

Application Type Renewal  
Facility Type Municipal  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0228311  
APS ID 1052052  
Authorization ID 1376853

**Applicant and Facility Information**

Applicant Name	<u>Brady Township</u>	Facility Name	<u>Brady Township NW WWTF</u>
Applicant Address	<u>1986 Elimsport Road</u> <u>Montgomery, PA 17752-8919</u>	Facility Address	<u>159 James Road</u> <u>Montgomery, PA 17752</u>
Applicant Contact	<u>Linda Bower</u>	Facility Contact	<u>Linda Bower</u>
Applicant Phone	<u>570-547-2220</u>	Facility Phone	<u>570-547-2220</u>
Client ID	<u>142070</u>	Site ID	<u>531765</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Brady Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Lycoming</u>
Date Application Received	<u>November 17, 2021</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 03, 2021</u>	If No, Reason	<u>N/A</u>
Purpose of Application	<u>Renewal of NPDES permit</u>		

**Summary of Review**

INTRODUCTION

Brady Township has proposed the renewal of the existing NPDES permit which authorizes the discharge of treated domestic wastewater in Brady Township, Lycoming County.

APPLICATION

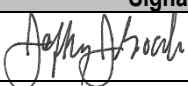

Brady Township submitted the *NPDES Application for Individual Permit to Discharge Sewage Effluent from Minor Sewage Facilities* (DEP #3800-PMBPNPSM0342b). This application was received by the Department on November 17, 2021 and was considered administratively complete on December 03, 2021. Linda Bower, Township Secretary, is both the client and site contact. Her contact information is (phone) 570-547-2220, (fax) 570-547-2215 and (email) bradytp1@comcast.net. The application consultant is Jeffrey Siverling, WWTP Manager with the West Branch Regional Authority of Muncy, PA. His contact information is (phone) 570-935-0087 and (email) [jeffs@westbranch-ra.org](mailto:jeffs@westbranch-ra.org).

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	04/05/2023
X		Nicholas W. Hartranft, PE	 Environmental Engineer Manager	04/05/2023

**DISCHARGE, RECEIVING WATERS AND WATER SUPPLY INFORMATION**

Outfall No.	001	Design Flow (MGD)	0.03
Latitude	41° 10' 36.63"	Longitude	-76° 56' 16.02"
Quad Name	Montoursville South	Quad Code	41076
Wastewater Description:	Treated domestic wastewater		
Receiving Waters	Unnamed Tributary to Black Hole Creek	Stream Code	19367 / 19351 @ POFU
NHD Com ID	66916673	RMI	0.7 / 5.89 @ POFU
Drainage Area	0.0894 / 2.99 @ POFU	Yield (cfs/mi <sup>2</sup> )	0.224 / 0.223 @ POFU
Q <sub>7-10</sub> Flow (cfs)	0.02 / 0.667 @ POFU	Q <sub>7-10</sub> Basis	USGS Gage #01553130
Elevation (ft)	632	Slope (ft/ft)	N/A
Watershed No.	10-C	Chapter 93 Class.	TSF, MF
Existing Use	None	Existing Use Qualifier	N/A
Exceptions to Use	N/A	Exceptions to Criteria	N/A
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment	N/A		
Source(s) of Impairment	N/A		
TMDL Status	N/A	Name	N/A
Nearest Downstream Public Water Supply Intake	Pennsylvania- American Water Company		
PWS Waters	West Branch Susquehanna River	Flow at Intake (cfs)	679.73
PWS RMI	10.66	Distance from Outfall (mi)	11.2

**POINT OF FIRST USE**

The previous application review, conducted in 2011, documented the fact that the discharge is to an intermittent receiving stream.

Due to the intermittent nature of the receiving stream, the Department considers Black Hole Creek (just below the confluence with the Unnamed Tributary to Black Hole Creek and Black Hole Creek) 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 located at latitude 41°10'44.12" and longitude - 76°55'31.70".

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<sub>7,10</sub> DETERMINATION**

The Q<sub>7,10</sub> 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<sub>7,10</sub> 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. Based on those characteristics, a statistically appropriate reference stream gage was selected utilizing the *USGS Pennsylvania Baseline Streamflow Estimator (BaSE)*. The selected gage is USGS #01553130 (Sand Spring Run near White Deer, PA). A Q<sub>7,10</sub> 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 (2.99 mi<sup>2</sup>) was calculated by the *USGS Pennsylvania StreamStats* application. Knowing the drainage area at the POFU (2.99 mi<sup>2</sup>) and both the drainage area (4.93 mi<sup>2</sup>) and Q<sub>7,10</sub> (1.1 CFS) at the reference gage, the Q<sub>7,10</sub> at the POFU was calculated to be 0.667 CFS.

See Attachment 01 for the Q<sub>7,10</sub> determination. See Attachment 02 for the map of the discharge and POFU.

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TREATMENT FACILITY

In 2001, Brady Township purchased a Lyco brand steel package plant which had previously served the Williamson School in Tioga County for the 25 years prior. The plant was sand-blasted and repainted prior to being put into service for Brady Township. This plant consists of an influent pumping station, one comminutor set over a coarse screen, one aeration tank, one hopper-bottom clarifier, two erosion chlorinators, one chlorine contact tank, a flow meter and one sludge storage tank (aerobic digestion). At the Brady Township installation (2002), the aeration tank was modified into a biological reactor by adding two anoxic zones. The reactor was then capable of nitrifying, denitrifying and BOD removal. The clarifier settles the activated sludge, which is either returned to the reactor (RAS) or wasted (WAS) to the sludge holding tank. Liquid sludge is hauled off-site for disposal. This plant is identified as the Brady Township Northwest (NW) wastewater treatment facility (WWTF).

A new wastewater collection system was also installed in 2002. This gravity portion of the collection system is comprised of 18,400 feet of six inch and eight-inch PVC SDR-35 gravity sewer. The pressure portion of the collection system is comprised of 2,820 feet of four-inch force main. A two-inch force main runs approximately 340 feet from a duplex grinder pump station north of Elimsport Road to manhole 509. Pressure rated PVC pipe was used for the force mains. The Turnback Road pump station serves about two-thirds of the collection system and conveys wastewater via the four-inch force main to the gravity collection system at manhole 8.

The treatment and conveyance systems serve a population of 270.

See Attachment 03 for a map of the facility. See Attachment 04 for a drawing of the collection system and WWTF.

The WWTF characteristics are as follows:

Waste Type	Degree of Treatment	Process Type	Disinfection	Annual Average Flow (MGD)
Sewage	Secondary with Ammonia Reduction	Extended Aeration	Hypochlorite (Erosion)	0.030
Hydraulic Capacity (MGD)	Organic Capacity (lbs BOD5/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.045 (MM)	118 (MM)	Not Overloaded	Aerobic Digestion	Other WWTF

The above described design was approved by Water Quality Management (WQM) permit #4101401, which was issued October 29, 2001 to Brady Township. This WQM permit specified both the maximum monthly (MM) flow of 0.45 MGD and the maximum monthly loading of 118 lbs BOD5/day.

The annual average flow values for the three years prior to the application submission were 0.027 MGD (2018), 0.018 (2019) and 0.016 MGD (2020). The highest month of flow in the year prior to the application submission was 0.022 MGD and occurred in April 2020.

Sewage sludge is stored onsite and later transported to the West Branch Regional Authority WWTF in Muncy, PA for disposal. Approximately 2.651 dry tons were generated in the year prior to application submission.

COMPLIANCE HISTORY

The WMS Query *Open Violations by Client* revealed no open violations for Brady Township.

The most recent Department inspection, a compliance evaluation inspection (CEI), was conducted July 26, 2022. At the time of the inspection, all required treatment units were online and operational. The plant effluent was clear. No violations were documented.

Recent Discharge Monitoring Report (DMR) data, from November 2021 through October 2022, is presented in the table below.

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Parameter	OCT-22	SEP-22	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21
Flow (MGD) Average Monthly	0.01234	0.01439	0.01222	0.01178	0.01274	0.01718	0.01946	0.02148	0.02381	0.01381	0.01290	0.01772
Flow (MGD) Weekly Average	0.01365	0.01690	0.01392	0.01232	0.01343	0.02406	0.02587	0.02774	0.02589	0.01432	0.01632	0.02396
pH (S.U.) Minimum	6.61	6.3	6.72	6.63	6.68	6.61	6.61	6.59	6.57	6.68	6.69	6.62
pH (S.U.) Instantaneous Maximum	6.84	7.01	7.11	6.94	7.04	6.89	6.9	7.06	6.93	7.06	7.04	7.02
DO (mg/L) Minimum	5.09	5.21	5.11	5.16	5.05	5.11	5.43	6.47	5.48	5.68	5.73	5.26
TRC (mg/L) Average Monthly	0.29	0.26	0.3	0.3	0.33	0.34	0.25	0.27	0.29	0.3	0.3	0.3
TRC (mg/L) Instantaneous Maximum	0.64	0.55	0.58	0.58	0.61	0.68	0.63	0.64	0.61	0.67	0.55	0.67
CBOD5 (lbs/day) Average Monthly	0.4	< 0.4	< 0.3	< 0.4	< 0.4	< 1.0	< 0.9	< 1.0	< 0.5	< 0.04	< 0.3	< 0.4
CBOD5 (lbs/day) Weekly Average	0.4	< 0.6	0.3	< 0.4	< 0.5	1.5	1.1	< 0.8	0.6	0.5	< 0.4	< 0.5
CBOD5 (mg/L) Average Monthly	< 3.0	< 3.0	< 3.6	< 3.0	< 3.0	< 6.2	< 4.9	< 3.0	< 3.5	< 3.2	< 3.0	< 3.0
CBOD5 (mg/L) Weekly Average	< 3.0	< 3.0	4.2	< 3.0	< 3.0	9.4	6.8	< 3.0	4.0	3.4	< 3.0	< 3.0
BOD5 (lbs/day) Influent Average Monthly	19	21	24	30	31	34	45	21	34	34	22	38
BOD5 (lbs/day) Influent Weekly Average	20	27	27	38	48	49	55	29	35	38	24	47
BOD5 (mg/L) Influent Average Monthly	168	146	283	232	209	201	217	88	229	247	< 196	273
TSS (lbs/day) Average Monthly	< 0.2	0.4	< 0.2	< 0.3	0.4	0.5	< 0.3	1.0	0.4	0.4	0.2	0.4
TSS (lbs/day) Influent Average Monthly	14	21	13	25	42	37	74	37	23	48	19	30
TSS (lbs/day) Influent Weekly Average	18	25	16	26	66	39	119	53	25	57	23	34
TSS (lbs/day) Weekly Average	< 0.2	0.6	0.3	0.4	0.4	0.5	< 0.4	< 0.7	0.5	0.4	0.3	0.4
TSS (mg/L) Average Monthly	< 1.6	2.4	< 2.4	< 2.2	2.6	2.7	< 1.6	< 2.4	2.6	2.9	2.0	3.0
TSS (mg/L) Influent Average Monthly	118	172	159	195	287	214	333	129	156	343	173	220
TSS (mg/L) Weekly Average	< 1.6	2.8	3.2	2.8	2.8	3.0	< 1.6	3.2	3.2	3.0	2.0	3.6
Fecal Coliform (No./100 ml) Geometric Mean	14	10	2	25	3	5	10	1	1	2	14	6
Fecal Coliform (No./100 ml) Instantaneous Maximum	21.3	18.7	5.2	64.4	3	11	11	2	2	3.1	30.5	7.5
Total Nitrogen (lbs/day) Average Monthly											< 0.3	
Total Nitrogen (lbs/day) Weekly Average											< 0.3	
Total Nitrogen (mg/L) Average Monthly											< 3.27	
Ammonia (lbs/day) Average Monthly	< 0.01	< 0.01	< 0.008	< 0.01	< 0.01	< 0.02	< 0.02	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01
Ammonia (lbs/day) Weekly Average	< 0.01	< 0.02	< 0.009	< 0.01	< 0.02	< 0.02	< 0.02	0.03	< 0.02	< 0.01	0.01	< 0.02
Ammonia (mg/L) Average Monthly	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia (mg/L) Weekly Average	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1	0.1	< 0.1
Total Phosphorus (lbs/day) Average Monthly											0.5	
Total Phosphorus (lbs/day) Weekly Average											0.5	
Total Phosphorus (mg/L) Average Monthly											5.6	

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EXISTING LIMITATIONS

The following effluent limitations were established at the permit issuance on July 31, 2017.

Discharge Parameter	Mass Limits (lb/day)		Concentration Limits (mg/L unless noted)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow	Report	Report Daily Max					Continuous	Metered
pH			6.0			9.0	1/Day	Grab
Dissolved Oxygen			Report				1/Day	Grab
Total Residual Chlorine				0.5		1.6	1/Day	Grab
CBOD <sub>5</sub>	2.5	3.8		10	15	20	2/Month	8 Hour Composite
Influent BOD <sub>5</sub>	Report	Report		Report			2/Month	8 Hour Composite
TSS	2.5	3.8		10	15	20	2/Month	8 Hour Composite
Influent TSS	Report	Report		Report			2/Month	8 Hour Composite
Fecal Coliform (No./100mL) 05/01-09/30				200 Geo Mean		1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30				2,000 Geo Mean		10,000	2/Month	Grab
NH <sub>3</sub> -N 05/01-10/31	0.75	1.1		3.0	4.5	6.0	2/Month	8 Hour Composite
NH <sub>3</sub> -N 11/01-04/30	2.3	3.4		9.0	13.5	19	2/Month	8 Hour Composite
Total Nitrogen	Report	Report		Report			1/Year	Grab
Total Phosphorus	Report	Report		Report			1/Year	Grab

DEVELOPMENT OF EFFLUENT LIMITATIONSTechnology-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 <sub>5</sub>	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	1.635

DMR data indicates that the system should be able to meet the proposed monthly average limitation.

See Attachment 05 for the TRC\_CALC output.

Water Quality-Based LimitationsCBOD<sub>5</sub>, NH<sub>3</sub>-N and DO

*WQM 7.0 for Windows* is a DEP computer model used to determine wasteload allocations and effluent limitations for CBOD<sub>5</sub>, NH<sub>3</sub>-N and DO for single and multiple point source discharge scenarios. This model simulates two basic processes. The NH<sub>3</sub>-N module simulates the mixing and degradation of NH<sub>3</sub>-N in the stream and compares calculated instream NH<sub>3</sub>-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<sub>5</sub> and NH<sub>3</sub>-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.

The existing limitations for CBOD<sub>5</sub> (10 mg/L) and NH<sub>3</sub>-N (3.0 mg/L) were used as inputs to the model. Since the receiving stream is protected for Trout Stock Fishes (TSF), the dissolved oxygen (DO) minimum daily criterion (25 PA Chapter 93) of 5 mg/L was used as the in-stream objective.

The model recommended the following:

Parameter	Effluent Limitations (mg/L)		
	30 Day Average	Maximum	Minimum
CBOD <sub>5</sub>	10		
NH <sub>3</sub> -N	3.0	6.0	
DO			3.0

Since the model recommended the input values as limitations, it indicates that the existing limitations are the most stringent limitations.

See Attachment 06 for the WQM model output.

Toxics Screening Analysis

According to the application materials, there are no industrial or commercial 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 a minimum) to ensure adequate operation and maintenance of the WWTF. DMR data indicates that this limit can be met.

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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 of the previous permit.

No less stringent limitations have been proposed.

DEVELOPMENT OF EFFLUENT MONITORINGE.coli

The Department is requiring the monitoring of Escherichia 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<sub>5</sub> and TSS monitoring at the same frequency and sample type as is used for the effluent CBOD<sub>5</sub> and TSS monitoring.

REMOVAL OF EFFLUENT MONITORINGChesapeake 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 0.03 MGD. According to the Department's Wastewater Supplement to Phase III WIP (last revised July 29, 2022), 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)
2018	Total Nitrogen	1.30	15.25
2018	Total Phosphorus	0.44	5.16
2019	Total Nitrogen	1.20	11.07
2019	Total Phosphorus	0.32	2.98
2020	Total Nitrogen	< 2	< 7.584
2020	Total Phosphorus	1.0	3.27
2021	Total Nitrogen	< 0.3	< 3.27
2021	Total Phosphorus	0.5	5.6
2022	Total Nitrogen	2.0	12.39
2022	Total Phosphorus	0.7	4.82

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## RECEIVING STREAM

### Stream Characteristics

The receiving stream is an Unnamed Tributary (UNT) to Black Hole Creek. This UNT to Black Hole Creek, according to 25 PA § 93.9L, is protected for *Trout Stock Fishes (TSF)* 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. There is currently no *Existing Use* for this stream. Existing Use 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”.

This UNT to Black Hole Creek is identified by stream code 19367. This stream is located in (Chapter 93) drainage list L and State Water Plan 10C (Buffalo and White Deer Creeks). The UNT to Black Hole Creek is tributary to Black Hole Creek and then the West Branch Susquehanna River.

### Impairment/TMDL

According to Department data, both UNT to Black Hole Creek and Black Hole Creek are attaining their designated uses for supporting aquatic life. There is no Total Maximum Daily Load (TMDL) directly associated with this stream segment.

A TMDL for metals and (low) pH was established for the upstream West Branch Susquehanna River in 2009. This TMDL was also approved by EPA in 2009. The TMDL recommends the reduction in the discharge of metals and low pH in excess of the Department’s water quality standards. The TMDL set allowable loadings at specified points in the West Branch Susquehanna River for iron, manganese, aluminum and acidity from both point and nonpoint sources.

A TMDL for Polychlorinated Biphenyls (PCBs) was established for the downstream Susquehanna River in 1999. This TMDL was also approved by EPA in 1999. The TMDL recommends fish consumption advisories due to concentrations of PCBs in the water column in excess of the Department’s water quality and human health criteria for PCBs. The TMDL calculated a required reduction of 99.8% in order to achieve the reduction goal of the TMDL.

The domestic effluent from the Brady Township NW WWTF has no reasonable potential to discharge metals or PCBs.

## ADDITIONAL CONSIDERATIONS

### Hauled-In Wastes

According to the application materials, the Brady Township NW WWTF does not accept hauled-in wastes.

### 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).

### Special Permit Conditions

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

*CONTINUED on the next page.*



Supplemental Discharge Monitoring Reports

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

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 unless noted)				Monitoring Requirements	
	Monthly Average	Weekly Average	Minimum	Monthly Average	Weekly Average	IMAX	Minimum Measurement Frequency	Required Sample Type
Flow	Report	Report Daily Max					Continuous	Metered
pH			6.0			9.0	1/Day	Grab
Dissolved Oxygen			4.0				1/Day	Grab
Total Residual Chlorine				0.5		1.6	1/Day	Grab
CBOD <sub>5</sub>	2.5	3.8		10	15	20	2/Month	8 Hour Composite
Influent BOD <sub>5</sub>	Report	Report		Report			2/Month	8 Hour Composite
TSS	2.5	3.8		10	15	20	2/Month	8 Hour Composite
Influent TSS	Report	Report		Report			2/Month	8 Hour Composite
Fecal Coliform (No./100mL) 05/01-09/30				200 Geo Mean		1,000	2/Month	Grab
Fecal Coliform (No./100mL) 10/01-04/30				2,000 Geo Mean		10,000	2/Month	Grab
NH <sub>3</sub> -N 05/01-10/31	0.75	1.1		3.0	4.5	6.0	2/Month	8 Hour Composite
NH <sub>3</sub> -N 11/01-04/30	2.3	3.4		9.0	13.5	19	2/Month	8 Hour Composite
E. Coli (No./100mL)						Report	1/Year	Grab

END of Fact Sheet.

## ATTACHMENT 01

Q <sub>7-10</sub> Analysis	
Facility:	Brady Township NW
Outfall:	001
NPDES Permit No.:	PA0228311
RMI at 001:	5.89 @ POFU
Reference Stream Gage Information	
Stream Name	Black Hole Creek
Reference Gage	01553130
Station Name	Sand Spring Run near White Deer, PA
Gage Drainage Area (sq. mi.)	4.93
Q <sub>7-10</sub> at gage (cfs)	1.10
Yield Ratio (cfs/mi <sup>2</sup> )	0.2231
Q <sub>7-10</sub> at 001	
Drainage Area at 001 (sq. mi.)	2.99
Q <sub>7-10</sub> at 001 (cfs)	0.667
Q <sub>7-10</sub> at 001 (mgd)	0.4312

Table 1 13

**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; mi<sup>2</sup>, square miles]

Streamgage number	Streamgage name	Latitude	Longitude	Drainage area (mi <sup>2</sup> )	Regulated <sup>1</sup>
01541303	West Branch Susquehanna River at Hyde, Pa.	41.005	-78.457	474	Y
01541308	Bradley Run near Ashville, Pa.	40.509	-78.584	6.77	N
01541500	Clearfield Creek at Dimeling, Pa.	40.972	-78.406	371	Y
01542000	Moshannon Creek at Osceola Mills, Pa.	40.850	-78.268	68.8	N
01542500	WB Susquehanna River at Karthaus, Pa.	41.118	-78.109	1,462	Y
01542810	Waldy Run near Emporium, Pa.	41.579	-78.293	5.24	N
01543000	Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.	41.413	-78.197	272	N
01543500	Sinnemahoning Creek at Sinnemahoning, Pa.	41.317	-78.103	685	N
01544000	First Fork Sinnemahoning Creek near Sinnemahoning, Pa.	41.402	-78.024	245	Y
01544500	Kettle Creek at Cross Fork, Pa.	41.476	-77.826	136	N
01545000	Kettle Creek near Westport, Pa.	41.320	-77.874	233	Y
01545500	West Branch Susquehanna River at Renovo, Pa.	41.325	-77.751	2,975	Y
01545600	Young Womans Creek near Renovo, Pa.	41.390	-77.691	46.2	N
01546000	North Bald Eagle Creek at Milesburg, Pa.	40.942	-77.794	119	N
01546400	Spring Creek at Houserville, Pa.	40.834	-77.828	58.5	N
01546500	Spring Creek near Axemann, Pa.	40.890	-77.794	87.2	N
01547100	Spring Creek at Milesburg, Pa.	40.932	-77.786	142	N
01547200	Bald Eagle Creek below Spring Creek at Milesburg, Pa.	40.943	-77.786	265	N
01547500	Bald Eagle Creek at Blanchard, Pa.	41.052	-77.604	339	Y
01547700	Marsh Creek at Blanchard, Pa.	41.060	-77.606	44.1	N
01547800	South Fork Beech Creek near Snow Shoe, Pa.	41.024	-77.904	12.2	N
01547950	Beech Creek at Monument, Pa.	41.112	-77.702	152	N
01548005	Bald Eagle Creek near Beech Creek Station, Pa.	41.081	-77.549	562	Y
01548500	Pine Creek at Cedar Run, Pa.	41.522	-77.447	604	N
01549000	Pine Creek near Waterville, Pa.	41.313	-77.379	750	N
01549500	Blockhouse Creek near English Center, Pa.	41.474	-77.231	37.7	N
01549700	Pine Creek below Little Pine Creek near Waterville, Pa.	41.274	-77.324	944	Y
01550000	Lycoming Creek near Trout Run, Pa.	41.418	-77.033	173	N
01551500	WB Susquehanna River at Williamsport, Pa.	41.236	-76.997	5,682	Y
01552000	Loyalsock Creek at Loyalsockville, Pa.	41.325	-76.912	435	N
01552500	Muncy Creek near Sonestown, Pa.	41.357	-76.535	23.8	N
01553130	Sand Spring Run near White Deer, Pa.	41.059	-77.077	4.93	N
01553500	West Branch Susquehanna River at Lewisburg, Pa.	40.968	-76.876	6,847	Y
01553700	Chillisquaque Creek at Washingtonville, Pa.	41.062	-76.680	51.3	N
01554000	Susquehanna River at Sunbury, Pa.	40.835	-76.827	18,300	Y
01554500	Shamokin Creek near Shamokin, Pa.	40.810	-76.584	54.2	N
01555000	Penns Creek at Penns Creek, Pa.	40.867	-77.048	301	N
01555500	East Mahantango Creek near Dalmatia, Pa.	40.611	-76.912	162	N
01556000	Frankstown Branch Juniata River at Williamsburg, Pa.	40.463	-78.200	291	N
01557500	Bald Eagle Creek at Tyrone, Pa.	40.684	-78.234	44.1	N
01558000	Little Juniata River at Spruce Creek, Pa.	40.613	-78.141	220	N
01559000	Juniata River at Huntingdon, Pa.	40.485	-78.019	816	LF
01559500	Standing Stone Creek near Huntingdon, Pa.	40.524	-77.971	128	N
01559700	Sulphur Springs Creek near Manns Choice, Pa.	39.978	-78.619	5.28	N
01560000	Dunning Creek at Belden, Pa.	40.072	-78.493	172	N

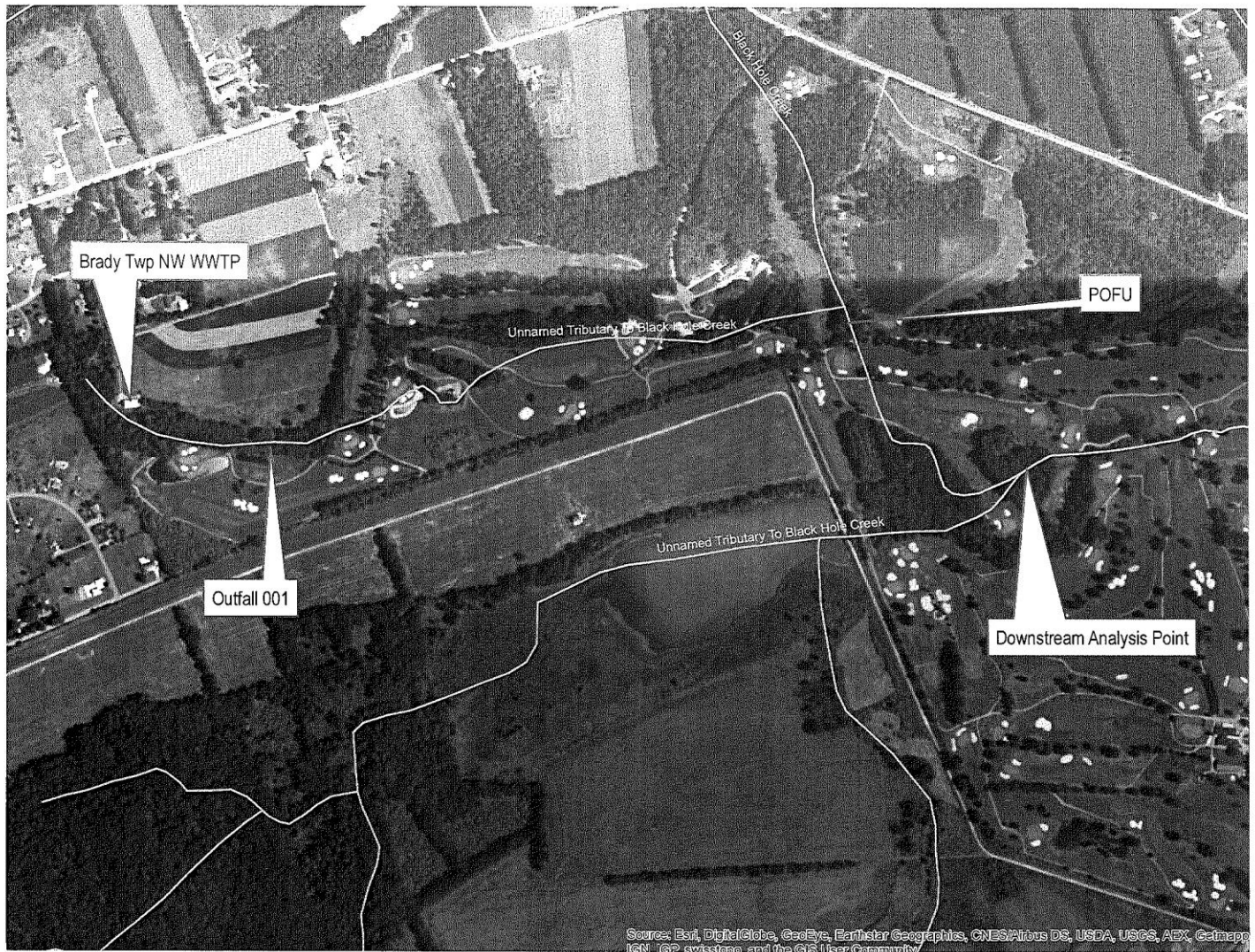
## 26 Selected Streamflow Statistics for Streamgage Locations in and near Pennsylvania

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

[ft<sup>3</sup>/s; cubic feet per second; —, statistic not computed; <, less than]

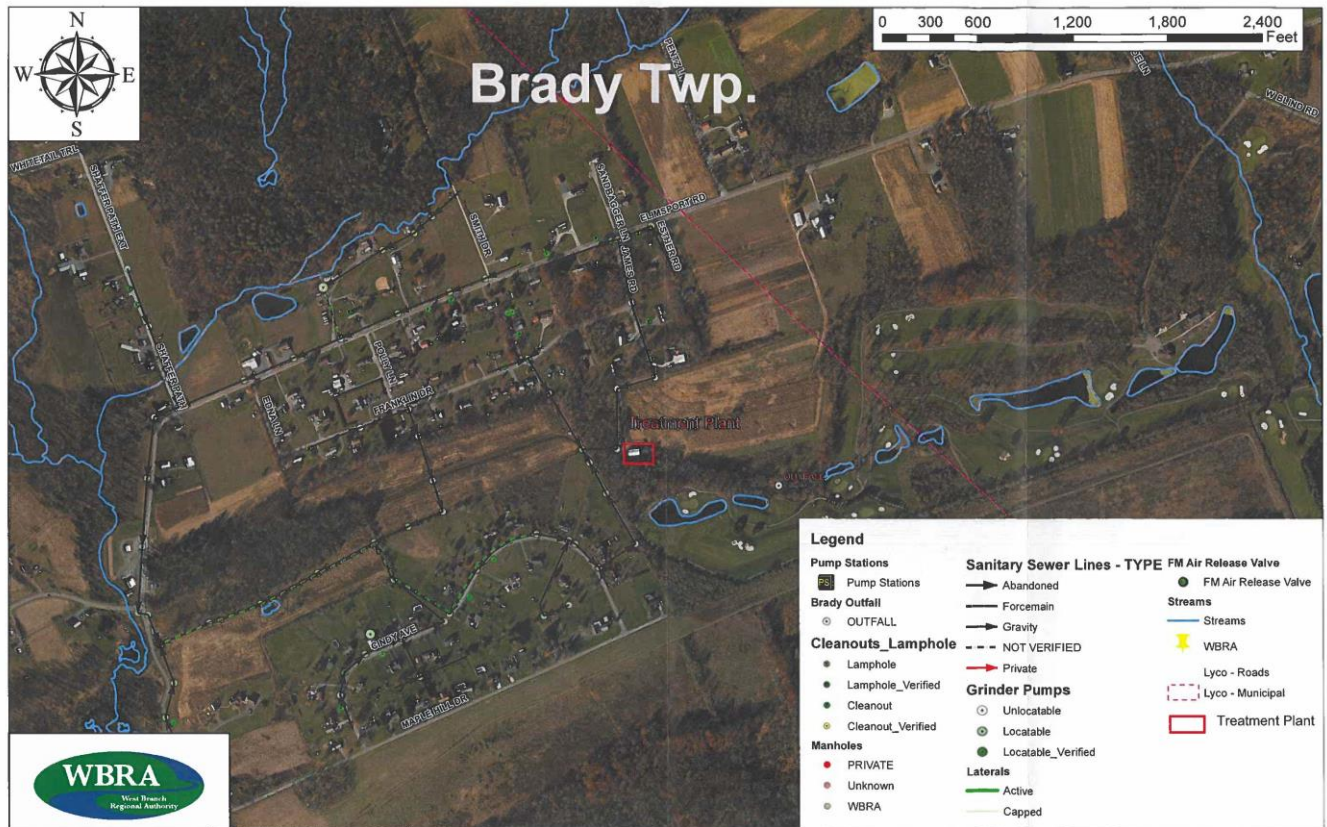
Streamgage number	Period of record used in analysis <sup>1</sup>	Number of years used in analysis	1-day, 10-year (ft <sup>3</sup> /s)	7-day, 10-year (ft <sup>3</sup> /s)	7-day, 2-year (ft <sup>3</sup> /s)	30-day, 10-year (ft <sup>3</sup> /s)	30-day, 2-year (ft <sup>3</sup> /s)	90-day, 10-year (ft <sup>3</sup> /s)
01546000	1912–1934	17	1.8	2.2	6.8	3.7	12.1	11.2
01546400	1986–2008	23	13.5	14.0	19.6	15.4	22.3	18.7
01546500	1942–2008	67	26.8	29.0	41.3	31.2	44.2	33.7
01547100	1969–2008	40	102	105	128	111	133	117
01547200	1957–2008	52	99.4	101	132	106	142	115
01547500	<sup>2</sup> 1971–2008	38	28.2	109	151	131	172	153
01547500	<sup>3</sup> 1956–1969	14	90.0	94.9	123	98.1	131	105
01547700	1957–2008	52	.5	.6	2.7	1.1	3.9	2.2
01547800	1971–1981	11	1.6	1.8	2.4	2.1	2.9	3.5
01547950	1970–2008	39	12.1	13.6	28.2	17.3	36.4	23.8
01548005	<sup>2</sup> 1971–2000	25	142	151	206	178	241	223
01548005	<sup>3</sup> 1912–1969	58	105	114	147	125	165	140
01548500	1920–2008	89	21.2	24.2	50.1	33.6	68.6	49.3
01549000	1910–1920	11	26.0	32.9	78.0	46.4	106	89.8
01549500	1942–2008	67	.6	.8	2.5	1.4	3.9	2.6
01549700	1959–2008	50	33.3	37.2	83.8	51.2	117	78.4
01550000	1915–2008	94	6.6	7.6	16.8	11.2	24.6	18.6
01551500	<sup>2</sup> 1963–2008	46	520	578	1,020	678	1,330	919
01551500	<sup>3</sup> 1901–1961	61	400	439	742	523	943	752
01552000	1927–2008	80	20.5	22.2	49.5	29.2	69.8	49.6
01552500	1942–2008	67	.9	1.2	3.1	1.7	4.4	3.3
01553130	1969–1981	13	1.0	1.1	1.5	1.3	1.8	1.7
01553500	<sup>2</sup> 1968–2008	41	760	838	1,440	1,000	1,850	1,470
01553500	<sup>3</sup> 1941–1966	26	562	619	880	690	1,090	881
01553700	1981–2008	28	9.1	10.9	15.0	12.6	17.1	15.2
01554000	<sup>2</sup> 1981–2008	28	1,830	1,990	3,270	2,320	4,210	3,160
01554000	<sup>3</sup> 1939–1979	41	1,560	1,630	2,870	1,880	3,620	2,570
01554500	1941–1993	53	16.2	22.0	31.2	25.9	35.7	31.4
01555000	1931–2008	78	33.5	37.6	58.8	43.4	69.6	54.6
01555500	1931–2008	78	4.9	6.5	18.0	9.4	24.3	16.6
01556000	1918–2008	91	43.3	47.8	66.0	55.1	75.0	63.7
01557500	1946–2008	63	2.8	3.2	6.3	4.2	8.1	5.8
01558000	1940–2008	69	56.3	59.0	79.8	65.7	86.2	73.7
01559000	1943–2008	66	104	177	249	198	279	227
01559500	1931–1958	28	9.3	10.5	15.0	12.4	17.8	15.8
01559700	1963–1978	16	.1	.1	.2	.1	.3	.2
01560000	1941–2008	68	8.5	9.4	15.6	12.0	20.2	16.2
01561000	1932–1958	27	.4	.5	1.6	.8	2.5	1.7
01562000	1913–2008	96	64.1	67.1	106	77.4	122	94.5
01562500	1931–1957	27	1.1	1.6	3.8	2.3	5.4	3.7
01563200	<sup>2</sup> 1974–2008	35	—	—	—	112	266	129
01563200	<sup>3</sup> 1948–1972	25	10.3	28.2	86.1	64.5	113	95.5
01563500	<sup>2</sup> 1974–2008	35	384	415	519	441	580	493
01563500	<sup>3</sup> 1939–1972	34	153	242	343	278	399	333
01564500	1940–2008	69	3.6	4.2	10.0	6.2	14.4	10.6

## ATTACHMENT 02

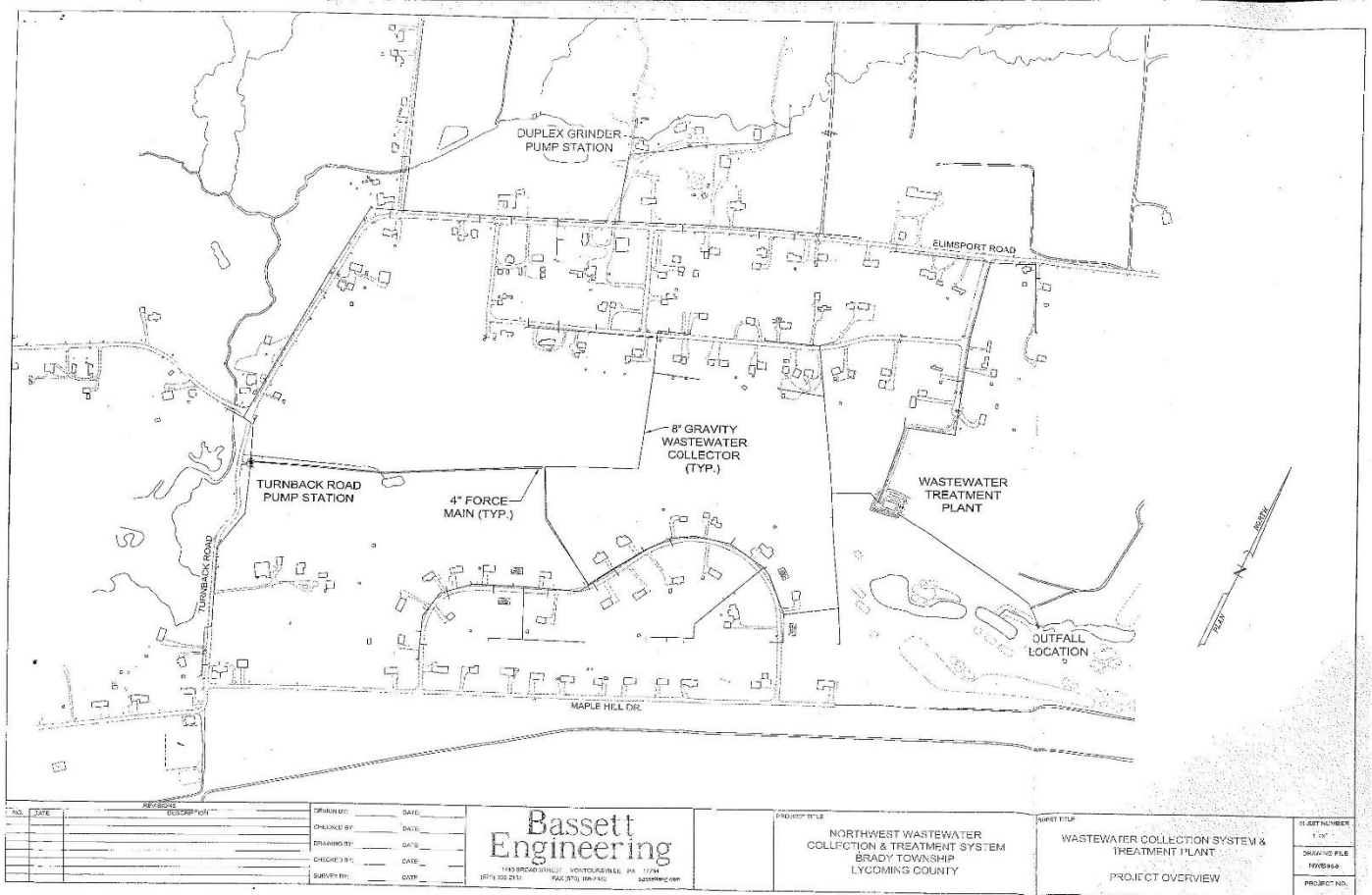




## ATTACHMENT 03



## ATTACHMENT 04



## ATTACHMENT 05

TRC EVALUATION					
Client		Brady Township NW		Date	
				03/29/2023	
0.667 = Q stream (cfs)			0.5 = CV Daily		
0.03 = 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 = 4.604		1.3.2.iii	WLA cfc = 4.481
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA afc = 1.715		5.1d	LTA cfc = 2.605
		WQBEL_afc = 2.112			WQBEL_cfc = 3.206
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			
<p>WLA afc <math>(.019/e(-k \cdot AFC\_tc)) + [(AFC\_Yc \cdot Qs \cdot .019/Qd \cdot e(-k \cdot AFC\_tc)) \dots + Xd + (AFC\_Yc \cdot Qs \cdot Xs/Qd)] \cdot (1-FOS/100)</math></p> <p>LTAMULT afc <math>EXP((0.5 \cdot LN(cvh^2+1)) - 2.326 \cdot LN(cvh^2+1)^{0.5})</math></p> <p>LTA_afc <math>wla\_afc \cdot LTAMULT\_afc</math></p> <p>WLA_cfc <math>(.011/e(-k \cdot CFC\_tc)) + [(CFC\_Yc \cdot Qs \cdot .011/Qd \cdot e(-k \cdot CFC\_tc)) \dots + Xd + (CFC\_Yc \cdot Qs \cdot Xs/Qd)] \cdot (1-FOS/100)</math></p> <p>LTAMULT_cfc <math>EXP((0.5 \cdot LN(cvd^2/no\_samples+1)) - 2.326 \cdot LN(cvd^2/no\_samples+1)^{0.5})</math></p> <p>LTA_cfc <math>wla\_cfc \cdot LTAMULT\_cfc</math></p> <p>AML MULT <math>EXP(2.326 \cdot LN((cvd^2/no\_samples+1)^{0.5}) - 0.5 \cdot LN(cvd^2/no\_samples+1))</math></p> <p>AVG MON LIMIT <math>MIN(BAT\_BPJ, MIN(LTA\_afc, LTA\_cfc) \cdot AML\_MULT)</math></p> <p>INST MAX LIMIT <math>1.5 \cdot ((av\_mon\_limit/AML\_MULT)/LTAMULT\_afc)</math></p>					

TRC Evaluation 2



## ATTACHMENT 06

**WQM 7.0 Effluent Limits**

<u>SWP Basin</u>		<u>Stream Code</u>	<u>Stream Name</u>				
10C		19351	BLACK HOLE CREEK				
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)
4.880	Brady Twp NW	PA0228311	0.030	CBOD5	10		
				NH3-N	3	6	
				Dissolved Oxygen			3

## 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
10C	19351	BLACK HOLE CREEK	4.880	600.00	2.99	0.00000	0.00	<input checked="" type="checkbox"/>

## Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.100	0.00	0.67	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
Brady Twp NW	PA0228311	0.0300	0.0300	0.0300	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	10.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	3.00	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
10C	19351	BLACK HOLE CREEK	4.540	598.00	4.81	0.00000	0.00	<input checked="" type="checkbox"/>

## Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.100	0.00	1.07	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

## 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
10C	19351	BLACK HOLE CREEK	4.880	600.00	2.99	0.00000	0.00	<input checked="" type="checkbox"/>

## Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.100	0.00	0.67	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
Brady Twp NW	PA0228311	0.0300	0.0300	0.0300	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	10.00	2.00	0.00	1.50
Dissolved Oxygen	3.00	8.24	0.00	0.00
NH3-N	3.00	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
10C	19351	BLACK HOLE CREEK	4.540	598.00	4.81	0.00000	0.00	<input checked="" type="checkbox"/>

## Stream Data

Design Cond.	LFY (cfsm)	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (°C)	pH	Stream Temp (°C)	pH
Q7-10	0.100	0.00	1.07	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**

<u>SWP Basin</u>		<u>Stream Code</u>			<u>Stream Name</u>							
10C		19351			BLACK HOLE CREEK							
RMI	Stream Flow	PWS With	Net Stream Flow	Disc Analysis Flow	Reach Slope	Depth	Width	W/D Ratio	Velocity	Reach Trav Time	Analysis Temp	Analysis pH
	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft)	(ft)		(fps)	(days)	(°C)	
<b>Q7-10 Flow</b>												
4.880	0.67	0.00	0.67	.0464	0.00111	.5	11.83	23.67	0.12	0.172	20.33	7.00
<b>Q1-10 Flow</b>												
4.880	0.43	0.00	0.43	.0464	0.00111	NA	NA	NA	0.10	0.217	20.49	7.00
<b>Q30-10 Flow</b>												
4.880	0.91	0.00	0.91	.0464	0.00111	NA	NA	NA	0.14	0.146	20.24	7.00

**WQM 7.0 Modeling Specifications**

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

**WQM 7.0 Wasteload Allocations**

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
10C	19351	BLACK HOLE CREEK

**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
	4.880 Brady Twp NW	9.33	6	9.33	6	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
	4.880 Brady Twp NW	1.88	3	1.88	3	0	0

**Dissolved Oxygen Allocations**

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
	4.88 Brady Twp NW	10	10	3	3	3	3	0	0



**WQM 7.0 Wasteload Allocations**

<u>SWP Basin</u>	<u>Stream Code</u>	<u>Stream Name</u>
10C	19351	BLACK HOLE CREEK

**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
	4.880 Brady Twp NW	9.33	6	9.33	6	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
	4.880 Brady Twp NW	1.88	3	1.88	3	0	0

**Dissolved Oxygen Allocations**

RMI	Discharge Name	<u>CBOD5</u>		<u>NH3-N</u>		<u>Dissolved Oxygen</u>		Critical Reach	Percent Reduction
		Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)	Baseline (mg/L)	Multiple (mg/L)		
	4.88 Brady Twp NW	10	10	3	3	3	3	0	0