N/A

☒ TRC limits: 0.5 mg/l (monthly average)
1.6 mg/l (instantaneous maximum)

Basis: The TRC limits above are technology-based using the TRC_Calc Spreadsheet (see Attachment 2). The limits above the same as in the previous permit and will be retained.

The measurement frequency was increased from 1/week to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001).

k. Anti-Backsliding

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

4. Reasonable Potential Analysis for Receiving Stream:

A Reasonable Potential Analysis was not performed in accordance with State practices for Outfall 001 since no sampling other than sewage-related parameters was performed for this facility with the renewal application.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Reasonable Potential Analysis performed above does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate). However, since no data was provided, mass-balance calculations were not able to be performed.

Nearest Downstream potable water supply (PWS): Aqua Pennsylvania, Inc. - Shenango Valley
Distance downstream from the point of discharge: 15.8 miles (approximate)

☒ No limits necessary
☐ Limits needed

Basis: Significant dilution available.

6. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - TRC_Calc Spreadsheet

(The Attachments above can be found at the end of this document)

Threatened and Endangered Mussel Species Concerns and Considerations

The main segment of the Shenango River from Porter Road near Greenville, Pennsylvania, downstream to the point of inundation by Shenango River Lake near Big Bend, Mercer County, Pennsylvania was designated by the United States Fish and Wildlife Services (USFWS) as “Critical Habitat” for the rabbitsfoot mussel, a federally listed threatened species, and is known to also contain other threatened and endangered mussel species. The Camp Nazareth outfall pipe is a direct discharge to the Shenango River within the critical habitat area. Therefore, potential impacts to endangered mussel species were evaluated.

The USFWS has indicated in comment letters on other NPDES permits that in order to protect threatened and endangered mussel species, wastewater discharges containing ammonia-nitrogen (NH_3-N), chloride (Cl^-) and nickel, where mussels or their habitat exist, can be no more than 1.9 mg/l, 78 mg/l and 7.3 ug/l, respectively.

This existing 5,000 gallon per day discharge is proposed to be expanded to 8,500 gallons per day. Although the flow will increase, the quality of effluent would be expected to improve with the proposed improvements to the treatment facility through the replacement of the single 3-chamber 6,295 gallon septic tank with (3) 5,000 gallon septic tanks installed in series, installation of effluent filters on the first two septic tanks, replacement of the existing malfunctioning dosing tank with (2) 5,000 gallon dosing tanks, installation of an additional open bed sand filter, replacement of the existing chlorine contact tank, and installation of dechlorination.

Although the subject NPDES permit does include monitoring for ammonia-nitrogen, NPDES permits for minor sewage facilities do not generally, include monitoring requirements for pollutants such as chloride and nickel. Therefore, the Department lacked sufficient data to support its assumption that a properly constructed, operated and maintained minor sewage facility of this size is expected to produce an effluent that would be protective of all the uses of the receiving stream including threatened and endangered mussels.

Accordingly, a sampling study was completed on June 5, 2017 by the Department at the subject facility. DEP staff collected a sample of the discharge effluent and a sample in the river, where the effluent contacts and mixes with the stream. The effluent sampling was taken at the end of the outfall pipe (see photo 2) and the results for ammonia-nitrogen (NH_3-N) was 4.17 mg/l, chloride (Cl^-) was 308.7 mg/l, and nickel was <4.0µg/l (non-detect). The sample taken at the point which the treated effluent entered the stream (see photo 3) had an ammonia-nitrogen (NH_3-N) concentration of 0.19 mg/l, a chloride (Cl^-) concentration of 28.7 mg/l, and a nickel concentration of <4.0µg/l (non-detect). A summary table is provided on the following page.

Based on this sampling data, the existing discharge from the camp is not believed to be having any adverse effects on threatened or endangered mussel species in the Shenango River considering the effluent quality from the existing wastewater treatment facility when compared to the pollutant concentrations specified by the USFWS. Additionally, the proposed expanded discharge from the camp is not expected to adversely affect threatened or endangered mussel species in the Shenango River considering the sampling data of the existing discharge, the size of the proposed discharge expansion, and the available instantaneous assimilative capacity of the Shenango River.

A summary of the Camp Nazareth (PA0103942) existing discharge sampling is as follows:

7/17/2017

American Carpatho-Russian Orthodox Greek Catholic Diocese of the U.S.A.
Camp Nazareth
NPDES Permit No. PA0103942 / WQM Permit No. 4377401

Facility Address:	339 Pew Road, Mercer, PA 16137-9802
Municipality / County:	Delaware Township, Mercer County
Discharge Location:	Direct Discharge to the Shenango River
Coordinates:	41° 18' 25.95", -80° 19' 21.2"
Treatment Type (EXISTING):	Existing: Septic Tanks, Open Bed Sand Filters, and Chorination Disinfection
Treatment Type (PROPOSED):	Proposed: Septic Tanks, Open Bed Sand Filters, Chorination Disinfection, and Dechlorination

DATE SAMPLE(S) COLLECTED	6/5/2017			
EFFLUENT SAMPLING RESULTS*	Sample ID: 3641 005			
Ammonia-Nitrogen (NH_3-N)	**4.17**	**mg/L**		
Chloride (Cl^-)	**308.7**	**mg/L**		
Nickel	**<4.0**	**µg/L**		
MIXING ZONE SAMPLING RESULTS	Sample ID: 3641 006			
Ammonia-Nitrogen (NH_3-N)	**0.19**	**mg/L**		
Chloride (Cl^-)	**28.7**	**mg/L**		
Nickel	**<4.0**	**µg/L**		

* Sampled at outfall pipe discharge (Not at the complaince sampling point located a the treatment plant)

PHOTO #1
Camp Nazareth (PA0103942) Outfall #001

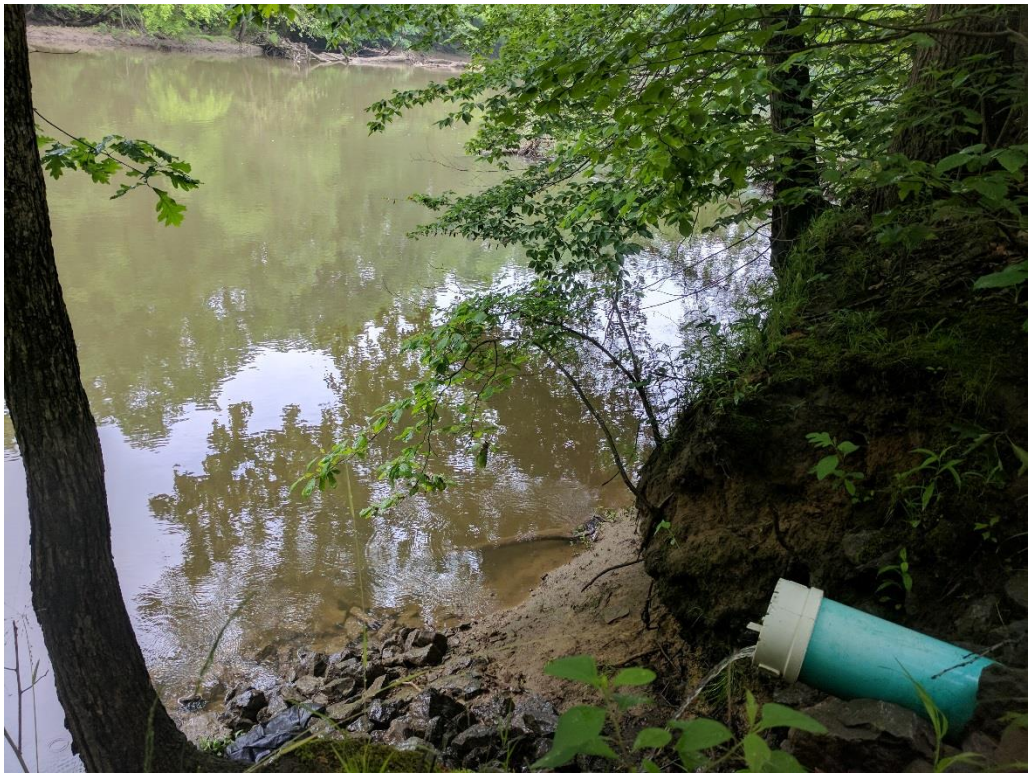


PHOTO #2
Camp Nazareth (PA0103942) - Sampling at Outfall Pipe (Outfall #001)

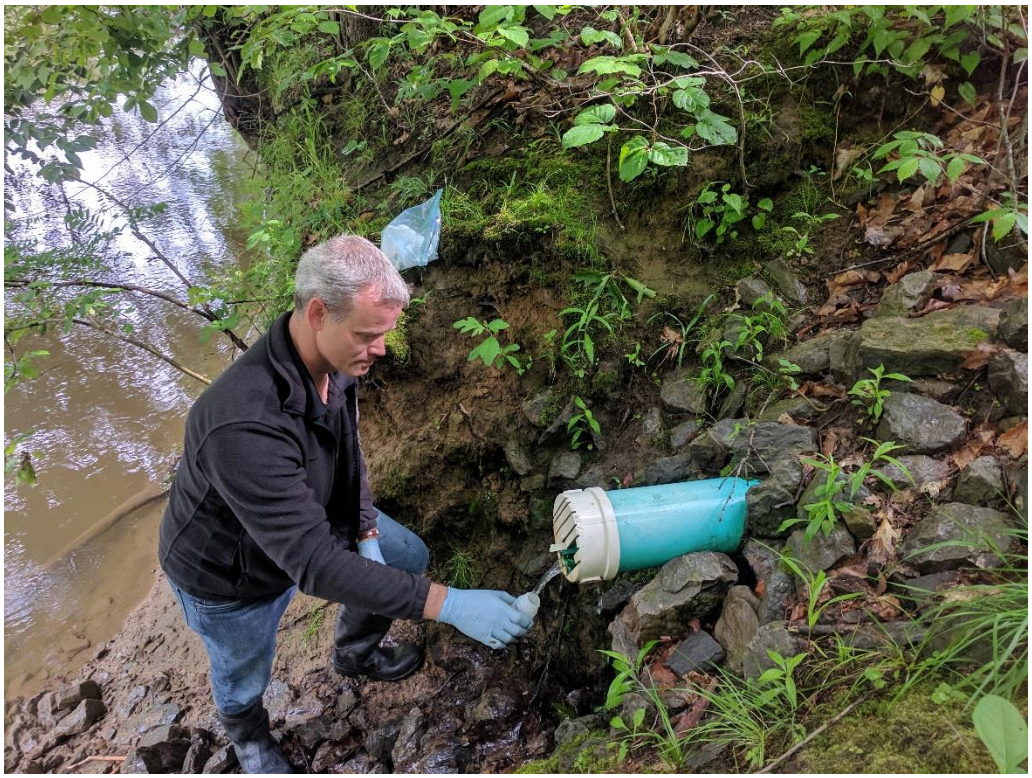
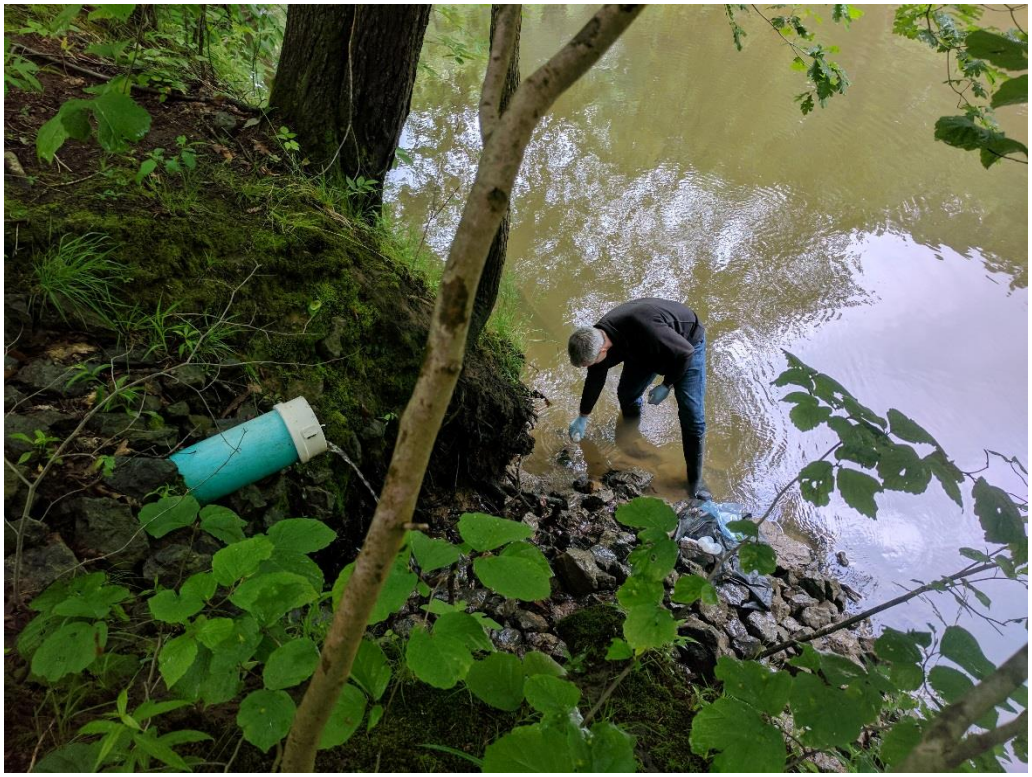


PHOTO #3
Camp Nazareth (PA0103942) - Sampling in the Stream where effluent reaches the River



Compliance History

DMR Data for Outfall 001 (from September 2020 to August 2021)

Parameter	AUG-21	JUL-21	JUN-21	MAY-21	APR-21	MAR-21	FEB-21	JAN-21	DEC-20	NOV-20	OCT-20	SEP-20
Flow (MGD) Average Monthly	0.001	0.002	0.004	0.001	0.001	0.001	E	0.001	0.001	0.001	0.001	0.001
pH (S.U.) Minimum	6.9	6.8	6.8	6.8	6.7	6.5	E	6.86	6.92	6.58	6.94	6.64
pH (S.U.) Maximum	7.0	7.0	6.9	7.0	7.2	7.2	E	7.15	7.04	7.05	7.13	7.08
DO (mg/L) Minimum	4.1	4.2	5.7	7.5	8	7.6	E	7.44	7.08	5.37	8.83	7.15
TRC (mg/L) Average Monthly	0.3	0.2	0.31	0.4	0.4	0.2	E	0.06	0.16	0.24	0.06	0.27
TRC (mg/L) Instantaneous Maximum	0.5	0.4	0.5	0.9	0.6	0.3	E	0.13	0.46	0.59	0.12	0.50
CBOD5 (mg/L) Average Monthly	12.2	15.3	< 2.0	< 2.0	< 4.2	16.5	E	< 3.0	< 3.0	< 3.0	< 3.0	3.0
TSS (mg/L) Average Monthly	21.5	9.0	< 5.0	< 5.5	< 5.0	< 5.0	E	4.0	< 3.0	< 3.0	< 3.0	4.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 77	< 5	9	< 45	< 3	4136	E	17	1	15	49	11
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	600	< 5	16	< 5	< 5	7068	E	60	1	228	2420	727
Total Nitrogen (mg/L) Average Monthly	28.8	19.0	7.42	8.04	11.3	19.1	E	6.74	7.46	25.4	16.1	39.6
Ammonia (mg/L) Average Monthly	10.5	7.4	< 1.2	< 0.8	< 1	10.8	E	1.18	0.45	1.56	0.51	2.24
Total Phosphorus (mg/L) Average Monthly	5.9	2.5	1.01	0.97	0.87	0.93	E	0.67	0.92	1.32	1.15	1.95

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.

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
Dissolved Oxygen	XXX	XXX	4.0 Inst Min	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	25.0	XXX	50	2/month	8-Hr Composite
Total Suspended Solids	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	2/month	8-Hr Composite
Ammonia-Nitrogen	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	XXX	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite

Compliance Sampling Location: at Outfall 001, after disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The Total Residual Chlorine (TRC) limits are technology-based on Chapter 93.7. The limits for $CBOD_5$, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for E. Coli, Ammonia-Nitrogen, Total Nitrogen and Total Phosphorus is based on Chapter 92a.61.

Attachment 1

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
20A	35482	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)
45.250	Camp Nazareth	PA0103942	0.009	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			4

WQM 7.0 D.O.Simulation

SWP Basin	Stream Code	Stream Name
20A	35482	SHENANGO RIVER

RMI	Total Discharge Flow (mgd)	Analysis Temperature (°C)	Analysis pH
45.250	0.009	25.000	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WDRatio**	**Reach Velocity (fps)**
120.139	1.011	118.777	0.449
Reach CBOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
2.01	0.004	0.01	1.029
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
8.242	1.206	Tsivoglou	5
Reach Travel Time (days)			
0.252			

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.025	2.01	0.01	7.54
0.050	2.01	0.01	7.54
0.076	2.00	0.01	7.54
0.101	2.00	0.01	7.54
0.126	2.00	0.01	7.54
0.151	2.00	0.01	7.54
0.176	2.00	0.01	7.54
0.202	2.00	0.00	7.54
0.227	2.00	0.00	7.54
0.252	2.00	0.00	7.54

WQM 7.0 Modeling Specifications

Parameters	Both	Use Inputted Q1-10 and Q30-10 Flows	☑
WLA Method	EMPR	Use Inputted W/D Ratio	☐
Q1-10/Q7-10 Ratio	0.64	Use Inputted Reach Travel Times	☐
Q30-10/Q7-10 Ratio	1.36	Temperature Adjust Kr	☑
D.O. Saturation	90.00%	Use Balanced Technology	☑
D.O. Goal	5		

Input Data WQM 7.0

SWP Basin	Stream Code	Stream Name	RMI	Elevation (ft)	Drainage Area (sq mi)	Slope (ft/ft)	PWS Withdrawal (mgd)	Apply FC
20A	35482	SHENANGO RIVER	**45.250**	898.00	354.00	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	0.154	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
Camp Nazareth	PA0103942	0.0085	0.0000	0.0000	0.000	25.00	6.90

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/days)
CBOD5	25.00	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
20A	35482	SHENANGO RIVER	**43.400**	893.00	359.00	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	0.154	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 Wasteload Allocations

SWP Basin	Stream Code	Stream Name
20A	35482	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
45.250	Camp Nazareth	6.76	50	6.76	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
45.250	Camp Nazareth	1.34	25	1.34	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)		
45.25	Camp Nazareth	25	25	25	25	4	4	0	0

WQM 7.0 Hydrodynamic Outputs

SWP Basin	Stream Code	Stream Name
20A	35482	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												
45.250	54.52	0.00	54.52	.0131	0.00051	1.011	120.14	118.78	0.45	0.252	25.00	7.00
Q1-10 Flow												
45.250	34.89	0.00	34.89	.0131	0.00051	NA	NA	NA	0.35	0.323	25.00	7.00
Q30-10 Flow												
45.250	74.14	0.00	74.14	.0131	0.00051	NA	NA	NA	0.53	0.212	25.00	7.00

Attachment 2

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9

54.52	= Q stream (cfs)	0.5	= CV Daily
0.0085	= 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 = 1322.646	1.3.2.iii	WLA cfc = 1289.468
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 492.849	5.1d	LTA_cfc = 749.636

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)**

Attachment 3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WATER MANAGEMENT SYSTEM
OPEN VIOLATIONS BY CLIENT

Client ID: 44257
Client: All

Open Violations: 2

CLIENT ID	CLIENT	PF ID	FACILITY	PF KIND	PF STATUS	INSP PROGRAM	PROGRAM SPECIFIC ID
44257	AMER CARPATHO RUSSIAN CH	278998	CAMP NAZARETH	Transient NonCommunity	Active	Safe Drinking Water	6430969
44257	AMER CARPATHO RUSSIAN CH	278998	CAMP NAZARETH	Transient NonCommunity	Active	Safe Drinking Water	6430969

INSP ID	VIOLATION ID	INSPECTION CATEGORY	VIOLATION DATE	VIOLATION CODE	VIOLATION	PF INSPECTOR	INSP REGION
3219594	923315	PF	07/14/2021	B5C	FAILURE OF A NONCOMMUNITY WATER SYSTEM TO OBTAIN A PERMIT OR APPROVAL	ZENO,SALLY	NWRO
3219594	923317	PF	07/14/2021	C1A	FAILURE TO MEET DESIGN AND CONSTRUCTION STANDARDS	ZENO,SALLY	NWRO