pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0110744**
Facility Type	**Industrial**	APS ID	**745597**
Major / Minor	**Minor**	Authorization ID	**1164708**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Evitts Creek Water Co.**	Facility Name	**Evitts Creek Water**
Applicant Address	1032 Lake Gordon Road	Facility Address	1032 Lake Gordon Road
	Bedford, PA 15522-5243		Bedford, PA 15522
Applicant Contact	Rodney Marvin	Facility Contact	Rodney Marvin
Applicant Phone	(814) 767-9552	Facility Phone	(814) 767-9552
Client ID	286776	Site ID	4936
SIC Code	4941	Municipality	Cumberland Valley Township
SIC Description	Trans. & Utilities - Water Supply	County	Bedford
Date Application Received	November 28, 2016	EPA Waived?	Yes
Date Application Accepted	January 17, 2017	If No, Reason	

Purpose of Application: This is an application for NPDES renewal.

Adobe Acrobat Document

Summary of Review

Approve	Deny	Signatures	Date
X		Nicholas Hong, P.E. / Environmental Engineering Specialist	March 27, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria Bebenek, P.E. / Environmental Program Manager	

Summary of Review

The application submitted by the applicant requests a NPDES renewal permit for the Evitts Creek Water Company located at 1032 Lake Gordon Road, Bedford, PA 15522 in Bedford County, municipality of Cumberland Valley. The NPDES expired on May 31, 2017. The application for renewal was received by DEP Southcentral Regional Office (SCRO) on November 28, 2016.

The purpose of this Fact Sheet is to present the basis of information used for establishing the proposed NPDES permit effluent limitations. The Fact Sheet includes a description of the facility, a description of the facility's receiving waters, a description of the facility's attainment/non-attainment assessment status, and a description of any changes to the proposed monitoring/sampling frequency. Section 6 provides the justification for the proposed NPDES effluent limits derived from technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), total maximum daily loading (TMDL), antidegradation, anti-backsliding, and/or whole effluent toxicity (WET). A brief summary of the outlined descriptions has been included in the Summary of Review section.

The subject facility is a 0.4297 MGD treatment facility. The applicant anticipates upgrades to replace the current sludge removal system utilized in our settling tanks which discharges supernatant at the treatment facility in the next five years. The upgrade will be contingent upon adequate funding. The NPDES application has been processed as an Industrial Wastewater application (Minor facility without ELG) due to the type of sewage and the design flow rate for the facility. The applicant disclosed the Act 14 requirement to Bedford County Commissioners Office and the Cumberland Valley Township and the notice was received by the parties on September 9, 2016 and September 8, 2016. A planning approval letter was not necessary as the facility is neither new or expanding.

Utilizing the DEP's web-based Emap-PA information system, the receiving waters has been determined to be Tributary 61748 to Evitts Creek. The sequence of receiving streams that Tributary 61748 to Evitts Creek discharges into are Evitts Creek and the Potomac River which eventually drains into the Chesapeake Bay. The subject site is subject to the Chesapeake Bay implementation requirements. The receiving water has protected water usage for cold water fishes (CWF) and migratory fishes (MF). No Class A Wild Trout fisheries are impacted by this discharge. The presence of high quality and/or exceptional value surface waters triggers the need for an additional evaluation of anti-degradation requirements.

Tributary 61748 to Evitts Creek is a Category 5 stream listed in the 2016 Integrated List of All Waters (formerly 303d Listed Streams). This stream is an non-attaining stream that is impaired due to an unknown cause and source. The receiving waters is not subject to a total maximum daily load (TMDL) plan to improve water quality in the subject facility's watershed.

The existing permit and proposed permit differ as follows:

- Based on water quality based effluent limits, TRC effluent limits will be reduced to 0.01 mg/l as a monthly average and 0.05 mg/l as an instantaneous maximum.

The proposed permit will expire five (5) years from the effective date.

Based on the review in this report, it is recommended that the permit be drafted. 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.

Any additional information or public review of documents associated with the discharge or facility may be available at PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file review, contact the SCRO File Review Coordinator at 717.705.4700.

1.0 Applicant

1.1 General Information

This fact sheet summarizes PA Department of Environmental Protection's review for the NPDES renewal for the following subject facility.

Facility Name:	Evitts Creek Water Company
NPDES Permit #	PA0110744
Physical Address:	1032 Lake Gordon Road Bedford, PA 15522
Mailing Address:	1032 Lake Gordon Road Bedford, PA 15522
Contact:	Rodney Marvin Superintendent 814-767-9552 Rodney.marvin@cumberlandmd.gov
Consultant:	There was no consultant used in the application for renewal.

1.2 Permit History

A Preparedness, Prevention and Contingency Plan (PPC) was prepared by Earth Systems Engineering LLC on January 2016. This report was enclosed as part of the NPDES renewal application.

2.0 Treatment Facility Summary

2.1 Site location

The physical address for the facility is 1032 Lake Gordon Road, Bedford, PA 15522. A topographical and an aerial photograph of the facility are depicted as Figure 1 and Figure 2.

Figure 1: Topographical map of the subject facility

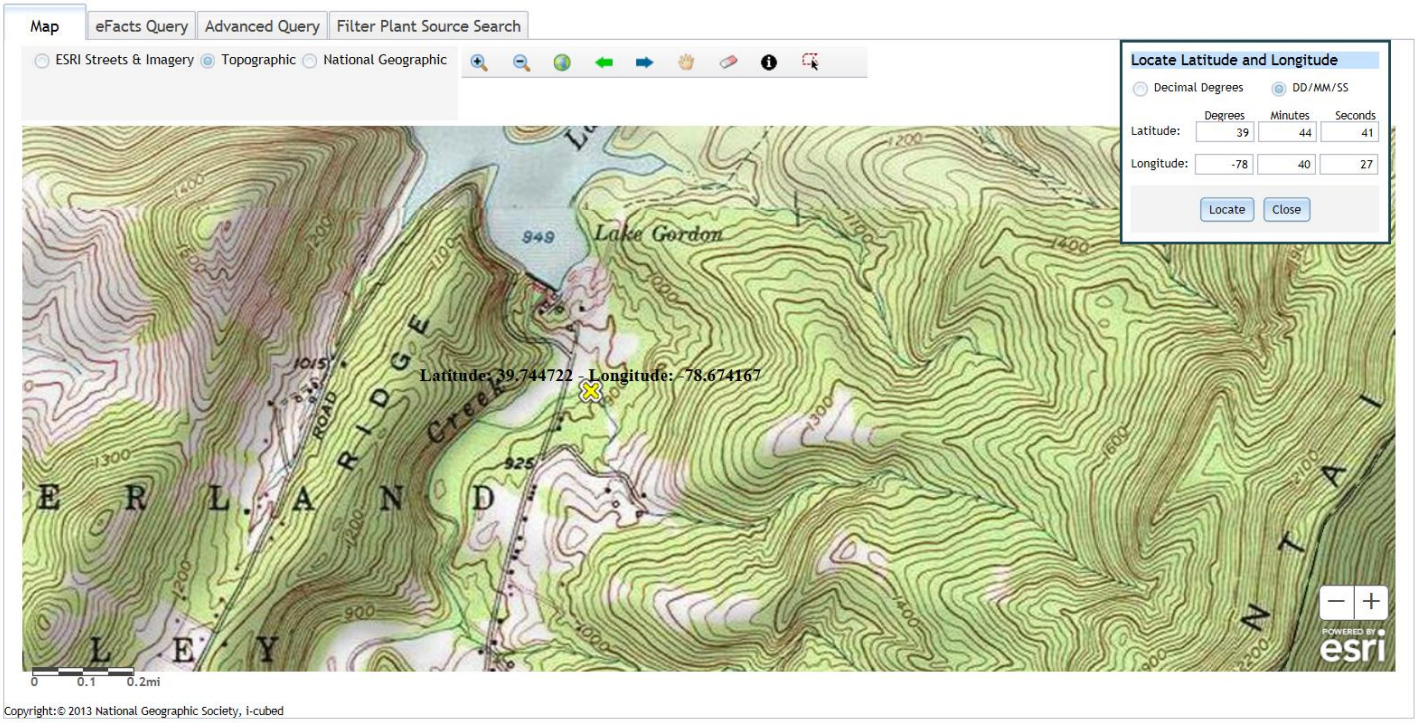
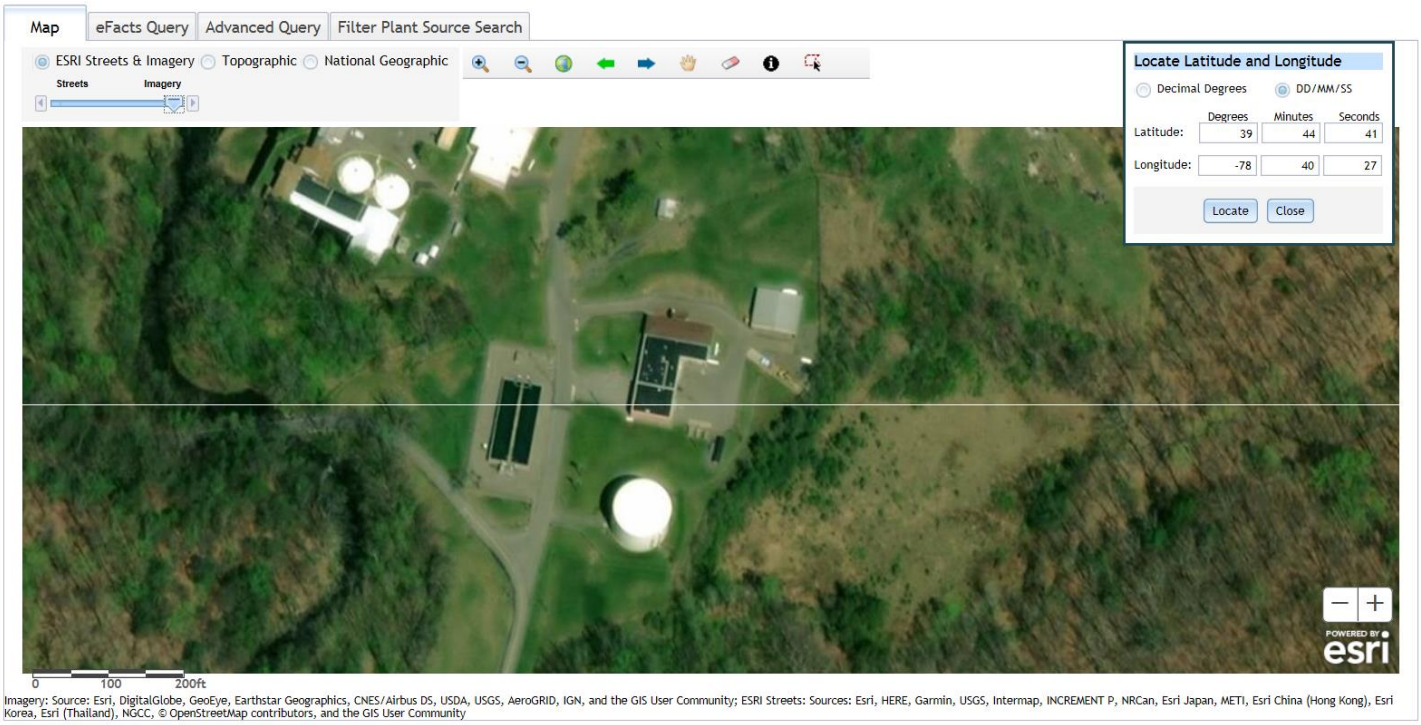
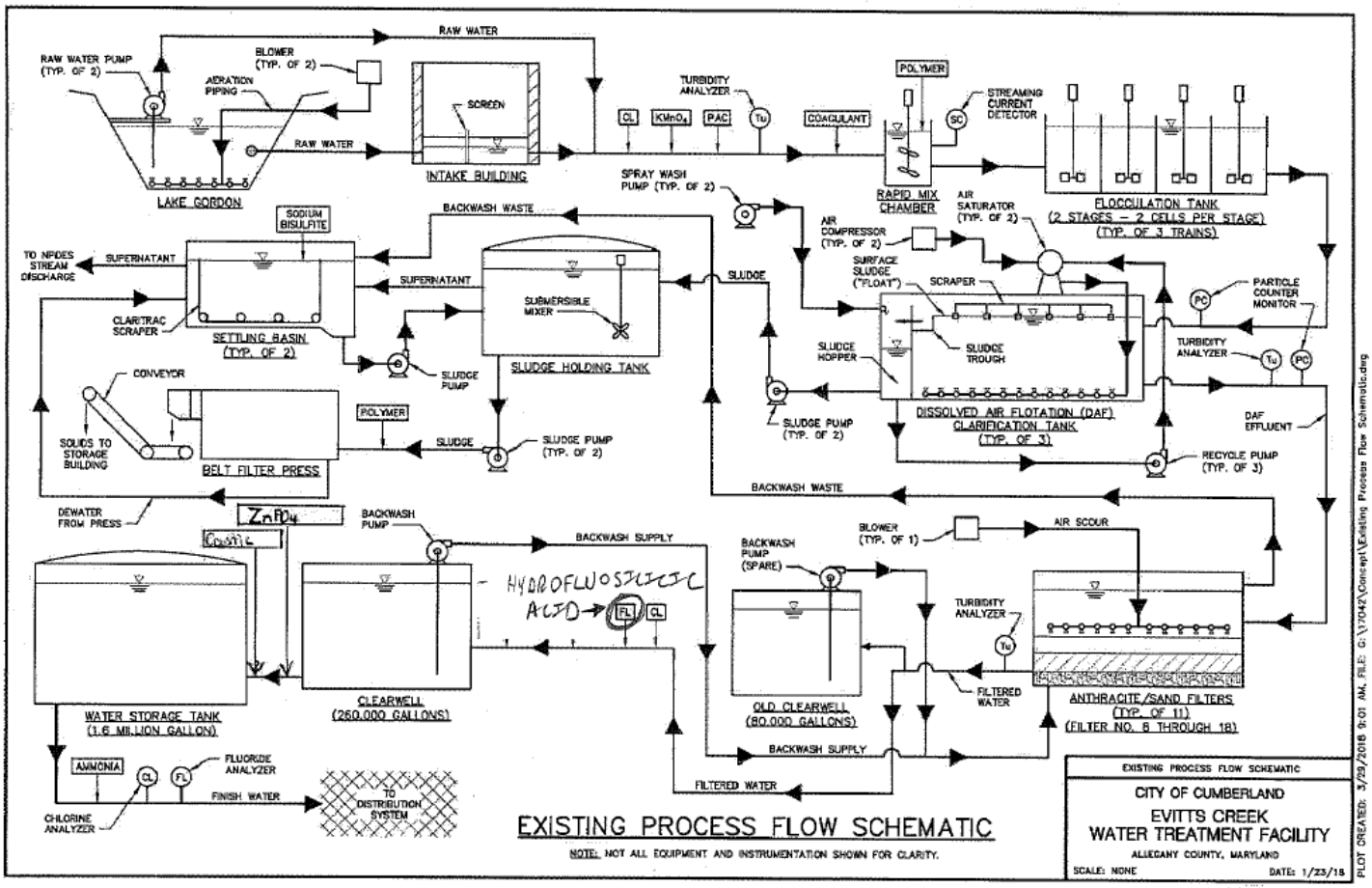


Figure 2: Aerial Photograph of the subject facility



2.2 Description of Wastewater Treatment Process

The subject facility is a 0.4297 MGD design flow facility. The subject facility treats wastewater using clarifiers with dissolved air flotation units, dual media filters, and a wastewater settling basin. Solids are collected from the dissolved air flotation and the wastewater settling basin in the equalization/thickening tank. The process flow diagram schematic is shown below. The facility is being evaluated for flow, pH, total residual chlorine, TSS, total aluminum, total iron, total manganese, nitrogen species, and total phosphorus. The existing permits limits for the facility is summarized in Section 2.4.



2.3 Facility Outfall Information

The facility has the following outfall information.

Outfall No.	001	**Design Flow (MGD)**	.4297
Latitude	39º 44' 40.50"	**Longitude**	-78º 40' 28.09"
Wastewater Description:	Water Treatment Effluent		

The subject facility outfall is not within the vicinity of another sewage/wastewater outfall.

2.3.1 Operational Considerations- Chemical Additives

Chemical additives are chemical products introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. Chemicals excluded are those used for neutralization of waste streams, the production of goods, and treatment of wastewater.

The subject facility utilizes the following chemicals as part of their treatment process.

- Chlorine for disinfection
- Ammonia for chlorine stabilizer
- Polyaluminum Chloride for coagulant
- Cation Polymer for Coagulant aid
- Sodium Hydroxide for pH adjustment
- Zinc Orthophosphate for corrosion inhibitor. This chemical was not considered as an additive as it is added for the treatment for drinking water supply and does not have opportunity to appear in the wastewater backwash.
- Hydrofluosilicic Acid for fluoride additive to prevent dental carries. This chemical was not considered an additive as it is used in the production for drinking water supply.

2.4 Existing NPDES Permits Limits

The existing NPDES permit limits are summarized in the table.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 39° 44' 40.49" , **Longitude** 78° 40' 28.09" , **River Mile Index** 0.26 , **Stream Code** 61748

Discharging to unnamed tributary to Evitts Creek.

which receives wastewater from water treatment plant filter backwash.

1. The permittee is authorized to discharge during the period from June 1, 2012 through May 31, 2013.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements, Footnotes and Supplemental Information).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Estimate
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	<0.1	XXX	0.2	1/day	Grab
Total Suspended Solids	Report	Report	XXX	30	60	75	1/week	8-Hr Composite
Total Aluminum	Report	Report	XXX	4.0	8.0	10	1/week	8-Hr Composite
Total Iron	Report	Report	XXX	1.5	3.0	3.7	1/week	8-Hr Composite
Total Manganese	Report	Report	XXX	1.0	2.0	2.5	1/week	8-Hr Composite
Kjeldahl---N	Report	XXX	XXX	Report	XXX	XXX	1/year	8-Hr Composite
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/year	8-Hr Composite
Total Nitrogen(3)	Report Annual Avg	XXX	XXX	Report	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annual Avg	XXX	XXX	Report	XXX	XXX	1/year	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 001

3.0 Facility NPDES Compliance History

3.1 Summary of Inspections

A summary of the most recent inspections during the existing permit review cycle is as follows.

The DEP inspector noted the following during the inspections.

10/03/2013:

- The plant had exceedance of manganese reported in the DMR for the month of August.
- Both sedimentation basins were drained and cleaned.
- New flow meters were installed on both sedimentation basins to monitor effluent flow.
- Flow measurement was also checked with SCADA
- All logs were up-to-date. SOPs well detailed and readily available to employees. Emergency Response Plan was also readily available to employees.
- No violations were observed during inspection.

10/27/2014:

- No reportable items during this inspection

02/04/2016:

- No reportable items during this inspection

02/08/2017:

- The facility had several effluent permit violations in 2016 for manganese. The operator suspects that biological activity is taking place within the sludge thickener and causing some of the manganese to go into solution. Operators have been adding sodium hypochlorite to the thickener to minimize the problem. There have been no manganese violations since October 2016.
- A review of records shows that daily effluent monitoring report forms were not attached to the eDMRs submitted in August and September 2016. The facility was advised to submit the supplemental forms.

01/31/2018:

- The facility had effluent permit violations for several months in 2016 and 2017 for manganese. The operator believes that biological activity is taking place within the sludge thickener during warm months and causing manganese to go into solution. Operators have been adding sodium hypochlorite to the thickener to minimize the problem. The facility was advised to look at other treatment alternatives if the addition of a chlorine solution is not enough to meet permit limits on a consistent basis.
- The annual DMRs for nutrient reporting did not include the Chesapeake Bay annual supplemental report.

3.2 Summary of DMR Data

A review of approximately 1-year of DMR data shows that the monthly average flow data for the facility below the design capacity of the treatment system. The maximum average flow data for the DMR reviewed was 0.267 MGD. The design capacity of the treatment system is 0.4297 MGD.

Compliance History

DMR Data for Outfall 001 (from December 1, 2017 to November 30, 2018)

Parameter	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18	MAY-18	APR-18	MAR-18	FEB-18	JAN-18	DEC-17
Flow (MGD) Average Monthly	0.172	0.131	0.191	0.193	0.174	0.241	0.181	0.160	0.197	0.203	0.263	0.267
Flow (MGD) Daily Maximum	0.335	0.282	0.747	0.317	0.315	0.360	0.276	0.396	0.473	0.552	0.384	0.957
pH (S.U.) Minimum	7.5	7.51	7.44	7.52	7.47	7.35	7.33	7.36	7.27	7.32	7.43	7.53
pH (S.U.) Maximum	7.67	7.88	7.76	7.77	7.70	7.57	7.74	7.76	7.63	7.73	7.82	7.85
TRC (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRC (mg/L) Instantaneous Maximum	< 0.1	< 0.1	< 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TSS (lbs/day) Average Monthly	3.31	2.64	12.33	10.13	4.69	11.36	1.37	3.80	3.51	6.85	< 4.86	4.84
TSS (lbs/day) Daily Maximum	6.76	5.18	29.62	27.77	7.85	14.73	2.99	9.25	5.82	18.72	9.07	7.27
TSS (mg/L) Average Monthly	4.43	3.0	7.5	5.95	3.32	4.7	1.60	2.28	2.3	4.2	< 2.44	2.50
TSS (mg/L) Daily Maximum	13.5	4.6	18.4	16.4	5.60	6.4	2.20	2.8	3.2	9.2	4.00	3.20
Nitrate-Nitrite (mg/L) Average Monthly			2.714									
Nitrate-Nitrite (lbs) Total Annual			1388									
Total Nitrogen (mg/L) Average Monthly			3.984									
Total Nitrogen (lbs) Total Annual			2037									
TKN (mg/L) Average Monthly			1.27									
TKN (lbs) Total Annual			649									
Total Phosphorus (mg/L) Average Monthly			0.014									

Total Phosphorus (lbs) Total Annual			7									
Total Aluminum (lbs/day) Average Monthly	0.488	0.252	1.057	1.539	0.776	0.631	0.301	< 0.322	0.313	0.292	0.529	0.542
Total Aluminum (lbs/day) Daily Maximum	0.796	0.363	2.305	4.080	2.477	0.935	0.351	0.519	0.464	0.564	0.660	0.817
Total Aluminum (mg/L) Average Monthly	0.584	0.294	0.608	0.903	0.513	0.264	0.214	< 0.218	0.191	0.204	0.272	0.263
Total Aluminum (mg/L) Daily Maximum	1.590	0.322	1.310	2.410	1.50	0.406	0.288	0.342	0.238	0.277	0.313	0.308
Total Iron (lbs/day) Average Monthly	< 0.107	< 0.034	< 0.079	0.084	0.069	< 0.141	< 0.058	< 0.074	< 0.060	< 0.054	< 0.077	< 0.080
Total Iron (lbs/day) Daily Maximum	0.237	< 0.045	0.109	0.131	0.122	0.266	< 0.069	0.132	< 0.078	< 0.081	< 0.091	0.121
Total Iron (mg/L) Average Monthly	< 0.0923	< 0.04	< 0.0456	0.0494	0.0468	< 0.0575	< 0.0400	< 0.0497	< 0.040	< 0.04	< 0.0400	< 0.040
Total Iron (mg/L) Daily Maximum	0.1660	< 0.04	0.0622	0.0776	0.0741	0.105	< 0.0400	0.0886	< 0.040	< 0.04	< 0.0400	< 0.040
Total Manganese (lbs/day) Average Monthly	0.434	0.100	0.836	0.660	0.670	1.364	0.138	0.272	0.452	0.189	0.118	0.128
Total Manganese (lbs/day) Daily Maximum	0.852	0.192	1.487	1.585	1.58	2.472	0.307	0.476	0.915	0.252	0.176	0.203
Total Manganese (mg/L) Average Monthly	0.366	0.131	0.488	0.389	0.467	0.569	0.103	0.195	0.276	0.141	0.063	0.0728
Total Manganese (mg/L) Daily Maximum	0.604	0.256	0.924	0.936	0.957	0.975	0.252	0.368	0.469	0.191	0.095	0.145

3.3 Non-Compliance

3.3.1 Non-Compliance- NPDES Effluent

A summary of the non-compliance to the permit limits for the existing permit cycle is as follows.

A scan of effluent non-compliances using WMS indicated the facility had non-compliance with NPDES effluent violations as summarized in the table. Depending on when the facility started using eDMR, older NPDES violations may not be summarized in the table.

Summary of Non-Compliance with NPDES Effluent Limitations
Review Period Beginning 01/01/12 - 01/02/2019

NON COMPLIANCE DATE	NON COMPLIANCE CATEGORY	PARAMETER	SAMPLE VALUE	VIOLATION CONDITION	PERMIT VALUE	UNIT OF MEASURE	STATISTICAL BASE CODE
12/12/2015	Concentration 3 Effluent Violation	Aluminum, Total	9.52	>	8.0	mg/L	Daily Maximum
12/12/2015	Concentration 2 Effluent Violation	Manganese, Total	1.7	>	1.0	mg/L	Average Monthly
12/12/2015	Concentration 3 Effluent Violation	Manganese, Total	2.3	>	2.0	mg/L	Daily Maximum
12/12/2015	Concentration 2 Effluent Violation	Manganese, Total	1.89	>	1.0	mg/L	Average Monthly
12/12/2015	Concentration 3 Effluent Violation	Manganese, Total	2.77	>	2.0	mg/L	Daily Maximum
09/26/2016	Concentration 2 Effluent Violation	Manganese, Total	1.4	>	1.0	mg/L	Average Monthly
10/26/2016	Concentration 2 Effluent Violation	Manganese, Total	1.05	>	1.0	mg/L	Average Monthly
11/28/2016	Concentration 2 Effluent Violation	Manganese, Total	1.17	>	1.0	mg/L	Average Monthly
11/28/2016	Concentration 3 Effluent Violation	Manganese, Total	2.36	>	2.0	mg/L	Daily Maximum
07/27/2017	Concentration 3 Effluent Violation	Manganese, Total	2.1	>	2.0	mg/L	Daily Maximum
08/25/2017	Concentration 3 Effluent Violation	Manganese, Total	2.68	>	2.0	mg/L	Daily Maximum
08/25/2017	Concentration 2 Effluent Violation	Manganese, Total	1.5	>	1.0	mg/L	Average Monthly
09/25/2017	Concentration 3 Effluent Violation	Manganese, Total	2.77	>	2.0	mg/L	Daily Maximum
09/25/2017	Concentration 2 Effluent Violation	Manganese, Total	1.92	>	1.0	mg/L	Average Monthly

3.3.2 Non-Compliance- Enforcement Actions

A summary of the non-compliance enforcement actions for the current permit cycle is as follows:

Summary of Enforcement Actions
Review Period Beginning 01/01/12 - 01/02/2019

ENF ID	ENF TYPE	ENF TYPE DESC	ENF CREATION DATE	EXECUTED DATE	VIOLATIONS	ENF FINALSTATUS	ENF CLOSED DATE
362293	NOV	Notice of Violation	03/13/2018	10/24/2017	92A.44	Comply/Closed	11/07/2017

3.4 Summary of Biosolids Disposal

Utilizing information from Form 26R prepared on 2/28/2019, the biosolids were disposed of at Denali, 8920 Longsmill Road, Rocky Ridge, MD 21778. The water treatment plant residual disposed was in the amount of 498 tons.

3.5 Open Violations

No open violations existed as of March 2019.

4.0 Receiving Waters and Water Supply Information Detail Summary

4.1 Receiving Waters

The receiving waters has been determined to be Tributary 61748 to Evitts Creek. The sequence of receiving streams that Tributary 61748 to Evitts Creek discharges into are Evitts Creek and the Potomac River which eventually drains into the Chesapeake Bay.

4.2 Public Water Supply (PWS) Intake

The closest PWS to the subject facility is in Hancock, MD located approximately 79 miles downstream of the subject facility on the Potomac River. Based upon the distance and the flow rate of the facility, the PWS should not be impacted.

4.3 Class A Wild Trout Streams

Class A Wild Trout Streams are waters that support a population of naturally produced trout of sufficient size and abundance to support long-term and rewarding sport fishery. DEP classifies these waters as high-quality coldwater fisheries.

The information obtained from EMAP suggests that no Class A Wild Trout Fishery will be impacted by this discharge.

4.4 2016 Integrated List of All Waters (303d Listed Streams):

Section 303(d) of the Clean Water Act requires States to list all impaired surface waters not supporting uses even after appropriate and required water pollution control technologies have been applied. The 303(d) list includes the reason for impairment which may be one or more point sources (i.e. industrial or sewage discharges) or non-point sources (i.e. abandoned mine lands or agricultural runoff and the pollutant causing the impairment such as metals, pH, mercury or siltation).

States or the U.S. Environmental Protection Agency (EPA) must determine the conditions that would return the water to a condition that meets water quality standards. As a follow-up to listing, the state or EPA must develop a Total Maximum Daily Load (TMDL) for each waterbody on the list. A TMDL identifies allowable pollutant loads to a waterbody from both point and non-point sources that will prevent a violation of water quality standards. A TMDL also includes a margin of safety to ensure protection of the water.

The water quality status of Pennsylvania's waters uses a five-part categorization (lists) of waters per their attainment use status. The categories represent varying levels of attainment, ranging from Category 1, where all designated water uses are met to Category 5 where impairment by pollutants requires a TMDL for water quality protection.

The receiving waters is listed in the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report as a Category 5 waterbody. The surface waters is a non-attaining stream that is impaired for aquatic life due to an unknown source and unknown cause. The designated use has been classified as protected waters for cold water fishes and migratory fishes.

4.5 Low Flow Stream Conditions

Water quality modeling estimates are based upon conservative data inputs. The data are typically estimated using either a stream gauge or through USGS web based StreamStats program. The NPDES effluent limits are based upon the combined flows from both the stream and the facility discharge.

A conservative approach to estimate the impact of the facility discharge using values which minimize the total combined volume of the stream and the facility discharge. The volumetric flow rate for the stream is based upon the seven-day, 10-year low flow (Q710) which is the lowest estimated flow rate of the stream during a 7 consecutive day period that occurs once in 10 year time period. The facility discharge is based upon a known design capacity of the subject facility.

The closest WQN and gauge stations to the subject facility is the Evitts Creek station at Centerville, PA (USGS station number 0163500). Since the subject facility is near the Maryland border, default data for pH and temperature were used for modeling. The gauge station is located 4 miles upstream of the subject facility. The low flow yield and the Q710 for the subject facility was estimated as shown below.

Gauge Station Data			
USGS Station Number	01603500		
Station Name	Evitts Creek near Centerville, PA		
Q710	1.8	ft^3/sec	
Drainage Area (DA)	30.2	mi^2	
Calculations			
The low flow yield of the gauge station is:			
Low Flow Yield (LFY) = Q710 / DA			
LFY =	(1.8 ft^3/sec / 30.2 mi^2)		
LFY =	0.0596	$ft^3/sec/mi^2$	
The low flow at the subject site is based upon the DA of		0.51	mi^2
Q710 = (LFY@gauge station)(DA@Subject Site)			
Q710 = (0.0596 $ft^3/sec/mi^2$)(0.51 mi^2)			
Q710 =	0.030	ft^3/sec	

4.6 Summary of Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	.4297
Latitude	39º 44' 44.55"	Longitude	-78º 40' 32.93"
Quad Name		Quad Code	
Wastewater Description:	Water Treatment Effluent		

Receiving Waters	Evitts Creek	Stream Code	61748
NHD Com ID	45643915	RMI	0.27
Drainage Area	0.51	Yield (cfs/mi^2)	0.0596
Q_{7-10} Flow (cfs)	0.030	Q_{7-10} Basis	StreamStats/Gauge station
Elevation (ft)	880	Slope (ft/ft)	
Watershed No.	13-A	Chapter 93 Class.	HQ-CWF, MF
Existing Use	Same as Chapter 93	Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	None
Assessment Status	Impaired for aquatic life		
Cause(s) of Impairment	Unknown		
Source(s) of Impairment	Unknown		
TMDL Status	Not applicable	Name	

Background/Ambient Data		Data Source
pH (SU)	6.5	Default value
Temperature (°C)	20	Default value
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Hancock, MD	
PWS Waters	Potomac River	Flow at Intake (cfs)	
PWS RMI	48	Distance from Outfall (mi)	79

5.0: Development of Effluent Limitations

5.1 General Permitting Effluent Development Guidelines

There are at least six (6) different policies which determines the effluent performance limits for the NPDES permit. The policies are technology based effluent limits (TBEL), water quality based effluent limits (WQBEL), antidegradation, total maximum daily loading (TMDL), anti-backsliding, and whole effluent toxicity (WET). The effluent performance limitations enforced are the selected permit limits that is most protective to the designated use of the receiving waters. An overview of each of the policies that are applicable to the subject facility has been presented in Section 6.

5.2 Technology-Based Limitations

TBEL treatment requirements under section 301(b) of the Act represent the minimum level of control that must be imposed in a permit issued under section 402 of the Act (40 CFR 125.3). The presiding sources for the basis for the effluent limitations are governed by either federal or state regulation. The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable. Itemized in the *Technology-Based Control Requirements for Water Treatment Plant Wastes* guidance document are technology based effluent requirements developed over the years for water treatment facilities.

Permit Limits for Wastewater from Filter Backwash

Parameter	Monthly Avg (mg/l)	Daily Max (mg/l)
Suspended Solids	30	60
Iron (total)	2	4
Aluminum (total)	4	8
Manganese (total)	1	2
Flow	Monitor	
pH	6 -9	
TRC	0.5	1.0

Notes:

Technology-Based Control Requirements for Water Treatment Plant Wastes (Document # 362-2183-003)

5.3 Water Quality-Based Limitations

WQBEL are based on the need to attain or maintain the water quality criteria and to assure protection of designated and existing uses (PA Code 25, Chapter 92a.2). Total Residual Chorine (TRC) is evaluated using a Microsoft Excel worksheet. Other WQBELs often are developed through computer modeling. The available computer software modeling program utilized by DEP permit engineers are (1) the WQM 7.0 for Windows Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen Version 1.0 (WQM Model) and (2) PENTOXSD for Windows 2.0 (PENTOXSD).

5.3.1 Water Quality Modeling 7.0:

Since the subject facility is a water treatment plant, there were no concerns for effluent performance limitations for CBOD, ammonia nitrogen, and dissolved oxygen. WQM Modeling was not conducted on these parameters.

5.3.2 PENTOXSD Modeling

The PENTOXSD model is a computer model that is used to determine effluent limitations for toxics (and other substances) for single discharge wasteload allocations. This computer model uses a mass-balance water quality analysis that includes consideration for mixing, first-order decay, and other factors used to determine recommended water quality-based effluent limits. PENTOXSD does not assume that all discharges completely mix with the stream. The point of compliance with water quality criteria are established using criteria compliance times (CCTs). The available CCTs are either acute fish criterion (AFC), chronic fish criterion (CFC), or human health criteria (THH & CRL).

Acute Fish Criterion (AFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e.15 minutes travel time downstream of the current discharge) or the complete mix time whichever comes first. AFC is evaluated at Q710 conditions.

Chronic Fish Criterion (CFC) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CFC is evaluated at Q710 conditions.

Threshold Human Health (THH) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the estimated travel time downstream to the nearest potable water supply intake whichever comes first. THH is evaluated at Q710 conditions.

Cancer Risk Level (CRL) measures the criteria compliance time as either the maximum criteria compliance time (i.e. 12 hours travel time downstream of the current discharge) or the complete mix time whichever comes first. CRL is evaluated at Qh (harmonic mean or normal flow) conditions.

PENTOXSD modeling is required to evaluate toxic pollutants. Facilities with design flows greater than or equal to 0.1 MGD must report the concentrations results of at least one sample analyzed in the past two years for dissolved oxygen (minimum), temperature, TKN, NO_2-N + NO_3-N, TDS, chloride, bromide, sulfate, oil and grease, total copper, total lead, total zinc, and total maximum daily load (TDML) parameters. In addition, other known or suspected parameters suspected to be present as a result of industrial or commercial contributions should be reported. The facility is a municipal sewage treatment plant receiving domestic wastewater.

The PENTOXSD Model requires several input values for calculating output values. The source of data originates from either EMAP, the National Map, or Stream Stats. Data for stream gauge information, if any, was abstracted from USGS Low-Flow, Base-Flow, and Mean-Flow Regression Equations for Pennsylvania Streams authored by Marla H. Stuckey (Scientific Investigations Report 2006-5130). The input parameters for the modeling is summarized in Appendix B.

To determine if PENTOXSD modeling is necessary, DEP has developed a Toxics Screening Analysis worksheet to identify toxics of concern. Toxic pollutants whose maximum concentrations as reported in the permit application or on DMRs are greater than the most stringent applicable water quality criterion are pollutants of concern. A Reasonable Potential Analysis was utilized to determine (a) if the toxic parameters modeled would require monitoring or (b) if permit limitations would be required for the parameters.

The Toxics Screening Analysis- Water Quality Pollutants of Concern worksheet indicated PENTOXSD modeling was required since the concentrations measured in the effluent sample were not within the normal range for safe water quality protection. The testing requirements for required analysis as specified in the industrial wastewater application for a potable water treatment facility are Pollutant Groups 1 and 2. Data submitted in the application had parameters which were above prescribed detection limits specified by the DEP application. Those parameters were cadmium and selenium. As such, the facility was provided an additional opportunity to re-sample the effluent. The results of the re-sampling appear in the table.

Resample Data			
Date	Parameter	Result	Units
1/21/2019	Cadmium	<0.123	ug/l
	Selenium	<1.67	ug/l
	Manganese	0.168	mg/l
1/28/2019	Cadmium	<0.123	ug/l
	Selenium	<1.67	ug/l
	Manganese	0.397	mg/l
2/4/2019	Cadmium	<0.123	ug/l
	Selenium	<1.67	ug/l
	Manganese	0.279	mg/l

Manganese was also requested to be resampled as the facility reported a value of 1,100 mg/l of manganese in their renewal application. The resample values for manganese did show hits of manganese but not as pronounced as the 1,100 mg/l hit.

The screening recommendations from the water quality modeling are shown in the table.

Summary of PENTOXSD Screening Recommendations for Toxics				
Parameter	**Max Concentration in Application or DMR (µg/L)**	**Most Stringent WQBEL (µg/L)**	**Governing Criterion (AFC, CFC, THH, or CRL)**	**Screening Recommendation**
Total Managnese	1100	1045.726	THH	Establish Limits

5.3.3 Whole Effluent Toxicity (WET)

WET is not applicable to the facility.

5.4 Total Maximum Daily Loading (TMDL)

5.4.1 TMDL

The goal of the Clean Water Act (CWA), which governs water pollution, is to ensure that all of the Nation's waters are clean and healthy enough to support aquatic life and recreation. To achieve this goal, the CWA created programs designed to regulate and reduce the amount of pollution entering United States waters. Section 303(d) of the CWA requires states to assess their waterbodies to identify those not meeting water quality standards. If a waterbody is not meeting standards, it is listed as impaired and reported to the U.S. Environmental Protection Agency. The state then develops a plan to clean up the impaired waterbody. This plan includes the development of a Total Maximum Daily Load (TMDL) for the pollutant(s) that were found to be the cause of the water quality violations. A Total Maximum Daily Load (tmdl) calculates the maximum amount of a specific pollutant that a waterbody can receive and still meet water quality standards.

Pennsylvania has committed to restoring all impaired waters by developing TMDLs and TMDL alternatives for all impaired waterbodies. The TMDL serves as the starting point or planning tool for restoring water quality.

5.4.1.1 Local TMDL

The subject facility does not discharge into a local TMDL.

5.4.1.2 Chesapeake Bay TMDL Requirement

The Chesapeake Bay Watershed is a large ecosystem that encompasses approximately 64,000 square miles in Maryland, Delaware, Virginia, West Virginia, Pennsylvania, New York and the District of Columbia. An ecosystem is

composed of interrelated parts that interact with each other to form a whole. All of the plants and animals in an ecosystem depend on each other in some way. Every living thing needs a healthy ecosystem to survive. Human activities affect the Chesapeake Bay ecosystem by adding pollution, using resources and changing the character of the land.

Most of the Chesapeake Bay and many of its tidal tributaries have been listed as impaired under Section 303(d) of the federal Water Pollution Control Act ("Clean Water Act"), 33 U.S.C. § 1313(d). While the Chesapeake Bay is outside the boundaries of Pennsylvania, more than half of the State lies within the watershed. Two major rivers in Pennsylvania are part of the Chesapeake Bay Watershed. They are (a) the Susquehanna River and (b) the Potomac River. These two rivers total 40 percent of the entire Chesapeake Bay watershed.

The overall management approach needed for reducing nitrogen, phosphorus and sediment are provided in the Bay TMDL document and the Phase I and II WIPs which is described in the Bay TMDL document and Executive Order 13508.

The Bay TMDL is a comprehensive pollution reduction effort in the Chesapeake Bay watershed identifying the necessary pollution reductions of nitrogen, phosphorus and sediment across the seven Bay watershed jurisdictions of Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia to meet applicable water quality standards in the Bay and its tidal waters.

The Watershed Implementation Plans (WIPs) provides objectives for how the jurisdictions in partnership with federal and local governments will achieve the Bay TMDL's nutrient and sediment allocations. The jurisdictions have developed or will develop WIPs over three Phases.

Phase I and Phase II WIPs were developed and submitted to EPA in 2010 and 2012 for objectives to be implemented by 2017 and 2025 to achieve applicable water quality standards. The Phase II WIPs build on the initial Phase I WIPs platform by providing more specific local actions. In 2018, Phase III WIPs will be developed to include further actions for jurisdictions to implement between 2018 and 2025.

Section 7 of the Phase II WIP describes Pennsylvania's strategy for reducing nutrients to the Chesapeake Bay from wastewater facilities. The supplement to Section 7 of the Phase II WIP provides an update on Chesapeake Bay TMDL implementation activities for point sources and DEP's current implementation strategy for wastewater. The supplement is updated periodically to reflect changes due to PA DEP's permit actions as well as changes to strategies in managing the wastewater sector's allocated loads under the TMDL. The latest revision of the supplement was October 14, 2016.

The Chesapeake Bay TMDL (Appendix Q) categorizes point sources into four sectors
:

- Sector A- significant sewage dischargers;
- Sector B- significant industrial waste (IW) dischargers;
- Sector C- non-significant dischargers (both sewage and IW facilities); and
- Sector D- combined sewer overflows (CSOs).

All sectors contain a listing of individual facilities with NPDES permits that were believed to be discharging at the time the TMDL was published (2010). All sectors with the exception of the non-significant dischargers have individual wasteload allocations (WLAs) for TN and TP assigned to specific facilities. Non-significant dischargers have a bulk or aggregate allocation for TN and TP based on the facilities in that sector that were believed to be discharging at that time and their estimated nutrient loads.

Based upon the supplement the subject facility has been categorized as a Sector C discharger. The supplement defines Sector C as a wastewater facility is considered non-significant dischargers if it is a Phase 4 facility or Phase 5 facility having a specified flow rate (i.e. Phase 4 facility ≥ 0.2 MGD and < 0.4 MGD, Phase 5 facility > 0.002 MGD and < 0.2 MGD), a small flow/single residence sewage treatment facilities (≤ 0.002 MGD), or a non-significant IW facilities. These facilities may be covered by statewide general permits or may have individual NPDES permits.
Sewage facility considered non-significant IW dischargers will require monitoring and reporting of TN and TP will be throughout the permit term in renewed or amended permits anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing.

Non-significant IW facilities that propose expansion or production increases and as a result will discharge at least 75 lbs/day TN or 25 lbs/day TP (on an annual average basis), will be classified as Significant IW dischargers and receive Cap Loads in their permits based on existing performance (existing TN/TP concentrations at current average annual flow).

A list of non-significant sewage and industrial waste dischargers with Cap Loads in NPDES permits is presented in Attachment B of the Phase 2 WIP.

This facility is subject to Sector C monitoring requirements. Since the facility is a water treatment plant and the chemicals/additives utilized introduce phosphorus, an annual sample for phosphorus has been recommended. Nitrogen species samples have also been recommended consistent with the Chesapeake Bay implementation plan. The subject facility is not listed in Attachment 2 of the Phase 2 WIP.

5.5 Anti-Degradation Requirement

Chapter 93.4a of the PA regulations requires that surface water of the Commonwealth of Pennsylvania may not be degraded below levels that protect the existing uses. The regulations specifically state that *Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected*. Antidegradation requirements are implemented through DEP's guidance manual entitled Water Quality Antidegradation Implementation Guidance (Document #391-0300-02).

The policy requires DEP to protect the existing uses of all surface waters and the existing quality of High Quality (HQ) and Exceptional Value (EV) Waters. Existing uses are protected when DEP makes a final decision on any permit or approval for an activity that may affect a protected use. Existing uses are protected based upon DEP's evaluation of the best available information (which satisfies DEP protocols and Quality Assurance/Quality Control (QA/QC) procedures) that indicates the protected use of the waterbody.

For a new, additional, or increased point source discharge to an HQ or EV water, the person proposing the discharge is required to utilize a nondischarge alternative that is cost-effective and environmentally sound when compared with the cost of the proposed discharge. If a nondischarge alternative is not cost-effective and environmentally sound, the person must use the best available combination of treatment, pollution prevention, and wastewater reuse technologies and assure that any discharge is nondegrading. In the case of HQ waters, DEP may find that after satisfaction of intergovernmental coordination and public participation requirements lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In addition, DEP will assure that cost-effective and reasonable best management practices for nonpoint source control in HQ and EV waters are achieved.

While the subject facility's discharge will be to a special protection waters, the facility is existing and not expanding and the permit conditions are imposed to protect existing instream water quality and uses.

5.6 Anti-Backsliding

Anti-backsliding is a federal regulation which prohibits a permit from being renewed, reissued, or modified containing effluent limitations which are less stringent than the comparable effluent limitations in the pervious permit (40 CFR 122.l.1 and 40 CFR 122.l.2). A review of the existing permit limitations with the proposed permit limitations confirm that the facility is consistent with anti-backsliding requirements. The facility has proposed effluent limitations that are as stringent as the existing permit.

6.0 NPDES Parameter Details

The individual parameters' required for sampling and their monitoring frequency that will appear in the permit are itemized in this Section. The final limits are the more stringent of technology based effluent treatment (TBEL) requirements, water quality based (WQBEL) limits, TMDL, antidegradation, or anti-degradation.

The reader will find in this section:

a) a justification of recommended permit monitoring requirements and limitations for each parameter in the NPDES permit;
b) a summary of changes from the existing NPDES permit to the proposed permit; and
c) a summary of the proposed NPDES effluent limits.

6.1 Recommended Monitoring Requirements and Effluent Limitations

A summary of the recommended monitoring requirements and effluent limitations are itemized in the tables. The tables are categorized by (a) Conventional Pollutants and Disinfection, (b) Nitrogen Species and Phosphorus, and (c) Toxics.

6.1.1 Conventional Pollutants and Disinfection

A summary of the NPDES parameter effluent limits and monitoring requirements are itemized in the table.

Summary of Proposed NPDES Parameter Details for Conventional Pollutants and Disinfection
Evitts Creek Water Company, PA0110744

Parameter	Permit Limitation Required by[1]:	Recommendation	
pH (S.U.)	TBEL	Monitoring:	The monitoring frequency shall be daily as a grab sample (Table 6-3).
		Effluent Limit:	Effluent limits may range from pH = 6.0 to 9.0
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 95.2(1).
TRC	WQBEL	Monitoring:	The monitoring frequency shall be on a daily basis as a grab sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 0.01 mg/l and/or 0.05 mg/l as an instantaneous maximum.
		Rationale: Chlorine in both combined (chloramine) and free form is extremely toxic to freshwater fish and other forms of aquatic life (Implementation Guidance Total Residual Chlorine 1). The TRC effluent limitations to be imposed on a discharger shall be the more stringent of either the WQBEL or TBEL requirements and shall be expressed in the NPDES permit as an average monthly and instantaneous maximum effluent concentration (Implementation Guidance Total Residual Chlorine 4). Based on the stream flow rate (lowest 7-day flow rate in 10 years) and the design flow rate of the subject facility calculated by the TRC Evaluation worksheet, the WQBEL is more stringent than the TBEL. The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.48(b)(2)	
TSS	TBEL	Monitoring:	The monitoring frequency shall be 1/week as a 8-hr composite sample (Table 6-3).
		Effluent Limit:	The average monthly limit should not exceed 30 mg/l.
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Chapter 92a.47(a)(1). While there is no WQM modeling for this parameter, the permit limit for TSS is generally assigned similar effluent limits as CBOD or BOD. Since the TBEL is more stringent than TBEL, TBEL will apply.

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, or (g) WET

2 Monitoring frequency based on flow rate of 0.4297 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6 Technology-Based Control Requirements for Water Treatment Plant Wastes

6.1.2 Nitrogen Species and Phosphorus

Summary of Proposed NPDES Parameter Details for Nitrogen Species and Phosphorus

Evitts Creek Water Company, PA0110744

Parameter	Permit Limitation Required by[1]:	Recommendation	
Ammonia-Nitrogen	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least annually.
Nitrate-Nitrite as N	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least annually.
Total Nitrogen	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least annually.
TKN	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least annually.
Total Phosphorus	Cheapeake Bay TMDL	Monitoring:	The monitoring frequency shall be 1x/yr as an 8-hr composite sample
		Effluent Limit:	No effluent requirements.
		Rationale:	Due to the Chesapeake Bay Implementation Plan, the facility is required to be monitored on a frequency at least annually.
Notes:			

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, or (g) WET

2 Monitoring frequency based on flow rate of 0.4297 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6 Technology-Based Control Requirements for Water Treatment Plant Wastes

6.1.3 Toxics

Summary of Proposed NPDES Parameter Details for Toxics

Evitts Creek Water Company, PA0110744

Parameter	Permit Limitation Required by[1]:	Recommendation	
Total Aluminum	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 4.0 mg/l as a monthly average
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Technology-Based Control Requirements for Water Treatment Plant Wastes
Total Iron	Anti-backsliding	Monitoring:	The monitoring frequency shall be 1x/wk as 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 1.5 mg/l as a monthly average
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Technology-Based Control Requirements for Water Treatment Plant Wastes
Total Manganese	TBEL	Monitoring:	The monitoring frequency shall be 1x/wk as 8-hr composite sample (Table 6-3).
		Effluent Limit:	Effluent limits shall not exceed 1.0 mg/l as a monthly average
		Rationale:	The monitoring frequency has been assigned in accordance with Table 6-3 and the effluent limits assigned by Technology-Based Control Requirements for Water Treatment Plant Wastes

Notes:

1 The NPDES permit was limited by (a) anti-Backsliding, (b) Anti-Degradation, (c) SOP, (d) TBEL, (e) TMDL, (f) WQBEL, or (g) WET

2 Monitoring frequency based on flow rate of 0.4297 MGD.

3 Table 6-3 (Self Monitoring Requirements for Sewage Discharges) in Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits) (Document # 362-0400-001) Revised 10/97

4 Water Quality Antidegradation Implementaton Guidance (Document # 391-0300-002)

5 Phase 2 Watershed Implementation Plan Wastewater Supplement, Revised September 6, 2017

6 Technology-Based Control Requirements for Water Treatment Plant Wastes

6.2 Summary of Changes From Existing Permit to Proposed Permit

A summary of how the proposed NPDES permit differs from the existing NPDES permit is summarized as follows.

Changes in Permit Monitoring or Effluent Quality

Parameter	Existing Permit	Draft Permit
TRC	The effluent limits are <0.1 mg/l as a monthly average and 0.2 mg/l as an instantaneous maximum. Samples were specified to be sampled daily as a grab sample.	The fact sheets from August 2006 and January 2012 did not specify how the limits were developed. The proposed effluent limits shall be 0.01 mg/l as a monthly average and 0.05 mg/l as an instantaneous maximum. Samples will be sampled daily as a grab sample. A review of DMR data shows that the facility should be able to meet the effluent limits without difficulty. The lab quantitation limit is 0.020 mg/l.
Ammonia-Nitrogen	No monitoring or effluent limits.	While the existing permit did not require sampling for ammonia-nitrogen as an individual parameter, the parameter was incoporated within the calculation for total nitrogen. We recommend that ammonia-nitrogen be reported as a individual parameter for good nitrogen species tracking records.

6.3 Summary of Proposed NPDES Effluent Limits

The proposed NPDES effluent limitations are summarized in the table below.

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. For Outfall 001 , **Latitude** 39° 44' 40.50" , **Longitude** 78° 40' 28.09" , **River Mile Index** 0.27 , **Stream Code** 61748

Receiving Waters: Evitts Creek (HQ-CWF)

Type of Effluent: Water Treatment Effluent

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Min Mo Avg	XXX	XXX	9.0	1/day	Grab
Total Residual Chlorine (TRC)	XXX	XXX	XXX	0.01	XXX	0.05	1/day	Grab
Total Suspended Solids	Report	Report	XXX	30	60	75	1/week	8-Hr Composite
Nitrate-Nitrite as N	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Nitrate-Nitrite as N (Total Load, lbs) (lbs)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
Total Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Nitrogen (Total Load, lbs) (lbs)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
Ammonia-Nitrogen Nov 1 - Apr 30	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Ammonia-Nitrogen (Total Load, lbs) (lbs)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) [1]		Concentrations (mg/L)				Minimum [2] Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Total Kjeldahl Nitrogen	XXX	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Kjeldahl Nitrogen (Total Load, lbs) (lbs)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
Total Phosphorus	Report Annl Avg	XXX	XXX	Report Annl Avg	XXX	XXX	1/year	8-Hr Composite
Total Phosphorus (Total Load, lbs) (lbs)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
Aluminum, Total	Report	Report	XXX	4.0	8.0	10	1/week	8-Hr Composite
Iron, Total	Report	Report	XXX	1.5	3.0	3.7	1/week	8-Hr Composite
Manganese, Total	Report	Report	XXX	1.0	2.0	2.5	1/week	8-Hr Composite

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s):

at Outfall 001

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☒	PENTOXSD for Windows Model (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☒	Toxics Screening Analysis Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☐	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☒	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: *New and Reissuance Industrial Waste and Industrial Stormwater, Revised October 11, 2013*
☐	Other:

Attachment A

Stream Stats/Gauge Data

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]
01583500	Western Run at Western Run, Md.	39.511	-76.677	59.8	N
01583600	Beaverdam Run at Cockeysville, Md.	39.486	-76.646	20.9	N
01584050	Long Green Creek at Glen Arm, Md.	39.455	-76.479	9.40	N
01584500	Little Gunpowder Falls at Laurel Brook, Md.	39.505	-76.432	36.1	N
01585095	North Fork Whitemarsh Run near White Marsh, Md.	39.386	-76.469	1.34	N
01585100	Whitemarsh Run at White Marsh, Md.	39.371	-76.446	7.61	N
01585200	West Branch Herring Run at Idlewylde, Md.	39.374	-76.584	2.13	N
01585300	Stemmers Run at Rossville, Md.	39.341	-76.488	4.46	N
01585400	Brien Run at Stemmers Run, Md.	39.334	-76.473	1.97	N
01585500	Cranberry Branch near Westminster, Md.	39.593	-76.968	3.29	LF
01586000	North Branch Patapsco River at Cedarhurst, Md.	39.504	-76.885	56.6	LF
01586210	Beaver Run near Finksburg, Md.	39.489	-76.903	14.0	N
01586610	Morgan Run near Louisville, Md.	39.452	-76.955	28.0	N
01587500	South Branch Patapsco River at Henryton, Md.	39.351	-76.914	64.4	N
01589000	Patapsco River at Hollofield, Md.	39.310	-76.792	285	Y
01589100	East Branch Herbert Run at Arbutus, Md.	39.24	-76.692	2.47	N
01589300	Gwynns Falls at Villa Nova, Md.	39.346	-76.733	32.5	N
01589330	Dead Run at Franklintown, Md.	39.311	-76.717	5.52	N
01589440	Jones Falls at Sorrento, Md.	39.392	-76.661	25.2	N
01589500	Sawmill Creek at Glen Burnie, Md.	39.17	-76.631	4.97	LF
01594930	Laurel Run at Dobbin Road near Wilson, Md.	39.244	-79.428	8.23	N
01594936	North Fork Sand Run near Wilson, Md.	39.260	-79.410	1.91	N
01594950	McMillan F near Fort Pendleton, Md.	39.277	-79.390	2.30	N
01595000	North Branch Potomac River at Steyer, Md.	39.302	-79.307	73.1	N
01595200	Stony River near Mount Storm, W.Va.	39.270	-79.262	48.7	Y
01595300	Abram Creek at Oakmont, W.Va.	39.367	-79.179	42.6	N
01595500	North Branch Potomac River at Kitzmiller, Md.	39.394	-79.182	225	N
01595800	North Branch Potomac River at Barnum, W.Va.	39.445	-79.111	266	Y
01596500	Savage River near Barton, Md.	39.570	-79.102	49.1	N
01597000	Crabtree Creek near Swanton, Md.	39.500	-79.159	16.7	N
01597500	Savage River below Savage River Dam near Bloomington, Md.	39.503	-79.124	106	Y
01598500	North Branch Potomac River at Luke, Md.	39.479	-79.064	406	Y
01599000	Georges Creek at Franklin, Md.	39.494	-79.045	72.4	N
01600000	North Branch Potomac River at Pinto, Md.	39.567	-78.840	607	Y
01601000	Wills Creek below Hyndman, Pa.	39.812	-78.716	146	N
01601500	Wills Creek near Cumberland, Md.	39.670	-78.788	247	N
01603000	North Branch Potomac River near Cumberland, Md.	39.622	-78.773	877	Y
01603500	Evitts Creek near Centerville, Pa.	39.790	-78.646	30.2	N
01604500	Patterson Creek near Headsville, W.Va.	39.443	-78.822	221	N
01609000	Town Creek near Oldtown, Md.	39.553	-78.555	148	N
01610000	Potomac River at Paw Paw, W.Va.	39.539	-78.456	3,129	N
01610155	Sideling Hill Creek near Bellegrove, Md.	39.650	-78.344	102	N
01611500	Cacapon River near Great Cacapon, W.Va.	39.582	-78.310	675	N
01613000	Potomac River at Hancock, Md.	39.698	-78.178	4,064	N
01613050	Tonoloway Creek near Needmore, Pa.	39.898	-78.132	10.7	N

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)
[4]01583500	1946–2008	63	9.6	10.7	24.0	13.4	26.9	17.5
[4]01583600	1984–2008	25	4.9	5.6	9.6	7.3	11.6	9.6
[4]01584050	1977–2008	32	1.5	1.6	3.3	1.9	3.7	2.5
[4]01584500	1928–2008	52	5.9	6.5	16.2	8.2	17.8	10.9
[4]01585095	1994–2008	15	0	0	.1	.1	.2	.4
[4]01585100	1960–2008	45	.3	.5	1.0	.9	1.7	2.3
[4]01585200	1959–2008	39	.1	—	—	.3	.6	.7
[4]01585300	1960–1989	28	.1	.1	.3	.3	.7	1.0
[4]01585400	1960–1987	28	.2	.2	.4	.2	.5	.6
[4]01585500	1951–2008	58	.1	.2	.7	.3	1.0	.5
[4]01586000	1947–2008	61	7.1	8.2	18.8	11.0	21.0	15.8
[4]01586210	1984–2008	25	1.3	1.5	4.5	2.5	5.0	3.7
[4]01586610	1984–2008	25	2.6	2.9	8.2	4.1	9.2	6.2
[4]01587500	1950–1980	31	4.3	5.3	19.8	8.9	20.9	14.4
[4]01589000	[2]1956–2004	41	12.6	14.6	34.1	19.6	40.1	27.5
[4]01589000	[3]1946–1954	9	57.0	70.8	108	84.7	130	117
[4]01589100	1959–2008	40	0.3	0.4	0.6	0.5	0.9	1.0
[4]01589300	1958–2008	42	3.3	3.8	8.1	5.7	10.8	9.1
[4]01589330	1961–2008	36	.2	.3	.6	.5	1.0	1.2
[4]01589440	1967–2008	33	3.3	3.5	8.4	4.6	9.8	6.6
[4]01589500	1946–2008	31	.1	.1	2.1	.2	2.5	.4
[4]01594930	1982–2004	23	1.2	1.6	3.0	2.1	3.9	2.9
[4]01594936	1982–2007	26	.1	.1	.3	.2	.4	.3
[4]01594950	1988–2008	21	<.1	<.1	.1	<.1	.2	.1
[4]01595000	1958–2008	51	4.8	6.4	14.7	9.8	21.8	17.4
[5]01595200	1963–2008	46	2.0	2.9	5.9	3.8	8.4	6.8
01595300	1958–1982	25	.4	.5	2.5	1.0	4.2	2.6
[4]01595500	1951–2008	39	11.7	14.2	32.4	22.0	47.7	37.1
01595800	[3]1968–1981	14	18.6	21.1	43.4	30.0	63.0	57.9
[4]01596500	1950–2008	59	.8	1.0	2.4	1.6	3.7	3.0
[4]01597000	1950–1981	32	1.0	1.1	1.7	1.3	2.0	1.7
[4]01597500	1952–2008	57	5.4	7.3	24.9	13.0	37.8	28.1
[4]01598500	[2]1952–2008	57	71.4	78.3	143	90.8	164	109
[4]01599000	1907–2008	78	2.9	3.2	6.1	4.0	7.7	5.6
[4]01600000	[2]1952–2008	38	76.6	83.4	133	95.6	160	115
[4]01600000	[3]1940–1950	11	38.2	43.4	70.7	49.7	91.6	87.4
01601000	1953–2008	20	.9	1.0	3.0	2.1	6.2	4.6
[4]01601500	1907–2008	78	13.1	13.9	23.4	16.5	29.0	23.2
[4]01603000	[2]1983–2008	26	202	212	304	235	352	266
[4]01603000	[3]1931–1981	51	57.4	64.7	143	79.2	168	119
01603500	1934–1982	49	1.7	1.8	3.0	2.2	3.7	2.8
[5]01604500	1940–2008	69	2.2	2.7	6.9	4.4	9.7	7.1
[4]01609000	1930–2008	22	1.5	1.9	6.6	3.0	10.0	6.2
01610000	1940–2008	69	226	239	381	278	459	369
[4]01610155	1969–2008	18	0	0	.2	.1	1.0	1.0

Attachment B

Modeling Input Values
WQM 7.0 Modeling Output Values
Toxics Screening Analysis
PENTOXSD Modeling Output Values

ATTACHMENT C
TRC Evaluation

ATTACHMENT D

Re-sample Data