

**DRAFT**

**PENNSYLVANIA TURNPIKE COMMISSION  
POLLUTANT REDUCTION PLAN  
FOR THE  
DELAWARE RIVER DRAINAGE BASIN  
NPDES PERMIT NO. PA139602**



**PENNSYLVANIA TURNPIKE COMMISSION,  
PENNSYLVANIA  
OCTOBER 2022  
REVISED FEBRUARY 2023**



**PREPARED BY  
SKELLY AND LOY, INC.  
HARRISBURG, PENNSYLVANIA**



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NPDES PERMIT NO. PAI139602**

**PREPARED FOR**

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**OCTOBER 25, 2022  
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ID 42-4-51 & 42-16-53.3, EAST WHITELAND TOWNSHIP



## LIST OF ACRONYMS

BMP	Best Management Practices
CAST	Chesapeake Assessment Scenario Tool
CWA	Clean Water Act
DRPRP	Delaware River Pollutant Reduction Plan
GIS	Geographic Information System
HUC	Hydrologic Unit Code
ID	Identification
IDD&E	Illicit Discharge Detection and Elimination
lbs/yr	Pounds per Year
LF	Linear Feet
M&M	Maintenance and Monitoring
MS3	Municipal Separate Storm Sewer
MS4	Municipal Separate Storm Sewer System
NHD	National Hydrology Dataset
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
PA DEP	Pennsylvania Department of Environmental Protection
PA DCNR	Pennsylvania Department of Conservation and Natural Resources
PennDOT	Pennsylvania Department of Transportation
PRP	Pollutant Reduction Plan
PTC	Pennsylvania Turnpike Commission
SCM	Stormwater Control Measure
TN	Total Nitrogen
TP	Total Phosphorus
TSS	Total Suspended Solids (Sediment)
UA	Urbanized Area





UNT	Unnamed Tributary
USGS	United States Geological Survey
WLA	Waste Load Allocation



## 1.0 EXECUTIVE SUMMARY

### A. RESULTS

The pollutants of concern are sediment, and phosphorus. Existing pollutant loads for the Pennsylvania Turnpike Commission (PTC) were estimated using the MapShed model. The Pennsylvania Department of Environmental Protection (PA DEP) declared that if the sediment (TSS) reduction goal is obtained, the permittee may presume that the total phosphorus (TP) reduction goal is also met. Consequently, the PTC is reporting sediment reduction. A single Pollution Reduction Plan (PRP) Best Management Practice (BMP) is proposed to meet the PTC sediment reduction goal for the PTC's entire Delaware River Drainage Basin obligation. The pollution reduction project is a riparian buffer restoration and stream restoration of a 901-foot segment of Valley Creek located in Valley Creek Park, East Whiteland Township, Chester County, Pennsylvania. Existing pollutant loads, required reduction targets, and achieved reductions are summarized in **Table 1** below.

**TABLE 1**  
**PTC DELAWARE RIVER DRAINAGE BASIN: EXISTING POLLUTANT LOADS,**  
**REQUIRED REDUCTION TARGETS, AND ACHIEVED REDUCTIONS**

POLLUTANT	EXISTING LOAD	REQUIRED REDUCTION %	REQUIRED REDUCTION (LBS/YR)	ACHIEVED REDUCTION (LBS/YR)	EXCESS REDUCTION (LBS/YR)
Sediment (TSS)	2,073,202	5%	103,660	103,660*	0
Phosphorus (TP)	593	2.5%	14.8	Presumed	-
* The sediment reduction total represents the default value based on the MapShed effectiveness factor for stream restoration of 115 lbs/lf/yr.					

### B. PURPOSE

The Delaware River Pollutant Reduction Plan (DRPRP) was prepared to comply with PA DEP National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. PAI139602, effective November 1, 2021, through October 31, 2026. The purpose of a PRP is to provide a basis for implementation of specific projects to capture and reduce pollutants conveyed by stormwater runoff before they reach streams, rivers, lakes, etc. (a.k.a., surface waters). Each PRP provides the background, assumptions, analysis, and methodology to establish a justifiable baseline of current pollutant load generation and then identifies BMPs with site locations, planning-level concept designs, costs, and implementation schedules. It also offers a framework for funding installation, operation, and maintenance activities that provides regulators with assurance that the identified project(s) will materialize within the scheduled timeframe. This PTC DRPRP assesses the urban watersheds within the Delaware River Drainage Basin through which the Pennsylvania Turnpike passes where the surface waters' designated use status is non-attaining and the impairment cause is sediment or phosphorus (generically referred to as nutrients).





### **C. PRP LAYOUT**

The Executive Summary is followed by two sections. Section 2.0 (Introduction) describes the PTC's characteristics influencing PRP decisions. Topics within Section 2.0 include Hydrology, Topography and Geology, Soils, and Land Use.

Section 3.0 (Required PRP Components) provides technical data, analysis and substantiation, and proposed BMP specifics. It is organized and titled to match the titles and sequence of the PA DEP's PRP Instructions per the directions. The subsections are:

- A. Public Participation
- B. Map
- C. Pollutants of Concern
- D. Existing Loading for Pollutants of Concern
- E. BMPs to Achieve the Minimum Required Reductions in Pollutant Loading
- F. Funding Mechanism(s)
- G. Responsible Parties for Operation and Maintenance (O&M) of BMPs

The PTC opted to use the presumptive approach to report pollutant reduction. Under this approach, it is assumed that if the required sediment reduction is achieved, phosphorus reductions are also reached. Therefore, only sediment load reduction is reported.



## 2.0 INTRODUCTION

### A. LOCATION

#### 1. Contextual Location

The Pennsylvania Turnpike is a limited-access toll road network that crosses the state from the Pennsylvania-Delaware border northwest of Philadelphia to the Pennsylvania-New Jersey border east of Philadelphia. The network also serves regions north and south of Pittsburgh and north of Philadelphia and is comprised of the segments listed in **Table 2**, Turnpike System Roadways.

**TABLE 2**  
**PENNSYLVANIA TURNPIKE SYSTEM ROADWAYS**

ROADWAY NAME	ROUTE NO.	DESCRIPTION	MILES
Turnpike Mainline	I-76/I-276	Delaware to New Jersey Connector	359
Beaver Valley Expressway	I-376	PA-51 to US-422	16.3
Southern Beltway	PA-576	South of Pittsburgh International Airport to I-79	5.7
Mon/Fayette Expressway	PA-43	Pittsburgh to Uniontown Connector	51.4
Amos K. Hutchinson Bypass (a.k.a., Greensburg Bypass)	PA-66	I-70 to US-22 Connector	13.3
Northeast Extension	I-476	Philadelphia-Allentown-Wilkes Barre-Scranton Connector	110.1
<b>TOTAL LENGTH</b>			<b>556</b>

#### 2. MS4 Regulated Area

The MS4 NPDES Permit applies only to urban runoff from land within the Urbanized Areas (UAs), as defined by the 2010 Census, that flows through a municipally owned and operated stormwater system with an identifiable concentrated discharge (outfall) to a surface water. The MS4 Permit also applies to non-municipal entities specified by PA DEP that are public-sector organizations and function similarly to municipal governments relative to operations of stormwater infrastructure and contributing drainage areas. The PTC is one of the organizations within this group of non-traditional MS4s.

The MS4 regulated area for the PTC includes UAs as defined by the U.S. Census Bureau in its 2010 ten-year census plus the upland contributory drainage area that is within the jurisdiction of the PTC. The basis for the UA criteria, the 2010 Census, is specified in the PTC's MS4 Permit and the additional upgradient area contributing to the UA is stipulated in FAQ #10 of PA DEP's *MS4 NPDES Permits Frequently Asked Questions* (revised December 2, 2021).

The storm sewer system consists of the PTC-owned and -operated stormwater conveyance network, including the roadway, inlets/catch basins, curbs, gutters, ditches, man-made channels, or storm drains.



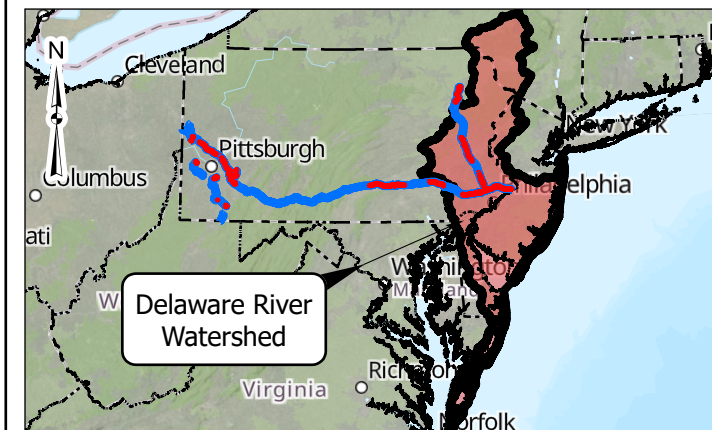
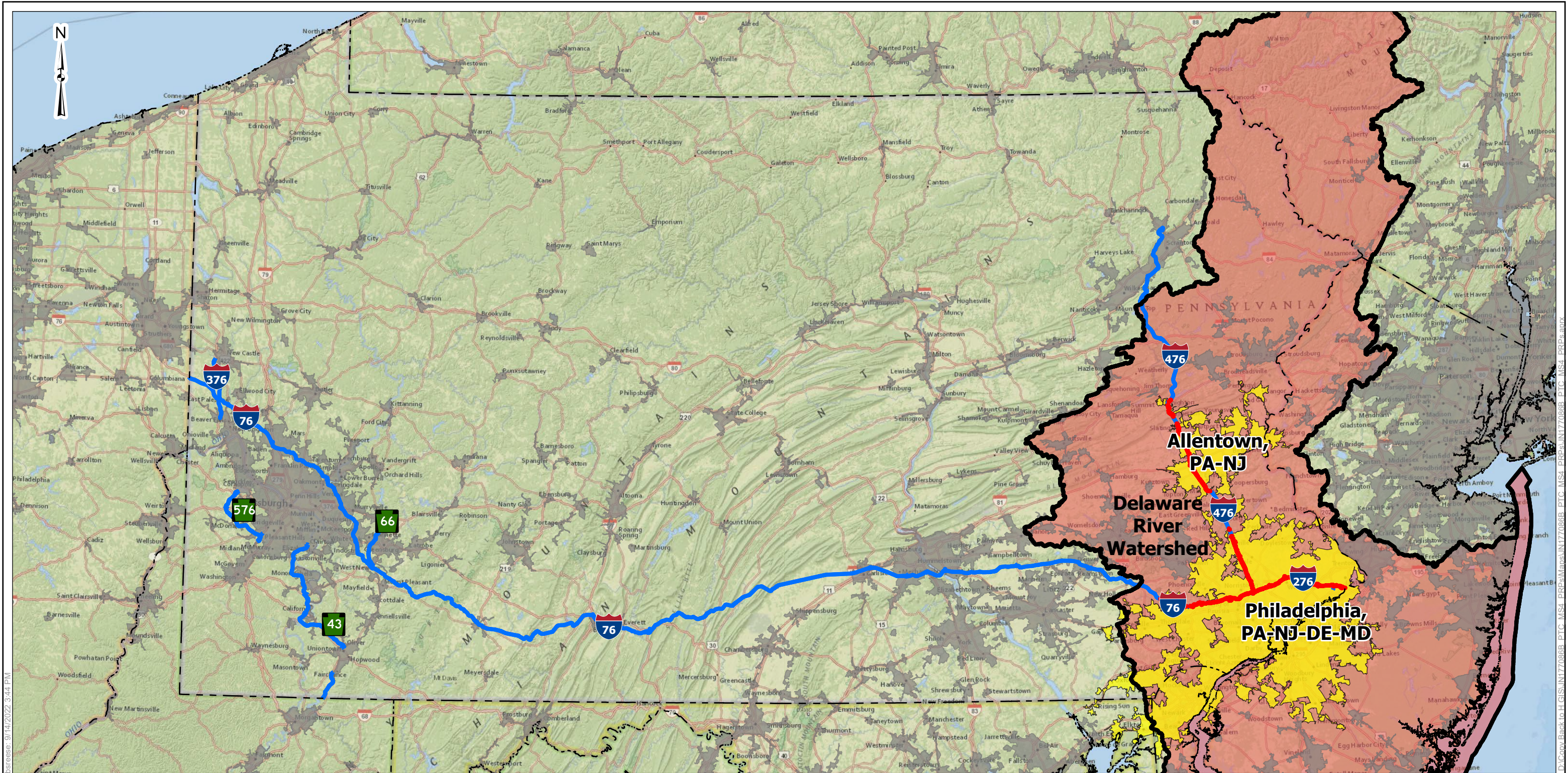


### 3. Delaware River Drainage Basin Location

This PRP is focused on the regulated portion of the 556-mile Pennsylvania Turnpike located in or contributing runoff to the UAs within the Delaware River Drainage Basin. The PTC Delaware River MS4-regulated area includes a total of 92 miles of the Turnpike corridor: approximately 50 miles of the Turnpike Mainline roadway and 42 miles of the Northeast Extension. Of the 92 miles within the MS4 regulated area, approximately 65 miles are part of the Philadelphia UA while the remaining 27 miles are part of the Allentown UA.

The following figures and tables provide locational detail from the regional to more-detailed perspective. **Figure 1** is a location map that identifies the PTC's Delaware River MS4-regulated portion of the Turnpike. The applicable roadway segments are highlighted on the Location Map. **Figure 2** identifies the Hydrologic Unit Code (HUC) 12 watersheds that the PTC's Delaware River MS4-regulated area passes through. **Table 3** provides locational references for PTC's Delaware River regulated roadway segments to the nearest intersecting road or stream as well as providing Turnpike roadway segment length, latitude, and longitude of the segment midpoint and references to the UA, county, and HUC 12 watershed the PTC regulated-MS4 traverses.





### Legend

- Pennsylvania Turnpike Roadway
- Pennsylvania Turnpike Roadway in MS4 Areas
- Delaware River Watershed
- Urban Areas**
- Allentown, PA-NJ; Philadelphia, PA-NJ-DE-MD
- Other Urban Areas

DATA SOURCES:  
NatGeo World Map 2022, PTC 2021, US Census Bureau 2021, USGS 2022

Permit No.:  
PAI139602  
Date:  
September 2022  
Drawn By:  
BSR  
Reviewed By:  
SEL



### LOCATION MAP

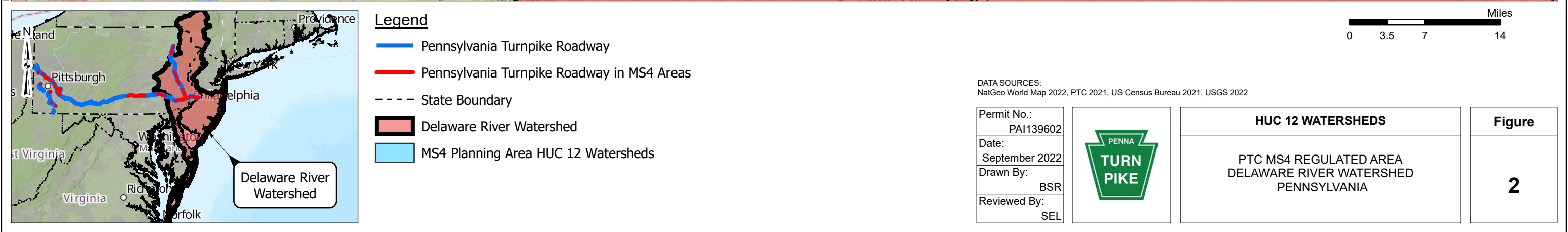
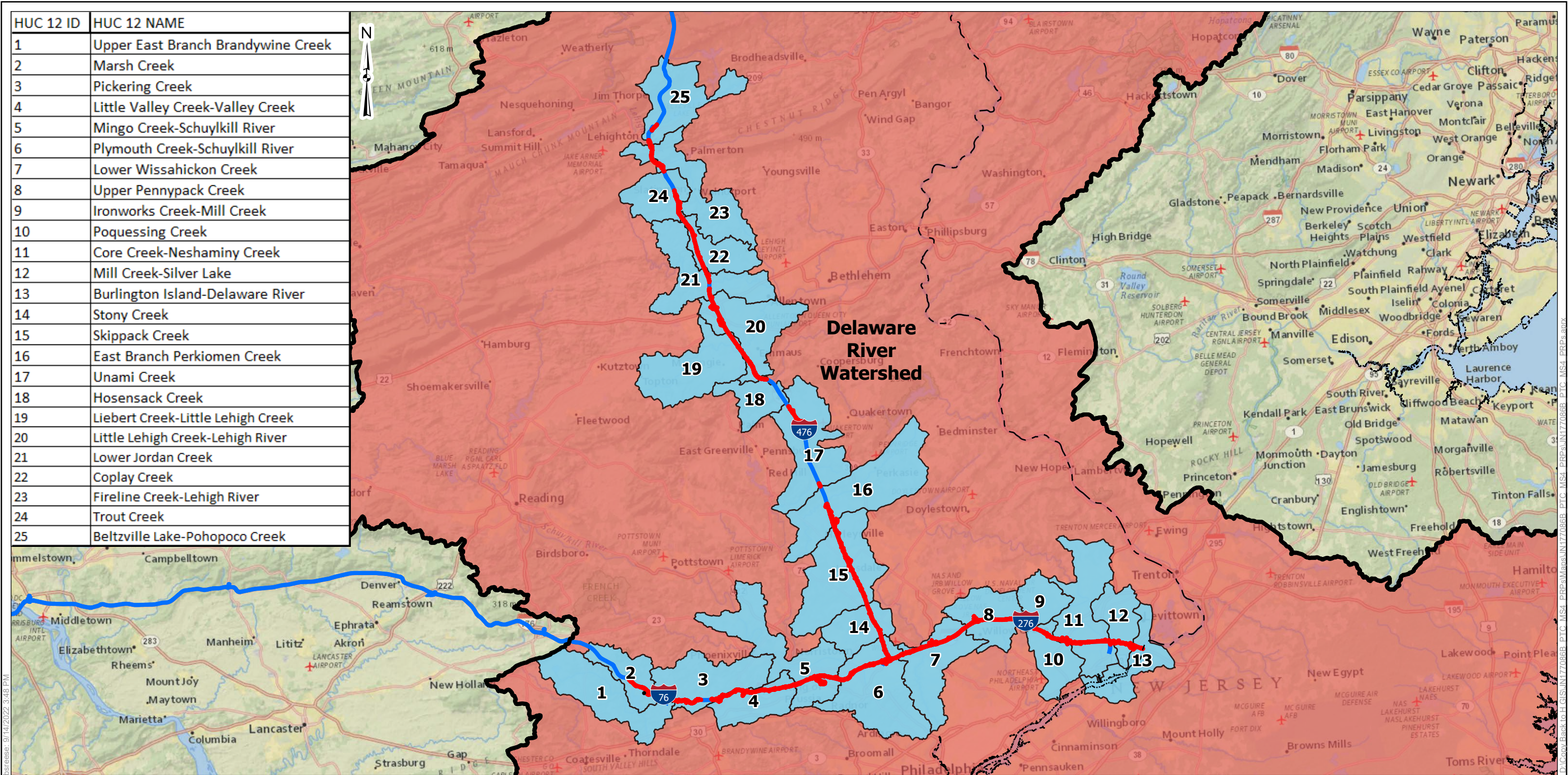
PTC MS4 REGULATED AREA  
DELAWARE RIVER WATERSHED  
PENNSYLVANIA

### Figure

1

Miles  
0 12.5 25 50







**TABLE 3**  
**PTC DELAWARE RIVER DRAINAGE BASIN REGULATED/PLANNING AREA MS4 SEGMENTS**

PTC ROADWAY	URBANIZED AREA	COUNTY	HUC12 NUMBER	HUC12 NAME	NEAREST CROSS- FEATURE BEGIN (WEST/SOUTH)	MILE POST BEGIN (WEST/SOUTH)	NEAREST CROSS- FEATURE END (EAST/NORTH)	MILE POST END (EAST/NORTH)	DISTANCE (MILES)	APPROXIMATE MIDPOINT (MILE POST)	LATITUDE	LONGITUDE
Turnpike Mainline	Philadelphia, PA-NJ-DE-MD	Chester	020402050103	Marsh Creek	None	307.8	S.R. 0100 Pottstown Pike	315.2	7.4	311.5	N040° 4' 11.98"	W075°40'33.54"
			020402031006	Pickering Creek								
			020402050105	Upper East Branch Brandywine Creek								
			020402031003	Pickering Creek								
		Montgomery	020402031004	Little Valley Creek- Valley Creek	None	316.25	Exit 312	359	42.75	337.6	N040°07' 46.40"	W075°12'34.89"
			020402031006	Mingo Creek- Schuylkill River								
			020402031007	Plymouth Creek- Schuylkill River								
			020402030902	Lower Wissahickon Creek								
		Bucks	020402020303	Upper Pennypack Creek								
			020402010302	Ironworks Creek- Mill Creek								
			020402020301	Poquessing Creek								
			020402010303	Core Creek- Neshaminy Creek								
			020402010405	Mill Creek-Silver Lake								
			020402010407	Burlington Island- Delaware River								
			Subtotal Mainline PTC MS4 Planning Area Length									



**TABLE 3  
(CONTINUED)**

PTC ROADWAY	URBANIZED AREA	COUNTY	HUC12 NUMBER	HUC12 NAME	NEAREST CROSS- FEATURE BEGIN (WEST/SOUTH)	MILE POST BEGIN (WEST/SOUTH)	NEAREST CROSS- FEATURE END (EAST/NORTH)	MILE POST END (EAST/NORTH)	DISTANCE (MILES)	APPROXIMATE MIDPOINT (MILE POST)	LATITUDE	LONGITUDE
Northeast Extension	Philadelphia, PA-NJ- DE-MD	Montgomery	020402031007	Plymouth Creek-Schuylkill River	I-76	20.5	Walton Road	35.65	15.15	28.1	N 40°13'20.08"	W 75°19'50.71"
			020402031005	Stony Creek								
			020402030808	Skippack Creek								
			020402030807	East Branch Perkiomen Creek								
	Allentown, PA-NJ	Bucks	020402030804	Unami Creek	Ridge Road	37.4	Clump Road	37.72	0.32	37.6	N 40°21'04.02"	W 75°23'27.51"
					John Fries Highway	43.21	None	45.53	2.32	44.4	N 40°26'32.90"	W 75°25'46.24"
		Lehigh	020402030801	Hosensack Creek	Church View Road	48.85	Huckleberry Road	59.2	10.35	54.0	N 40°33'05.05"	W 75°32'18.68"
			020401060702	Liebert Creek-Little Lehigh Creek								
			020401060703	Little Lehigh Creek-Lehigh River								
			020401060602	Lower Jordan Creek								
			020401060807	Coplay Creek	Lime Kiln Road	59.82	Scout House Road	69.09	9.27	64.5	N 40°41'34.33"	W 75°36'13.36"
			020401060802	Trout Creek								
		Carbon	020401060804	Fireline Creek-Lehigh River	None	71.14	Lower Main Road	74.65	3.51	72.895	N040°39'43.73"	W075°35'35.51"
			020401060801	Lizard Creek								
			020401060310	Mauch Chuck Creek-Lehigh River								
			020401060404	Beltzville Lake-Pohopoco Creek								
Subtotal Northeast Extension PTC MS4 Planning Area Length									41.6			
TOTAL DELAWARE RIVER DRAINAGE BASIN MS4 PLANNING AREA LENGTH									92			



## B. HYDROLOGY

The United States Geological Survey (USGS) developed a hierarchical system to classify hydrology by the region size draining to the watercourse. The HUCs are comprised of 2 to 12 digits and include regions (2 digits), subregions (4 digits), basins (6 digits), subbasins (8 digits), watershed (10 digits), subwatershed (12 digits), and reach codes (14 digits). HUC14 watersheds, or reach codes, aid in identifying specific outfalls within the HUC12 watersheds. HUC12s are generally in the 40- to 60-square-mile size (but can be larger or smaller). The PTC MS4 is contributory to 68 HUC12 watersheds statewide. Of those, the Turnpike's MS4 crosses 25 HUC12 watersheds within the Delaware River Drainage Basin and PTC MS4 Outfalls are located on 98 Delaware River Drainage Basin Surface Waters. (See **Table 4** below and **Figure 2**, PTC MS4 HUC12 Watersheds, p. 6. Table 4 is arranged alphabetically by HUC12 Watershed name.)

**TABLE 4**  
**PTC MS4 DELAWARE RIVER DRAINAGE BASIN**  
**HUC12 WATERSHEDS AND SURFACE WATERS**

HUC12 CODE	HUC12 WATERSHED NAME	SUBJECT SURFACE WATERS WITHIN HUC12 WATERSHED
020401060404	Beltzville Lake- Pohopoco Creek	<ul style="list-style-type: none"> <li>Pohopoco Creek</li> </ul>
020402010407	Burlington Island-Delaware River	<ul style="list-style-type: none"> <li>UNT to Delaware River</li> </ul>
020401060807	Coplay Creek	<ul style="list-style-type: none"> <li>UNT to Coplay Creek (4)</li> <li>Coplay Creek</li> </ul>
020402010303	Core Creek-Neshaminy Creek	<ul style="list-style-type: none"> <li>UNT to Neshaminy Creek (4)</li> <li>Neshaminy Creek</li> </ul>
020402030807	East Branch Perkiomen Creek	<ul style="list-style-type: none"> <li>Indian Creek Tributary</li> <li>East Branch Perkiomen Creek Tributary (2)</li> <li>Indian Creek</li> <li>East Branch Perkiomen Creek</li> </ul>
020401060804	Fireline Creek-Lehigh River	<ul style="list-style-type: none"> <li>Lizard Creek</li> <li>UNT to Lehigh River (3)</li> </ul>
020402030801	Hosensack Creek	<ul style="list-style-type: none"> <li>UNT to Hosensack Creek</li> <li>Hosensack Creek</li> </ul>
020402010302	Ironworks Creek-Mill Creek	<ul style="list-style-type: none"> <li>UNT to Mill Creek (2)</li> </ul>
020401060702	Liebert Creek-Little Lehigh Creek	<ul style="list-style-type: none"> <li>Little Lehigh Creek</li> </ul>
020401060703	Little Lehigh Creek-Lehigh River	<ul style="list-style-type: none"> <li>Leibert Creek</li> <li>Little Lehigh Creek</li> <li>Cedar Creek</li> <li>UNT to Cedar Creek</li> <li>Trib to Cedar Creek</li> <li>Trib to Little Cedar Creek</li> </ul>
020402031004	Little Valley Creek-Valley Creek	<ul style="list-style-type: none"> <li>Valley Creek</li> <li>UNT to Valley Creek (3)</li> </ul>
020401060602	Lower Jordan Creek	<ul style="list-style-type: none"> <li>UNT to Jordan Creek</li> <li>Jordan Creek</li> </ul>
020402030902	Lower Wissahickon Creek	<ul style="list-style-type: none"> <li>UNT to Wissahickon Creek</li> <li>Wissahickon Creek</li> <li>Sandy Run</li> <li>Pine Run</li> </ul>



**TABLE 4  
(CONTINUED)**

HUC12 CODE	HUC12 WATERSHED NAME	SUBJECT SURFACE WATERS WITHIN HUC12 WATERSHED
020402050101	Marsh Creek	<ul style="list-style-type: none"> <li>• UNT to Wissahickon Creek</li> <li>• Wissahickon Creek</li> <li>• Sandy Run</li> <li>• Pine Run</li> </ul>
020402010405	Mill Creek-Silver Lake	<ul style="list-style-type: none"> <li>• Mill Creek</li> <li>• UNT to Mill Creek</li> </ul>
020402031006	Mingo Creek-Schuylkill River	<ul style="list-style-type: none"> <li>• Trout Creek</li> <li>• UNT to Trout Creek (2)</li> <li>• Crow Creek</li> <li>• UNT to Crow Creek</li> </ul>
020402031003	Pickering Creek	<ul style="list-style-type: none"> <li>• Pine Creek</li> <li>• UNT to Pine Creek (2)</li> <li>• UNT to Pigeon Run (2)</li> <li>• UNT to Pickering Creek(2)</li> </ul>
020402031007	Plymouth Creek-Schuylkill River	<ul style="list-style-type: none"> <li>• UNT to Schuylkill River</li> <li>• Diamond Run</li> <li>• UNT to Plymouth Creek (3)</li> <li>• Plymouth Creek</li> <li>• Sawmill Run</li> <li>• UNT to Sawmill Run</li> </ul>
020402020301	Poquessing Creek	<ul style="list-style-type: none"> <li>• UNT to Poquessing Creek</li> <li>• Poquessing Creek</li> </ul>
020402030808	Skippack Creek	<ul style="list-style-type: none"> <li>• Towamencin Creek</li> <li>• UNT to Towamencin Creek (2)</li> <li>• UNT to Skippack Creek (10)</li> <li>• Skippack Creek</li> <li>• Zacharias Creek</li> <li>• UNT to Zacharias Creek</li> </ul>
020402031005	Stony Creek	<ul style="list-style-type: none"> <li>• UNT to Stony Creek</li> <li>• Stony Creek</li> </ul>
020401060802	Trout Creek	<ul style="list-style-type: none"> <li>• Trout Creek</li> </ul>
020402030804	Unami Creek	<ul style="list-style-type: none"> <li>• UNT to Ridge Valley Creek</li> <li>• Molasses Creek</li> </ul>
020402050103	Upper East Branch Brandywine Creek	<ul style="list-style-type: none"> <li>• Shamona Creek</li> </ul>
020402020303	Upper Pennypack Creek	<ul style="list-style-type: none"> <li>• UNT to Pennypack Creek (2)</li> <li>• Pennypack Creek</li> <li>• UNT to Southampton Creek (2)</li> <li>• Southampton Creek</li> </ul>

Surface waters of Pennsylvania have been classified into four designated uses (aquatic life, fish consumption, potable water supply, and recreation), as found in Pennsylvania Title 25 Environmental Protection, Chapter 93 Water Quality Standards (Chapter 93). Every two years the surface waters are qualitatively evaluated and classified as having water quality supportive of their designated use (attaining) or having water quality deficient for support of the designated use (non-attaining). Non-attaining surface waters are tracked on the Clean Water Act (CWA) Section 303(d) List. The PTC's Permit stipulates use of the 2014 version as the basis for the PTC's pollutant load reductions.



**Appendix B**, PTC MS4 Delaware River Drainage Basin Receiving Surface Waters Table, identifies the PTC MS4 HUC14 receiving surface waters. Use of the HUC14 reach codes facilitates distinguishing one unnamed tributary from another one. The table provides outfalls, surface water name, reach code, the impairment status of the receiving surface water, and the cause of impairment if it is non-attaining. The 53 receiving surface waters that are non-attaining due to sediment and/or nutrient impairment are listed in **Table 5**, PTC MS4 Delaware River Drainage Basin Sediment and Nutrient Impaired Non-Attaining Receiving Surface Waters Summary (p. 13).

Receiving surface water names are reported by the HUC12 watershed where they are located. HUC12 watersheds are arranged geographically along the Turnpike Mainline from west to east and along the other roadways from south to north. Note that there are a number of surrogate names for sediments and nutrients. Surrogate names for sediments include Siltation, Suspended Solids, and Turbidity. Surrogate names for nutrients include Organic Enrichment/Low D.O. and Excessive Algal Growth. The Impairment Cause column also includes additional sources of impairment if identified on the CWA Section 303(d) List for the surface water.

The number of surface waters and the extent of the region covered preclude identification of all the individual surface waters on a small-scale report-sized exhibit. However, the HUC14 receiving waters are shown as lines on the MS4 maps for the entire PTC MS4-regulated area previously submitted to and on file at PA DEP (see Section 3.B, Map).

### **C. TOPOGRAPHY AND GEOLOGY**

The portion of the Turnpike that runs through the Delaware River drainage basin is located in four physiographic provinces: Atlantic Coastal Plain Province, Piedmont Province, Ridge and Valley Province, and New England Province.

From east to west, the PTC's Mainline in Bucks, Montgomery, and Chester Counties crosses the Atlantic Coastal Plain Province and the Piedmont Province. The Atlantic Coastal Plain Province is a lowland with a flat upper terrace surface cut by shallow valleys. This region is part of Delaware River floodplain, and the base material is comprised of unconsolidated to poorly consolidated sand and gravel underlain by metamorphic rock. The Mainline follows the transition between the Piedmont Upland and Gettysburg-Newark Lowland sections of the Piedmont Province across Montgomery and Chester Counties. The Gettysburg-Newark Lowland is characterized by rolling lowlands, shallow valleys, and isolated hills. Topographic relief is low to moderate with elevations ranging from 20 to 1,355 feet above sea level. The Piedmont Upland Section is comprised of broad, rounded to flat-topped hills and shallow valleys. The geologic structure of the Piedmont Upland is extremely complexly folded and faulted, consisting of schist, gneiss, and quartzite. The Turnpike is situated between 800- to 1,000-foot ridges in this section.

The PTC's MS4-regulated portion of the Northeast Extension within the Delaware River Basin crosses a number of physiographic regions. The southern part of the Turnpike's Northeast





Extension in Montgomery and Bucks Counties is in the Gettysburg-Newark Lowland of the previously described Piedmont Province. The Turnpike crosses about a three-mile stretch of the New England Province just south of Emmaus in Lehigh County. The remainder of the Lehigh County portion of the Turnpike lies in the Great Valley of the Ridge and Valley Province. The northern end of the PTC MS4 within the Delaware River Basin ends near Beltzville State Park north of the Lehigh Tunnel in Carbon County in the Blue Mountain Section of the Ridge and Valley Province.

The New England Province is characterized by circular to linear rounded hills and ridges, with elevations ranging from 140 to 1,364 feet, underlain by granitic gneiss, granodiorite, and quartzite.

The Great Valley Section is characterized by undulating relatively flat topography with typical altitude of approximate 300 feet near streams and rivers and rising to 500 feet elevation above sea level at the high points along the Turnpike. This region has a strong tendency for sinkhole formation due to the dominance of the underlying limestone and its karst topography that has numerous enclosed depressions.

The Blue Mountain Section is dominated by a linear ridge to the south and a valley to the north. The valley widens eastward and includes low, linear ridges and shallow valleys. Elevations range from 680 to 1,680 feet, and the underlying rock includes primarily sandstone, siltstone, and shale.



**TABLE 5**  
**PTC MS4 DELAWARE RIVER DRAINAGE BASIN SEDIMENT AND NUTRIENT**  
**IMPAIRED NON-ATTAINING RECEIVING SURFACE WATERS SUMMARY**

URBAN AREA	RECEIVING SURFACE WATER NAME (MOST-DOWNSTREAM SEWERSHED #)	HUC12 CODE	HUC12 NAME	REACH CODE AT MOST DOWNSTREAM OUTFALL	CHAPTER 93 DESIGNATED USE	IMPAIRMENT CAUSE	SURFACE WATER NAME DOWNSTREAM OF RECEIVING SURFACE WATER
PHILADELPHIA, PA-NJ-DE-MD	Shamona Creek (30129)	020402050103	Upper East Branch Brandywine Creek	02040205000693	HQ-TSF <sup>5</sup>	Water/Flow Variability; Siltation	East Branch Brandywine Creek
	Pine Creek (30159)	020402031003	Pickering Creek	02040203000662	HQ-TSF <sup>5</sup>	(Source Urban Runoff/Storm Sewers); Cause Unknown	Pickering Creek
	UNT to Pine Creek			02040203002651			Pine Creek
	Valley Creek (31094)	020402031004	Little Valley Creek-Valley Creek	02040203000511	EV <sup>6</sup>	Other Habitat Modification; Cause Unknown; Siltation; Water/Flow Variability; Pathogens; PCB	Schuylkill River
	UNT to Valley Creek (31090)			02040203003798		Other Habitat Modification; Cause Unknown; Siltation; Water/Flow Variability; Pathogens; PCB	Valley Creek
	UNT to Valley Creek (31095)			02040203000624			Valley Creek
	Trout Creek (31105)	020402031006	Mingo Creek-Schuylkill River	02040203000494	WWF <sup>2</sup>	Flow Variability; Siltation	Schuylkill River
	UNT to Trout Creek (31106)			02040203000612			Trout Creek
	UNT to Trout Creek (31112)			02040203003802			Trout Creek
	Crow Creek (31119)			02040203000308			Schuylkill River
	UNT to Crow Creek (31121)			2040203003100			Crow Creek
	UNT to Schuylkill River (31129)	020402031007	Plymouth Creek-Schuylkill River	02040203003106	WWF <sup>2</sup>	Water/Flow Variability; Siltation	Schuylkill River
	Diamond Run (31131)			02040203003109			
	Plymouth Creek (31145)			02040203001349			Plymouth Creek
	UNT to Plymouth Creek (31138)			02040203003104			
	UNT to Plymouth Creek (31155)			02040203001351			Schuylkill River
	Sawmill Run (31372)			02040203000441			Sawmill Run
	UNT to Sawmill Run (31373)			02040203001348			
	Wissahickon Creek (31170)	020402030902	Lower Wissahickon Creek	02040203000009	TSF <sup>3</sup>	Cause Unknown; Nutrients; Siltation; Flow Alterations; Other Habitat Alterations	Wissahickon Creek
	UNT to Wissahickon Creek (31165)			2040203001378		Nutrients; Water/Flow Variability; Siltation	
	Sandy Run (31177)			02040203001363		Nutrients; DO/BOD	
	Pine Run (31208)			02040203001366		Water/Flow Variability; Siltation; Other Habitat Alterations; Nutrients	Sandy Run



**TABLE 5  
(CONTINUED)**

URBAN AREA	RECEIVING SURFACE WATER NAME (MOST-DOWNSTREAM SEWERSHED #)	HUC12 CODE	HUC12 NAME	REACH CODE AT MOST DOWNSTREAM OUTFALL	CHAPTER 93 DESIGNATED USE	IMPAIRMENT CAUSE	SURFACE WATER NAME DOWNSTREAM OF RECEIVING SURFACE WATER
PHILADELPHIA, PA-NJ-DE-MD	Pennypack Creek (31276)	020402020303	Upper Pennypack Creek	02040202001396	TSF <sup>3</sup>	Cause Unknown; Siltation	Delaware River
	UNT to Pennypack Creek (31271)			02040202001406			Pennypack Creek
	UNT to Mill Creek (31296)	020402010302	Ironworks Creek-Mill Creek	02040201000470	WWF <sup>2</sup>	Attaining, but part of the Neshaminy Creek TMDL (withdrawn) for Siltation and Suspended Solids	Mill Creek
	UNT to Mill Creek (31299)			02040201002120			
	UNT to Mill Creek (31302)			02040201002121			
	Poquessing Creek (31319)	020402020301	Poquessing Creek	02040202001412	WWF <sup>2</sup>	Water/Flow Variability; Flow Alterations; Excessive Algal Growth	Delaware River
	UNT to Poquessing Creek (31303)						Poquessing Creek
	Neshaminy Creek (31343)	020402010303	Core Creek-Neshaminy Creek	02040201000683	WWF <sup>2</sup>	Water/Flow Variability; Nutrients	Delaware River
	UNT to Neshaminy Creek (31342)			02040201000341			Neshaminy Creek
	UNT to Neshaminy Creek (31333)			02040201000344			
	UNT to Neshaminy Creek (31331)			02040201002201			
	UNT to Neshaminy Creek (31328)			02040201000343			
	UNT to Neshaminy Creek (31346)			02040201000475			
	Mill Creek (31364)	020402010405	Mill Creek-Silver Lake	020402010405	WWF <sup>2</sup>	Siltation; Water/Flow Variability; Other Habitat Alterations	Silver Lake
	UNT to Mill Creek (31353)			02040201002137			Mill Creek
	Stony Creek (31390)	020402031005	Stony Creek	02040203001340	TSF <sup>3</sup>	Water/Flow Variability; Siltation; Cause Unknown;	Schuylkill River
	UNT to Stony Creek (31385)			02040203001342			Stony Creek
	UNT to Stony Creek (31380)			02040203001341			
	Skippack Creek (31451)	020402030808	Skippack Creek	02040203000459	TSF <sup>3</sup>	Nutrients; Siltation; Excessive Algal Growth	Perkiomen Creek
	Towamencin Creek (31426)			02040203001190		Water/Flow Variability; Excessive Algal Growth	Skippack Creek
	UNT to Towamencin Creek (31431)			02040203001191		Siltation; Water/Flow Variability	Towamencin Creek
	UNT to Zacharias Creek (31398)			02040203008946			Zacharias Creek
	Indian Creek (31495)	020402030807	East Branch Perkiomen Creek	02040203000327	TSF <sup>3</sup>	Siltation	East Branch Perkiomen Creek
	UNT to Indian Creek (31492)			02040203001209			Indian Creek



**TABLE 5  
(CONTINUED)**

URBAN AREA	RECEIVING SURFACE WATER NAME (MOST-DOWNSTREAM SEWERSHED #)	HUC12 CODE	HUC12 NAME	REACH CODE AT MOST DOWNSTREAM OUTFALL	CHAPTER 93 DESIGNATED USE	IMPAIRMENT CAUSE	SURFACE WATER NAME DOWNSTREAM OF RECEIVING SURFACE WATER
ALLENTOWN, PA-NJ	Liebert Creek (32043)	020401060702	Liebert Creek-Little Lehigh Creek	02040106000369	HQ-CWF <sup>4</sup>	Siltation	Little Lehigh Creek
	Little Cedar Creek (32065)			02040106000336		Suspended Solids; Water/Flow Variability	Cedar Creek
	UNT to Little Cedar Creek (32064)			02040106004928			Little Cedar Creek
	Little Lehigh Creek (32045)	020401060703	Little Lehigh Creek-Lehigh River	02040106000324	HQ-CWF <sup>4</sup>	Siltation	Lehigh River
	Jordan Creek (32074)	020401060602	Lower Jordan Creek	02040106000118	TSF <sup>3</sup>	Siltation; Water/Flow Variability	Little Lehigh Creek
	Coplay Creek (32091)	020401060807	Coplay Creek	02040106000159	CWF <sup>1</sup>	Siltation	Lehigh River
	UNT to Coplay Creek (32090)			0204010600469		Siltation; Suspended Solids	Coplay Creek
1. CWF – Cold Water Fishes 2. WWF – Warm Water Fishes 3. TSF – Trout Stocking 4. HQ-CWF – High Quality Waters-Cold Water Fishes 5. HQ-TSF – High Quality – Trout Stocking 6. EV – Exceptional Value							



## **D. SOILS**

This discussion is a generalized impression of the character of the PTC soils. Site-specific soils investigations will be required for design development.

Soils are foundational for stormwater pollution management. Well-drained soils with moderate permeability are ideal for successful implementation of infiltrative stormwater BMPs. Good soil fertility supports vigorous plant growth that is integral to infiltrative stormwater BMP effectiveness in pollution reduction. Soil characteristics along degraded streams guide the design response and are predictive of the effectiveness of sediment reduction. Soils with high levels of silt and very fine sand (loamy) tend to be more erodible. So, while loamy soils require careful management during construction to prevent sediment discharges, restorative projects that stabilize such soils can produce significant sediment reductions.

In the northern part of Chester County and the southern part of Montgomery County (where the Turnpike crosses the Piedmont Province), the soils are the silt loams of the Abbottstown-Readington (AR) and Chester-Glenelg (CG) soil series. The soils have a good bit of variability; their drainage class fluctuates from somewhat poorly to well-drained. Their depth to bedrock is deep and these soils tend to be easily eroded. Such variability underscores the need for thorough evaluation of soils to determine appropriate BMP selection and design response. The ease of soil erosion indicates that stream restoration/stabilization projects should be considered as an appropriate approach to sediment reduction.

Soils of the Ridge and Valley Province of Lehigh, Carbon, and Luzerne Counties are generally deep, moderately to well-drained, fine-textured silt loams to sandy loams, and limestone-based. Soil series in this region include the Hazleton-Cookport (HC) series, Berks-Weikert (BW) series, and Hagerstown-Duffield (HD) series. The soils' fine-grained size aids in water retention, and their tendency toward alkalinity is conducive to plant growth. The loamy nature of the soils indicate that they are generally suitable for infiltrative BMPs and suggests that stream stabilizing projects located in these soils can effectively reduce sediment pollution in the region.

Of additional note, soils in the greater Philadelphia area and near Allentown are highly influenced by heavy industrial, commercial, and residential land use. The disturbance and compaction associated with intensely developed land use alter soils' natural characteristics and make desktop analysis less effective as a site identification tool. Potential sites in densely developed areas require secondary follow-up, even at early stages of site evaluation for PRP BMPs.

## **E. LAND USE**

The Turnpike is its own unique use. It is a limited-access road with user service and roadway maintenance support facilities. More than half of the corridor length traverses rural, agricultural, and forested land. The remainder crosses more metropolitan regions with urban



character. New construction in the Delaware River Drainage Basin consists of bridge and infrastructure repair/replacement, roadway widening, and redevelopment of existing service plazas and maintenance facilities. Generally, the Turnpike is split evenly between impervious surfaces and pervious surfaces (vegetated). The ratio fluctuates to more strongly impervious where the roadway passes through urbanized environments and less impervious in rural and suburban settings.

The land uses depicted by the aerial photograph background of the MS4 maps are described below in **Table 6**, PTC MS4 Delaware River Land Use Distribution Table. The land uses were derived from the pollutant load estimating model (MapShed) utilized in preparation of the PRP (see **Appendix D**, Mapshed Urban Area Tool Results). The Land Use Distribution Table includes the Turnpike itself, but the reported categories reflect the land use through which the roadway passes. Mapshed names are cross-referenced to the Chesapeake Assessment Scenario Tool (CAST) program and are provided in accordance with the PA DEP PRP preparation instructions to refer to CAST names and definitions.

**TABLE 6**  
**PTC MS4 DELAWARE RIVER LAND USE DISTRIBUTION TABLE SUMMARY**

LAND USE		DELAWARE RIVER DRAINAGE BASIN
MAPSHED NAME	CAST NAME	PLANNING AREA (ACRES)
Hay/Pasture	Pasture	4
Cropland	Double Cropped Land	2
Forest	True Forest	67
Wetland	Non-tidal Floodplain Wetland	14
Disturbed	Regulated Construction	0
Turfgrass (includes golf courses and large expanses of turf)	MS4 Turfgrass	2
Open Land	Mixed Open	308
Bare Rock	Non-Regulated Buildings and Other	0
Sandy Areas	Non-Regulated Buildings and Other	0
Unpaved Roads	No Equivalent	0
Low-Density (LD) Mixed	MS4 Buildings and Other	322
Medium Density (MD) Mixed	MS4 Buildings and Other	568
High-Density (HD) Mixed	MS4 Buildings and Other	656
Low-Density (LD) Residential	MS4 Buildings and Other	4
Medium Density (MD) Residential	MS4 Buildings and Other	27
High-Density (HD) Residential	MS4 Buildings and Other	4
Water	Water	0
<b>TOTAL</b>		<b>1,978</b>





### 3.0 REQUIRED PRP COMPONENTS

#### A. PUBLIC PARTICIPATION

The PTC invited public involvement and participation in the development of the Delaware River PRP as specified in their approved Permit and outlined below.

- The initial draft Delaware River PRP was posted on the PTC's Clean Water Website from September 24, 2022 to October 24, 2022.
- Notice of the initial draft Delaware River PRP was published in the *Pennsylvania Bulletin* on September 24, 2022. The announcement directed the public to its website to review the PRP, and a 30-day comment period was provided.
- A copy of public comments that were received are included in **Appendix F**, Public Review Comments.
- The PTC also directly contacted East Whiteland Township, where the PTC's sole PRP project is located, on July 13, 2022, which is at least 30 days prior to the submission of the PRP to PA DEP (on October 31, 2022).
- Following approval by PA DEP, a complete copy of the Delaware River PRP will be posted on the PTC's Clean Water Website <https://www.paturndpike.com/responsibility-matters/clean-water> and will continue to be published on the website for the duration of permit coverage.

Should there be revisions to the PTC's Delaware River PRP that modifies the location, type, or number of proposed BMPs, the PTC will identify the revision(s) on its website and provide a 30-day period for the acceptance of public comments. Subsequently, a copy of public comments received and the PTC's record of consideration of the comments will be provided with PTC's Delaware River PRP to PA DEP.

The verbiage of the Notification placed in the *Pennsylvania Bulletin* is presented below. A copy of the *Pennsylvania Bulletin* notification is provided in **Appendix A**.





**PENNSYLVANIA BULLETIN NOTIFICATION FOR  
THE PENNSYLVANIA TURNPIKE COMMISSION  
DELAWARE RIVER DRAINAGE BASIN PRP**

**Draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Pollution Reduction Plans for the Pennsylvania Turnpike Commission**

Notice is hereby given that the Pennsylvania Turnpike Commission will receive public comment(s) on three proposed Pollution Reduction Plans (PRPs) required for their 2021-2026 National Pollutant Discharge Elimination System (NPDES) Individual Permit to discharge stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) Permit No. PAI139602.

The Pennsylvania Turnpike Commission has developed PRPs for the Chesapeake Bay, Delaware River and Ohio River Watersheds. The PRPs determine existing sediment pollutant loadings associated with stormwater runoff and proposes potential Best Management Practices to reduce the pollutant loads to meet the requirements of the MS4 Permit, for each watershed.

The proposed PRPs can be reviewed online by visiting <https://www.paturndpike.com/responsibility-matters/clean-water> then selecting “MS4” at the top of the page and navigating to “MS4 Documentation” under “MS4 Resources”. Written comments on the PRPs will be accepted for a period of 30 days from the date of this public notice by mail to Mr. James Kaiser, Pennsylvania Turnpike Commission, 700 South Eisenhower Blvd., Middletown, PA 17057 or by e-mail at [jkaiser@paturndpike.com](mailto:jkaiser@paturndpike.com). All comments will be tabulated and considered with the final PRPs.

**B. MAP**

The PTC’s MS4 map that is the basis for the PRP was submitted as part of the MS4 Annual Report for the period ending June 30, 2018, and is on file as part of the publicly accessible record with PA DEP. The sidebar graphic on the next page summarizes the information provided narratively in the following section. The map is a Geographic Information System (GIS) product created using ESri Arc Map and serves the following purposes:

1. Inventory of the PTC’s existing stormwater network
2. Regulated area identification including delineation of the following components listed in the PA DEP PRP Instructions:
  - a. Land uses and/or impervious and pervious surfaces
  - b. Outfalls
  - c. Storm sewershed boundaries
  - d. Planning areas
  - e. Locations of proposed BMPs
3. Framework for inspections and documenting maintenance practices and Illicit Discharge Detection and Elimination (IDDE) activities



4. Future project identification that show the location of proposed pollutant-reducing projects

### 1. MS4 Base Map

The base map information was acquired from various publicly available sources including Bing Maps, County Parcel Information provided by the PTC, PA DEP, Pennsylvania Department of Conservation and Natural Resources (PA DCNR), Pennsylvania Department of Transportation (PennDOT), and the U.S. Census Bureau that are detailed in **Appendix C**, MS4 Map Layers and Data Sources. The information from these sources is shown on the map unedited. There are variations in the locations of duplicated information. However, the composite of the information sufficiently provides the required data elements including land uses, impervious/pervious surfaces, locations and names of surface waters that receive discharges from the MS4 outfalls, public and private property lines, municipal boundaries, and the UA boundary according to the 2010 Census. The PTC and its consultant, Skelly and Loy, Inc., *A Terracon Company* (Skelly and Loy) make no claims as to the accuracy of the public-source data.

## MS4 MAP SUMMARY

### Purposes

- Inventory
- Regulated area identification
- Framework for inspections
- Future project identification

### MS4 Base Map

- GIS-Based
- Compiled from publicly available sources

### Municipal Separate Storm Sewer System

- Digitized from PTC construction plan archive and aerial photographs

### Outfalls and Sewersheds

- Produced by professionals
- Color-coded:
  - Green for Attaining
  - Red for Non-Attaining

### Planning Areas

- Demarcated through GIS Analysis

### 2. Municipal Separate Storm Sewer System

The stormwater sewer collection system shown on the MS4 maps, consisting of the surface stormwater conveyances (PTC roadway, catch basins/inlets, pipes, manholes, intakes and discharges, ditches, swales, and similar municipally owned or PennDOT components that are connected to the system and located within the PTC property), was digitized based on historical PTC construction plans and desktop analysis of aerial photographs and topography. During the analysis, some segments of the Turnpike were under construction and other areas contained documented and/or aerial images that showed conflicting information. These areas were flagged as areas of “Insufficient Data” because positions of the stormwater sewer system could not be conclusively located using desktop source information.

The stormwater sewer system and Insufficient Data areas will be updated on an ongoing basis, and updated mapping will be provided as part of Annual Reports during the permit term as required by the PTC’s approved MS4 Permit.

### 3. Outfalls

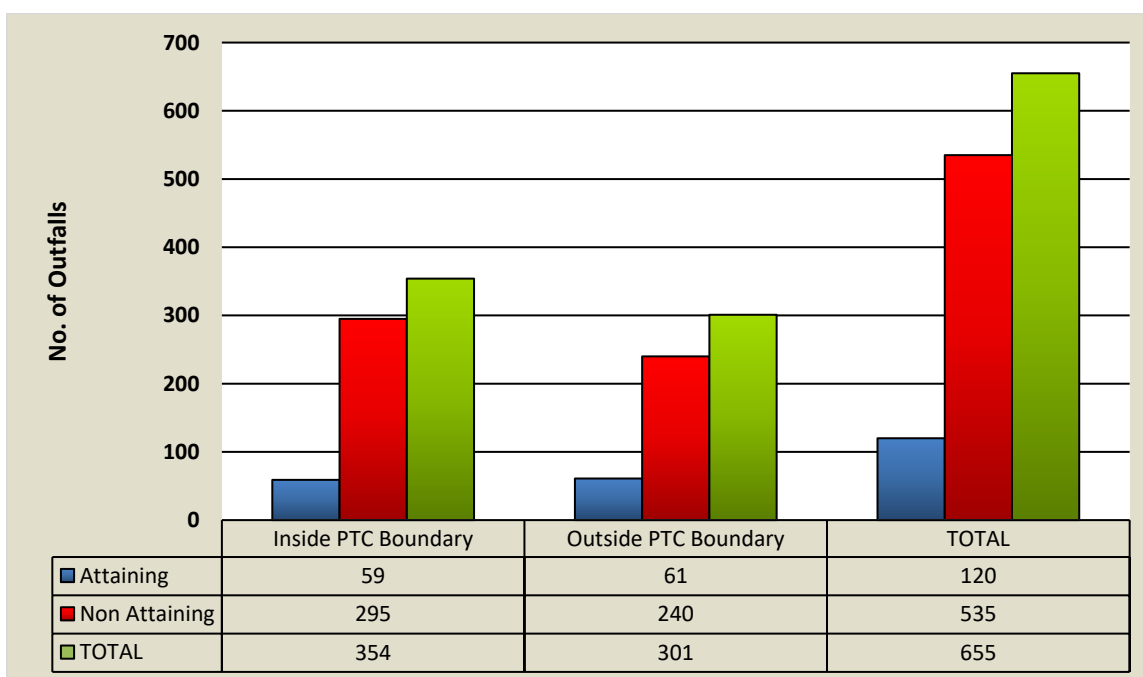
The outfalls were located by the PTC’s consultant, Skelly and Loy, by plotting the path that storm runoff will follow by gravity between the PTC’s MS4 and the receiving surface water



(a.k.a., rain traces). In establishing rain traces, surface topography with enclosed depression characteristics (such as stormwater basins, sinkholes, and ponds) were ignored, in accordance with PA DEP directions, to assume flooded conditions.

Statewide, PTC discharges to 1,727 outfalls; 886 outfalls are located within the PTC boundary, and 841 are outside the PTC territory. (**Appendix B**, PTC MS4 Delaware River Drainage Basin Receiving Surface Waters Table, provides the comprehensive list of outfalls, receiving surface waters, and surface water statistics.) There are 655 outfalls within the Delaware River Drainage Basin. **Figure 3**, PTC Delaware River Outfall Summary, provides a synopsis of the outfalls by location within the PTC MS4 (or beyond) and by impairment status of the receiving surface waters at the outfall location.

**FIGURE 3**  
**PTC DELAWARE RIVER OUTFALL SUMMARY**



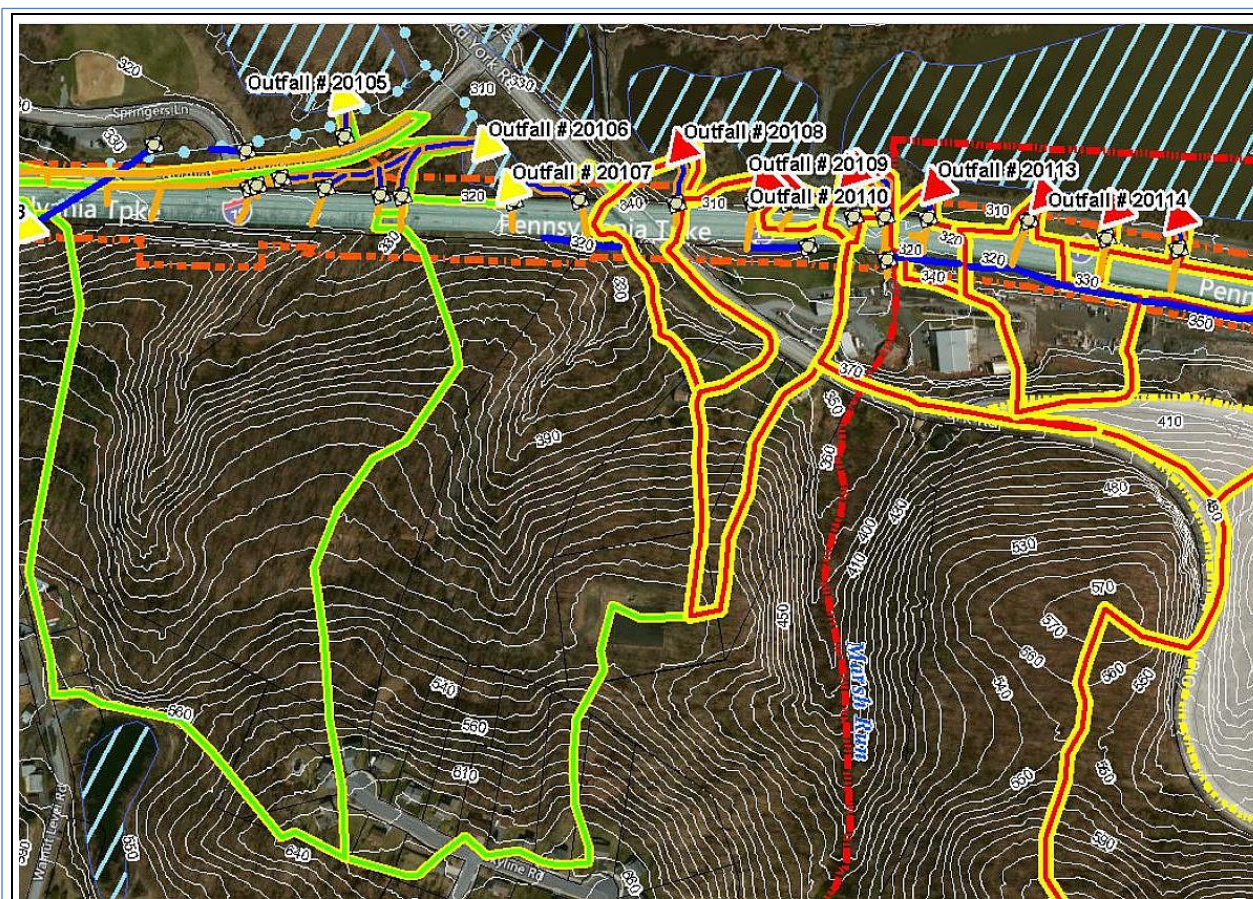
Of the 655 total outfalls, 354 are located within PTC-owned or -operated property; the remaining 301 outfalls discharge to surface waters beyond the PTC boundary and outside PTC purview. Outfalls within the PTC right-of-way have been field-verified during IDD&E screenings.

#### 4. Storm Sewersheds

Storm sewersheds were produced by qualified staff using professional judgment to delineate contributory drainage area to each outfall. Sewersheds were color-coded to correspond to the impairment/attainment status (in accordance with PA DEP's Integrated Water Quality Monitoring and Assessment Report) of the receiving surface water at the PTC MS4 outfall location. Sewersheds discharging to surface waters attaining their designated Chapter 93 use



are color-coded “green.” Sewersheds discharging to non-attaining surface waters are color-coded “red with a yellow halo.” (See Photograph 1 below.)



**Photograph 1 – Sample from 500-scale PTC MS4 Map:** The image shows green-colored sewersheds discharging to attaining surface waters at yellow-colored outfalls and red-colored sewersheds discharging to non-attaining surface waters at red-colored outfalls.

## 5. Numbering System

The numbering code has five digits. The first digit refers to the major drainage basin in which the outfall is located. The next number refers to the sewershed’s UA. The final three digits are the sewershed identification (ID) number. (See **Table 7**, PTC Sewershed Numbering Code, below.)

The three-digit outfall ID was generated using the latitude/longitude coordinates of the outfall locations relative to their geographic position within each UA. A numbering routine to assign a “next number” based on longitudinal values for west-east Turnpike segments and latitudinal values for the north-south segments, supplemented with operator input on curving and transitional Turnpike segments, resulted in Sewershed IDs that generally follow the Turnpike System Roadway mile marker direction as shown below (**Table 8**, Turnpike Milepost Direction). In areas where there are multiple roadway segments or particularly dramatic changes in direction,



sequential numbering might have sequencing gaps. This is because the following east or south coordinate is located on another road segment or curve within the same UA. Out-of-sequence numbering may also occur to accommodate new outfalls discovered during outfall screenings.

**TABLE 7**  
**SEWERSHED NUMBERING CODE**

DIGIT 1	MAJOR DRAINAGE BASIN	DIGIT 2	URBANIZED AREA	DIGITS 3 THROUGH 5 (SEQUENTIAL SEWERSHED ID)
1	Delaware River Basin	1	Philadelphia	001 to 999
		2	Uniontown-Connellsville	
		3	California-Monessen	
2	Chesapeake Bay Basin	1	Harrisburg	
		2	Lancaster	
		3	Wilkes Barre-Scranton	
3	Delaware River Basin	1	Philadelphia	
		2	Allentown	

**TABLE 8**  
**TURNPIKE MILEPOST DIRECTION**

TURNPIKE ROADWAY NAME	ROUTE NUMBER	MILE POST DIRECTION (LOWEST TO HIGHEST VALUE)
Turnpike Mainline	I-76/I-276	West to East
Beaver Valley Expressway	I-376	<b>Nominally:</b> West to East <b>Geographically:</b> North to South
Southern Beltway	PA-576	<b>Nominally:</b> West to East <b>Geographically:</b> North to South
Mon/Fayette Expressway	PA-43	South to North
Amos K. Hutchinson Bypass (a.k.a., Greensburg Bypass)	PA-66	South to North
Northeast Extension	I-476	South to North

Sewersheds contain structures and conveyances. The numbers are not shown on the map to preserve map legibility, but these features are numbered, too. The first five numbers of each component of the storm sewer system within a sewershed uses that sewershed's ID number to tie those features to the sewershed. The number is followed by a period and suffix codes that identify the type of structure or conveyance, etc.

Once established, the numbering needs to remain constant so that activities occur at the same location and records stay connected perpetually. Newly discovered outfalls will most often result in splitting an established sewershed. Additionally, there are a few instances where the



same sewershed identification number was inadvertently duplicated. In these cases, a prefix number “9” is added to one of the two sewersheds to differentiate them and their affiliated storm sewer components. For example, if an established sewershed with the number 22024 is split, one will retain 22024 and the other will become 922024.

## 6. Planning Areas

Planning Areas were derived through GIS analysis that merged and clipped the sewershed, the 2010 UA, and the upstream contributory area to the limits of the PTC right-of-way. Planning Areas represent the portion of the PTC where pollutant reduction is required. In the Delaware River Basin, the Planning Area includes only the sewersheds that are impaired by sediment or nutrients, which correspond to the pollutants of concern listed below.

### C. POLLUTANTS OF CONCERN

Pollutants of concern within the overall PRP Planning Area are sediment and total phosphorus. PA DEP established pollutant removal targets in the PTC’s approved permit. Pollutant removal goals for the Delaware River Drainage Basin are listed in **Table 9**.

**TABLE 9**  
**POLLUTANT REDUCTION TARGETS FOR THE**  
**DELAWARE RIVER DRAINAGE BASIN IN PTC PERMIT PAI136602**

POLLUTANT	REDUCTION TARGET
Sediment (TSS)	5%
Phosphorus (TP)	2.5%

### 1. MS4 Reduction Goals

The PTC has opted to use the presumptive approach. BMP projects to reduce pollutants will report only sediment reduction required to achieve 5% sediment reduction.

#### a. Presumptive Approach to Pollutant Reduction

In accordance with PA DEP’s PRP Instructions (3800-PM-BCW0100k, Rev. 3/2017) Section I.B., a presumption of nutrient removal compliance may be assumed if the permit-required sediment removal is achieved (5% in the Delaware River Drainage Basin).

### D. EXISTING LOADING FOR POLLUTANTS OF CONCERN

#### 1. Synopsis

Existing loading totals for sediment and phosphorus were calculated by HUC12 watershed using the MapShed model. Analysis at HUC12 watershed scale is consistent with the requirement to apply the MapShed model to sufficiently sized (>10-square-mile) watersheds.



**Table 10** lists the existing pollutant loads for each of the UAs and HUC 12 watersheds where the PTC MS4 is located. (Also see MapShed Urban Area Tool Results, **Appendix D1**, Planning Area Existing Loads.) A detailed discussion of the approach, the computer model, and other supporting calculations are provided below.

**TABLE 10**  
**EXISTING POLLUTANT LOAD**  
**BY URBANIZED AREA AND HUC12 WATERSHED FOR REGULATED PTC MS4**

URBAN AREA	WATERSHED NAME (HUC CODE)		SEDIMENT TSS (LBS/YR)	PHOSPHORUS TP (LBS/YR)
PHILADELPHIA, PENNSYLVANIA	Pickering Creek	(020402031006)	10,363.4	3.8
	Upper East Branch Brandywine Creek	(020402050105)	47,846.8	20.1
	Little Valley Creek – Valley Creek	(020402031004)	202,767.4	66.6
	Mingo Creek – Schuylkill River	(020402031006)	320,968.1	76.3
	Plymouth Creek – Schuylkill River	(020402031007)	367,191.6	90.9
	Lower Wissahickon Creek	(020402030902)	210,246.5	65.2
	Upper Pennypack Creek	(020402020303)	115,609.4	34.6
	Ironworks Creek-Mill Creek	(020402010302)	4,667.0	1.4
	Poquessing Creek	(020402020301)	80,401.6	26.7
	Core Creek-Neshaminy Creek	(020402010303)	183,767.5	43.8
	Mill Creek-Silver Lake	(020402010405)	45,609.7	14.1
	Stony Creek	(020402031005)	78,605.8	25.3
	Skippack Creek	(020402030808)	160,461.8	37.2
	East Branch Perkiomen Creek	(020402030807)	39,918.1	11.0
	Subtotal – Philadelphia, Pennsylvania		1,868,424.7	517.0
ALLENTOWN, PENNSYLVANIA	Little Lehigh Creek-Lehigh River	(020401060703)	67,291.7	23.4
	Liebert Creek-Little Lehigh Creek	(020401060702)	56,803.9	20.4
	Lower Jordan Creek	(020401060602)	10,181.9	4.0
	Coplay Creek	(020401060807)	70,499.6	28.5
	Subtotal – Allentown, Pennsylvania		204,777.1	76.3
DELAWARE RIVER DRAINAGE BASIN PTC MS4 TOTAL			2,073,201.8	593.3

## 2. Calculating MS4 Existing Pollutant Load

Calculating the existing pollutant load includes first determining what areas are regulated by the MS4 permit. The regulated portion of the PTC property includes the roadway and facilities that are in a UA or drain into a UA called planning areas. The initial planning area pollutant loads may be determined through accepted computer modeling (like MapShed) or by using the PA DEP

The PTC used MapShed to generate pollutant loads and made no adjustments to decrease its MS4 pollutant load-reduction obligations.



Simplified Method (a spreadsheet application of generalized county-based pollutant loading rates that can be applied to planning areas to produce pollutant load estimates). The total pollutant load may be adjusted to recognize other conditions that could decrease MS4 pollutant- reduction obligations. Adjustments include 1) reducing the planning area through parsing and 2) reducing the modeled pollutant load equivalent to the capacity for pollution treatment in existing stormwater BMPs in excess of their required construction stormwater discharge NPDES Permit obligations.

#### a. **MapShed Discussion**

MapShed is a PA DEP- approved GIS-based modeling method. Data layers were downloaded from the MapShed website and serve as the basis for calculating existing pollutant loads. PTC performed Pollutant Load Calculations in 2017 to align with PA DEP instructions at the time and performed their pollutant modeling using MapShed. The results of the 2017 model represent identical criteria that municipal MS4 permittees applied.

##### i. **MapShed Urban Area Tool**

MapShed's Urban Area Tool analyzes the intensely developed portions of watershed to determine the existing pollutant loads generated by the PTC MS4 regulated area (Planning Area). The Urban Area Tool is reliant on access to a data layer and look-up table defining municipal boundaries referred to as the UA data layer. The turnpike is linear, and it crosses numerous municipalities. The PTC's boundaries do not coincide with municipal boundaries, and the MS4 Planning Area is only a portion of the entire PTC right-of-way. In order to access the underlying database, it was necessary to create and associate the PTC Planning Area as a substitution for MapShed's UA data layer.

In addition to the substitution for the built-in municipal layers that did not coincide with the planning area, limited adaptations were made to MapShed and are listed to the right.

#### **MODIFICATIONS TO MAPSHED**

- MapShed-provided data layers were re-projected and clipped to the municipal boundary to gain performance, reduce inconsistencies, and provide platform stability.
- Consultant-created Planning Areas were substituted for the MapShed-provided UA data layer.
- HUC12 watersheds from the USGS were substituted for MapShed-provided smaller watersheds.

The Urban Area Tool provides four categories of information:

1. **Watershed Total Pollutant Load** – The annual load of sediment, phosphorus, and nitrogen generated by the entire HUC12 watershed, expressed in pounds per year. Pollutant loading rates are generated at the HUC-12 watershed level.
2. **MS4 Total Pollutant Load** – The MS4 portion of the watershed's pollutant load. The MS4 Pollutant Load is the load generated when no adjustments are made to the planning area (planning area with no parsing).



3. **MS4 Regulated Pollutant Load** – Subset of MS4 total load reflecting any acreage reductions from the Planning Areas. This category would be used if parsing is applied to reduce the size of the planning area.
4. **Unregulated Pollutant Load** – Counterpart to the Regulated Pollutant Load that represents the portion of the pollutant load conveyed by another MS4 permittee (and not conveyed through the PTC MS4 stormwater sewer system).

The Regulated Pollutant Load portion of the Urban Area Tool allows the user to simulate parsing by inputting an adjusted percentage of land area within land use categories to reflect a smaller regulatory area resulting from exclusions (parsing). There was no parsing for the PTC (see Subsection d, Planning Area Deductions - Parsing, below).

GIS analysis was used to generate a substitute boundary for the Urban Area data layer. Therefore, the Regulated Pollutant Load and its counterpart, Unregulated Pollutant Load, categories of the Urban Area Tool were unnecessary. The Watershed Total Pollutant Load feature does not address PTC-relevant loading. The MS4 Total Pollutant Load feature of the Urban Area Tool is the only necessary Urban Area Tool feature that is needed for reporting.

#### **b. Planning Area Determination**

As stated in Section 3.B, Map (p. 19), the limits of the planning areas were created using GIS analysis to identify the portion of the PTC property within and contributing to the 2010 UA that is also served by the PTC separate storm sewer. In the Delaware River Drainage Basin, the planning area is synonymous with the regulated PTC MS4 because all sewersheds were included regardless of the impairment status of the receiving surface water. The PTC Planning Area was substituted for the Urban Area data layers in the MapShed model and consists of 1,436 acres.

#### **c. Pollutant Load Calculation**

Calculating the existing pollutant load includes determining which HUC12 watersheds require modeling. Applicable HUC12 watersheds are those containing planning areas (segments of the Turnpike that are in a UA or drain into the UA). MapShed analyzes data affecting pollution loads including streams, land cover, soils, topography/terrain, long-term precipitation data, and a few data sets like discharges from wastewater treatment plants and animal populations, that are not relevant to the PTC. Loading rates are generated for pollutants of concern based on the character of the entire HUC12. The HUC12 loading rate is applied to the planning area(s) within the HUC12 to estimate the existing pollution generated by each planning area.

#### **d. Planning Area Deductions - Parsing**

Per the PA DEP PRP Instructions, it is acceptable to decrease the area from the first analysis by excluding/parsing areas that possess their own NPDES permit such as an industrial site covered by a PAG-03 permit, regions under the jurisdiction of another regulated MS4, and areas that do not contribute drainage to the permittee's Municipal Separate Storm Sewer (MS3).



The smaller region remaining following the parsing exercise represents the MS4 Planning Area that is subject to pollutant reduction removal.

The PTC PRP did not perform any parsing.

#### e. Existing Stormwater Facility Pollutant Load Adjustments

In addition to land area excluded from the MS4 planning area, the pollutant load baseline is permitted to be further decreased to reflect the runoff pollution treatment provided by the PTC's existing stormwater management facilities in excess of the pollutant reduction required by their respective NPDES permits for construction stormwater discharges.

The PTC's PRP does not quantify/take reduction credit for pollutant removal accomplished by existing facilities to reduce the sediment reduction target. Therefore, the pollutant loads generated by the MapShed model represent the existing load baseline used to generate pollutant reduction targets.

**Table 10**, Existing Pollutant Load By Urbanized Area and HUC12 Watershed for Regulated PTC MS4 (page 25) presents the results from MapShed's Urban Area Tool. The results tables generated by the model are provided in **Appendix D**.

#### E. BMPs TO ACHIEVE THE MINIMUM REQUIRED REDUCTIONS IN POLLUTANT LOADING

The PTC is planning a single BMP project to meet the required sediment reduction target. The project is a 901-linear-foot (LF) stream floodplain restoration and is summarized in **Table 11**, Proposed Delaware River Drainage Basin BMPs, below.

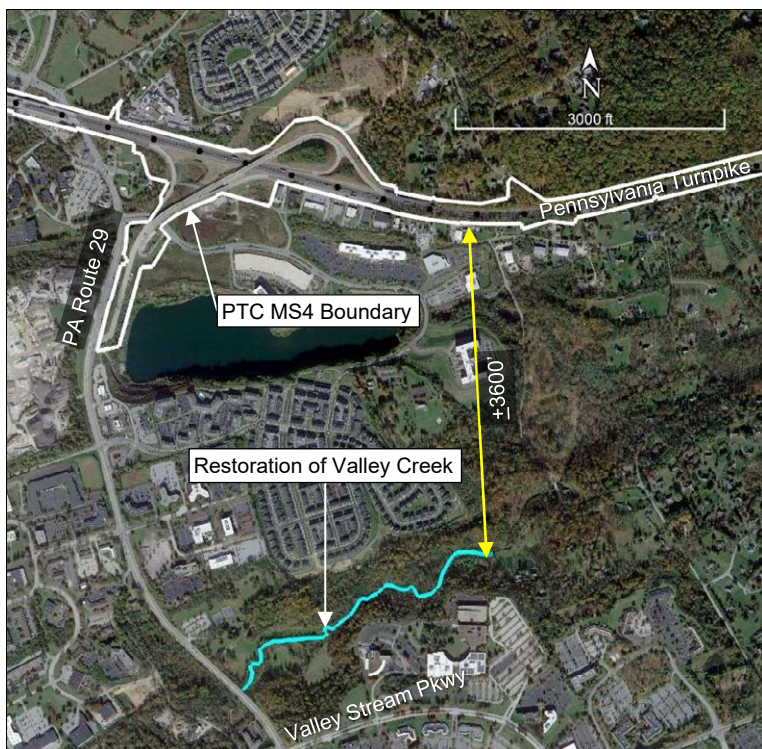
**TABLE 11**  
**PROPOSED DELAWARE RIVER DRAINAGE BASIN BMPs**

BMP OPTIONS	NO. OF PROJECTS	TREATED LF	SEDIMENT REDUCTION (LBS/YR)	REDUCTION GOAL (LBS/YR)	EXCESS REDUCTION (LBS/YR)
Stream Restoration	1	901	103,660	103,660*	0.00
* The sediment reduction total represents the default value based on the MapShed effectiveness factor for stream restoration of 115 lbs/lf/yr.					

PTC and PennDOT collaboratively contracted a full-delivery vendor, Working Lands Investment Partners, LLC (Working Lands) to locate PA DEP-acceptable pollution reduction projects; obtain required permits and approvals; and construct, operate, and maintain the project(s) perpetually to meet PTC's sediment reduction obligation in the Delaware River Drainage Basin.



Working Lands identified the Valley Creek Project to meet PTC's reduction goal. The BMP is located in Valley Creek Park in East Whiteland Township, Chester County, Pennsylvania, approximately 3,600 feet (0.70 mile) south of the PTC MS4 boundary (see **Figure 4**). The project meets PA DEP's site location criteria for stream restoration projects because it is within one mile of the PTC MS4 boundary. The segment of Valley Creek proposed for restoration is situated in the Little Valley Creek – Valley Creek HUC12 watershed (Code: 020402031004) within the Philadelphia UA. The Turnpike discharges stormwater to a tributary stream to the subject segment approximately 2.4 miles upstream of the project as well as to a tributary stream that discharges downstream of the Valley Creek restoration. So, the project will reduce PTC directly generated sediment loads and as an offset sediment reduction for downstream sediment impacts associated with the Turnpike's stormwater runoff.



**FIGURE 4**  
**VALLEY CREEK STREAM RESTORATION LOCATION**

The reach of Valley Creek proposed for restoration is listed in PA DEP's *Integrated Water Quality Reports* as non-attaining for aquatic life with impairments caused by water flow variability (cause unknown), other habitat modifications, siltation, and PCBs. This segment's designated use is Exceptional Value (EV). Many locations along the stream have vertical banks, exposed tree roots, and minimal bank protection/vegetation. Working Lands proposes to utilize stream and riparian buffer restoration to maximize sediment reduction potential.

Working Lands staff reviewed the proposed project to ensure that the eligibility requirements listed in PA DEP's *Considerations of Stream Restoration Projects in Pennsylvania for Eligibility as an MS4 Best Management Practice* (May 11, 2018) will be met. Because the PTC used MapShed to calculate the MS4 loading rates, a default rate of 115 lbs/lf/yr may be applied to the proposed length of restoration to calculate the anticipated sediment reduction generated by the project.

Working Lands will be restoring a longer stream segment than is needed to satisfy PTC's sediment reduction requirements. The company will be restoring 3,903 LF of degrading stream channel. However, the apportioned reductions credited to PTC is 103,660 lbs/yr, which translates



to 901 LF of the overall stream restoration project. Working Lands will sell the sediment reduction credits not committed to PTC to other MS4 permittees, such as East Whiteland Township or PennDOT. **Table 11** on page 28 summarizes the expected sediment pollution reduction for the Valley Creek project and the commitment PTC is providing for MS4 pollutant reduction compliance.

The proposed stream restoration meets PA DEP's minimum qualifying criteria for using a stream restoration project to fulfil sediment reduction goals outlined in [Considerations of Stream Restoration for Eligibility as an MS4 Best Management Practice](#) (dated May 11, 2018) and as itemized below and detailed in **Appendix G**.

1. *Siting:*

- *Permittee must document existing channel or streambank erosion and an actively enlarging or incising urban stream condition prior to restoration (an existing problem).*

The stream was evaluated using the Bank Erosion Hazard Index (BEHI). The BEHI results ranged from moderate to extreme and assessment sheets and summary are provided in Appendix G.

- *Effectiveness is most readily demonstrated for projects in 1st-3rd order streams (small). Larger-scale projects will require additional documentation.*

The selected stream segment is a 2<sup>nd</sup>-order reach.

- *The project must address at least 100 linear feet of stream channel.*

The selected stream segment exceeds 100 linear feet.

- *Impervious areas upstream of the project must be sufficiently treated to address peak flows that may exceed engineering design thresholds or compromise channel form and function.*

There is one untreated impervious drainage area from the Route 29 gully to the Valley Creek which will be treated as part of proposed work.

- *The project must address both sides of the channel on sites where a need to do so is evident.*

The Working Lands design will address both banks of the channel where the need is evident.

2. *Techniques:*

- *The goal is to apply a comprehensive approach that may employ a mix of techniques appropriate to the site, creating long-term stability of the streambed, streambanks, and floodplain.*

A comprehensive management approach for restoration will include bank grading, associated structures, seeding and planting, and the creation of a riparian buffer.



- *Streambank or streambed armoring may be used where necessary to maintain channel stability, but the length of stream that is armored (such as with riprap and gabions) may not be included in the load reduction calculation.*

Bank armoring is not proposed.

- *Projects should maximize floodplain reconnection, with a minimal channel invert elevation increase required to achieve this objective. Restoration bank height ratios must be 1.0 or less.*

The project will provide bank height ratios of 1.0 or less.

- *A permanent 35-foot minimum riparian buffer.*

A permanent 35-foot minimum riparian buffer will be installed.

The following Valley Creek information is located in **Appendix E**:

- (E1) Project Location Map
- (E2) Valley Creek Existing Conditions Photographs
- (E3) Conceptual BMP Design Plan
- (E4) Example Conservation Easement Agreement

In addition to the project's sediment reduction effectiveness, the project was selected for the following reasons:

1. **Prevents Stream Degradation/Restores Stream Health:** The ultimate purpose of the MS4 program is to ensure that surface waters are healthy. Valley Creek is non-attaining and already on the integrated 303.D list with an impairment caused by sediment. The proposed stream restoration provides meaningful sediment reduction and progress toward reestablishing the stream's attaining status. Additionally, the practices required by PA DEP to ensure eligibility for pollution reduction credits for stream restoration mandate introducing biodiversity and eco-system sustainability. While it is true that implementation of widely distributed new and retrofit SCMs will also improve stream health, benefits will be incremental, necessitate many projects, and require a long period of time to realize desired pollutant reductions in comparison to a single stream restoration project. The outcome of stream restoration is that more streams will attain or preserve their designated use more effectively than possible through implementation of other types of projects.
2. **Achievable implementation schedule:** PTC adheres to internal procedures for capital budget planning and a structured bid and procurement process for outsourcing of design, permitting, and construction. PTC has been making accommodations to prioritize expenditures for the capital investment so the allocation for the Valley Creek Restoration is in the current budget. However, typical timing for a single uncontroversial contract from inception through



construction is three to six years. The turnaround time is dependent on many factors (e.g., regulatory approvals) outside PTC's control. The variables and number of projects could destroy the schedule if PTC needed to process hundreds of smaller projects to meet its pollutant reduction obligations. A single, meaningful pollution reduction project adds predictability to the schedule.

3. **Effective:** The PTC is sensitive to budget because of its fiduciary responsibility to Turnpike users. It is important that projects perform well and are constructed for the best price, since ultimately it is Turnpike travelers who pay for improvements.

4. **Environmentally Sensitive:** A single construction site minimizes the overall amount of disturbed land and concentrates fewer construction vehicles and equipment at a single area. The simplicity minimizes potential for sediment releases from construction activity and air pollution and automotive fluid discharges from construction vehicles/equipment that multiply when construction takes place at numerous widely distributed construction locations. Additionally, stream restorations are designed to be self-sustaining and therefore require fewer site visits for maintenance and less use of herbicides, pesticides, etc. over their life cycle. Finally, the habitat created by the restoration itself is environmentally beneficial.

5. **Safety:** Construction activity for a stream restoration project like the Valley Creek restoration is off the roadway. Generally, Stormwater Control Measures (SCMs) that capture and treat stormwater are located in close proximity to the travel lanes. As previously expressed, in order to be as effective for pollution reduction, many SCMs would be required to be constructed or renovated. Even though jersey barriers direct traffic and provide a protected area for contractors, each construction site would create safety hazards for both the Turnpike travelers and for construction contractors due to the disruptive traffic patterns. The proposed project selection eliminates hundreds of opportunities for traffic accidents because the project is separated from the active roadway.

6. **Consistent with PTC Sustainability Plan and Clean Water Initiative-** The previous bullets exemplify the PTC's mission to incorporate the organization's economic, environmental and social impact in decision making and to implement sustainable practices throughout the PTC system.

### JUSTIFICATION FOR SELECTED POLLUTION REDUCTION PROJECT

- Prevents Stream Degradation/Restores Stream Health
- Achievable implementation schedule
- Effective
- Environmentally Sensitive
- Safety
- Environmental Justice Benefits
- Consistent with PTC Sustainability Plan and Clean Water Initiative
- Diversification of PTC's Stormwater Management Response



7. **Diversification of PTC's Stormwater Management Response:** The Turnpike already supports an inventory of approximately 430 widely dispersed SCMs that attenuate runoff and pollution from the roadway. These SCMs are engineered structures or devices designed to slow down, hold, infiltrate, and/or treat stormwater runoff before it enters waterbodies and groundwater. Stream restorations add diversity to the PTC stormwater management response.

## 1. Alternatives Considered

The PTC considered an abundance of options to accomplish pollution reduction. PTC initially analyzed sediment reduction through modifications of existing stormwater management facilities and capitalizing on landforms within the right-of-way that had spatial and physical characteristics that could be modified to hold runoff, allow sediment to settle, and provide infiltration. A list of criteria used to search and evaluate potential locations for PRP Projects is listed in the sidebar to the right. A total of 157 opportunity sites were identified. In order to achieve the same volume of sediment reduction accomplished by the selected Valley Creek stream restoration, PTC identified that 49 projects would be required. The projects included 1 detention basin, 9 dry extended basins, and 39 vegetated swales. Some of the projects included treatment trains consisting of multiple SCM types at a single project location. The estimated cost was just under \$21 million.

A significant determinative factor in project selection is achievability with the permit's time frame. While individual projects were achievable within the time frame established by the permit, collectively the time to design, permit, and construct the projects exceeded the schedule. (See the section on Impacts to Project Schedule provided below.)

### a. Impacts to Project Schedule

There are two significant factors to project schedule: 1) internally required PTC procedures and 2) design/permitting timing. The second item has been previously discussed in this report. While PTC can prioritize design schedules, once the pre-construction permit applications are initiated, schedules are heavily influenced by the regulatory approval process and often include delays beyond PTC's control. As previously stated, the larger the number of projects, the greater the uncertainty for the schedule. The focus of the discussion below provides some of the internal complexities of scheduling within the PTC.

#### CRITERIA USED TO SEARCH AND EVALUATE PRP PROJECTS

- Simplicity of ownership
  - 1<sup>st</sup> PTC-owned properties
  - 2<sup>nd</sup> Land owned by an adjacent MS4
- Spatial and physical characteristics to support appropriately responsive BMP
- Modifications to existing stormwater management facilities
  - 1<sup>st</sup> Facilities constructed prior to 2003
  - 2<sup>nd</sup> Facilities constructed between 2003 and 2010
- Ease of Access
- Simplicity of Permitting
- Project achievable within time frame established by permit



The PTC is a State Commission; its primary purpose is to construct, finance, and maintain the Pennsylvania Turnpike. It is an independent commission, not part of another state agency. It operates under the leadership of a five-member board (four members are appointed by the Governor with  $\frac{2}{3}$  Senate approval, and one member is the current Secretary of PennDOT).

The PTC planning process intertwines time frame and costs. The cost of new construction activity is tied to its projected schedule for allocating funds. According to PTC Policy and Procedure [(PTC 502005539(02/01))]:

“The Ten-Year Capital Plan (“Capital Plan”) is the process for identifying both short and long-term needs, establishing priorities and examining long-term financial implications and the overall effectiveness of funding such long-term needs and debt.”

The Capital Plan is updated annually, allowing for modification based on new conditions/information. Projects are generally coordinated by matching their priority and available funds. Typically, a capital project will methodically move from long-term planning (10+ years) to construction.

The PTC outsources design, permitting, and construction services and has a structured bid and procurement process it follows to employ consultants and contractors. The procurement process is managed by PTC staff. The process ensures project quality as well as compliance with all ancillary regulation pertaining to the Commission’s actions as a public governmental body. The integration of these requirements causes all but the most urgent emergency response activities to be completed more slowly than projects managed by local municipal governments or completed by the private-market sector.

Typical timing for a single uncontroversial contract from inception through construction is provided in **Table 12**, below. (Complex projects can require a longer time frame.)

**TABLE 12**  
**PTC MS4 TYPICAL BID PROCESS**

ID	DESCRIPTION	TIME EXPENDED
Project origination	Project added to Capital Plan	Varies (1 to 10+ years)
Project initiation	Project moved from planning to Request for Proposal (RFP) for Design	12 months
Design and Permitting	Notice to Proceed to shovel-ready bid package	12-24 months
Construction	Bidding through Final Construction	12-36 months
<b>TOTAL</b>		<b>36 to 72 months</b> (excluding time on Capital Plan prior to bid process)



If the Delaware River Drainage Basin PRP proposed 49 projects, some, but not all, could be processed simultaneously. This PRP focuses solely on the Delaware River Drainage Basin. The Turnpike also traverses the Chesapeake Bay Basin and the Ohio River Basin, which are included under the jurisdiction of the same MS4 permit with the same deadlines. The sheer number of projects; the extent of geographic regions involved; the number of projects (including those in the other major drainage basins); and the number of agencies, authorizations, and approvals realistically make use of widely dispersed small-scale pollution-reduction projects unrealistic. The only reasonable solution is to focus on a few large and effective stream restoration projects. The benefits of stream restoration as a solution for sediment pollution are itemized starting on page 31.

#### **F. FUNDING MECHANISM(S)**

The PTC contracted Working Lands as part of an agreement for full-delivery of pollution-reducing projects in collaboration with PennDOT. The contract includes locating and selecting project(s), securing land and easements or rights required for project implementation, designing the project, obtaining required permits and approvals, justifying project eligibility and pollution reduction credits including pre- and post-construction testing and monitoring, constructing the project, and providing for perpetual operations and maintenance (O&M) of the project. When complete the project will meet PTC's sediment reduction obligation in the Delaware River Drainage Basin. Since the preconstruction monitoring and design are underway but not finalized, the quote for the ultimate price is not yet available.

PTC reserved adequate funds, including a contingency buffer, in its capital budget in anticipation of this obligation. The organization will pay for the project from the Commission's general funds. The contract contains contract payment milestones; when the contractor satisfies that portion of work, PTC will release payment. The structure of the contract provides legal protections for PTC to compel work completion tied both to work quality and adherence to schedule. The PTC is confident in its capability to fund the project.

#### **G. RESPONSIBLE PARTIES FOR OPERATION AND MAINTENANCE OF BMPs**

As stated in the previous section, Working Lands will be responsible for providing ongoing O&M. Per the excerpt below, Working Lands is responsible for maintenance during the Maintenance and Monitoring (M&M) period associated with Chapter 105 permit conditions, which includes fixing damage to the stream banks due to flood events, invasive species control, and performing inspections after major flood events that have the potential to damage the stream system during the establishment period covered by the permit. Following the M&M period, when the long-term O&M period begins, Working Lands will act as the initial long-term steward unless responsibility is formally and legally delegated to another qualified, watershed-focused entity to assume long-term stewardship responsibilities. PTC can use legal remedies to enforce these contractual O&M obligations.

A copy of the Example Conservation Easement Agreement is located in **Appendix E4**.



## **BMP Operations and Maintenance (O&M)**

(Excerpted from *Pollutant Reduction Plan, Working Lands Investment Partners, LLC*, August 2022)

### **Stream Restoration**

#### **During Construction:**

Any equipment that will be used during the stream restoration will be inspected for leaks of any sort prior to arriving on site to reduce pollution into the stream. Equipment will only be used from the stream bank where possible. Execution of streams or stream bottom to insert stone or wood structures will be restricted to work that can be completed in one day to reduced siltation during the construction phase. Disturbed areas will be stabilized with rock or wood, seeded, and mulched during the one-day construction limit. The newly vegetated areas will be inspected and repaired until the vegetation is well established. Site requirements will determine the type of seed mixtures and hand broadcasting of seed should average six pounds per 1,000 square feet. Straw will also be laid  $\frac{3}{4}$  to 1 inch deep. Fill will consist of non-polluting materials and will be keyed or shingled into place as per the engineering plan specifications. Excavated materials will be deposited in a suitable site away from floodplains or wetlands and stabilized within a day of excavation. Necessary debris removal will be conducted by so that structures are maintained in a safe and functional condition.

#### **Post Construction Establishment Period:**

Scheduled maintenance on project features will occur following the stream restoration. Structures such as rock and concrete for grade control weirs, and cross vanes will be repaired if failing or disturbed. The stabilization of the bank toe will also be maintained if disturbed. The removal of nuisance aquatic vegetation and woody debris that are accumulating will take place regularly and following large storm events. Bank grading will be repaired or reformed within flood plains. Replanting will take place if poor establishment or lack of survival from planted species occurs. Around meandering bends, the stabilization of eroding or unstable banks should be worked through and seeding of newly formed areas should take place.

#### **Long-Term Operations and Maintenance:**

Operation and maintenance requirements for the streambank stabilization restoration project shall include:

- Ensure disturbed areas are kept free of foot and/or vehicular traffic until full stabilization has occurred (year-round)
- Regular watering of plantings during first growing season. Planting in the fall may reduce the need for additional watering (seasonally)



- Conduct site visits to ensure plantings are healthy and sufficiently watered, weeds are properly managed, sufficient mulch is in place until site is stabilized, and planting have become established (monthly)
- Conduct site visits to ensure all disturbed earth remains stabilized and erosion or cutting of the streambank has not taken place. Any destabilized earth or active streambank erosion shall be repaired immediately upon discovery (monthly)
- Conduct inspections once streambank is stabilized and plants have become established (biannually)
- Immediately upon notice repair any rills, gullies, or streambank cutting that may occur (year-round)
- Remove weeds and invasive plant species during each growing season. Naturally growing native vegetation should be left intact to promote stabilization of the streambank and surrounding area (seasonally)
- Remove and replace dead and diseased plantings (biannually)

## **Multifunctional Riparian Buffer Restoration**

### **During Construction:**

When trees and shrubs are first installed, the use of animal exclusion devices will be employed including the use of tree tubes and cages to protect the young trees and shrubs from browse and rub by deer and/or removal by beavers.

### **Post Construction Establishment Period and Long-term Operation and Maintenance:**

Maintenance will involve limited use of herbicide during the long-term as dictated by the DEP and DCNR BMP guidance for forested buffers. It is not expected that herbicide will be used more than twice annually and only spot treatments following the initial applications for invasive removal at the site.

Working Lands team members will attend the DCNR Watershed Forestry Summits for training and the latest information on forestry management of the site into the future and will also coordinate with the Conservation Districts for future maintenance of the project site. In addition, training on identification of invasive species will be undertaken and workshops and trainings given by the county and state agencies will be attended to keep up with the latest information on invasive species.

For the maintenance following planting of the riparian forest buffer enhancement and recreation areas (consisting of non-motorized trails to be constructed concurrently with stream and riparian buffer restorations), Working Lands will undertake the following maintenance and monitoring activities at the site:



- Spot herbicide treatment of invasive species twice per year
- Hand clearing of invasive species using volunteers for small areas including removal of root systems as necessary depending on the invasive
- Mowing:
  - For the first two years, mowing in and around the plantings will be completed at least twice per year
  - For all years afterwards, mowing will be limited to before the primary nesting season (April 1 through August 1)
- Inspection and replacement as needed of tree tubes or other animal exclusion devices
- Replant any dead trees or shrubs in spring, as needed
- Remove shelters if trees have grown above eight feet in height removed one at a time

Additional maintenance and monitoring activities will be informed by the *Riparian Forest Buffer Design and Maintenance Manual* developed by Maryland Department of Natural Resources *Forest Service and Riparian Forest Buffer* Guidance (Document Number 394-5600-001) developed by Pennsylvania Department of Environmental Protection.



## **APPENDICES**



**APPENDIX A –  
PUBLIC NOTICE COPY OF PA BULLETIN**



**From:** [Bulletin](#)  
**To:** [McLaughlin, Jeanmarie](#)  
**Cc:** [Noss, Nicholas](#); [Hoffman, Nathan](#); [Kaiser, James](#)  
**Subject:** RE: PA Turnpike Commission -- Public Notice (Draft PRP Plans - MS4 Permit)  
**Date:** Tuesday, September 13, 2022 11:19:06 AM

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**ALERT** - This email is from an **External Source**. Be careful opening attachments, clicking links or responding.

Hello Ms. McLaughlin:

Thank you for sending notice PRP Plans – MS4 Permits. As requested, we will publish this in the September 24, 2022 issue of the *Pennsylvania Bulletin*. Take care and have a great day!

Corinne Marut

Editorial Assistant

**Legislative Reference Bureau**

***Pennsylvania Code & Bulletin Office***

647 Main Capitol Building

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**From:** McLaughlin, Jeanmarie <jmclaugh@paturnpike.com>  
**Sent:** Tuesday, September 13, 2022 10:58 AM  
**To:** Bulletin <bulletin@palrb.us>  
**Cc:** Noss, Nicholas <nnoss@paturnpike.com>; Hoffman, Nathan <nhoffman@paturnpike.com>; Kaiser, James <jkaiser@paturnpike.com>  
**Subject:** PA Turnpike Commission -- Public Notice (Draft PRP Plans - MS4 Permit)

Ms. Marut,

Please find attached the Pennsylvania Turnpike Commission's Public Notice for its "[Draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Pollution Reduction Plans for the Pennsylvania Turnpike Commission](#)" to be published in the September 24, 2022 issue of the Pennsylvania Bulletin. If you have any questions regarding the Notice, please feel free to contact Nick Noss (717-831-7129 ) or Nate Hoffman (717-831-7119), I have copied them on this email as well. I believe you spoke with them this morning. We greatly appreciate your help and assistance. If you require any additional information, please let us know.

Jeanmarie McLaughlin  
Assistant Counsel IV

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**Pennsylvania Turnpike Commission**

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Draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Pollution Reduction Plans for the Pennsylvania Turnpike Commission

Notice is hereby given that the Pennsylvania Turnpike Commission will receive public comment(s) on three proposed Pollution Reduction Plans (PRPs) required for their 2021-2026 National Pollutant Discharge Elimination System (NPDES) Individual Permit to discharge stormwater from Small Municipal Separate Storm Sewer Systems (MS4s) Permit No. PAI139602.

The Pennsylvania Turnpike Commission has developed PRPs for the Chesapeake Bay, Delaware River and Ohio River Watersheds. The PRPs determine existing sediment pollutant loadings associated with stormwater runoff and proposes potential Best Management Practices to reduce the pollutant loads to meet the requirements of the MS4 Permit, for each watershed.

The proposed PRPs can be reviewed online by visiting **<https://www.paturnpike.com/responsibility-matters/clean-water>** then selecting “MS4” at the top of the page and navigating to “MS4 Documentation” under “MS4 Resources”.

Written comments on the PRPs will be accepted for a period of 30 days from the date of this public notice by mail to Mr. James Kaiser, Pennsylvania Turnpike Commission, 700 South Eisenhower Blvd., Middletown, PA 17057 or by e-mail at [jkaiser@paturnpike.com](mailto:jkaiser@paturnpike.com). All comments will be tabulated and considered with the final PRPs.



**APPENDIX B –  
PTC MS4 DELAWARE RIVER DRAINAGE BASIN  
RECEIVING SURFACE WATERS TABLE**



Delaware Basin  
RECEIVING WATERS TABLE  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31001	40.09531311	-75.73546457	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	635	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31002	40.09437816	-75.73479857	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	635	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31003	40.09402356	-75.73447111	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	635	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Wissahickon TMDL	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31004	40.09371416	-75.73374396	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	635	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31005	40.09252807	-75.73303432	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	635	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31006	40.09205974	-75.73252714	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31007	40.09127791	-75.73192812	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31008	40.09088373	-75.73162941	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002040	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31009	40.08982585	-75.72971873	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002039	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31010	40.09027251	-75.7295474	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002039	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31011	40.0907338	-75.72887829	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002039	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31012	40.09078186	-75.72882086	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002039	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31013	40.08864698	-75.72767171	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205005921	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31014	40.08833405	-75.7272082	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205005921	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31015	40.08817322	-75.72707669	Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	636	638	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205005921	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31016	40.08421866	-75.72357206	Black Horse Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	639	Attaining	N/A	Non-Urban	Marsh Creek	020402050101	02040205002043	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31017	40.08540437	-75.72258537	Black Horse Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	637	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002043	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31018	40.0861305	-75.72178198	Black Horse Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	637	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002043	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC



Delaware Basin  
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9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31019	40.07743739	-75.70767119	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002047	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31020	40.08403334	-75.70668849	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002045	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31021	40.0808524	-75.70670042	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002047	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31022	40.08082867	-75.70667676	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002047	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31023	40.08190323	-75.70657777	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002045	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31024	40.08144984	-75.70655033	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002047	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31025	40.08146893	-75.70647046	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	639	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002047	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31026	40.07216181	-75.69326109	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	641	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002049	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31027	40.07253757	-75.69177279	UNT to Marsh Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	641	639	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Marsh Creek	020402050101	02040205002049	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31028	40.07241008	-75.6792352	UNT to Pickering Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	642	640	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203002649	N/A	N/A	N/A	N/A	N/A	N/A
31029	40.06303558	-75.67480499	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	643	640	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31030	40.07466974	-75.67437747	UNT to Pickering Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	640	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203002649	N/A	N/A	N/A	N/A	N/A	N/A
31031	40.06297881	-75.67334906	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	643	640	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Wissahickon TMDL	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31032	40.06264676	-75.67273308	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31033	40.06213495	-75.67174293	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31034	40.06194832	-75.67076555	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31035	40.06188305	-75.67053261	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31036	40.06180141	-75.67021933	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC



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31037	40.06153338	-75.66928601	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31038	40.06151532	-75.66922456	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31039	40.06099178	-75.66803117	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31040	40.06069904	-75.6676308	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31041	40.06079465	-75.66675376	Shamona Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	643	640	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper East Branch Brandywine Creek	020402050103	02040205000693	Yes	Christina River Basin	Cause Unknown ; Pesticides ; Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Suspended Solids	Yes	N/A	No WLA for PTC
31042	40.06894493	-75.66109055	UNT to Pickering Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	640	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203002651	N/A	N/A	N/A	N/A	N/A	N/A
31043	40.06803762	-75.66084456	UNT to Pickering Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	644	640	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203002651	N/A	N/A	N/A	N/A	N/A	N/A
31044	40.06394085	-75.63544918	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31045	40.06425042	-75.63497546	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31046	40.06471228	-75.63379613	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31047	40.06462472	-75.63358093	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31048	40.06459081	-75.63349486	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31049	40.06448558	-75.63325006	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31050	40.06415202	-75.63245575	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	647	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31051	40.063999	-75.6321676	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31052	40.06367868	-75.63159244	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000663	N/A	N/A	N/A	N/A	N/A	N/A
31053	40.06102876	-75.62722063	UNT to Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000665	N/A	N/A	N/A	N/A	N/A	N/A
31054	40.06159954	-75.6271213	UNT to Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Non-Urban	Pickering Creek	020402031003	02040203000665	N/A	N/A	N/A	N/A	N/A	N/A
31055	40.06097855	-75.62713025	UNT to Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	Yes	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Philadelphia, PA--NJ--DE- -MD	Pickering Creek	020402031003	02040203000665	N/A	N/A	N/A	N/A	N/A	N/A



Delaware Basin  
RECEIVING WATERS TABLE  
9/7/2022

OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31056	40.06191139	-75.62672686	UNT to Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Non-Urban	Pickering Creek	020402031003	02040203000665	N/A	N/A	N/A	N/A	N/A	N/A
31057	40.06371549	-75.62577758	UNT to Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	648	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Non-Urban	Pickering Creek	020402031003	02040203000665	N/A	N/A	N/A	N/A	N/A	N/A
31058	40.06576547	-75.62551173	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Non-Urban	Pickering Creek	020402031003	02040203000662	N/A	N/A	N/A	N/A	N/A	N/A
31059	40.071897	-75.62123296	Pine Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	641	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown	Non-Urban	Pickering Creek	020402031003	02040203000662	N/A	N/A	N/A	N/A	N/A	N/A
31060	40.06873039	-75.58884179	UNT to Pigeon Run	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	642	Non-Attaining	Source Unknown - Pathogens	Non-Urban	Pickering Creek	020402031003	020402030002950	N/A	N/A	N/A	N/A	N/A	N/A
31061	40.0707519	-75.58067865	UNT to Pigeon Run	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	642	Non-Attaining	Source Unknown - Pathogens	Non-Urban	Pickering Creek	020402031003	02040203000669	N/A	N/A	N/A	N/A	N/A	N/A
31062	40.05399466	-75.56893773	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	642	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000519	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31063	40.06534404	-75.55403281	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	642	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31064	40.06824444	-75.54941187	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	642	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31065	40.07003932	-75.54763353	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31066	40.07028105	-75.54518069	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31067	40.07157921	-75.54011614	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	659	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31068	40.07220114	-75.53724351	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	659	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31069	40.07198182	-75.53535578	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	659	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31070	40.0720129	-75.53532469	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	659	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31071	40.0716857	-75.53475792	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	659	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31072	40.07092589	-75.53176989	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	659	643	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31073	40.07042767	-75.52243184	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31074	40.07114419	-75.51995262	UNT to Valley Creek	EV(EXCEPTI ONAL VALUE)	No	661	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31075	40.07120855	-75.51985574	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	661	643	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000616	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31076	40.06861486	-75.5124504	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	643	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31077	40.06981327	-75.50687161	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	643	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC



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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31078	40.07105764	-75.50364072	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31079	40.07131429	-75.50308379	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31080	40.0719645	-75.50200334	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31081	40.07148345	-75.50146427	Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000515	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31082	40.07626421	-75.49213556	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	664	644	Non-Attaining	Source Unknown - PCB	Non-Urban	Little Valley Creek-Valley Creek	020402031004	02040203003797	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31083	40.07580876	-75.49203689	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	664	644	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003797	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31084	40.07627296	-75.49195477	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	664	644	Non-Attaining	Source Unknown - PCB	Non-Urban	Little Valley Creek-Valley Creek	020402031004	02040203003797	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31085	40.07579673	-75.4919132	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	664	644	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003797	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31086	40.07384641	-75.48038864	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003796	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31087	40.07861486	-75.47020467	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	666	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Non-Urban	Little Valley Creek-Valley Creek	020402031004	02040203003798	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31088	40.07822474	-75.46998153	UNT to Valley Creek	EV(EXCEPTI ONAL VALUE)	Yes	666	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003798	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31089	40.07789612	-75.46974683	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	666	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003798	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31090	40.07686048	-75.4686256	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	666	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203003798	Yes	Valley and Little Valley Creeks	PCB	N/A	N/A	No WLA for PTC
31091	40.07982879	-75.46084873	Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	667	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Non-Urban	Little Valley Creek-Valley Creek	020402031004	02040203000511	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31092	40.07933949	-75.46071194	Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	667	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000511	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31093	40.07938505	-75.46061638	Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	667	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000511	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31094	40.08043131	-75.46058027	Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	667	644	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000511	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31095	40.0806884	-75.45629908	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	668	645	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000624	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC



Delaware Basin  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31096	40.08051275	-75.45607849	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	668	645	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000624	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31097	40.08001208	-75.45511153	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	Yes	668	645	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000624	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31098	40.07675155	-75.45089131	UNT to Valley Creek	EV (EXCEPTIONAL VALUE)	No	<Null>	645	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Little Valley Creek-Valley Creek	020402031004	02040203000624	Yes	Valley and Little Valley Creeks	PCB	Yes	N/A	No WLA for PTC
31099	40.08339678	-75.4275166	Trout Creek	WWF	No	<Null>	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31100	40.0880147	-75.42499582	Trout Creek	WWF	No	671	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31101	40.08785989	-75.42497167	Trout Creek	WWF	Yes	671	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31102	40.0878632	-75.42488619	Trout Creek	WWF	Yes	671	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31103	40.08741443	-75.42478265	Trout Creek	WWF	Yes	671	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31104	40.08740906	-75.42468872	Trout Creek	WWF	Yes	671	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000494	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31105	40.09312811	-75.42173272	Trout Creek	WWF	No	<Null>	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000493	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31106	40.08871888	-75.42161866	UNT to Trout Creek	WWF	Yes	672	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000612	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31107	40.08878089	-75.42157176	UNT to Trout Creek	WWF	No	672	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000612	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31108	40.08826946	-75.42123298	UNT to Trout Creek	WWF	No	672	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000612	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31109	40.08827503	-75.42113465	UNT to Trout Creek	WWF	No	672	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000612	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31110	40.08777845	-75.42049451	UNT to Trout Creek	WWF	No	672	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000612	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31111	40.08481569	-75.41445869	UNT to Trout Creek	WWF	No	<Null>	645	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000613	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31112	40.09558922	-75.40330319	UNT to Trout Creek	WWF	No	<Null>	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003802	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31113	40.09511804	-75.39708741	UNT to Trout Creek	WWF	No	674	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003802	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31114	40.09365437	-75.39232712	UNT to Trout Creek	WWF	Yes	675	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003802	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31115	40.09363809	-75.39223037	UNT to Trout Creek	WWF	Yes	675	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003802	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31116	40.09308527	-75.39211755	UNT to Trout Creek	WWF	Yes	675	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003802	Yes	Trout Creek	Cause Unknown	Yes	N/A	No WLA for PTC
31117	40.09095209	-75.38151063	Crow Creek	WWF	Yes	676	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000308	N/A	N/A	Metals ; pH	N/A	N/A	N/A
31118	40.09085064	-75.38102617	Crow Creek	WWF	Yes	676	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000308	N/A	N/A	N/A	N/A	N/A	N/A
31119	40.09134518	-75.38094797	Crow Creek	WWF	Yes	676	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000308	N/A	N/A	N/A	N/A	N/A	N/A
31120	40.09132636	-75.38084955	Crow Creek	WWF	Yes	676	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	02040203000308	N/A	N/A	N/A	N/A	N/A	N/A
31121	40.08969878	-75.3772806	UNT to Crow Creek	WWF	No	677	646	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Mingo Creek-Schuylkill River	020402031006	020402030003100	N/A	N/A	N/A	N/A	N/A	N/A
31122	40.10927974	-75.35134015	Schuylkill River	WWF	No	<Null>	647	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	020402030000026	Yes	Schuylkill River PCB TMDL	PCB	N/A	N/A	No WLA for PTC



**Delaware Basin**  
**RECEIVING WATERS TABLE**  
9/7/2022

OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31123	40.09606445	-75.34533647	UNT to Schuylkill River	WWF	No	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31124	40.09631525	-75.34496831	UNT to Schuylkill River	WWF	Yes	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31125	40.09698485	-75.34282174	UNT to Schuylkill River	WWF	No	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31126	40.09693791	-75.34250235	UNT to Schuylkill River	WWF	Yes	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31127	40.09697381	-75.34238393	UNT to Schuylkill River	WWF	Yes	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31128	40.09689066	-75.34157232	UNT to Schuylkill River	WWF	Yes	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31129	40.09692773	-75.34144545	UNT to Schuylkill River	WWF	Yes	681	647	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003106	N/A	N/A	N/A	N/A	N/A	N/A
31130	40.10277435	-75.32526392	Schuylkill River	WWF	No	683	648	Non-Attaining	Source Unknown - PCB	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203000025	Yes	Schuylkill River PCB TMDL	PCB	N/A	N/A	No WLA for PTC
31131	40.10420852	-75.321038	Diamond Run	WWF	No	684	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Siltation ; Removal of Vegetation - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003109	N/A	N/A	N/A	N/A	N/A	N/A
31132	40.10534633	-75.31975702	Diamond Run	WWF	Yes	684	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Siltation ; Removal of Vegetation - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003109	N/A	N/A	N/A	N/A	N/A	N/A
31133	40.10538419	-75.31950254	Diamond Run	WWF	Yes	684	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Siltation ; Removal of Vegetation - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003109	N/A	N/A	N/A	N/A	N/A	N/A
31134	40.10560445	-75.31896175	Diamond Run	WWF	Yes	684	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Channelization - Siltation ; Removal of Vegetation - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003109	N/A	N/A	N/A	N/A	N/A	N/A
31135	40.10730274	-75.3072402	UNT to Plymouth Creek	WWF	Yes	685	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003104	N/A	N/A	N/A	N/A	N/A	N/A
31136	40.10730653	-75.3071809	UNT to Plymouth Creek	WWF	Yes	685	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003104	N/A	N/A	N/A	N/A	N/A	N/A
31137	40.10678404	-75.30651839	UNT to Plymouth Creek	WWF	Yes	685	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003104	N/A	N/A	N/A	N/A	N/A	N/A
31138	40.10670294	-75.30643842	UNT to Plymouth Creek	WWF	Yes	685	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003104	N/A	N/A	N/A	N/A	N/A	N/A
31139	40.11042556	-75.29218396	UNT to Plymouth Creek	WWF	Yes	687	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A
31140	40.11044006	-75.29210793	UNT to Plymouth Creek	WWF	Yes	687	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A
31141	40.10973945	-75.29198214	UNT to Plymouth Creek	WWF	Yes	687	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A
31142	40.10973038	-75.29189301	UNT to Plymouth Creek	WWF	Yes	687	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A
31143	40.1093513	-75.29131961	UNT to Plymouth Creek	WWF	No	687	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A



**Delaware Basin**  
**RECEIVING WATERS TABLE**  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31144	40.11549518	-75.28652441	UNT to Plymouth Creek	WWF	No	<Null>	648	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203003101	N/A	N/A	N/A	N/A	N/A	N/A
31145	40.10554649	-75.28175427	Plymouth Creek	WWF	No	<Null>	649	Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31146	40.10557783	-75.28167102	Plymouth Creek	WWF	No	<Null>	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31147	40.11017281	-75.27840857	Plymouth Creek	WWF	No	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31148	40.11042306	-75.27835518	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31149	40.11042352	-75.27830757	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31150	40.11127281	-75.27803575	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31151	40.1125334	-75.27754702	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31152	40.11303742	-75.27751707	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31153	40.11250271	-75.27749637	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31154	40.11303344	-75.27745651	Plymouth Creek	WWF	Yes	927	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31155	40.11516453	-75.27699729	UNT to Plymouth Creek	WWF	No	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A
31156	40.11355916	-75.27695801	Plymouth Creek	WWF	Yes	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31157	40.11353288	-75.27691584	Plymouth Creek	WWF	Yes	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001349	N/A	N/A	N/A	N/A	N/A	N/A
31158	40.1144413	-75.2767791	UNT to Plymouth Creek	WWF	Yes	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A
31159	40.11443917	-75.27660535	UNT to Plymouth Creek	WWF	Yes	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE- -MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A



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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31160	40.11410496	-75.27587154	Plymouth Creek	WWF	Yes	689	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001350	N/A	N/A	N/A	N/A	N/A	N/A
31161	40.11588696	-75.26740425	Plymouth Creek	WWF	No	690	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001350	N/A	N/A	N/A	N/A	N/A	N/A
31162	40.11639554	-75.26694005	Plymouth Creek	WWF	No	690	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001350	N/A	N/A	N/A	N/A	N/A	N/A
31163	40.1171406	-75.26562822	Plymouth Creek	WWF	No	690	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001350	N/A	N/A	N/A	N/A	N/A	N/A
31164	40.11737327	-75.26538798	Plymouth Creek	WWF	No	690	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001350	N/A	N/A	N/A	N/A	N/A	N/A
31165	40.11503102	-75.25036055	UNT to Wissahickon Creek	TSF	No	<Null>	649	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Nutrients ; Surface Mining - Siltation ; Surface Mining - Flow Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001378	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31166	40.12026249	-75.24710681	UNT to Wissahickon Creek	TSF	No	692	649	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Nutrients ; Surface Mining - Siltation ; Surface Mining - Flow Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001378	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31167	40.1214037	-75.24685128	UNT to Wissahickon Creek	TSF	Yes	692	649	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Nutrients ; Surface Mining - Siltation ; Surface Mining - Flow Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001378	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31168	40.12066947	-75.2467397	UNT to Wissahickon Creek	TSF	No	692	649	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Nutrients ; Surface Mining - Siltation ; Surface Mining - Flow Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001378	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31169	40.12064425	-75.2467164	UNT to Wissahickon Creek	TSF	No	692	649	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Nutrients ; Surface Mining - Siltation ; Surface Mining - Flow Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001378	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31170	40.12385825	-75.22084845	Wissahickon Creek	TSF	No	<Null>	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203000009	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31171	40.12769732	-75.21920807	Wissahickon Creek	TSF	Yes	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31172	40.12781977	-75.21899305	Wissahickon Creek	TSF	Yes	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31173	40.12774799	-75.21897995	Wissahickon Creek	TSF	Yes	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31174	40.12717562	-75.21892533	Wissahickon Creek	TSF	Yes	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31175	40.12732375	-75.21879462	Wissahickon Creek	TSF	Yes	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31176	40.12714357	-75.21871598	Wissahickon Creek	TSF	No	695	650	Non-Attaining	Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001391	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31177	40.13285135	-75.20755217	Sandy Run	TSF	No	<Null>	650	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - DO/BOD ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001363	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31178	40.13233427	-75.20565981	Sandy Run	TSF	No	697	650	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - DO/BOD ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001363	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC



Delaware Basin  
**RECEIVING WATERS TABLE**  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31179	40.13181157	-75.20424216	Sandy Run	TSF	No	697	650	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - DO/BOD ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001363	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31180	40.13107531	-75.20382024	Sandy Run	TSF	Yes	697	650	Non-Attaining	Municipal Point Source - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001366	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31181	40.12976541	-75.20373418	Sandy Run	TSF	No	697	650	Non-Attaining	Municipal Point Source - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001366	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31182	40.13122873	-75.20346315	Pine Run	TSF	No	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001366	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31183	40.13051602	-75.20348466	Sandy Run	TSF	Yes	697	650	Non-Attaining	Municipal Point Source - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001366	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31184	40.13129486	-75.20299917	Pine Run	TSF	No	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31185	40.13133746	-75.20258012	Pine Run	TSF	No	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31186	40.13151901	-75.20139636	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31187	40.13174527	-75.20131539	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31188	40.13151438	-75.20131693	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31189	40.131674	-75.20106966	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31190	40.13172996	-75.20080222	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31191	40.13221108	-75.20058416	Pine Run	TSF	Yes	697	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31192	40.13197302	-75.20036487	Pine Run	TSF	Yes	698	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31193	40.13245984	-75.19930603	Pine Run	TSF	Yes	698	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31194	40.1325298	-75.19897481	Pine Run	TSF	Yes	698	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31195	40.13249167	-75.19851398	Pine Run	TSF	Yes	698	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31196	40.13256293	-75.19837537	Pine Run	TSF	Yes	698	650	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31197	40.13251312	-75.19783177	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31198	40.13252215	-75.19742706	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31199	40.13255933	-75.19687961	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31200	40.1326166	-75.19685241	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31201	40.1326663	-75.19628526	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31202	40.13263568	-75.19573205	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31203	40.13269853	-75.1953365	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31204	40.13289187	-75.19473017	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31205	40.13300372	-75.19462645	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31206	40.13435437	-75.19285246	Pine Run	TSF	Yes	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31207	40.13447235	-75.1928336	Pine Run	TSF	No	698	651	Non-Attaining	Source Unknown - Pathogens	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203001364	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31208	40.13499886	-75.18510291	Pine Run	TSF	No	699	651	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations ; Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203008958	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31209	40.1372687	-75.17771101	Pine Run	TSF	No	700	651	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations ; Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203008958	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31210	40.13936537	-75.1730978	Pine Run	TSF	No	701	651	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations ; Municipal Point Source - Nutrients ; Urban Runoff/Storm Sewers - Nutrients	Philadelphia, PA--NJ--DE--MD	Lower Wissahickon Creek	020402030902	02040203008958	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC



**SKELLY AND LOY**



Delaware Basin  
**RECEIVING WATERS TABLE**  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31232	40.15061432	-75.14578575	Pine Run	TSF	Yes	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31233	40.15090045	-75.14518379	Pine Run	TSF	Yes	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31234	40.15124535	-75.14463632	Pine Run	TSF	Yes	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31235	40.15211882	-75.14419115	Pine Run	TSF	Yes	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31236	40.15220642	-75.14414035	Pine Run	TSF	No	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31237	40.15163762	-75.14410728	Pine Run	TSF	Yes	704	652	Non-Attaining	Urban Runoff/Storm Sewers - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Lower Wissahickon Creek	020402030902	02040203002154	Yes	Wissahickon TMDL	Cause Unknown ; Nutrients ; Siltation	Yes	N/A	No WLA for PTC
31238	40.15795538	-75.13240483	UNT to Pennypack Creek	TSF	Yes	706	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31239	40.15887045	-75.13061653	UNT to Pennypack Creek	TSF	Yes	706	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31240	40.15916041	-75.13000597	UNT to Pennypack Creek	TSF	Yes	706	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31241	40.15962694	-75.12940616	UNT to Pennypack Creek	TSF	No	706	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31242	40.16023074	-75.12839675	UNT to Pennypack Creek	TSF	No	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31243	40.16055062	-75.12740758	UNT to Pennypack Creek	TSF	No	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31244	40.16070043	-75.12658227	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31245	40.1608885	-75.12611375	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31246	40.16103522	-75.12577154	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202003184	N/A	N/A	N/A	N/A	N/A	N/A
31247	40.16189798	-75.1239497	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31248	40.1619043	-75.12387933	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31249	40.16191642	-75.1234548	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31250	40.16273358	-75.12085364	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31251	40.16275409	-75.12082031	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31252	40.16294218	-75.12043087	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31253	40.16293893	-75.12040502	UNT to Pennypack Creek	TSF	Yes	707	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31254	40.16318334	-75.11945764	UNT to Pennypack Creek	TSF	Yes	708	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31255	40.16261117	-75.11675484	UNT to Pennypack Creek	TSF	No	708	652	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31256	40.16273767	-75.11585791	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31257	40.16284782	-75.11499328	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31258	40.16287575	-75.11472216	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31259	40.16293266	-75.11429891	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31260	40.16295737	-75.11380989	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31261	40.16301735	-75.11343509	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A



Delaware Basin  
RECEIVING WATERS TABLE  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31262	40.16301597	-75.11322574	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31263	40.16304987	-75.11299051	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31264	40.16309035	-75.11267037	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31265	40.16315636	-75.11227127	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31266	40.16318453	-75.11136067	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31267	40.16310882	-75.11094412	UNT to Pennypack Creek	TSF	No	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31268	40.16301144	-75.1105356	UNT to Pennypack Creek	TSF	Yes	708	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31269	40.16246044	-75.11033121	UNT to Pennypack Creek	TSF	Yes	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31270	40.1624507	-75.11026891	UNT to Pennypack Creek	TSF	No	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31271	40.16152423	-75.10728539	UNT to Pennypack Creek	TSF	No	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001406	N/A	N/A	N/A	N/A	N/A	N/A
31272	40.16359943	-75.10463913	Pennypack Creek	TSF	Yes	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001398	N/A	N/A	N/A	N/A	N/A	N/A
31273	40.1630048	-75.10464553	Pennypack Creek	TSF	Yes	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001398	N/A	N/A	N/A	N/A	N/A	N/A
31274	40.16365865	-75.10457083	Pennypack Creek	TSF	Yes	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001398	N/A	N/A	N/A	N/A	N/A	N/A
31275	40.16302721	-75.10458007	Pennypack Creek	TSF	Yes	709	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001398	N/A	N/A	N/A	N/A	N/A	N/A
31276	40.15790249	-75.10022575	Pennypack Creek	TSF	No	<Null>	653	Non-Attaining	Urban Runoff/Storm Sewers - Cause Unknown ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001396	N/A	N/A	N/A	N/A	N/A	N/A
31277	40.16243515	-75.07859262	UNT to Southampton Creek	TSF	Yes	712	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004571	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31278	40.16198797	-75.07822356	UNT to Southampton Creek	TSF	Yes	712	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004571	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31279	40.16196322	-75.0772966	UNT to Southampton Creek	TSF	Yes	712	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004571	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31280	40.16195257	-75.07694729	UNT to Southampton Creek	TSF	Yes	712	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004571	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31281	40.16267909	-75.07120147	UNT to Southampton Creek	TSF	Yes	713	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001402	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31282	40.16271097	-75.07118164	UNT to Southampton Creek	TSF	No	713	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001402	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31283	40.1621032	-75.07114859	UNT to Southampton Creek	TSF	Yes	713	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001402	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31284	40.16210368	-75.07110446	UNT to Southampton Creek	TSF	Yes	713	653	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001402	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31285	40.16220981	-75.06849902	Southampton Creek	TSF	No	713	654	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001401	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31286	40.16223319	-75.06841059	Southampton Creek	TSF	Yes	713	654	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001401	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31287	40.16291162	-75.06787927	Southampton Creek	TSF	Yes	713	654	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001401	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31288	40.1631092	-75.06766835	Southampton Creek	TSF	No	713	654	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001401	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC



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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31289	40.16486767	-75.06557063	UNT to Southampton Creek	TSF	No	713	654	Non-Attaining	Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Flow Alterations ; Small Residential Runoff - Other Habitat Alterations	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202001401	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31290	40.16094225	-75.06243906	UNT to Southampton Creek	TSF	No	714	654	Non-Attaining	Municipal Point Source - Pathogens	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004570	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31291	40.16090819	-75.06132898	UNT to Southampton Creek	TSF	No	714	654	Non-Attaining	Municipal Point Source - Pathogens	Philadelphia, PA--NJ--DE- -MD	Upper Pennypack Creek	020402020303	02040202004570	Yes	Southampton Creek	Nutrients ; Siltation ; Organic Enrichment/Low D.O. ; Pathogens	Yes	N/A	No WLA for PTC
31292	40.15950214	-75.04228808	UNT to Mill Creek	WWF	Yes	716	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201000470	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31293	40.15945178	-75.04220621	UNT to Mill Creek	WWF	Yes	716	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201000470	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31294	40.16033529	-75.04169542	UNT to Mill Creek	WWF	No	716	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201000470	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31295	40.16040491	-75.04142864	UNT to Mill Creek	WWF	No	716	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201000470	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31296	40.16094784	-75.04105338	UNT to Mill Creek	WWF	No	716	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201000470	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31297	40.15678034	-75.03693273	UNT to Mill Creek	WWF	Yes	717	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002120	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31298	40.15676512	-75.03690504	UNT to Mill Creek	WWF	Yes	717	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002120	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31299	40.15712927	-75.03656741	UNT to Mill Creek	WWF	Yes	717	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002120	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31300	40.15711304	-75.03654699	UNT to Mill Creek	WWF	Yes	717	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002120	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31301	40.15377257	-75.02822743	UNT to Mill Creek	WWF	No	718	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002121	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31302	40.15489332	-75.02779517	UNT to Mill Creek	WWF	No	718	654	Attaining	N/A	Philadelphia, PA--NJ--DE- -MD	Ironworks Creek-Mill Creek	020402010302	02040201002121	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31303	40.14279689	-75.01056417	UNT to Poquessing Creek	WWF	No	<Null>	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202001416	N/A	N/A	N/A	N/A	N/A	N/A
31304	40.14535878	-75.00888224	UNT to Poquessing Creek	WWF	Yes	720	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202001416	N/A	N/A	N/A	N/A	N/A	N/A
31305	40.13951919	-74.99586592	Poquessing Creek	WWF	Yes	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31306	40.13935775	-74.99559947	Poquessing Creek	WWF	Yes	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31307	40.13837402	-74.99546945	Poquessing Creek	WWF	No	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31308	40.13914253	-74.99538194	Poquessing Creek	WWF	Yes	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31309	40.13898229	-74.99530595	Poquessing Creek	WWF	Yes	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31310	40.13761764	-74.9953597	Poquessing Creek	WWF	No	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31311	40.13686363	-74.99496533	Poquessing Creek	WWF	No	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE- -MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A



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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31312	40.13619687	-74.99478919	Poquessing Creek	WWF	No	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31313	40.13561658	-74.99462477	Poquessing Creek	WWF	No	722	655	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Poquessing Creek	020402020301	02040202011148	N/A	N/A	N/A	N/A	N/A	N/A
31314	Withdrawn	-74.97718768	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002179	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31315	Withdrawn	-74.97663397	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002179	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31316	Withdrawn	-74.97647952	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002179	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31317	Withdrawn	-74.97498951	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002179	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31318	Withdrawn	-74.97073284	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000473	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31319		-74.96486231	Poquessing Creek	WWF				Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Flow Alterations ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Urban Runoff/Storm Sewers - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Poquessing Creek	020402020301	02040202001412	N/A	N/A	N/A	N/A	N/A	N/A
31320	Withdrawn	-74.95036947	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31321	Withdrawn	-74.94901423	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31322	Withdrawn	-74.94891091	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31323	Withdrawn	-74.94768621	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31324	Withdrawn	-74.94727946	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31325	Withdrawn	-74.94660212	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31326	Withdrawn	-74.94588201	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002202	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A



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31327	Withdrawn	-74.94476169	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000343	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31328	Withdrawn	-74.94460144	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Agriculture - Nutrients ; Urban Runoff/Storm Sewers - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000343	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31329	Withdrawn	-74.93364286	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002201	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31331	Withdrawn	-74.93359822	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201002201	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31332	Withdrawn	-74.93234705	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000344	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31333	Withdrawn	-74.93226658	UNT to Neshaminy Creek	WWF	Siltation ; Suspended Solids			Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000344	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	N/A
31335	40.12867994	-74.93198018	UNT to Neshaminy Creek	WWF	No	729	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000344	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31336	40.12862634	-74.93191498	UNT to Neshaminy Creek	WWF	No	729	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000344	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31337	40.1298072	-74.91683319	UNT to Neshaminy Creek	WWF	No	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31338	40.12892594	-74.91483936	UNT to Neshaminy Creek	WWF	Yes	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31339	40.12838125	-74.91476028	UNT to Neshaminy Creek	WWF	No	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31340	40.12895154	-74.91468491	UNT to Neshaminy Creek	WWF	Yes	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31341	40.12836292	-74.91461547	UNT to Neshaminy Creek	WWF	No	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31342	40.12702675	-74.91220086	UNT to Neshaminy Creek	WWF	No	731	657	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Agriculture - Nutrients	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000341	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31343	40.1285784	-74.90081369	Neshaminy Creek	WWF	No	733	657	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - Organic Enrichment/Low D.O. ; Other - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000683	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31344	40.12908654	-74.90052264	Neshaminy Creek	WWF	Yes	733	657	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - Organic Enrichment/Low D.O. ; Other - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000683	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31345	40.12895933	-74.90002536	Neshaminy Creek	WWF	Yes	733	657	Non-Attaining	Municipal Point Source - Nutrients ; Municipal Point Source - Organic Enrichment/Low D.O. ; Other - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000683	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31346	40.12427837	-74.88688948	UNT to Neshaminy Creek	WWF	Yes	734	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Core Creek-Neshaminy Creek	020402010303	02040201000475	N/A	Neshaminy Creek	Siltation ; Suspended Solids	N/A	N/A	Withdrawn
31347	40.12779924	-74.87978886	Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31348	40.12774902	-74.87968133	Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31349	40.12769375	-74.87902657	Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31350	40.12750449	-74.87770744	Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A



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31351	40.1272858	-74.8762896	Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31352	40.12664116	-74.87600686	UNT to Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201002137	N/A	N/A	N/A	N/A	N/A	N/A
31353	40.126638	-74.87597641	UNT to Mill Creek	WWF	Yes	735	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010302	02040201002137	N/A	N/A	N/A	N/A	N/A	N/A
31354	40.12745236	-74.87260619	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31355	40.12663153	-74.87143431	Mill Creek	WWF	No	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31356	40.12653802	-74.87108341	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31357	40.12651162	-74.87088434	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31358	40.12598499	-74.86717419	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020501070110	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31359	40.12598233	-74.86685899	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020501070110	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31360	40.1260451	-74.86666963	Mill Creek	WWF	Yes	736	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000480	N/A	N/A	N/A	N/A	N/A	N/A
31361	40.12442998	-74.86084294	Mill Creek	WWF	Yes	737	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000479	N/A	N/A	N/A	N/A	N/A	N/A
31362	40.12273647	-74.86072808	Mill Creek	WWF	No	737	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201000479	N/A	N/A	N/A	N/A	N/A	N/A
31363	40.12483316	-74.86062934	Mill Creek	WWF	Yes	737	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020501070110	02040201000479	N/A	N/A	N/A	N/A	N/A	N/A
31364	40.11728251	-74.85986997	Mill Creek	WWF	No	<Null>	658	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Other Habitat Alterations ; Habitat Modification - Other Habitat Alterations	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010405	02040201004279	N/A	N/A	N/A	N/A	N/A	N/A
31365	40.11062718	-74.85589328	UNT to Mill Creek	WWF	No	<Null>	659	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Mill Creek-Silver Lake	020402010302	02040201000204	N/A	N/A	N/A	N/A	N/A	N/A
31366	40.10994891	-74.84966821	UNT to Delaware River	WWF	No	<Null>	659	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Burlington Island-Delaware River	020402010407	02040201000492	N/A	N/A	N/A	N/A	N/A	N/A
31367	40.11601915	-75.27727611	UNT to Plymouth Creek	WWF	No	928	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A



**Delaware Basin**  
**RECEIVING WATERS TABLE**  
 9/7/2022

OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31368	40.11679037	-75.27758737	UNT to Plymouth Creek	WWF	No	928	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A
31369	40.11726986	-75.27775258	UNT to Plymouth Creek	WWF	No	928	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A
31370	40.11946745	-75.27690936	UNT to Plymouth Creek	WWF	No	928	649	Non-Attaining	Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Channelization - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001351	N/A	N/A	N/A	N/A	N/A	N/A
31371	40.13225717	-75.28582917	Sawmill Run	WWF	Yes	930	660	Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203000441	N/A	N/A	N/A	N/A	N/A	N/A
31372	40.13227611	-75.28648039	Sawmill Run	WWF	Yes	930	660	Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203000441	N/A	N/A	N/A	N/A	N/A	N/A
31373	40.13707139	-75.29259643	UNT to Sawmill Run	WWF	No	<Null>	660	Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31374	40.13930781	-75.29152797	UNT to Sawmill Run	WWF	No	931	660	Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31375	40.14151682	-75.29039246	UNT to Sawmill Run	WWF	No	932	660	Non-Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31376	40.14153696	-75.29041016	UNT to Sawmill Run	WWF	No	932	660	Non-Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31377	40.14159655	-75.28995109	UNT to Sawmill Run	WWF	No	932	660	Non-Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31378	40.14167499	-75.28917645	UNT to Sawmill Run	WWF	Yes	932	660	Non-Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31379	40.14172123	-75.28918995	UNT to Sawmill Run	WWF	Yes	932	660	Non-Attaining	Habitat Modification - Turbidity ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation	Philadelphia, PA--NJ--DE--MD	Plymouth Creek-Schuylkill River	020402031007	02040203001348	N/A	N/A	N/A	N/A	N/A	N/A
31380	40.15070606	-75.29489685	UNT to Stony Creek	TSF	No	933	660	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001341	N/A	N/A	N/A	N/A	N/A	N/A
31381	40.15255317	-75.29312386	UNT to Stony Creek	TSF	Yes	933	660	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001341	N/A	N/A	N/A	N/A	N/A	N/A
31382	40.15260906	-75.29314751	UNT to Stony Creek	TSF	Yes	933	660	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001341	N/A	N/A	N/A	N/A	N/A	N/A



Delaware Basin  
RECEIVING WATERS TABLE  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31383	40.15281012	-75.29237504	UNT to Stony Creek	TSF	Yes	933	660	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001341	N/A	N/A	N/A	N/A	N/A	N/A
31384	40.15284615	-75.29240126	UNT to Stony Creek	TSF	Yes	933	660	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001341	N/A	N/A	N/A	N/A	N/A	N/A
31385	40.16442587	-75.302584	UNT to Stony Creek	TSF	Yes	935	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001342	N/A	N/A	N/A	N/A	N/A	N/A
31386	40.16442474	-75.3015931	UNT to Stony Creek	TSF	Yes	935	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001342	N/A	N/A	N/A	N/A	N/A	N/A
31387	40.16444656	-75.3025886	UNT to Stony Creek	TSF	Yes	935	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001342	N/A	N/A	N/A	N/A	N/A	N/A
31388	40.16447113	-75.30162995	UNT to Stony Creek	TSF	Yes	935	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001342	N/A	N/A	N/A	N/A	N/A	N/A
31389	40.17560551	-75.30856599	Stony Creek	TSF	Yes	937	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001340	N/A	N/A	N/A	N/A	N/A	N/A
31390	40.17567448	-75.30863639	Stony Creek	TSF	Yes	937	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001340	N/A	N/A	N/A	N/A	N/A	N/A
31391	40.17635868	-75.30795102	Stony Creek	TSF	Yes	937	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001340	N/A	N/A	N/A	N/A	N/A	N/A
31392	40.17639492	-75.30796411	Stony Creek	TSF	Yes	937	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001340	N/A	N/A	N/A	N/A	N/A	N/A
31393	40.17725569	-75.30740759	Stony Creek	TSF	No	937	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203001340	N/A	N/A	N/A	N/A	N/A	N/A
31394	40.18328541	-75.3077804	UNT to Stony Creek	TSF	No	<Null>	661	Non-Attaining	Road Runoff - Water/Flow Variability ; Road Runoff - Siltation ; Small Residential Runoff - Cause Unknown ; Habitat Modification - Water/Flow Variability ; Habitat Modification - Siltation ; Removal of Vegetation - Water/Flow Variability ; Removal of Veg	Philadelphia, PA--NJ--DE--MD	Stony Creek	020402031005	02040203002920	N/A	N/A	N/A	N/A	N/A	N/A
31395	40.1944234	-75.31810945	UNT to Zacharias Creek	TSF	No	940	662	Attaining	N/A	Non-Urban	Skippack Creek	020402030808	02040203002916	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31396	40.19514793	-75.31787555	UNT to Zacharias Creek	TSF	No	940	662	Attaining	N/A	Non-Urban	Skippack Creek	020402030808	02040203002916	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31397	40.19910767	-75.31831316	UNT to Zacharias Creek	TSF	Yes	940	662	Non-Attaining	Small Residential Runoff - Siltation ; Hydromodification - Flow Alterations ; Source Unknown - Siltation	Non-Urban	Skippack Creek	020402030808	02040203008946	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC



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31398	40.19915583	-75.31999465	UNT to Zacharias Creek	TSF	No	941	662	Non-Attaining	Small Residential Runoff - Siltation ; Hydromodification - Flow Alterations ; Source Unknown - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203008946	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31399	40.19927732	-75.31760361	UNT to Zacharias Creek	TSF	Yes	940	662	Non-Attaining	Small Residential Runoff - Siltation ; Hydromodification - Flow Alterations ; Source Unknown - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203008946	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31400	40.20420083	-75.32055814	Zacharias Creek	TSF	Yes	941	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002907	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31401	40.20422566	-75.32058319	Zacharias Creek	TSF	Yes	941	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002907	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31402	40.20426111	-75.32050541	Zacharias Creek	TSF	Yes	941	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002907	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31403	40.20437539	-75.31995801	Zacharias Creek	TSF	Yes	941	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002907	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31404	40.20438855	-75.31993101	Zacharias Creek	TSF	Yes	941	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002907	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31405	40.20655778	-75.32491961	UNT to Zacharias Creek	TSF	No	<Null>	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002912	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31406	40.20675312	-75.32564	UNT to Zacharias Creek	TSF	No	<Null>	662	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002912	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31407	40.21726307	-75.32649755	UNT to Towamencin Creek	TSF	No	943	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31408	40.21754343	-75.32717033	UNT to Towamencin Creek	TSF	No	943	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31409	40.21782332	-75.3277194	UNT to Towamencin Creek	TSF	Yes	943	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31410	40.2183563	-75.32887269	UNT to Towamencin Creek	TSF	Yes	943	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31411	40.21853891	-75.32907608	UNT to Towamencin Creek	TSF	Yes	943	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31412	40.21905329	-75.32940758	UNT to Towamencin Creek	TSF	Yes	944	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31413	40.21915505	-75.32947448	UNT to Towamencin Creek	TSF	Yes	944	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31414	40.219571	-75.32961813	UNT to Towamencin Creek	TSF	Yes	944	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31415	40.22005696	-75.32994944	UNT to Towamencin Creek	TSF	Yes	944	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31416	40.22054452	-75.33038873	UNT to Towamencin Creek	TSF	No	944	662	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002901	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31417	40.22101376	-75.3307115	UNT to Towamencin Creek	TSF	No	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31418	40.22107433	-75.33073437	UNT to Towamencin Creek	TSF	No	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31419	40.22153957	-75.33098144	UNT to Towamencin Creek	TSF	No	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31420	40.2220876	-75.33107872	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31421	40.2226095	-75.33151024	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31422	40.22292068	-75.33142821	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31423	40.22311291	-75.33159692	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31424	40.22337613	-75.3322742	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31425	40.22343475	-75.33241552	UNT to Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002900	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31426	40.22425281	-75.33934146	Towamencin Creek	TSF	No	<Null>	663	Non-Attaining	Municipal Point Source - Water/Flow Variability ; Municipal Point Source - Excessive Algal Growth ; Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001190	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31427	40.22423528	-75.33305214	Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Municipal Point Source - Water/Flow Variability ; Municipal Point Source - Excessive Algal Growth ; Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001190	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31428	40.22452097	-75.33254917	Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Municipal Point Source - Water/Flow Variability ; Municipal Point Source - Excessive Algal Growth ; Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001190	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC



**Delaware Basin**  
**RECEIVING WATERS TABLE**  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31429	40.22472711	-75.33192671	Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Municipal Point Source - Water/Flow Variability ; Municipal Point Source - Excessive Algal Growth ; Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001190	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31430	40.22476766	-75.33189493	Towamencin Creek	TSF	Yes	944	663	Non-Attaining	Municipal Point Source - Water/Flow Variability ; Municipal Point Source - Excessive Algal Growth ; Small Residential Runoff - Water/Flow Variability ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001190	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31431	40.2348317	-75.34018152	UNT to Towamencin Creek	TSF	No	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001191	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31432	40.23534322	-75.33907827	UNT to Towamencin Creek	TSF	Yes	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001191	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31433	40.23538158	-75.33905984	UNT to Towamencin Creek	TSF	Yes	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001191	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31434	40.23547305	-75.33792472	UNT to Towamencin Creek	TSF	Yes	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001191	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31435	40.23595941	-75.3382922	UNT to Towamencin Creek	TSF	No	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002892	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31436	40.2365949	-75.3386514	UNT to Towamencin Creek	TSF	No	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002892	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31437	40.23716904	-75.33897724	UNT to Towamencin Creek	TSF	No	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002892	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31438	40.23732074	-75.3390012	UNT to Towamencin Creek	TSF	No	946	663	Non-Attaining	Land Development - Siltation ; Urban Runoff/Storm Sewers - Water/Flow Variability ; Urban Runoff/Storm Sewers - Siltation	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002892	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31439	40.24976019	-75.3469225	UNT to Skippack Creek	TSF	Yes	948	663	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002887	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31440	40.2500215	-75.34606375	UNT to Skippack Creek	TSF	Yes	948	663	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002887	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31441	40.25007692	-75.34855906	UNT to Skippack Creek	TSF	No	948	663	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002887	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31442	40.25037691	-75.34544229	UNT to Skippack Creek	TSF	Yes	948	663	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002887	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31443	40.25087828	-75.34434103	UNT to Skippack Creek	TSF	No	948	663	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203002887	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31444	40.25570875	-75.34995713	UNT to Skippack Creek	TSF	Yes	949	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003720	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31445	40.25577882	-75.34993651	UNT to Skippack Creek	TSF	Yes	949	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003720	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31446	40.25588012	-75.34929323	UNT to Skippack Creek	TSF	Yes	949	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003720	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31447	40.25590442	-75.34932985	UNT to Skippack Creek	TSF	Yes	949	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003720	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31448	40.26064187	-75.35244722	UNT to Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001193	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31449	40.26066808	-75.35244355	UNT to Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001193	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31450	40.26090676	-75.35184468	UNT to Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203001193	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31451	40.26199072	-75.35351185	Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Nutrients ; Small Residential Runoff - Siltation ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203000459	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31452	40.26217439	-75.3533008	Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Nutrients ; Small Residential Runoff - Siltation ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203000459	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31453	40.26240147	-75.35324282	Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Nutrients ; Small Residential Runoff - Siltation ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203000459	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31454	40.26314712	-75.35274016	Skippack Creek	TSF	Yes	950	664	Non-Attaining	Small Residential Runoff - Nutrients ; Small Residential Runoff - Siltation ; Small Residential Runoff - Excessive Algal Growth	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203000459	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31455	40.26478742	-75.35333773	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003561	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31456	40.26496298	-75.3536934	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003561	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31457	40.26499142	-75.3544048	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003561	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31458	40.26506941	-75.35442528	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003561	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31459	40.26907991	-75.35616054	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003567	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31461	40.26913375	-75.35619973	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003567	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31462	40.26922679	-75.35569335	UNT to Skippack Creek	TSF	Yes	951	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE--MD	Skippack Creek	020402030808	02040203003567	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC



Delaware Basin  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31463	40.27280944	-75.35781883	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003570	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31464	40.27281031	-75.35737786	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003570	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31465	40.27287435	-75.35785477	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003570	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31466	40.27699016	-75.35974319	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003581	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31467	40.27698871	-75.35926366	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003581	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31468	40.27702286	-75.35975602	UNT to Skippack Creek	TSF	Yes	952	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003581	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31469	40.27954156	-75.36038847	UNT to Skippack Creek	TSF	Yes	953	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003580	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31470	40.27959595	-75.36091146	UNT to Skippack Creek	TSF	Yes	953	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003580	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31471	40.27967702	-75.36096207	UNT to Skippack Creek	TSF	Yes	953	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003580	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31472	40.28439449	-75.36316904	UNT to Skippack Creek	TSF	Yes	954	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003587	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31473	40.28443383	-75.36318936	UNT to Skippack Creek	TSF	Yes	954	664	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003587	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31474	40.28735625	-75.36481162	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31475	40.28738313	-75.36482953	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31476	40.28744473	-75.36460545	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31477	40.28746387	-75.36462059	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31478	40.28760161	-75.36400814	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31479	40.28761228	-75.36402768	UNT to Skippack Creek	TSF	Yes	954	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003589	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31480	40.2918169	-75.36429962	UNT to Skippack Creek	TSF	No	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203001196	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31481	40.29307686	-75.36577519	UNT to Skippack Creek	TSF	No	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31482	40.29440893	-75.36710131	UNT to Skippack Creek	TSF	Yes	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31483	40.29660429	-75.36817072	UNT to Skippack Creek	TSF	Yes	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31484	40.296977	-75.36891093	UNT to Skippack Creek	TSF	Yes	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31485	40.29723455	-75.36908986	UNT to Skippack Creek	TSF	Yes	955	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31486	40.29749862	-75.36917708	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31487	40.29777078	-75.36927803	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31488	40.29799579	-75.36937526	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31489	40.29830629	-75.36946957	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31490	40.29856081	-75.36958336	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31491	40.29874021	-75.36959487	UNT to Skippack Creek	TSF	Yes	956	665	Non-Attaining	Small Residential Runoff - Water/Flow Variability	Philadelphia, PA--NJ--DE- -MD	Skippack Creek	020402030808	02040203003716	Yes	Skippack Creek Watershed TMDL	Siltation	Yes	N/A	No WLA for PTC
31492	40.3081693	-75.37317218	Indian Creek Trib	TSF	Yes	957	665	Non-Attaining	Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203001209	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31493	40.30829426	-75.3724226	Indian Creek Trib	TSF	Yes	957	665	Non-Attaining	Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203001209	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31494	40.30829432	-75.3723572	East Branch Perkiomen Creek Trib	TSF	Yes	957	665	Non-Attaining	Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203001209	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31495	40.3106913	-75.37416817	Indian Creek	TSF	Yes	957	665	Non-Attaining	Municipal Point Source - Nutrients ; Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203000327	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31496	40.31288034	-75.37308193	Indian Creek	TSF	No	958	665	Non-Attaining	Municipal Point Source - Nutrients ; Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203000327	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31497	40.31483257	-75.37350428	Indian Creek	TSF	No	958	665	Non-Attaining	Municipal Point Source - Nutrients ; Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE- -MD	East Branch Perkiomen Creek	020402030807	02040203000327	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC



Delaware Basin  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
31498	40.31505873	-75.37337389	Indian Creek	TSF	No	958	665	Non-Attaining	Municipal Point Source - Nutrients ; Agriculture - Siltation ; Urban Runoff/Storm Sewers - Siltation ; Small Residential Runoff - Siltation	Philadelphia, PA--NJ--DE--MD	East Branch Perkiomen Creek	020402030807	02040203000327	Yes	Indian Creek	Cause Unknown ; Nutrients ; Siltation ; TDS	Yes	N/A	No WLA for PTC
31499	40.32138698	-75.38115195	East Branch Perkiomen Creek Trib	TSF	Yes	959	666	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	East Branch Perkiomen Creek	020402030807	02040203003243	N/A	N/A	N/A	N/A	N/A	N/A
31500	40.32167137	-75.37801871	East Branch Perkiomen Creek Trib	TSF	Yes	959	666	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	East Branch Perkiomen Creek	020402030807	02040203003243	N/A	N/A	N/A	N/A	N/A	N/A
31501	40.32168501	-75.37795793	East Branch Perkiomen Creek Trib	TSF	Yes	959	666	Attaining	N/A	Philadelphia, PA--NJ--DE--MD	East Branch Perkiomen Creek	020402030807	02040203003243	N/A	N/A	N/A	N/A	N/A	N/A
31502	40.32542402	-75.38234545	East Branch Perkiomen Creek	TSF	No	<Null>	666	Attaining	N/A	Non-Urban	East Branch Perkiomen Creek	020402030807	02040203000056	N/A	N/A	N/A	N/A	N/A	N/A
31503	40.32820286	-75.37979889	East Branch Perkiomen Creek	TSF	Yes	960	666	Attaining	N/A	Non-Urban	East Branch Perkiomen Creek	020402030807	02040203000057	N/A	N/A	N/A	N/A	N/A	N/A
31504	40.35609885	-75.39624082	UNT to Ridge Valley Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	964	667	Non-Attaining	Source Unknown - Cause Unknown	Non-Urban	Unami Creek	020402030804	02040203003196	N/A	N/A	N/A	N/A	N/A	N/A
32001	40.42633463	-75.41537438	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32002	40.42864481	-75.41806433	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32003	40.42869505	-75.41842322	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32004	40.42878609	-75.41862734	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32005	40.42892029	-75.41864249	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32006	40.42914551	-75.41971783	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32007	40.42918292	-75.41973836	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32008	40.42923695	-75.4189957	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32009	40.42925089	-75.41921063	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	975	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32010	40.42976945	-75.42101276	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	975	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32011	40.43393182	-75.42465879	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	976	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32012	40.43692592	-75.42690214	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	977	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32013	40.43698172	-75.42736656	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	No	977	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32014	40.43757695	-75.42780168	Molasses Creek	HQ-TSF (HIGH QUALITY-TROUT STOCKING)	Yes	977	670	Attaining	N/A	Non-Urban	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A



Delaware Basin  
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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
32015	40.44146658	-75.43795766	Molasses Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	670	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32016	40.44931989	-75.44292686	Molasses Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	671	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32017	40.45455008	-75.44521562	Molasses Creek	HQ-TSF (HIGH QUALITY- TROUT STOCKING)	No	<Null>	671	Attaining	N/A	Allentown, PA--NJ	Unami Creek	020402030804	02040203001246	N/A	N/A	N/A	N/A	N/A	N/A
32018	40.46490286	-75.46091425	UNT to Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32019	40.46599869	-75.45292978	UNT to Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32020	40.46645665	-75.45134371	UNT to Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32021	40.4668066	-75.45110722	UNT to Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32022	40.46707242	-75.45092947	UNT to Hosensack Creek	CWF	Yes	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32023	40.46729972	-75.45089673	UNT to Hosensack Creek	CWF	Yes	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203002986	N/A	N/A	N/A	N/A	N/A	N/A
32024	40.46892267	-75.4654674	Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203000323	N/A	N/A	N/A	N/A	N/A	N/A
32025	40.4754597	-75.46660142	Hosensack Creek	CWF	No	<Null>	671	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203000323	N/A	N/A	N/A	N/A	N/A	N/A
32026	40.48350572	-75.46364871	Hosensack Creek	CWF	Yes	<Null>	672	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203000323	N/A	N/A	N/A	N/A	N/A	N/A
32027	40.48353062	-75.4636385	Hosensack Creek	CWF	Yes	<Null>	672	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203000323	N/A	N/A	N/A	N/A	N/A	N/A
32028	40.48354969	-75.46360898	Hosensack Creek	CWF	Yes	<Null>	672	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203000323	N/A	N/A	N/A	N/A	N/A	N/A
32029	40.49151097	-75.48759071	UNT to Hosensack Creek	CWF	No	<Null>	672	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203001260	N/A	N/A	N/A	N/A	N/A	N/A
32030	40.49221651	-75.48417803	UNT to Hosensack Creek	CWF	No	<Null>	672	Attaining	N/A	Non-Urban	Hosensack Creek	020402030801	02040203001260	N/A	N/A	N/A	N/A	N/A	N/A
32031	40.50457219	-75.50137246	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	990	673	Attaining	N/A	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32032	40.50465017	-75.50140685	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	990	673	Attaining	N/A	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32033	40.5049719	-75.50082938	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	990	673	Attaining	N/A	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32034	40.50513371	-75.500506	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	990	673	Attaining	N/A	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32035	40.50594288	-75.49861744	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	990	673	Attaining	N/A	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32036	40.51279623	-75.50188209	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	991	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Non-Urban	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32037	40.51876042	-75.5073448	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	992	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32038	40.51919331	-75.5073853	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	992	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32039	40.51948227	-75.50714575	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	992	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32040	40.52327606	-75.51076013	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	993	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32041	40.52482816	-75.51218287	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	993	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32042	40.52635269	-75.5132805	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	993	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A



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OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
32043	40.52885808	-75.51283944	Leibert Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	<Null>	673	Non-Attaining	Urban Runoff/Storm Sewers - Siltation	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000369	N/A	N/A	N/A	N/A	N/A	N/A
32044	40.53443644	-75.5234635	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	995	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000324	N/A	N/A	N/A	N/A	N/A	N/A
32045	40.53442914	-75.52278267	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	995	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000324	N/A	N/A	N/A	N/A	N/A	N/A
32046	40.53452845	-75.52299487	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	995	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000324	N/A	N/A	N/A	N/A	N/A	N/A
32047	40.53468462	-75.52420492	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	995	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000324	N/A	N/A	N/A	N/A	N/A	N/A
32048	40.53899488	-75.52834834	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	995	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000324	N/A	N/A	N/A	N/A	N/A	N/A
32049	40.540295	-75.5290506	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	996	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000323	N/A	N/A	N/A	N/A	N/A	N/A
32050	40.54282037	-75.54546299	Little Lehigh Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	<Null>	674	Non-Attaining	Agriculture - Siltation	Allentown, PA--NJ	Little Lehigh Creek-Lehigh River	020401060703	02040106000325	N/A	N/A	N/A	N/A	N/A	N/A
32051	40.57255622	-75.55548101	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1001	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32052	40.5725975	-75.55523646	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1001	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32053	40.57260533	-75.55518643	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1001	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32054	40.57281558	-75.55448919	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1001	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32055	40.57300614	-75.5529896	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1001	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32056	40.5760432	-75.54930915	Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	<Null>	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32057	40.57608104	-75.54913243	UNT to Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	<Null>	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106001472	N/A	N/A	N/A	N/A	N/A	N/A
32058	40.57990519	-75.55734672	Trib to Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	<Null>	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004929	N/A	N/A	N/A	N/A	N/A	N/A
32059	40.58035453	-75.55837766	Trib to Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1002	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004929	N/A	N/A	N/A	N/A	N/A	N/A
32060	40.58102026	-75.56005117	Trib to Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1002	675	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004929	N/A	N/A	N/A	N/A	N/A	N/A
32061	40.59644246	-75.57414452	Trib to Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1004	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004928	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32062	40.59655743	-75.57274059	Trib to Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1004	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004928	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32063	40.59682528	-75.57167072	Trib to Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1005	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004928	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s



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32064	40.59697515	-75.57044936	Trib to Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1005	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004928	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32065	40.59716863	-75.5662546	Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1005	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000336	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32066	40.59736052	-75.5698879	Trib to Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1005	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106004928	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32067	40.59742793	-75.56667872	Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1005	676	Non-Attaining	Urban Runoff/Storm Sewers - Suspended Solids ; Urban Runoff/Storm Sewers - Water/Flow Variability	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000336	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32068	40.60177737	-75.57045665	Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1006	676	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000336	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32069	40.60252325	-75.57051541	Little Cedar Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1006	676	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Liebert Creek-Little Lehigh Creek	020401060702	02040106000336	Yes	Little Cedar Creek	Suspended Solids	N/A	Yes	62% Sediment Reduction for all MS4s
32070	40.61349379	-75.57974508	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1007	676	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004923	N/A	N/A	N/A	N/A	N/A	N/A
32071	40.6153452	-75.57843002	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1008	676	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004923	N/A	N/A	N/A	N/A	N/A	N/A
32072	40.61660007	-75.57905636	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1008	676	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004923	N/A	N/A	N/A	N/A	N/A	N/A
32073	40.62242256	-75.57751788	Jordan Creek	TSF	Yes	1009	676	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Hydromodification - Water/Flow Variability ; Agriculture - Siltation ; Road Runoff - Siltation	Non-Urban	Lower Jordan Creek	020401060602	02040106000118	N/A	N/A	N/A	N/A	N/A	N/A
32074	40.62246589	-75.57673849	Jordan Creek	TSF	Yes	1009	676	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Hydromodification - Water/Flow Variability ; Agriculture - Siltation ; Road Runoff - Siltation	Non-Urban	Lower Jordan Creek	020401060602	02040106000118	N/A	N/A	N/A	N/A	N/A	N/A
32075	40.62270107	-75.5773974	Jordan Creek	TSF	Yes	1009	676	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Hydromodification - Water/Flow Variability ; Agriculture - Siltation ; Road Runoff - Siltation	Non-Urban	Lower Jordan Creek	020401060602	02040106000118	N/A	N/A	N/A	N/A	N/A	N/A
32076	40.62269534	-75.57677022	Jordan Creek	TSF	Yes	1009	676	Non-Attaining	Urban Runoff/Storm Sewers - Siltation ; Hydromodification - Water/Flow Variability ; Agriculture - Siltation ; Road Runoff - Siltation	Non-Urban	Lower Jordan Creek	020401060602	02040106000118	N/A	N/A	N/A	N/A	N/A	N/A
32077	40.63454419	-75.57634376	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1010	677	Attaining	N/A	Non-Urban	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32078	40.63898198	-75.5803163	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32079	40.63947691	-75.58064658	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32080	40.639774	-75.58081981	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32081	40.64015495	-75.58101864	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32082	40.64023294	-75.58104834	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32083	40.64088629	-75.58140993	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1011	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32084	40.64175141	-75.5817268	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	No	1012	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A



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32085	40.64245467	-75.58220857	UNT to Jordan Creek	HQ-CWF (HIGH QUALITY- COLD WATER FISHES)	Yes	1012	677	Attaining	N/A	Allentown, PA--NJ	Lower Jordan Creek	020401060602	02040106004687	N/A	N/A	N/A	N/A	N/A	N/A
32086	40.65160411	-75.58708315	UNT to Coplay Creek	CWF	Yes	1013	677	Non-Attaining	Small Residential Runoff - Siltation ; Municipal Point Source - Suspended Solids	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004696	N/A	N/A	N/A	N/A	N/A	N/A
32087	40.65163414	-75.58701802	UNT to Coplay Creek	CWF	Yes	1013	677	Non-Attaining	Small Residential Runoff - Siltation ; Municipal Point Source - Suspended Solids	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004696	N/A	N/A	N/A	N/A	N/A	N/A
32088	40.65171792	-75.58695647	UNT to Coplay Creek	CWF	No	1013	677	Non-Attaining	Small Residential Runoff - Siltation ; Municipal Point Source - Suspended Solids	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004696	N/A	N/A	N/A	N/A	N/A	N/A
32089	40.65290736	-75.58557386	UNT to Coplay Creek	CWF	No	1013	677	Non-Attaining	Small Residential Runoff - Siltation ; Municipal Point Source - Suspended Solids	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004696	N/A	N/A	N/A	N/A	N/A	N/A
32090	40.65382013	-75.58474663	UNT to Coplay Creek	CWF	No	<Null>	677	Non-Attaining	Small Residential Runoff - Siltation ; Municipal Point Source - Suspended Solids	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004696	N/A	N/A	N/A	N/A	N/A	N/A
32091	40.66367035	-75.58825243	Coplay Creek	CWF	No	1015	678	Non-Attaining	Agriculture - Siltation ; Small Residential Runoff - Siltation	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32092	40.66765852	-75.59382099	Coplay Creek	CWF	No	1015	678	Non-Attaining	Agriculture - Siltation ; Small Residential Runoff - Siltation	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32093	40.66890963	-75.59374665	Coplay Creek	CWF	No	1016	678	Non-Attaining	Agriculture - Siltation ; Small Residential Runoff - Siltation	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32094	40.6719673	-75.59512623	Coplay Creek	CWF	No	1016	678	Non-Attaining	Agriculture - Siltation ; Small Residential Runoff - Siltation	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32095	40.6755044	-75.59880143	UNT to Coplay Creek	CWF	Yes	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004705	N/A	N/A	N/A	N/A	N/A	N/A
32096	40.67552044	-75.59878415	UNT to Coplay Creek	CWF	Yes	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004705	N/A	N/A	N/A	N/A	N/A	N/A
32097	40.67562134	-75.5980748	UNT to Coplay Creek	CWF	Yes	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004705	N/A	N/A	N/A	N/A	N/A	N/A
32099	40.67565012	-75.59805611	UNT to Coplay Creek	CWF	Yes	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004705	N/A	N/A	N/A	N/A	N/A	N/A
32100	40.67608555	-75.59648963	UNT to Coplay Creek	CWF	No	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004705	N/A	N/A	N/A	N/A	N/A	N/A
32101	40.67871813	-75.59763535	Coplay Creek	CWF	No	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32102	40.67973913	-75.59797246	Coplay Creek	CWF	No	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32103	40.68075746	-75.59813288	Coplay Creek	CWF	No	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32104	40.68101156	-75.59832552	Coplay Creek	CWF	No	1017	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32105	40.6851305	-75.59839067	Coplay Creek	CWF	No	1018	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32106	40.6866549	-75.59877416	Coplay Creek	CWF	No	1018	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32107	40.68717852	-75.59886904	Coplay Creek	CWF	No	1018	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32108	40.68983894	-75.59956098	Coplay Creek	CWF	No	1019	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32109	40.69037776	-75.59981447	Coplay Creek	CWF	No	1019	678	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32110	40.69165121	-75.60253836	UNT to Coplay Creek	CWF	Yes	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004715	N/A	N/A	N/A	N/A	N/A	N/A
32111	40.69173439	-75.60290444	UNT to Coplay Creek	CWF	Yes	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004715	N/A	N/A	N/A	N/A	N/A	N/A
32112	40.69175852	-75.60296716	UNT to Coplay Creek	CWF	Yes	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004715	N/A	N/A	N/A	N/A	N/A	N/A
32113	40.69182926	-75.60368557	UNT to Coplay Creek	CWF	Yes	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004715	N/A	N/A	N/A	N/A	N/A	N/A
32114	40.69187986	-75.6037017	UNT to Coplay Creek	CWF	Yes	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004715	N/A	N/A	N/A	N/A	N/A	N/A
32115	40.69321353	-75.60113296	Coplay Creek	CWF	No	1019	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32116	40.69671843	-75.60171254	UNT to Coplay Creek	CWF	No	<Null>	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32117	40.69848821	-75.60451622	UNT to Coplay Creek	CWF	No	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32118	40.69877936	-75.60487832	UNT to Coplay Creek	CWF	No	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
932118	40.70077821	-75.60824706	UNT to Coplay Creek	CWF	Yes	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32119	40.69889244	-75.60499925	UNT to Coplay Creek	CWF	No	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32120	40.69911994	-75.60517961	UNT to Coplay Creek	CWF	No	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32121	40.69926533	-75.60536633	UNT to Coplay Creek	CWF	No	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32122	40.70048907	-75.6069505	UNT to Coplay Creek	CWF	Yes	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32124	40.70082831	-75.60830657	UNT to Coplay Creek	CWF	Yes	1020	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32125	40.70348549	-75.61430715	UNT to Coplay Creek	CWF	No	<Null>	679	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Coplay Creek	020401060807	02040106004721	N/A	N/A	N/A	N/A	N/A	N/A
32126	40.7133451	-75.61880563	Coplay Creek	CWF	No	1023	679	Non-Attaining	Source Unknown - Pathogens	Non-Urban	Coplay Creek	020401060807	02040106000159	N/A	N/A	N/A	N/A	N/A	N/A
32127	40.72149461	-75.62904528	UNT to Trout Creek	CWF	No	1024	680	Non-Attaining	Source Unknown - Pathogens	Non-Urban	Trout Creek	020402031006	02040106004656	N/A	N/A	N/A	N/A	N/A	N/A
32128	40.72596982	-75.63797148	UNT to Trout Creek	CWF	No	<Null>	680	Non-Attaining	Source Unknown - Pathogens	Non-Urban	Trout Creek	020402031006	02040106004656	N/A	N/A	N/A	N/A	N/A	N/A
32129	40.74511268	-75.63254906	Trout Creek	CWF	Yes	1028	680	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Trout Creek	020402031006	02040106000376	N/A	N/A	N/A	N/A	N/A	N/A



Delaware Basin  
RECEIVING WATERS TABLE  
9/7/2022



OUTFALL NUMBER	OUTFALL LATITUDE (Decimal Degrees)	OUTFALL LONGITUDE (Decimal Degrees)	STREAM NAME	DESIGNATED USE (Chapter 93)	WITHIN PTC BOUNDARY	MAP NUMBER (100 Scale)	MAP NUMBER (500 Scale)	NON- ATTAINING STATUS	POLLUTANT NAME (Source-Cause)	URBANIZED AREA (2010)	HUC12 NAME	HUC12 CODE	REACH CODE	Approved TMDL	TMDL NAME	TMDL CAUSE	TMDL SPECIFIC	TMDL GENERAL	WLA
32130	40.74509107	-75.6313244	Trout Creek	CWF	Yes	1028	680	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Trout Creek	020402031006	02040106000376	N/A	N/A	N/A	N/A	N/A	N/A
32131	40.74511953	-75.63179285	Trout Creek	CWF	Yes	1028	680	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Trout Creek	020402031006	02040106000376	N/A	N/A	N/A	N/A	N/A	N/A
32132	40.75266443	-75.61517545	Trout Creek	CWF	No	<Null>	680	Non-Attaining	Source Unknown - Pathogens	Allentown, PA--NJ	Trout Creek	020402031006	02040106000376	N/A	N/A	N/A	N/A	N/A	N/A
32133	40.79014831	-75.65486989	Lehigh River	TSF	No	<Null>	682	Non-Attaining	Abandoned Mine Drainage - Metals	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106000012	Yes	Lehigh River TMDL	Metals ; pH	Yes	N/A	No WLA for PTC
32134	40.79114654	-75.6579959	Lehigh River	TSF	No	<Null>	682	Non-Attaining	Abandoned Mine Drainage - Metals	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106000012	Yes	Lehigh River TMDL	Metals ; pH	Yes	N/A	No WLA for PTC
32135	40.79209764	-75.65941189	Lehigh River	TSF	No	<Null>	682	Non-Attaining	Abandoned Mine Drainage - Metals	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106000012	Yes	Lehigh River TMDL	Metals ; pH	Yes	N/A	No WLA for PTC
32136	40.79301101	-75.67013395	Lizard Creek	TSF	Yes	1036	682	Attaining	N/A	Non-Urban	Fireline Creek-Lehigh River	020401060801	02040106001526	N/A	N/A	N/A	N/A	N/A	N/A
32137	40.79320834	-75.67013611	Lizard Creek	TSF	No	1036	682	Attaining	N/A	Non-Urban	Fireline Creek-Lehigh River	020401060801	02040106001526	N/A	N/A	N/A	N/A	N/A	N/A
32138	40.79446344	-75.66653011	Lizard Creek	TSF	No	<Null>	682	Attaining	N/A	Non-Urban	Fireline Creek-Lehigh River	020401060801	02040106001526	N/A	N/A	N/A	N/A	N/A	N/A
32139	40.79922877	-75.67373905	UNT to Lehigh River	CWF	Yes	1037	682	Attaining	N/A	Allentown, PA--NJ	Fireline Creek-Lehigh River	020401060804	02040106004401	N/A	N/A	N/A	N/A	N/A	N/A
32140	40.79967145	-75.67350131	UNT to Lehigh River	CWF	No	1037	682	Attaining	N/A	Allentown, PA--NJ	Fireline Creek-Lehigh River	020401060804	02040106004401	N/A	N/A	N/A	N/A	N/A	N/A
32141	40.80332551	-75.67315458	UNT to Lehigh River	CWF	Yes	1037	682	Attaining	N/A	Allentown, PA--NJ	Fireline Creek-Lehigh River	020401060804	02040106000403	N/A	N/A	N/A	N/A	N/A	N/A
32142	40.80785567	-75.67211236	UNT to Lehigh River	CWF	No	1038	682	Attaining	N/A	Allentown, PA--NJ	Fireline Creek-Lehigh River	020401060804	02040106004376	N/A	N/A	N/A	N/A	N/A	N/A
32143	40.80821367	-75.67299869	UNT to Lehigh River	CWF	Yes	1038	682	Attaining	N/A	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106004376	N/A	N/A	N/A	N/A	N/A	N/A
32144	40.80826276	-75.67296504	UNT to Lehigh River	CWF	Yes	1038	682	Attaining	N/A	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106004376	N/A	N/A	N/A	N/A	N/A	N/A
32145	40.81007892	-75.67047199	Lehigh River	TSF	No	1038	682	Non-Attaining	Abandoned Mine Drainage - Metals	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106000013	Yes	Lehigh River TMDL	Metals ; pH	Yes	N/A	No WLA for PTC
32146	40.81302114	-75.67093848	Lehigh River	TSF	No	1039	682	Non-Attaining	Abandoned Mine Drainage - Metals	Non-Urban	Fireline Creek-Lehigh River	020401060804	02040106000013	Yes	Lehigh River TMDL	Metals ; pH	Yes	N/A	No WLA for PTC
32147	40.81817488	-75.67502426	Pohopoco Creek	CWF	No	1040	683	Attaining	N/A	Allentown, PA--NJ	Beltzville Lake-Pohopoco Creek	020401060404	02040106000014	N/A	N/A	N/A	N/A	N/A	N/A
32148	40.83910444	-75.66774382	Pohopoco Creek	CWF	Yes	1043	683	Attaining	N/A	Allentown, PA--NJ	Beltzville Lake-Pohopoco Creek	020401060404	02040106000014	N/A	N/A	N/A	N/A	N/A	N/A
32149	40.8391587	-75.66806475	Pohopoco Creek	CWF	No	1043	683	Attaining	N/A	Allentown, PA--NJ	Beltzville Lake-Pohopoco Creek	020401060404	02040106000014	N/A	N/A	N/A	N/A	N/A	N/A
32150	40.83937839	-75.66720196	Pohopoco Creek	CWF	Yes	1043	683	Attaining	N/A	Allentown, PA--NJ	Beltzville Lake-Pohopoco Creek	020401060404	02040106000014	N/A	N/A	N/A	N/A	N/A	N/A



## **APPENDIX C – MS4 MAP LAYERS AND DATA SOURCES**



**PENNSYLVANIA TURNPIKE  
COMMISSION**  
MS4 Map Layers and Data  
Sources



LAYER	SOURCE
2010 Urbanized Area	PA DEP (Referenced to US Census Bureau)
Basemap	Microsoft Bing Aerial photography
BMP -Existing	Skelly and Loy, Inc.
Discharge Point	Skelly and Loy, Inc.
Discharge Point Other	Skelly and Loy, Inc.
Elevation Data (contours)	PA DCNR
Flow Arrows	Skelly and Loy, Inc.
Inlets	PTC Record Drawings, Skelly and Loy, Inc.
Inlets - Other	PTC Record Drawings, Skelly and Loy, Inc.
Intake Points	PTC Record Drawings, Skelly and Loy, Inc.
Intake Points-Other	PTC Record Drawings, Skelly and Loy, Inc.
Lakes	Pennsylvania Fish and Boat Commission
Manholes	PTC Record Drawings, Skelly and Loy, Inc.
PTC Boundary	PTC Record Drawings, Skelly and Loy, Inc.
Municipal Boundaries	Penn DOT
NWI (Wetlands)	US Fish and Wildlife Service
Observation Points	Skelly and Loy, Inc.
Outfall - Impaired	PTC Record Drawings, Skelly and Loy, Inc.
Outfall - Unimpaired	PTC Record Drawings, Skelly and Loy, Inc.
Parcels	PTC
Pipes	PTC Record Drawings, Skelly and Loy, Inc.
Pipes-Other	PTC Record Drawings, Skelly and Loy, Inc.
Planning Area	Skelly and Loy, Inc.
Proposed BMPs	Skelly and Loy, Inc.
Proposed Drainage Area	Skelly and Loy, Inc.
Rain Traces	Skelly and Loy, Inc.
Storm Sewershed - Impaired	Skelly and Loy, Inc.
Storm Sewershed - Unimpaired	Skelly and Loy, Inc.
Stream	PA DEP
Stream Impaired	PA DEP
Surface Water Conveyance	PTC Record Drawings, Skelly and Loy, Inc.

1. The projection of information shown on the Maps is NAD 1983 State Plane Pennsylvania South US Feet



## **APPENDIX D – MAPSHED URBAN AREA TOOL RESULTS**



**D1**

**Planning Area Existing Loads**



# MapShed Results

UPPER EASH BRANCH BRANDYWINE CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	2	2331.40	1165.70	9.20	4.58	1.70	0.86
Forest	2	26.60	13.30	0.10	0.07	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	15	2560.50	170.70	14.90	0.99	1.80	0.12
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	15	351.00	23.40	8.10	0.54	0.90	0.06
MD Mixed	15	1444.50	96.30	32.00	2.13	3.60	0.24
HD Mixed	10	963.00	96.30	21.30	2.13	2.40	0.24
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		40169.80		20.1		6.1	0.005
Groundwater				262.4		3.6	0.003
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>59</b>	<b>47846.8</b>		<b>368.1</b>		<b>20.1</b>	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## PICKERING CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    Municipality Loads    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	7	100.10	14.30	0.60	0.08	0.10	0.01
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	5	916.50	183.30	5.10	1.02	0.60	0.12
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	5	114.50	22.90	2.70	0.54	0.30	0.06
MD Mixed	2	187.20	93.60	4.10	2.04	0.50	0.23
HD Mixed	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		9045.13		4.5		1.3	0.001
Groundwater				72.7		1.0	0.001
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>19</b>	<b>10363.4</b>		<b>89.7</b>		<b>3.8</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

LITTLE VALLEY CREEK – VALLEY CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\RI12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    Municipality Loads    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	2	217.40	108.70	1.60	0.80	0.40	0.19
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	17	290.70	17.10	2.70	0.16	0.30	0.02
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	59	13334.00	226.00	83.80	1.42	8.30	0.14
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	52	1175.20	22.60	28.10	0.54	3.10	0.06
MD Mixed	52	4976.40	95.70	122.70	2.36	13.50	0.26
HD Mixed	37	3540.90	95.70	87.00	2.35	9.60	0.26
LD Residential	2	45.20	22.60	1.10	0.54	0.10	0.06
MD Residential	2	191.40	95.70	4.70	2.35	0.50	0.26
HD Residential	2	191.20	95.60	4.70	2.35	0.50	0.26
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		178804.98		89.4		23.2	0.014
Groundwater				329.0		7.1	0.016
Point Sources				0.0		0.0	0.000
Septic Systems				22.0		0.0	0.003
<b>Totals</b>	<b>225</b>	<b>202767.4</b>		<b>776.8</b>		<b>66.6</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

MINGO CREEK – SCHUYLKILL RIVER  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    Municipality Loads    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	2	15.60	7.80	0.10	0.05	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	32	3308.80	103.40	23.40	0.73	2.20	0.07
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	22	314.60	14.30	7.90	0.36	0.90	0.04
MD Mixed	69	4360.80	63.20	100.70	1.46	11.00	0.16
HD Mixed	64	4044.80	63.20	93.40	1.46	10.20	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	5	316.00	63.20	7.30	1.46	0.80	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		308607.48		154.3		43.5	0.009
Groundwater				470.4		7.7	0.007
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	194	320968.1		857.5		76.3	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

PLYMOUTH CREEK – SCHUYLKILL RIVER  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    **Municipality Loads**    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	2	55.60	27.80	0.20	0.09	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	22	6965.20	316.60	25.50	1.16	3.70	0.17
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	37	536.50	14.50	13.30	0.36	1.50	0.04
MD Mixed	96	6144.00	64.00	139.20	1.45	15.40	0.16
HD Mixed	104	6656.00	64.00	150.80	1.45	16.60	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		346834.33		173.4		44.3	0.010
Groundwater				406.7		9.4	0.009
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>261</b>	<b>367191.6</b>		<b>909.1</b>		<b>90.9</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

## LOWER WISSAHICKON CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    **Municipality Loads**    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	7	111.30	15.90	0.40	0.06	0.10	0.01
Wetland	10	110.00	11.00	3.00	0.30	0.20	0.02
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	35	6576.50	187.90	39.20	1.12	3.90	0.11
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	27	361.80	13.40	8.60	0.32	1.10	0.04
MD Mixed	119	7068.60	59.40	151.10	1.27	16.70	0.14
HD Mixed	59	3504.60	59.40	74.90	1.27	8.30	0.14
LD Residential	2	26.80	13.40	0.60	0.32	0.10	0.04
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		192486.89		96.2		25.4	0.013
Groundwater				465.8		9.4	0.013
Point Sources				0.0		0.0	0.000
Septic Systems				14.8		0.0	0.002
<b>Totals</b>	<b>259</b>	<b>210246.5</b>		<b>854.6</b>		<b>65.2</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

## UPPER PENNYPACK CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	2	18.00	9.00	0.20	0.11	0.00	0.00
Wetland	2	14.80	7.40	0.60	0.30	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	5	692.50	138.50	5.10	1.02	0.50	0.09
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	12	157.20	13.10	3.80	0.32	0.50	0.04
MD Mixed	59	3522.30	59.70	78.50	1.33	8.90	0.15
HD Mixed	44	2626.80	59.70	58.50	1.33	6.60	0.15
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		108577.80		54.3		13.8	0.009
Groundwater				183.2		4.3	0.008
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>124</b>	<b>115609.4</b>		<b>384.2</b>		<b>34.6</b>	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

IRONWORKS CREEK – MILL CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	0	0.00	0.00	0.00	0.00	0.00	0.00
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Mixed	2	116.60	58.30	2.10	1.05	0.20	0.12
HD Mixed	2	116.80	58.40	2.10	1.05	0.20	0.12
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		4433.61		2.2		0.6	0.001
Groundwater				14.0		0.4	0.001
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	4	4667.0		20.4		1.4	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## POQUESSING CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	7	23.80	3.40	0.70	0.10	0.10	0.01
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	10	625.00	62.50	8.70	0.87	0.50	0.05
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	7	84.70	12.10	2.20	0.32	0.30	0.04
MD Mixed	37	2382.80	64.40	54.80	1.48	5.90	0.16
HD Mixed	40	2576.00	64.40	59.20	1.48	6.40	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	2	128.80	64.40	3.00	1.48	0.30	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		74580.46		37.3		9.6	0.008
Groundwater				160.2		3.6	0.008
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	103	80401.6		326.1		26.7	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

CORE CREEK – NESHAMINY CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	7	47.60	6.80	0.70	0.10	0.10	0.01
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	35	2278.50	65.10	30.50	0.87	1.80	0.05
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	44	567.60	12.90	14.10	0.32	1.80	0.04
MD Mixed	52	3172.00	61.00	61.40	1.18	6.80	0.13
HD Mixed	32	1952.00	61.00	37.80	1.18	4.20	0.13
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	2	122.00	61.00	2.40	1.18	0.30	0.13
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		175627.83		87.8		23.3	0.006
Groundwater				281.5		5.5	0.006
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	172	183767.5		516.2		43.8	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## MILL CREEK – SILVER LAKE PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	2	1.00	0.50	0.80	0.38	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	17	479.40	28.20	13.60	0.80	0.50	0.03
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	15	189.00	12.60	4.80	0.32	0.60	0.04
MD Mixed	32	2019.20	63.10	38.40	1.20	4.20	0.13
HD Mixed	10	631.00	63.10	12.00	1.20	1.30	0.13
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		42290.05		21.1		5.2	0.005
Groundwater				82.9		2.3	0.006
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	76	45609.7		173.6		14.1	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## STONY CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	2	17.60	8.80	0.20	0.12	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	15	1767.00	117.80	15.50	1.03	1.20	0.08
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	15	213.00	14.20	5.40	0.36	0.60	0.04
MD Mixed	7	455.70	65.10	9.60	1.37	1.10	0.16
HD Mixed	52	3380.00	65.00	71.20	1.37	8.30	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	2	130.00	65.00	2.70	1.37	0.30	0.16
HD Residential	2	130.20	65.10	2.70	1.37	0.30	0.16
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		72512.34		36.2		10.0	0.010
Groundwater				197.6		3.5	0.007
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>95</b>	<b>78605.8</b>		<b>341.1</b>		<b>25.3</b>	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## SKIPPACK CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	2	129.20	64.60	0.60	0.31	0.20	0.08
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	10	80.00	8.00	0.50	0.05	0.10	0.01
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	12	1216.80	101.40	8.80	0.73	0.80	0.07
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	10	147.00	14.70	3.60	0.36	0.40	0.04
MD Mixed	7	457.10	65.30	9.60	1.37	1.10	0.16
HD Mixed	44	2873.20	65.30	60.30	1.37	7.00	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	5	326.50	65.30	6.90	1.37	0.80	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		155232.00		77.6		22.7	0.005
Groundwater				275.5		4.1	0.003
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>90</b>	<b>160461.8</b>		<b>443.4</b>		<b>37.2</b>	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

EAST BRANCH PERKIOMEN CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    **Municipality Loads**    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	7	760.20	108.60	7.10	1.01	0.60	0.09
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	5	73.50	14.70	1.80	0.36	0.20	0.04
MD Mixed	5	325.50	65.10	6.70	1.34	0.80	0.15
HD Mixed	12	781.20	65.10	16.10	1.34	1.80	0.15
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		37977.67		19.0		6.1	0.002
Groundwater				121.8		1.5	0.001
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>29</b>	<b>39918.1</b>		<b>172.5</b>		<b>11.0</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

LITTLE LEHIGH CREEK – LEHIGH RIVER  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	2	34.80	17.40	0.10	0.07	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	2	65.80	32.90	0.90	0.46	0.10	0.05
Open Land	22	4023.80	182.90	20.20	0.92	2.40	0.11
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	20	298.00	14.90	7.20	0.36	0.80	0.04
MD Mixed	12	786.00	65.50	17.40	1.45	1.90	0.16
HD Mixed	40	2620.00	65.50	58.00	1.45	6.40	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	2	131.00	65.50	2.90	1.45	0.30	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		59332.29		29.7		7.9	0.005
Groundwater				186.2		3.6	0.004
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>100</b>	<b>67291.7</b>		<b>322.6</b>		<b>23.4</b>	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

LIEBERT CREEK – LITTLE LEHIGH CREEK  
PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals    Municipality Loads    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	7	1024.80	146.40	8.50	1.21	0.80	0.11
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	12	186.00	15.50	4.40	0.37	0.50	0.04
MD Mixed	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Mixed	40	2692.00	67.30	55.60	1.39	6.40	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	2	134.60	67.30	2.80	1.39	0.30	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		52766.50		26.4		8.4	0.010
Groundwater				317.8		4.0	0.003
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>61</b>	<b>56803.9</b>		<b>415.5</b>		<b>20.4</b>	

Source Weighting

Print    Export to JPEG    Exit



# MapShed Results

## LOWER JORDAN CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\

Watershed Totals Municipality Loads Regulated Loads Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	0	0.00	0.00	0.00	0.00	0.00	0.00
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	2	31.60	15.80	0.70	0.37	0.10	0.04
MD Mixed	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Mixed	7	466.90	66.70	10.90	1.55	1.20	0.17
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		9683.40		4.8		1.5	0.001
Groundwater				94.0		1.2	0.001
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
Totals	9	10181.9		110.4		4.0	

Source Weighting

Print Export to JPEG Exit



# MapShed Results

## COPLAY CREEK PLANNING AREA

Select input data file: W:\Projects\2012 Projects and Proposals\R12-0564.015 PTC MS4\MapShed\Delaware-Mapshed Runfiles\De

Watershed Totals    Municipality Loads    Regulated Loads    Unregulated Loads

View loads for municipality: (87280)

Source	Source Area (ac)	Sediment		Nitrogen		Phosphorus	
		Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)	Total Load (lb)	Loading Rate (lb/ac)
Hay/Pasture	0	0.00	0.00	0.00	0.00	0.00	0.00
Cropland	0	0.00	0.00	0.00	0.00	0.00	0.00
Forest	0	0.00	0.00	0.00	0.00	0.00	0.00
Wetland	0	0.00	0.00	0.00	0.00	0.00	0.00
Disturbed	0	0.00	0.00	0.00	0.00	0.00	0.00
Turfgrass	0	0.00	0.00	0.00	0.00	0.00	0.00
Open Land	10	1194.00	119.40	11.50	1.15	1.00	0.10
Bare Rock	0	0.00	0.00	0.00	0.00	0.00	0.00
Sandy Areas	0	0.00	0.00	0.00	0.00	0.00	0.00
Unpaved Roads	0	0.00	0.00	0.00	0.00	0.00	0.00
LD Mixed	22	341.00	15.50	8.10	0.37	0.90	0.04
MD Mixed	2	135.00	67.50	2.80	1.41	0.30	0.16
HD Mixed	59	3982.50	67.50	83.20	1.41	9.40	0.16
LD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
MD Residential	5	337.50	67.50	7.10	1.41	0.80	0.16
HD Residential	0	0.00	0.00	0.00	0.00	0.00	0.00
Water	0						
Farm Animals				0.0		0.0	0.000
Tile Drainage		0.00		0.0		0.0	0.000
Stream Bank		64509.61		32.3		10.8	0.028
Groundwater				466.0		5.3	0.009
Point Sources				0.0		0.0	0.000
Septic Systems				0.0		0.0	0.000
<b>Totals</b>	<b>98</b>	<b>70499.6</b>		<b>611.0</b>		<b>28.5</b>	

Source Weighting

Print    Export to JPEG    Exit



**D2**

**Land Use Distribution Summary**



**LAND USE DISTRIBUTION SUMMARY**  
**PTC MS4 PLANNING AREA**  
(ACRES)



LAND USE		WATERSHED NAME																			
MAPSHED NAME	CAST NAME	Pickering Creek	Upper East Branch Brandywine Creek	Little Valley Creek - Valley Creek	Mingo Creek - Schuylkill River	Plymouth Creek - Schuylkill River	Lower Wissahickon Creek	Upper Pennypack Creek	Ironworks Creek - Mill Creek	Poquessing Creek	Core Creek-Neshaminy Creek	Mill Creek-Silver Lake	Stony Creek	Skippack Creek	East Branch Perkiomen Creek	Little Lehigh Creek - Lehigh River	Liebert Creek - Little Lehigh Creek	Lower Jordan Creek	Coplay Creek	Total Delaware River Basin	
Hay/Pasture	Pasture	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	4	
Cropland	Double Cropped Land	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Forest	True Forest	7	2	17	2	2	7	2	0	7	7	0	2	10	0	2	0	0	0	67	
Wetland	Non-tidal Floodplain Wetland	0	0	0	0	0	10	2	0	0	0	2	0	0	0	0	0	0	0	14	
Disturbed	Regulated Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Turfgrass	MS4 Turfgrass	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	
Open Land	Mixed Open	5	15	59	32	22	35	5	0	10	35	17	15	12	7	22	7	0	10	308	
Bare Rock	Non-Regulated Buildings and C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sandy Areas	Non-Regulated Buildings and C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Unpaved Roads	No Equivalent	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Low-Density (LD) Mixed	MS4 Buildings and Other	5	15	52	22	37	27	12	0	7	44	15	15	10	5	20	12	2	22	322	
Medium Density (MD) Mixed	MS4 Buildings and Other	2	15	52	69	96	119	59	2	37	52	32	7	7	5	12	0	0	2	568	
High-Density (HD) Mixed	MS4 Buildings and Other	0	10	37	64	104	59	44	2	40	32	10	52	44	12	40	40	7	59	656	
Low-Density (LD) Residential	MS4 Buildings and Other	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4	
Medium Density (MD) Residential	MS4 Buildings and Other	0	0	2	5	0	0	0	0	2	2	0	2	5	0	2	2	0	5	27	
High-Density (HD)Residential	MS4 Buildings and Other	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	
Water	Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL		19	59	225	194	261	259	124	4	103	172	76	95	90	29	100	61	9	98	1978	



**APPENDIX E –  
BMP CONCEPT DESIGN AND  
SUPPORT INFORMATION**



**E1**

**Project Location Map**

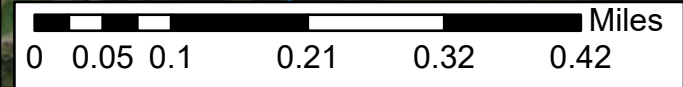




Legend

— Stream (3,903 linear feet within project boundary)

▭ East Whiteland Site



**Rippled Waters**

Rippled Waters Engineering  
Milford, NJ 08848  
mary@rippledwatersllc.com  
www.rippledwatersllc.com

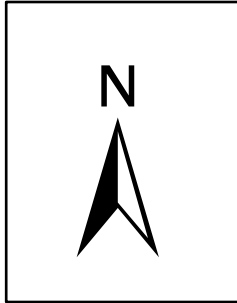


**WORKING LANDS**  
INVESTMENT PARTNERS, LLC

Delaware Watershed MS4 Project  
Valley Creek Stream Restoration  
East Whiteland Township  
Chester County  
Pennsylvania

Project Notes:

1. Aerial Map taken on August 1st, using ArcGIS Pro.
2. 2022 Chester County Tax Parcels were used to generate the site boundary.
3. April 2022 Impaired Waterways data was used for the stream shapefile.







Legend

— Stream (3,903 linear feet within project boundary)

East Whiteland Site



**Rippled Waters**

Rippled Waters Engineering  
Milford, NJ 08848  
mary@rippledwatersllc.com  
www.rippledwatersllc.com

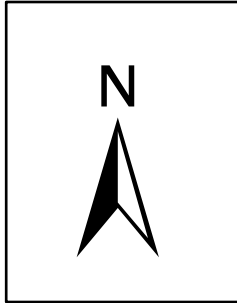


**WORKING LANDS**  
INVESTMENT PARTNERS, LLC

Delaware Watershed MS4 Project  
Valley Creek Stream Restoration  
East Whiteland Township  
Chester County  
Pennsylvania

Project Notes:

1. USGS Topo Map taken on August 1st, using ArcGIS Pro.
2. 2022 Chester County Tax Parcels were used to generate the site boundary.
3. April 2022 Impaired Waterways data was used for the stream shapefile.

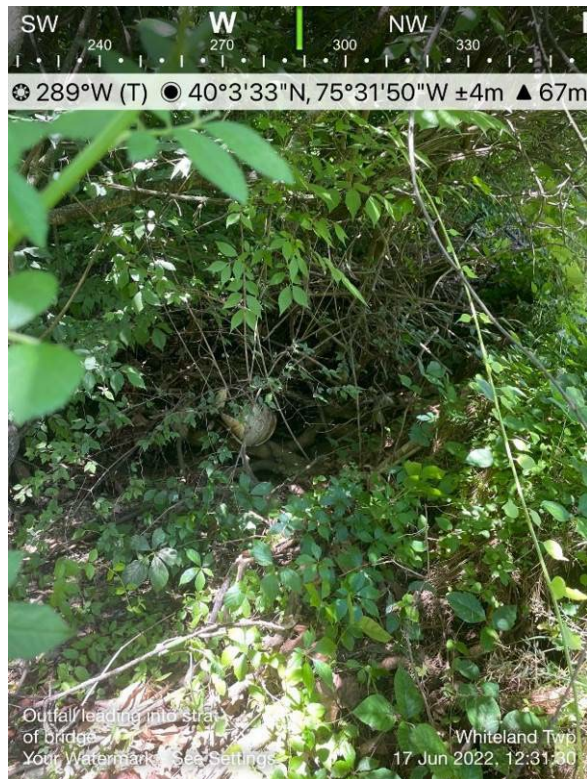




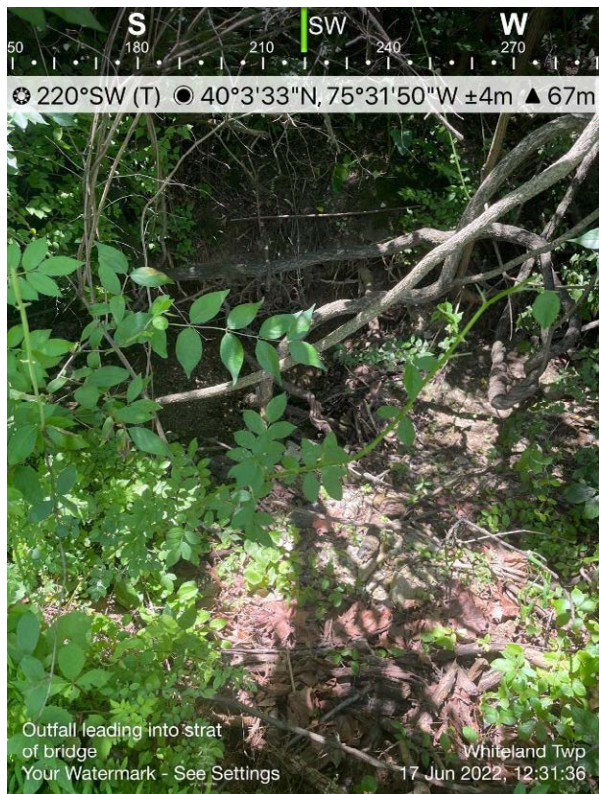
**E2**

**Valley Creek Existing Conditions Photographs**





**Photo 1:** View of stream bank erosion facing west-northwest.

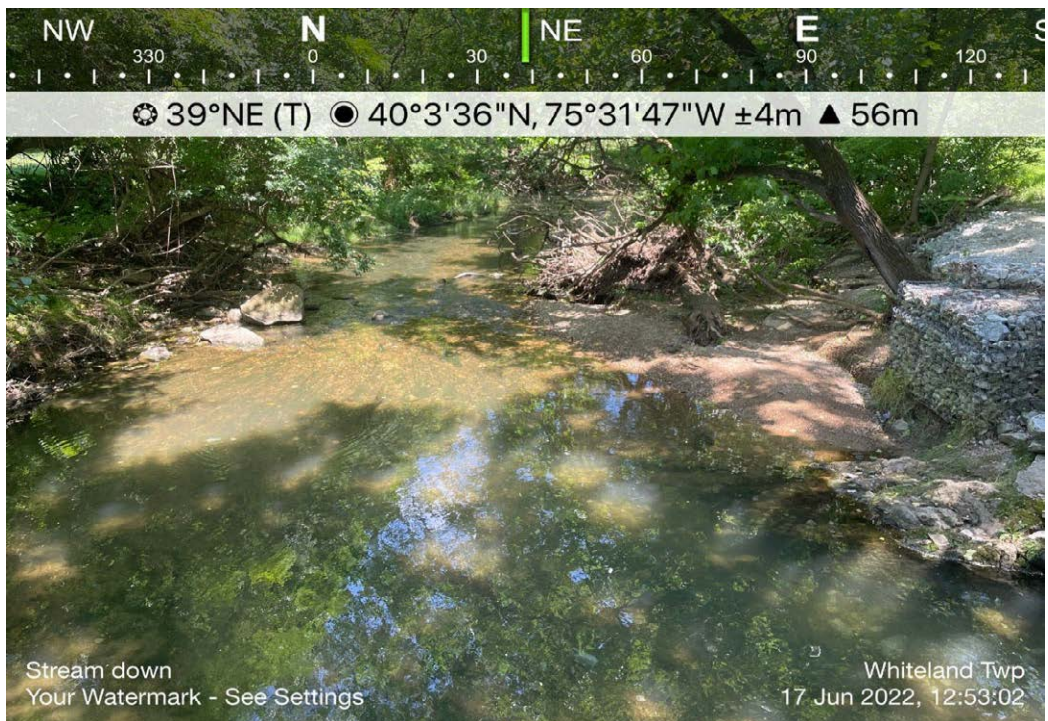


**Photo 2:** View of stream bank erosion facing southwest.





**Photo 3:** View of walking bridge facing east-southeast.



**Photo 4:** View of stream downstream of walking bridge facing northeast.





**Photo 5:** View of right bank of walking bridge facing east-northeast.



**Photo 6:** View of right bank from the left bank facing east.





**Photo 7:** View of outflow facing north.

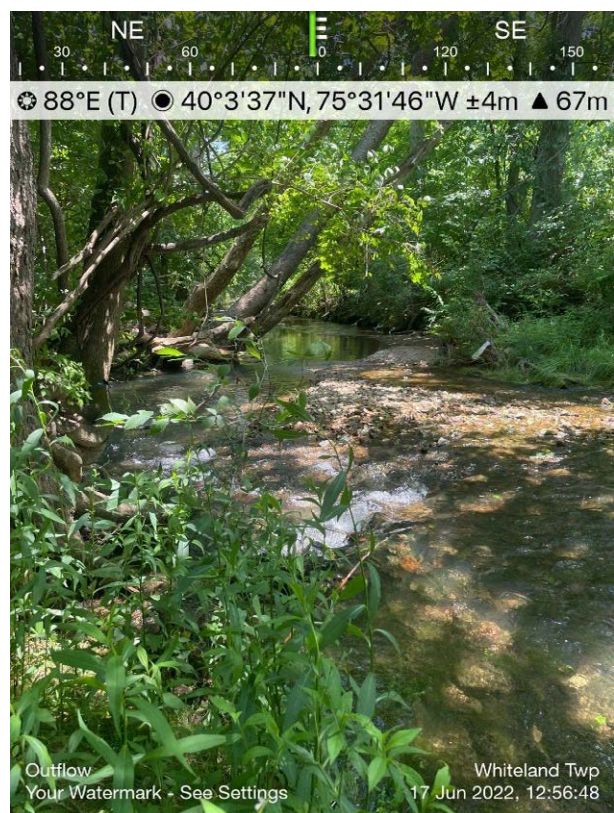


**Photo 8:** View of outflow facing west-northwest.





**Photo 9:** View of fencing in outflow facing south-southwest.



**Photo 10:** View of right bank from outflow facing east.





**Photo 11:** View of left bank facing southwest.



**Photo 12:** View of stream channel facing east.





**Photo 13:** View of right bank from the left bank facing south-southeast.



**Photo 14:** View of right bank from the left bank facing south-southwest.



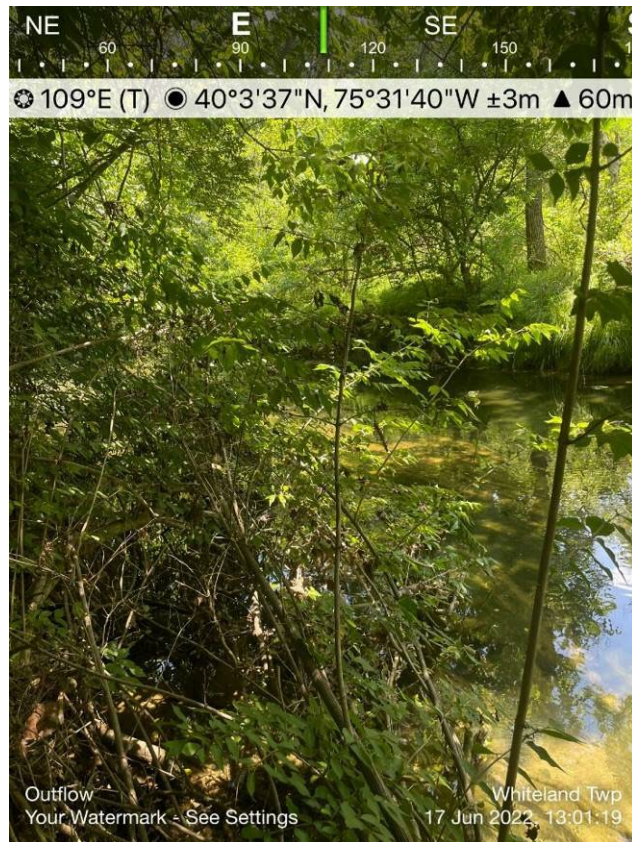


**Photo 15:** View of right bank from left bank facing south-southwest.



**Photo 16:** View of right bank and stream channel facing south.





**Photo 17:** View of right bank from the left bank facing east-southeast.

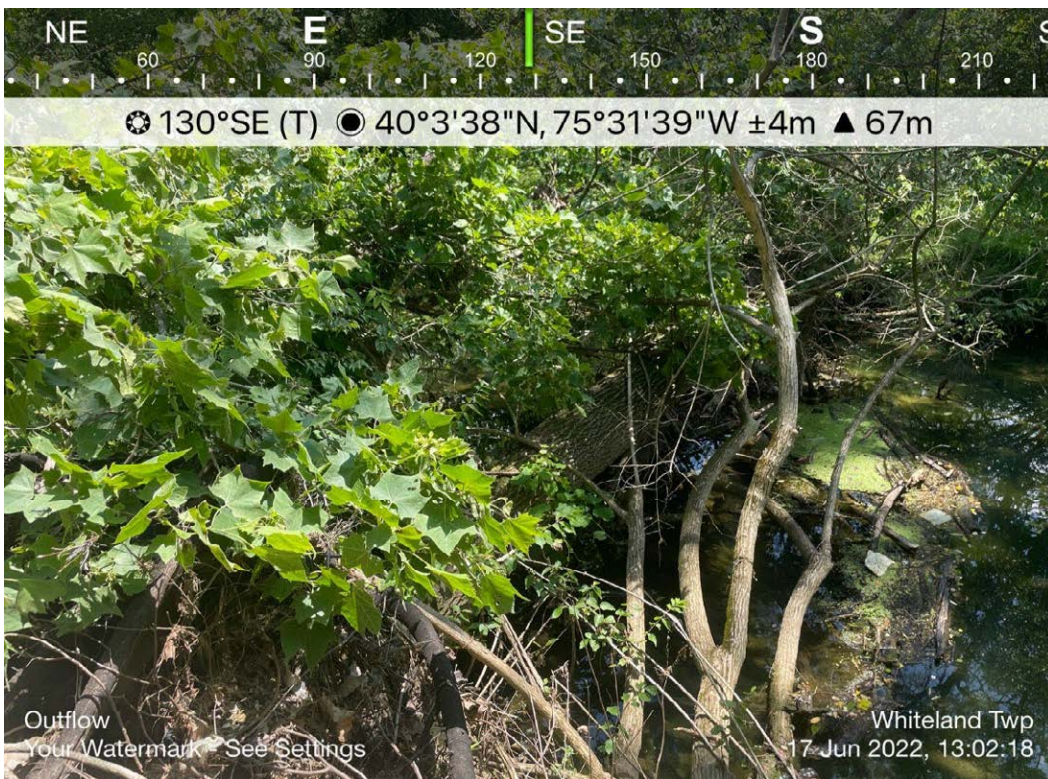


**Photo 18:** View of right bank from the left bank facing east-southeast.





**Photo 19:** View of right bank and stream channel facing south-southwest.



**Photo 20:** View of left bank facing southeast.



**E3**

**Conceptual BMP Design Plan**



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# CONCEPTUAL POLLUTANT REDUCTION PLAN DESIGNS

## CHESTER & BUCKS COUNTIES, PENNSYLVANIA



**Rippled Waters**  
ENGINEERING, LLC  
MILFORD, NJ 08848  
732.735.3440  
MARY@RIPPLEDWATERSLLC.COM



**WORKING LANDS**  
INVESTMENT PARTNERS, LLC

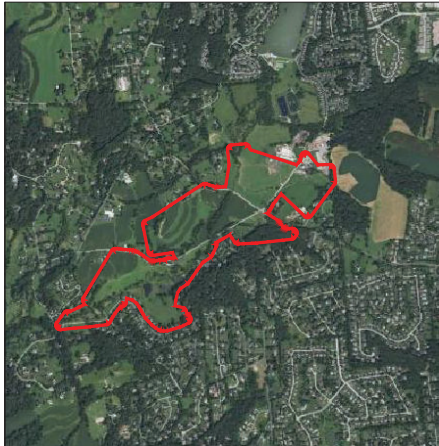
CONCEPTUAL  
POLLUTANT REDUCTION  
PLAN DESIGNS

TITLE SHEET

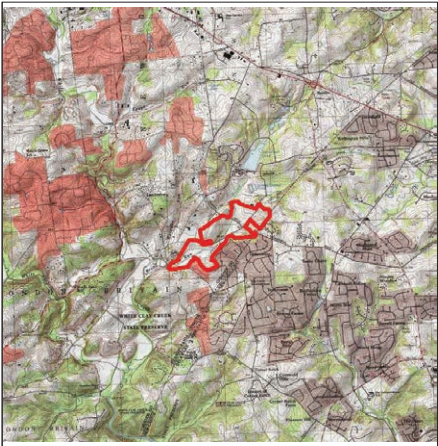
THIS DOCUMENT IS  
RELEASED FOR THE  
PURPOSE OF REVIEW  
UNDER THE AUTHORITY OF  
MARY PAIST-GOLDMAN,  
P.E. PE078834  
ON 08/02/2022. IT IS NOT TO  
BE USED FOR BIDDING OR  
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WITHOUT CONSENT OF  
RIPPLED WATERS  
ENGINEERING.

REVISIONS		
NO.	DATE	DESC.
DRAWN BY MA		
CHECK BY MPG		
ENGINEER MPG		
PROJECT NO. WL-003		
DATE 08/02/2022		
SHEET NO. 1 OF 21		

### NEW GARDEN SITE: BROAD RUN



AERIAL LOCATION MAP  
SCALE: 1"=2000'

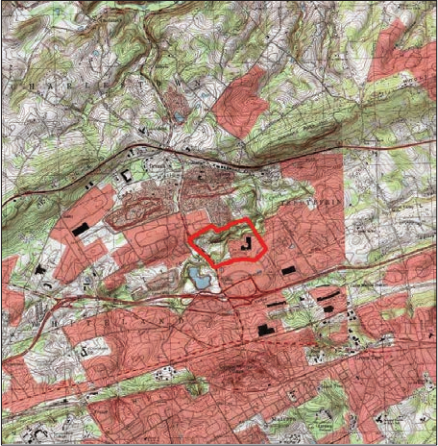


USGS LOCATION MAP  
SCALE: 1"=5000'

### EAST WHITELAND SITE: VALLEY CREEK

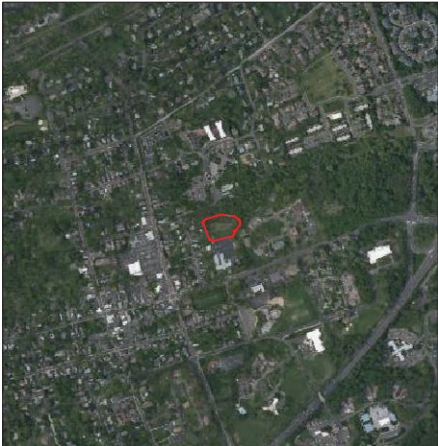


AERIAL LOCATION MAP  
SCALE: 1"=2000'

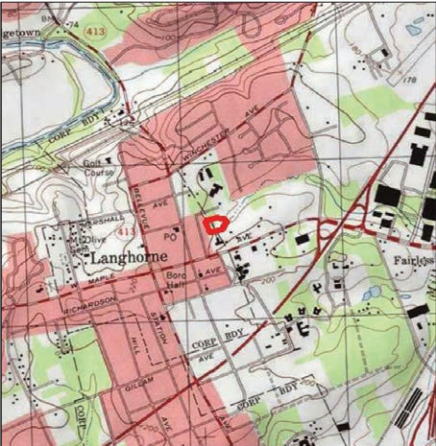


USGS LOCATION MAP  
SCALE: 1"=5000'

### LANGHORNE SITE: CATCH BASIN



AERIAL LOCATION MAP  
SCALE: 1"=1000'



USGS LOCATION MAP  
SCALE: 1"=2000'

## SHEET INDEX

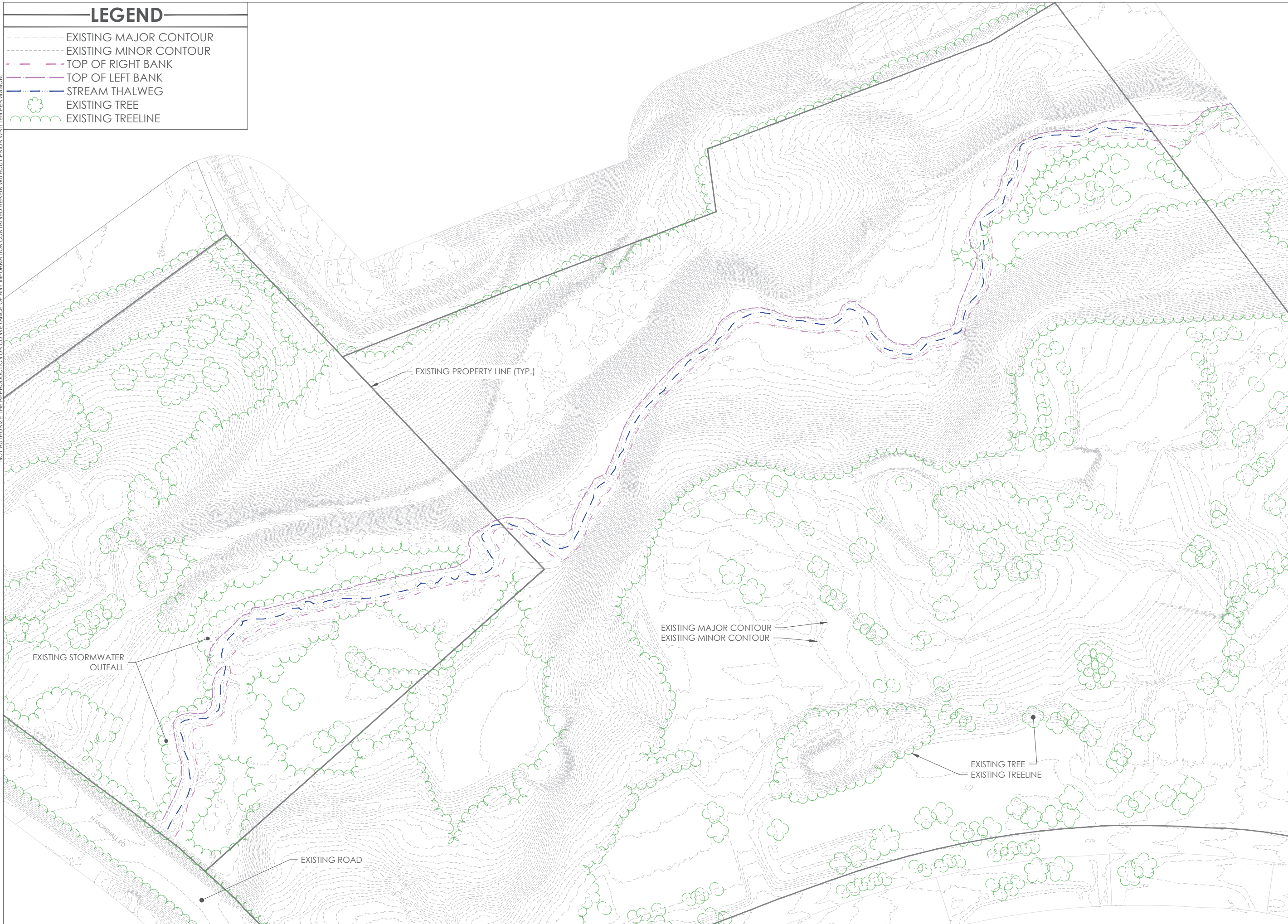
- SHEET 1: TITLE SHEET
- SHEETS 2 - 4: NEW GARDEN EXISTING CONDITIONS
- SHEET 5: EAST WHITELAND EXISTING CONDITIONS
- SHEET 6: LANGHORNE EXISTING CONDITIONS
- SHEETS 7 - 9: NEW GARDEN PROPOSED CONDITIONS
- SHEET 10: EAST WHITELAND PROPOSED CONDITIONS
- SHEET 11: LANGHORNE PROPOSED CONDITIONS
- SHEETS 12 - 13: NEW GARDEN CROSS SECTIONS
- SHEETS 14: EAST WHITELAND CROSS SECTIONS
- SHEETS 15 - 17: NEW GARDEN PLANTING PLAN
- SHEETS 18: EAST WHITELAND PLANTING PLAN
- SHEETS 19 - 20: CONSTRUCTION DETAILS
- SHEETS 21: EROSION & SEDIMENT CONTROL DETAILS



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LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- TOP OF RIGHT BANK
- TOP OF LEFT BANK
- STREAM THALWEG
- EXISTING TREE
- EXISTING TREELINE



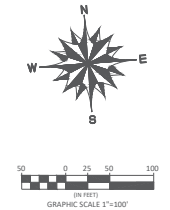
  
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EAST WHITELAND TOWNSHIP  
EXISTING CONDITIONS

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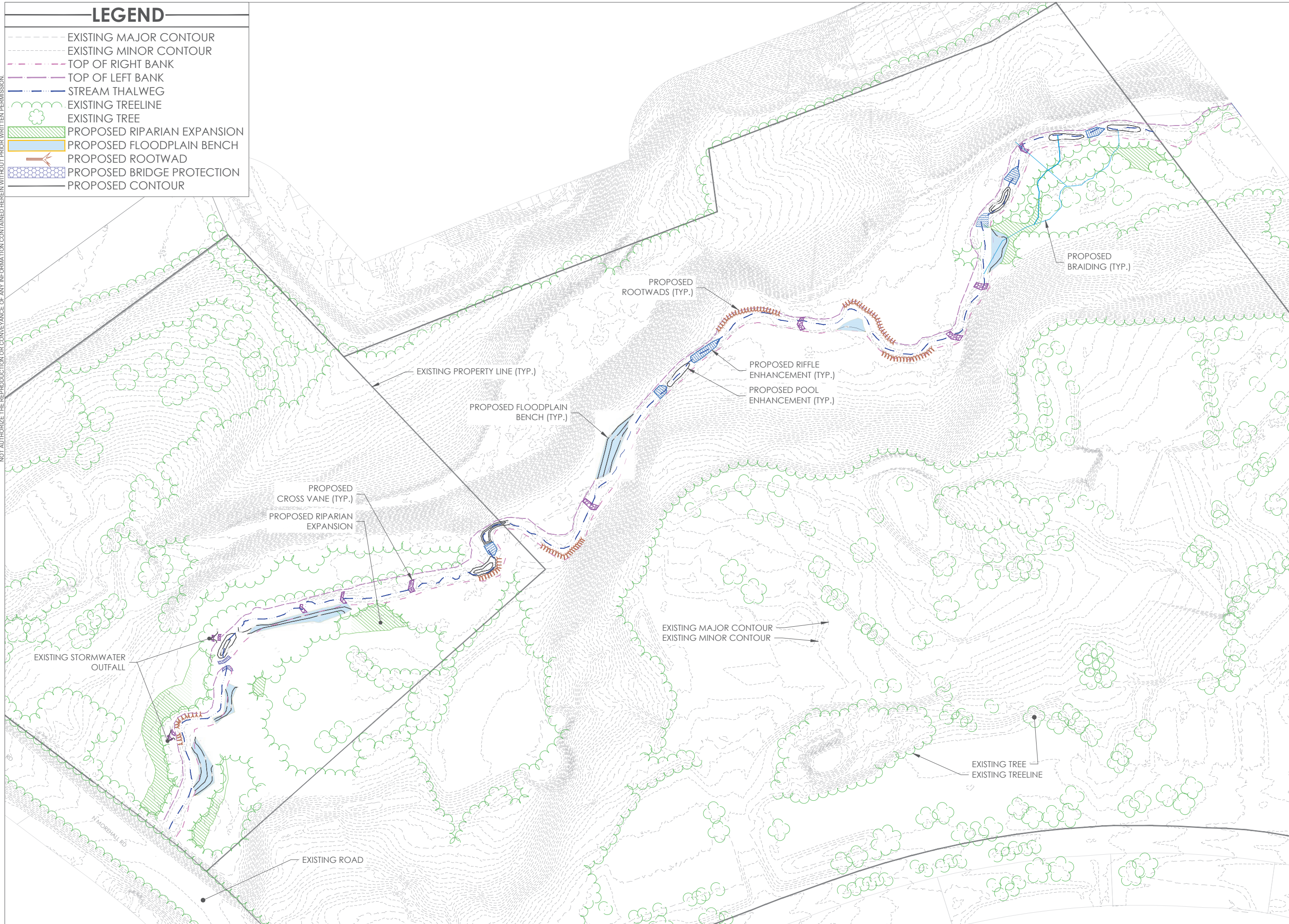
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# LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- TOP OF RIGHT BANK
- TOP OF LEFT BANK
- STREAM THALWEG
- EXISTING TREELINE
- EXISTING TREE
- PROPOSED RIPARIAN EXPANSION
- PROPOSED FLOODPLAIN BENCH
- PROPOSED ROOTWAD
- PROPOSED BRIDGE PROTECTION
- PROPOSED CONTOUR



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GRAPHIC SCALE 1"=100'

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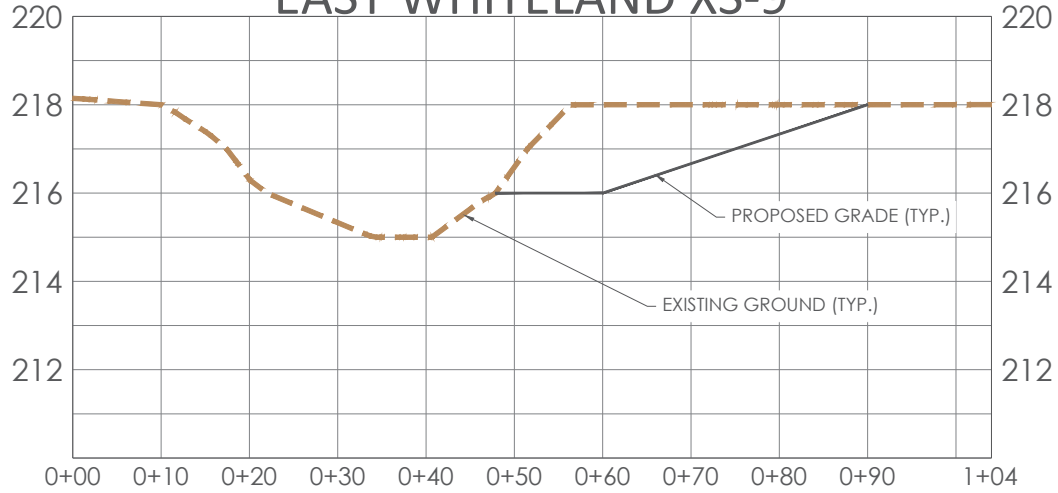
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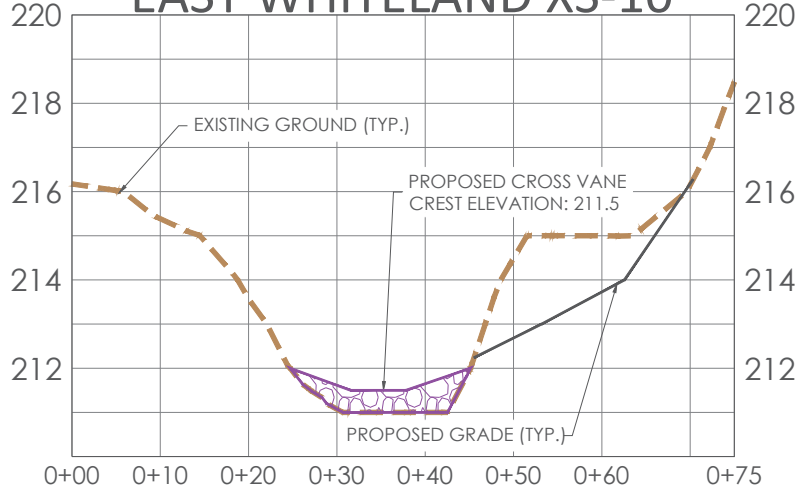


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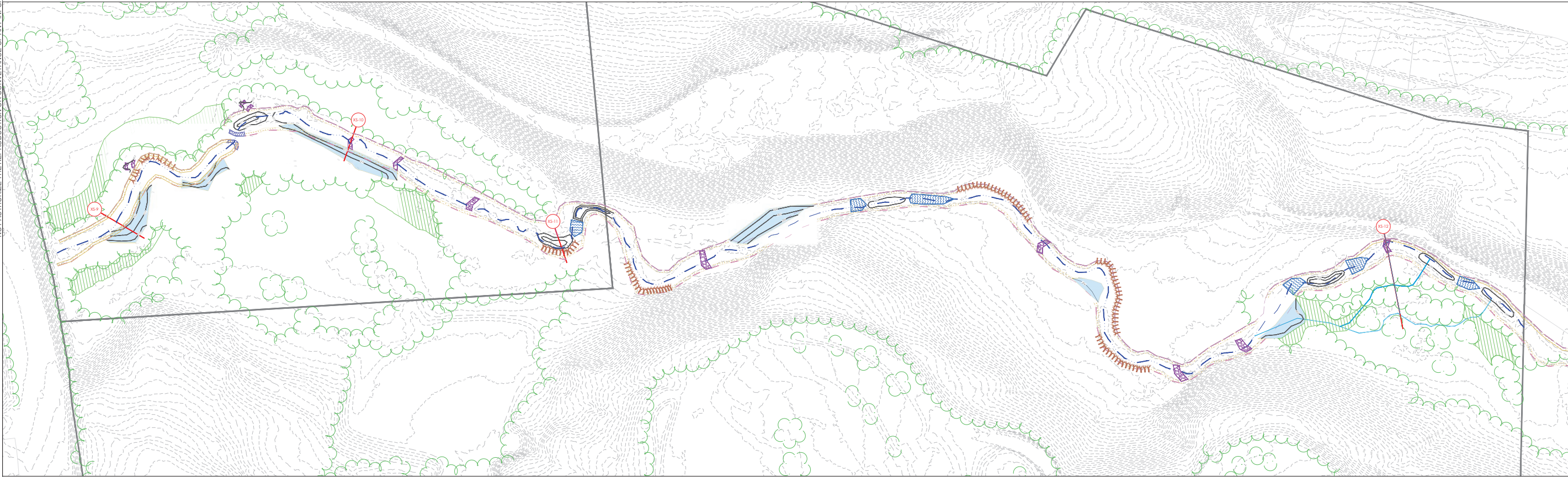
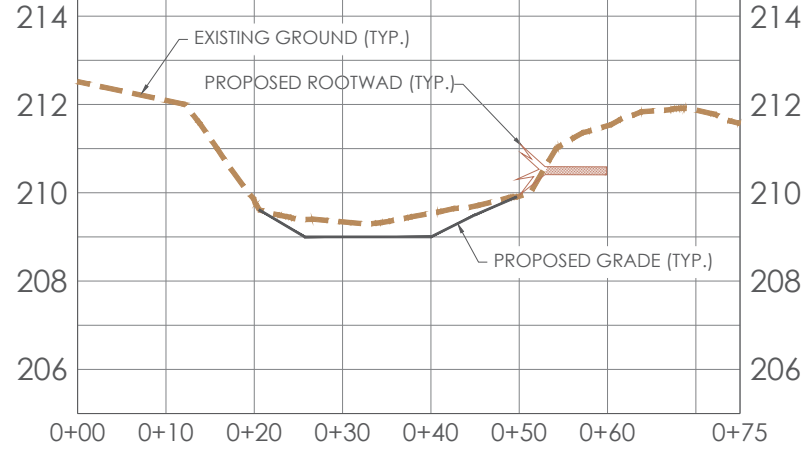
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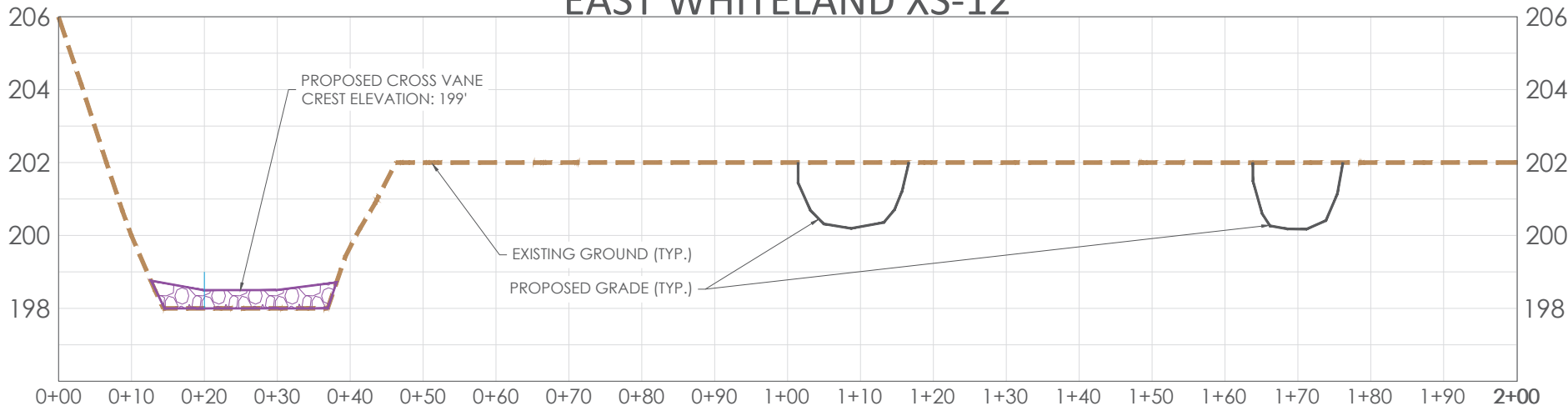
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### EAST WHITELAND X-11



### EAST WHITELAND XS-12



SCALE BAR: 1" = 10'-0"

#### LEGEND

- EXISTING GRADE
- PROPOSED GRADE
- PROPOSED CROSS VANE
- PROPOSED ROOTWAD

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EAST WHITELAND TOWNSHIP  
CROSS SECTIONS

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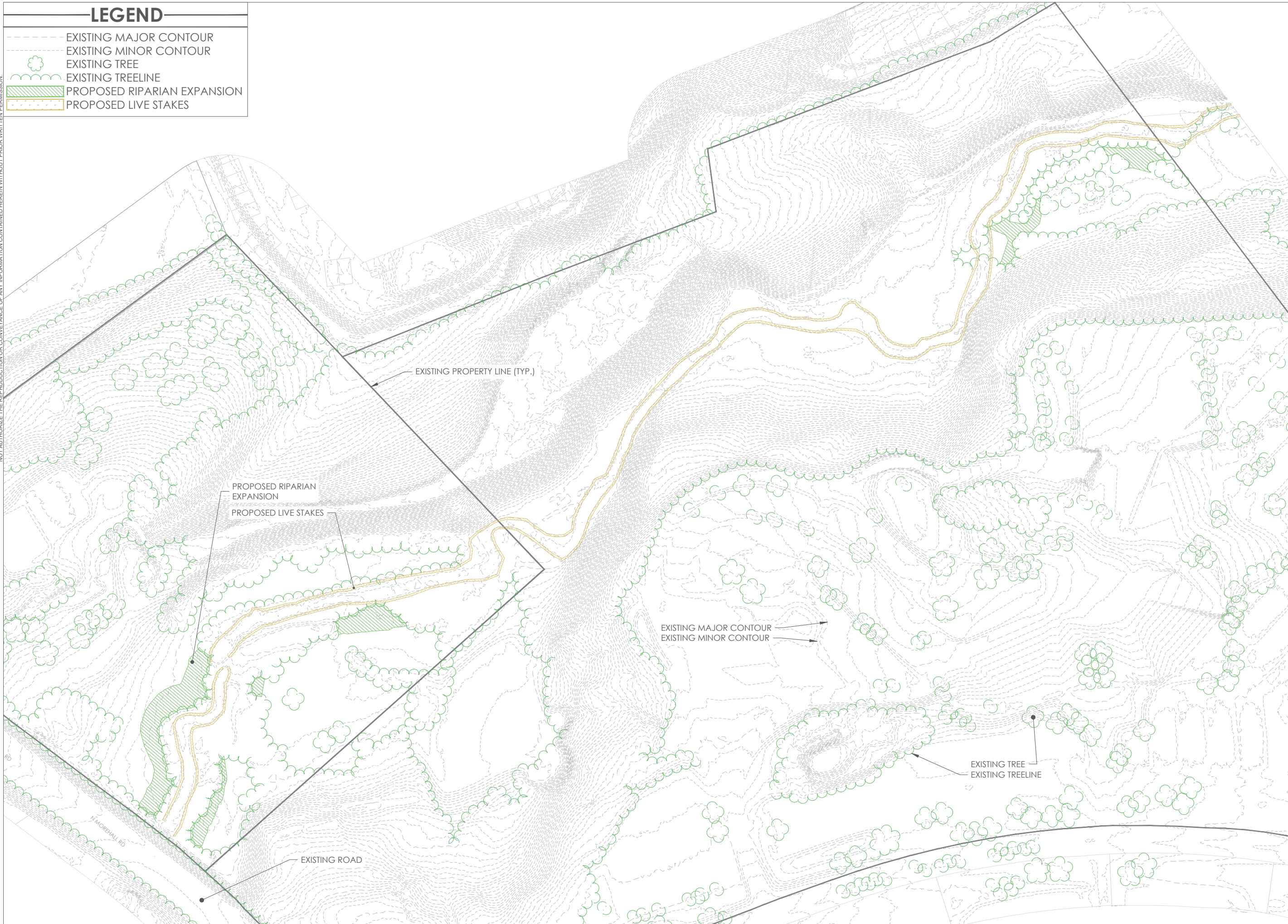
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LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE
- EXISTING TREELINE
- PROPOSED RIPARIAN EXPANSION
- PROPOSED LIVE STAKES



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EAST WHITELAND TOWNSHIP  
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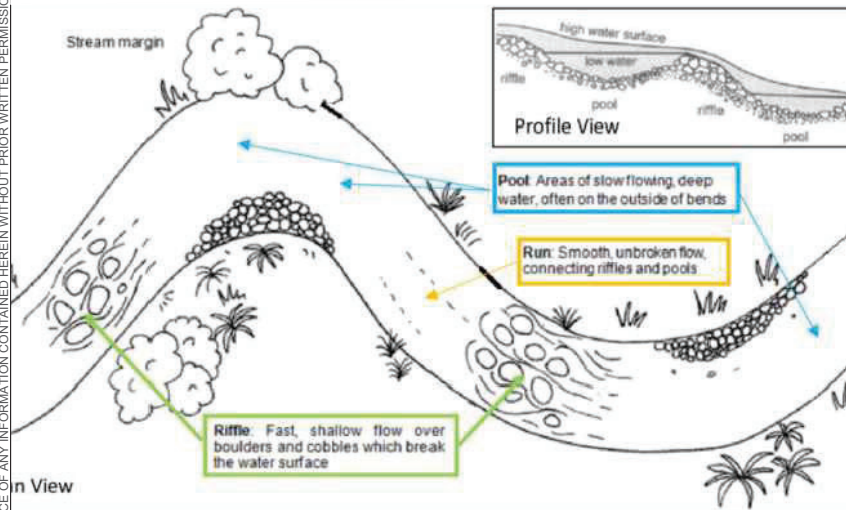
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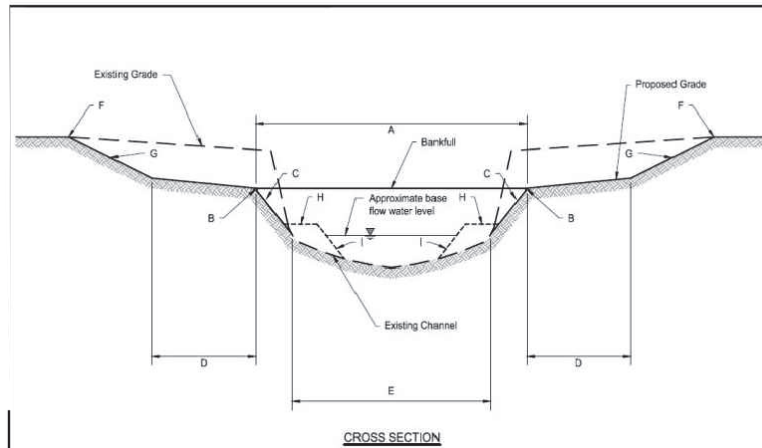
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RIFFLE ENHANCEMENT DETAIL



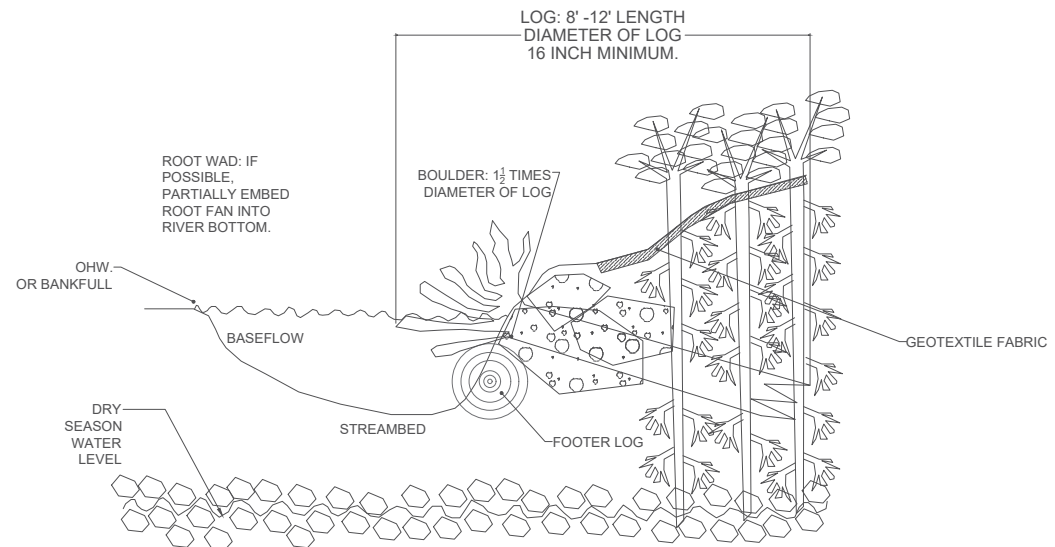
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FLOODPLAIN BENCH DETAIL



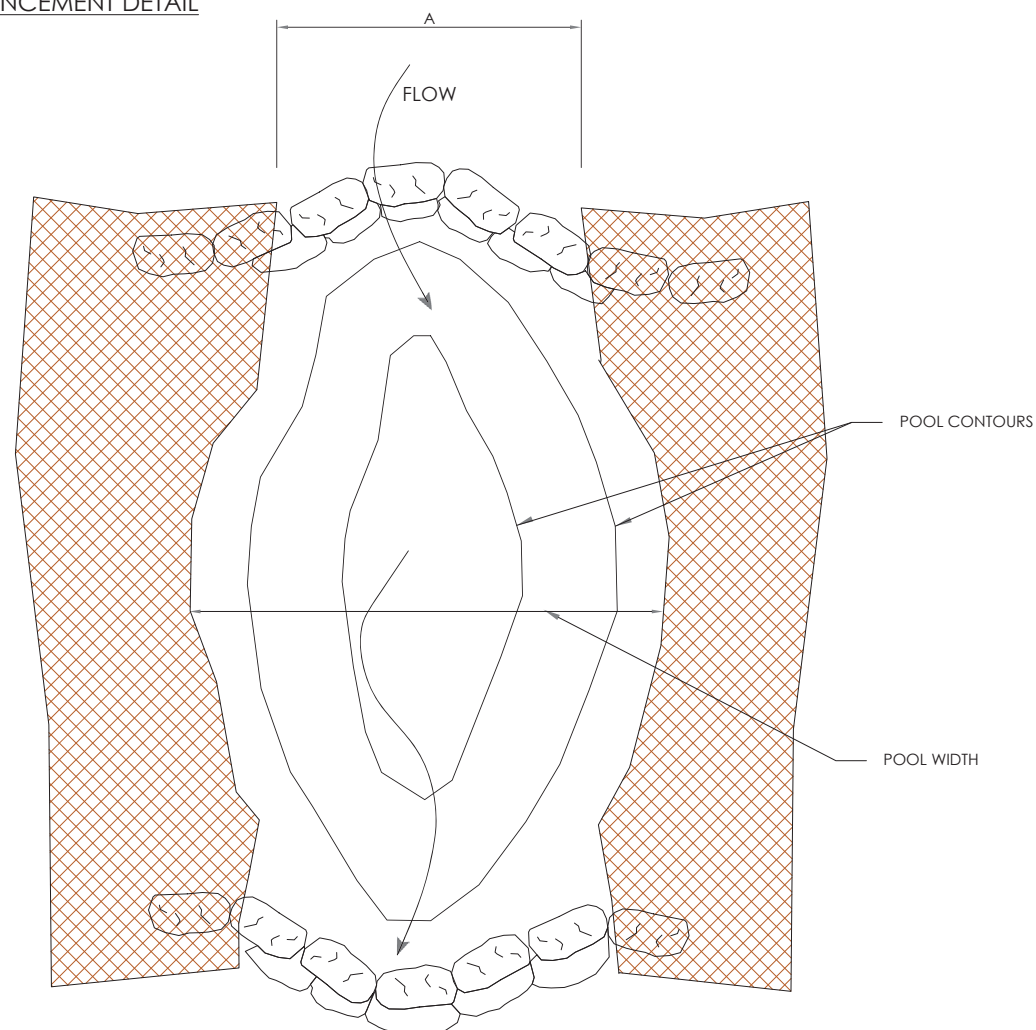
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ROOTWAD DETAIL



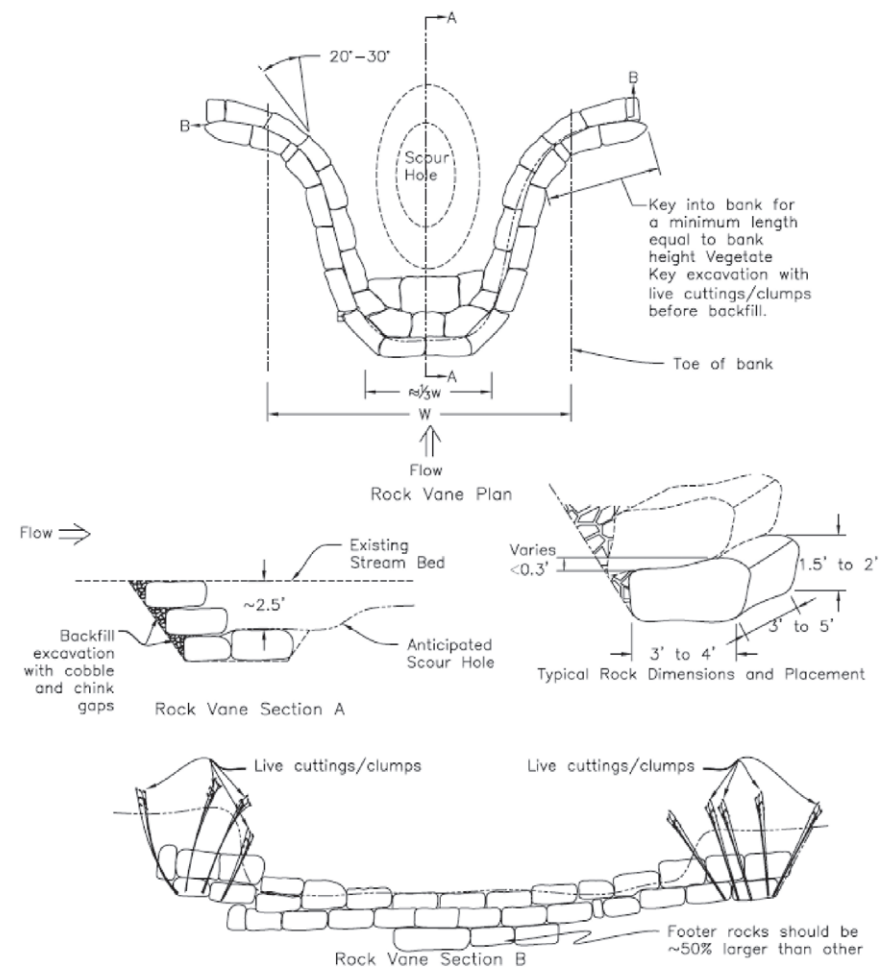
19  
D

POOL ENHANCEMENT DETAIL



19  
E

CROSS VANE DETAIL



Notes: The rocks should be rectangular or nearly so at the rock to rock contact. The rock to rock contact should be solid. If rocks are not perfectly flat, the thicker end should be placed downstream.

Conceptual Plan - Not for Construction

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CHESTER COUNTY  
STREAM RESTORATION  
PROJECT

CONSTRUCTION  
DETAILS  
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**E4**

**Example Conservation Easement Agreement**



**APPENDIX E**  
**Conservation Easement**  
**Agreement Example**



# **Model Grant of Conservation Easement and Declaration of Covenants with Commentary**



**Seventh Edition**

**Model updated 11/8/2021**

**Commentary updated 11/8/2021**



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# Preface

The *Model Grant of Conservation Easement and Declaration of Covenants with Commentary* provides users with a state-of-the-art legal document and guidance to customize it to nearly any situation. The model, which was first published in 2005, is informed by many years of regular and heavy use by land trusts, governments, and landowners across Pennsylvania and across the nation. No conservation easement document has benefited from more real-world testing, user scrutiny, and cycles of peer review.

The model's expansive commentary explains the reasoning behind every provision, instructs on applying the model to particular circumstances, and provides alternative and optional provisions to address a variety of variables.

The model uses plain language and careful formatting to improve readability. Its flexible structure helps users avoid drafting errors when adapting it to their particular projects. The model provides for three levels of protection to deal with variations in conservation objectives across a property, but one or two levels can easily be removed for use with simpler projects.

The model is tailored to Pennsylvania state law, and the Pennsylvania Department of Conservation and Natural Resources requires its use for DCNR grant projects. It has been applied to numerous local government and federally-funded projects and has been adapted for use in states from Arkansas to Alaska.

## Notes on the Seventh Edition

Moving from the sixth to seventh edition of the model involved an extensive and intensive, multi-year drafting and review process—in-person user discussions, webinars, and postings of drafts (six in all) for public review and comment.

In the years following the seventh edition's publication in 2016, WeConservePA has posted numerous additions and updates to the commentary. It has also posted several changes to the model, which are itemized below:

§3.02(c) – 5/18/2017

§6.04 – 5/3/2019

§1.07(e), §6.01(c), and two article 9 definitions – 3/5/2020

§8.09(f) and §7.06 – 10/27/2020

§1.04(b)(1) and §1.07(a) – 11/8/2021

Brief explanations of these changes can be viewed at [WeConservePA.org](https://www.WeConservePA.org).

## Use the Newest Version

WeConservePA frequently updates its model legal documents and guides to address changes in the law and new understandings of conservation practices. Check the WeConservePA websites [ConservationTools.org](https://www.ConservationTools.org) or [WeConservePA.org](https://www.WeConservePA.org) for the most up-to-date material.



## Help Improve the Model

WeConservePA welcomes suggestions for improving its guidance. Please email your comments to [info@weconservepa.org](mailto:info@weconservepa.org).

*Nothing contained in the model and commentary is intended to be relied upon as legal advice or to create an attorney-client relationship. The material presented is generally provided in the context of Pennsylvania law and, depending on the subject, may have more or less applicability elsewhere. There is no guarantee that it is up to date or error free.*

## Acknowledgements

**Patricia L. Pregmon, Esq.**, and **Andrew M. Loza** are the authors.

Many individuals shared ideas and constructive criticism that aided the development of prior editions of this guidance. The authors continue to appreciate their contributions and thank the following individuals who provided suggestions—big and small—that directly shaped the present edition:

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Rylan Coker	Norm Lacasse	Greg Schrum
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Kate Gonick	Nate Lotze	Allen Schweinsberg
Kate Harper	Jeff Marshall	Stan Stubbe
Steve Jaquith	John Meigs	Jeff Swinehart
Sean Kenny	Gene Odato	Lauren Pregmon Tetreault
Jackie Kramer	Robb Piper	

staff of the Land Trust Accreditation Commission  
staff of the Western Pennsylvania Conservancy

Apologies to any individuals who contributed but whom the authors inadvertently omitted from these acknowledgements.

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*Colcom Foundation*



**pennsylvania**  
DEPARTMENT OF CONSERVATION  
AND NATURAL RESOURCES



# Broad Run Stream Restoration

## New Garden Township, Chester County



### GENERAL INFORMATION

**Ownership:** Private

**Impacted Properties Anticipated:** 10

**Watershed:** Broad Run/E. Branch White Clay Creek

**Stream Restoration Length:** 18,143 ft.

**Latitude:** 75.7527967 degrees, W

**Longitude:** 39.7693377 degrees, N



### POLLUTANT LOAD REDUCTION

**New Garden Stream Restoration TSS (lbs/yr):** 332,173

**PennDOT Stream Restoration TSS (lbs/yr):** 1,653,190

### SECONDARY BENEFITS

**Protects private property:** Yes

**Protects infrastructure:** Yes

**Provides recreation opportunities:** Yes



### NOTES

- Severe erosion and sediment deposits to be addressed
- Existing stream bed slope to be modified with grade control devices/structures
- Existing debris and fallen trees to be removed
- Invasive species removal
- Riparian zone enhancement and creation proposed along both streambanks



# Valley Creek Stream Restoration

## East Whiteland Township, Chester County



### GENERAL INFORMATION

**Ownership:** Public/Private

**Impacted Properties Anticipated:** 2

**Watershed:** Valley Creek

**Stream Restoration Length:** 3,903 ft.

**Latitude:** 75.5277499 degrees, W

**Longitude:** 40.06050765 degrees, N



### POLLUTANT LOAD REDUCTION

**PA TPC Stream Restoration TSS (lbs/yr):** 103,660

**PennDOT Stream Restoration TSS (lbs/yr):** 273,542

### SECONDARY BENEFITS

**Protects private property:** Yes

**Protects infrastructure:** Yes

**Publicly accessible:** Yes



### NOTES

- Existing outfalls to be evaluated/reconstructed
- Existing pedestrian bridge structure to be evaluated
- Severe erosion and sediment deposits to be addressed
- Existing stream bed slope to be modified with grade control devices/structures
- Existing debris and fallen trees to be removed
- Riparian zone enhancement and creation proposed along both streambanks



# Langhorne Stormwater Basin Retrofit

## Langhorne Borough, Bucks County



### GENERAL INFORMATION

Ownership: Private

Impacted Properties Anticipated: 2

Watershed: Mill Creek

Basin Retrofit Area: 1.09 acres

Latitude: 74.9154494 degrees, W

Longitude: 40.1787273 degrees, N



### POLLUTANT LOAD REDUCTION

Langhorne Borough Retrofit TSS (lbs/yr): 8,547

PennDOT Stream Restoration TSS (lbs/yr): 26,943

### SECONDARY BENEFITS

Protects private property: Yes

Protects infrastructure: Yes



### NOTES

- Replacement of basin soils with bioretention soil media
- Use of underdrain, if required
- Removal of invasive species
- Planting of native species



**APPENDIX F –  
PUBLIC REVIEW COMMENTS**



Notice of the initial draft Delaware River PRP was published in the Pennsylvania Bulletin on September 24, 2022. The announcement directed the public to its website to review the PRP, and a 30-day comment period was provided. The public-comment period ended on October 24, 2022.

No comments were received during the Public Comment Period.



**APPENDIX G -  
PRELIMINARY FLUVIAL GEOMORPHOLOGY  
ASSESSMENT FOR PARCEL ID 42-4-51 & 42-16-53.3,  
EAST WHITELAND TOWNSHIP**





**PRELIMINARY FLUVIAL  
GEOMORPHOLOGY ASSESSMENT FOR  
PARCEL ID 42-4-51 & 42-16-53.3, EAST  
WHITELAND TOWNSHIP  
December 2022**

**Prepared by: Rippled Waters Engineering, LLC**

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## Appendices

Appendix A - Photographs

Appendix B - Mapping

Appendix C - Baseline Geomorphic Data Sheets



# 1.0 INTRODUCTION & SITE DESCRIPTION

Working Lands Investment Partners, LLC (herein referred to as Working Lands) has chosen this property (Parcels 42-16-53.3 & 42-4-51) to address a portion of the watershed pollutant load reduction requirements mandated by the United States Environmental Protection Agency (US EPA) and the Pennsylvania Department of Environmental Protection (PA DEP) to address Municipal Separate Storm Sewer System (MS4) load reductions for the Pennsylvania Department of Transportation (PennDOT) and the Pennsylvania Turnpike Commission (PTC). The site has been selected for stream restoration and riparian buffer enhancement.

The project site in question is Valley Creek is in East Whiteland Township, Chester County, Pennsylvania east of South Morehall Road and north of Valley Stream Parkway. The Valley Creek flows from east to west through the proposed project site in East Whiteland Township, Chester County, Pennsylvania in an area designated as an urban area based upon the 2010 United States Census. Based upon the information available from PADEP, Valley Creek's source of impairment is primarily from urban runoff and storm sewers causing siltation. The overall impervious cover associated with the watershed for the project area is 13.15 percent.

East Whiteland Township, Chester County was classified as an urbanized area per the 2010 United States Census. The Valley Creek stream restoration project is in Hydrologic Unit Code 12 (HUC-12) 020402031004. Valley Creek is a tributary to the Schuylkill River.

Parcel 42-4-51 is the upstream parcel known as Valley Creek Park, where the creek is accessible through walking paths and open field areas. The riparian zone near the Valley Creek Park site is less than 25 feet wide on the left bank and more than 100 feet wide on the right bank. Moving downstream, the riparian zone increases on the left bank while shrinking on the right bank. Moving into parcel 42-16-53.3, the riparian zone expands to over 100 feet wide on both banks.

The Valley Creek project site consists of 3,903 linear feet of stream and will include stream restoration and riparian buffer restoration and enhancement BMPs. The drainage area to the upstream project limit is 6.14 square miles.



## 2.0 BASELINE GEOMORPHIC INFORMATION

### 2.1 StreamStats Assessment

Rippled Waters Engineering, LLC (RWE) utilized the United States Geologic Survey (USGS) StreamStats program to evaluate potential bankfull characteristics at the project site. The bankfull flow values that StreamStats calculates are determined using regression equations, allowing for the calibration of the bankfull design discharges as estimated through the geomorphic survey. The total drainage area from the most downstream point of the project limit totals 4,102.4 acres (6.41 square miles). The percentage of the drainage area with urban development is 36.7% or 1505.6 acres and consists of 40.3% or 1653.3 acres of forest.

The bankfull cross-sectional area is approximately 15.8 square feet (sf) with a bankfull streamflow of 39.6 cubic feet per second (cfs).

Predicted peak-flow statistics for the watershed are described in the table below:

Table 1: StreamStats Peak-Flow Statistics

Statistic	Value (ft <sup>3</sup> /s)
50-percent AEP Flood	575
20-percent AEP Flood	980
10-percent AEP Flood	1320
4-percent AEP Flood	1810
2-Percent AEP Flood	2220
1-percent AEP Flood	2680
0.5-percent AEP Flood	3170
0.2-percent AEP Flood	3920

### 2.2 Design Discharge (Bankfull Determination)

WLIP contracted with RWE to conduct a preliminary geomorphic field assessment of the Valley Creek. The assessment was prepared to inform the design parameters for the proposed stream enhancement work at the project site.

RWE completed the geomorphic field assessment in accordance with the guidelines and standards outlined in the United States Fish and Wildlife Service (USFWS) “Final Draft Function-Based Rapid Stream Assessment Methodology,” dated May 2015. The primary



purpose of this methodology is to provide a function-based rapid stream assessment methodology to verify existing and proposed stream function-based conditions.

The geomorphic assessment includes visual observation, survey of representative reaches (profile, cross sections). RWE conducted detailed fluvial geomorphic assessments within Valley Creek, according to the methods described in the United States Fish and Wildlife Service's (USFWS) Function-Based Rapid Stream Assessment. The Rapid Assessment is based upon four levels of the Stream Function Pyramid: Level 1 - Hydrology, Level 2 - Hydraulics, Level 3 - Geomorphology, and Level 4 - Physiochemical.

Six surveyed cross-sections were located, in pairs, at riffles and adjacent pools within the project reach. The riffle locations for the selected cross-sections were chosen based on representative riffle characteristics and one or more indicators that represented bankfull water elevation.

The geomorphic evaluation for the West Branch of Little North East Creek includes approximately 3,903 linear feet beginning at Station 39+03 and continuing downstream through the study area terminating at Station 0+00. RWE measured onsite characteristics within the project reach at six cross-section pairs located at riffles and pools within the project reach. Cross-sections are numbered XS-1R' and XS-1P' through XS-6R' and XS-6P' as shown on the map included in Appendix B of this report.

Based on the USGS StreamStats report for Valley Creek, the mean bankfull depth is 2.04 feet and the bankfull width is 29.5 feet (Beiger et. al., 2015). The maximum pool to pool spacing is approximately 210 feet based on measurements taken over an aerial photograph obtained from PASDA dated 2017.

The Valley Creek classifies as a Rosgen C4 stream type with, an average bankfull width of approximately 32.8 feet, and an average Bank Height Ratio (BHR) of more than 2.2. The average radius of curvature is 115 feet which is just more than three times the bankfull width. The average pool to pool spacing is 163 feet, which relative to the bankfull width for the reach is 5.0 and is considered stable for C channels. The table below presents typical plan form ratios for stable C4 stream types (Harman, 2012).



Table 2. Typical Stable Plan Form Ratios for C4 Channels.

Parameter	Ratios for C4	
	MIN	MAX
Meander Length Ratio, $L_m/W_{bkf}$	7.00	14.00
Rc Ratio, $R_c/W_{bkf}$	2.00	3.00
Meander Width Ratio, $W_{blt}/W_{bkf}$	3.50	8.00
Sinuosity, K	1.20	1.40
Pool-Pool Spacing Ratio, $L_{ps}/W_{bkf}$	3.50	7.00

The Valley Creek at the project site exhibits evidence of erosion along portions of both the right and left bank, primarily at or directly following bends in the stream. Instabilities are generally localized in the study reach. Appendix A contains existing conditions site photographs that highlight the banks at each cross section.

The results of the preliminary geomorphic field assessment indicate instabilities in the creek that without restoration, will result in continued degradation of water quality from the increased sediment loading from the areas of actively eroding streambanks onsite.



## 3.0 EXISTING CONDITIONS GEOMORPHIC DATA

### 3.1 Hydrology

The assessment yielded that the existing stream hydrology is Functioning-at-Risk (FAR). The existing site was evaluated for concentrated flow and flashiness of the runoff entering the stream channel. As stated previously, the drainage area to the project site is 6.41 square miles. The existing stream has the potential for concentrated flow and impairments to reach the restoration site and there are limited measures in place to protect the creek from erosion and sedimentation from existing rills and gullies with two small tributaries onsite at Valley Creek Park that discharge from existing stormwater basins.

Further, the flow regime appears semi-flashy given the geology and the soils onsite. The United States Department of Agriculture Natural Resource Conservation Service (USDA NRCS) WebSoil Survey tool was utilized to determine potential soil characteristics for the project site. Conestgoa silt loam (CtB and CtC) was found to be 13.5 acres, or 9.7%, of the area of interest. Hollinger silt loam (HIC, HID, and HIE) was found to be 55.8 acres, or 39.8% of the site, Penlaw silt loam (PdA and PdB) was found to be 13.3 acres, or 9.5% of the site, Thorndale silt loam was found to be 7.9 acres or 5.7% of the site, and Udorthents (UdlB) was found to be 4.9 acres. Or 3.5% of the site, and Urban land-Udorthents (UudB) was 44.1 acres, or 31.5% of the site. No soil borings were collected on the Valley Creek site. Please see Table 3 below for a more detailed description of the soils found on site.



Table 3, Soil Information for the Project Site.

Map unit symbol	Map unit name	Rating (grams per cubic centimeter)	Acres in AOI	Percent of AOI
CtB	Conestoga silt loam, 3 to 8 percent slopes	1.30	4.9	3.5%
CtC	Conestoga silt loam, 8 to 15 percent slopes	1.30	8.6	6.2%
HIC	Hollinger silt loam, 8 to 15 percent slopes	1.30	3.5	2.5%
HID	Hollinger silt loam, 15 to 25 percent slopes	1.30	21.7	15.5%
HIE	Hollinger silt loam, 25 to 35 percent slopes	1.30	30.6	21.8%
PdA	Penlaw silt loam, 0 to 3 percent slopes	1.25	11.7	8.4%
PdB	Penlaw silt loam, 3 to 8 percent slopes	1.25	1.6	1.1%
Pt	Pits, quarry		0.5	0.4%
Th	Thorndale silt loam	1.30	7.9	5.7%
UdlB	Udorthents, limestone, 0 to 8 percent slopes	1.48	4.9	3.5%
UudB	Urban land-Udorthents, limestone complex, 0 to 8 percent slopes		44.1	31.5%
<b>Totals for Area of Interest</b>			<b>140.2</b>	<b>100.0%</b>

### 3.2 Hydraulics

RWE concluded that the existing stream hydraulics are Functioning-at-Risk. This determination was made based upon visual observations in the field only. The existing stream was evaluated for floodplain connectivity and vertical stability and found areas of localized instability with limited concentrated flow and gully and rill erosion.

#### Bank Height Ratio

Bank Height Ratios were calculated for each of the six riffle cross-sections surveyed on the project site by taking a direct measure of the bankfull height and comparing that to the lowest bank height at that same cross-section.

The bank height ratios for the reach range between 1.5 and 3.0. Generally, the bank height ratio using the Stream Function-Based Rapid Assessment form is classified as Functioning-at-Risk.



### Entrenchment Ratio

In addition, existing Entrenchment Ratios were calculated for each of the cross-section pairs located on the project site by dividing the width of the flood-prone area to the surface width of the bankfull channel.

The entrenchment ratios for the reach range between 2.2 and 7.0. Generally, the entrenchment ratio using the Stream Function-Based Rapid Assessment form is classified as Functioning.

### Floodplain Drainage

The floodplain drainage is a combination of concentrated flow and sheet flow from the adjacent hillslopes. The adjacent hillslopes along the right overbank have an average slope of 8 percent with slopes on average one percent on the left overbank. Localized ponding within the stream is also present.

### Vertical Stability

Vertical stability extent describes the magnitude of streambed adjustments and is best described as either localized or widespread. Overall, within the Valley Creek, vertical adjustments are causing localized issues. Localized vertical instability conditions onsite are likely caused by the lack of significant riparian vegetation in the overbank areas as well as active erosion of the streambanks in the project reach. Overall, the channel is stable vertically with little movement noted during the assessment of active headcuts or other signs of vertical instability.

## 3.3 Geomorphology

The existing stream geomorphology for the project reach is considered Functioning at Risk.

### Riparian Zone

The existing riparian zone in the upstream portion of the project limit on the left bank (facing downstream) is less than 25 feet wide until station 25+00 where the riparian zone increases to more than 100 feet for the remainder of the stream reach. The existing riparian zone is less than 25 feet between stations 30+50 and 29+00. Apart from this area, the existing riparian zone is over 75 feet along the right bank of the stream reach.



## Lateral Stability

Lateral stability of the project reach was evaluated both visually and determined based on the Bank Erosion Hazard Index (BEHI). The overall soils onsite are silt loams with erodibility factors that are generally associated with highly erodible soils. Clear evidence of erosion was visible along several banks such as in between XS-3R' and XS-3P' where 90° banks were observed with bare soil in the bank until the study bank height was reached.

The BEHI was developed by David Rosgen of Wildland Hydrology and is one of several procedures for assessing streambank erosion condition and potential. It assigns point values to several aspects of bank condition and provides an overall score that can be used to inventory stream bank condition over large areas and prioritize eroding banks for remedial actions. Estimation of Near-Bank Stress (NBS) rating is a field method, developed by Dave Rosgen, to estimate bank stress associated with bankfull flows. The use of stream pattern, shape, and depositional areas provide a rapid method to estimate NBS for a study reach for general assessment and initial predications.

Table 2: BEHI Results

Cross Section	BEHI Result
XS-1P-LB	Moderate
XS-1P-RB	High
XS-1R-LB	High
XS-1R-RB	Moderate
XS-2P-LB	Extreme
XS-2P-RB	Moderate
XS-2R-LB	High
XS-2R-RB	High
XS-3P-LB	High
XS-3P-RB	High
XS-3R-LB	Moderate
XS-3R-RB	Moderate
XS-4P-LB	Moderate
XS-4P-RB	High
XS-4R-LB	Moderate
XS-4R-RB	Moderate
XS-5P-LB	Moderate
XS-5P-RB	Extreme
XS-5R-LB	High
XS-5R-RB	High



XS-6P-LB	Extreme
XS-6P-RB	Extreme
XS-6R-LB	Moderate
XS-6R-RB	Moderate

Table 3: NBS Method 1

Cross Section	NBS Method 1
XS-1P-LB	Extreme
XS-1P-RB	Very High
XS-1R-LB	High
XS-1R-RB	High
XS-2P-LB	Extreme
XS-2P-RB	Very High
XS-2R-LB	Extreme
XS-2R-RB	Extreme
XS-3P-LB	Extreme
XS-3P-RB	Extreme
XS-3R-LB	High
XS-3R-RB	Very High
XS-4P-LB	Very High
XS-4P-RB	Extreme
XS-4R-LB	Very High
XS-4R-RB	High
XS-5P-LB	Very High
XS-5P-RB	Extreme
XS-5R-LB	High
XS-5R-RB	Very High
XS-6P-LB	Extreme
XS-6P-RB	Extreme
XS-6R-LB	High
XS-6R-RB	High

### Bedform Diversity

The bedform diversity was visually assessed and it was determined that the existing project reach exhibits a mix of habitat. Several of the streambanks have overhanging vegetation and downed trees, which is generally desirable for fish and macroinvertebrates. The stream reach between cross-sections XS-2R” and XS-6P’ generally exhibited overhanging roots and vegetation, as well as downed trees consistent with desirable shelter for fish and macroinvertebrates. Upstream of cross-section XS-2R’ there was minimal evidence of quality shelter for fish and macroinvertebrates although woody debris at XS-1R’ was observed.



### 3.4 Physiochemical

The physiochemical parameters for the stream were evaluated and found to be Functioning at Risk. Generally, the water appearance was evaluated and determined to be frequently cloudy with objects visible at depths of 0.5 to 3 feet. In addition, the detritus was evaluated and found to be scarce with fine organic debris.



## 4.0 SUMMARY AND CONCLUSION

In general, the streambanks along Valley Creek at the project site show signs of instability and erosion. As such, RWE believes that this site is a good candidate for restoration. The project restoration design will incorporate all the data collected as part of this geomorphic assessment and will take into consideration the bankfull characteristics noted at the project site. Care will be taken to ensure that the bed of the channel is not disturbed as limited vertical stability issues were noted in the field. Lateral stability issues were observed with varying widths of riparian zones present at the site. Long-term restoration approaches should consider restoration of the riparian corridor in addition to bank stabilization measures at the project reach.



## 5.0 REFERENCES

Clune, J.W., Chaplin, J.J., and White, K.E., 2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018-5066, 20 p.x

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G., 2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p.

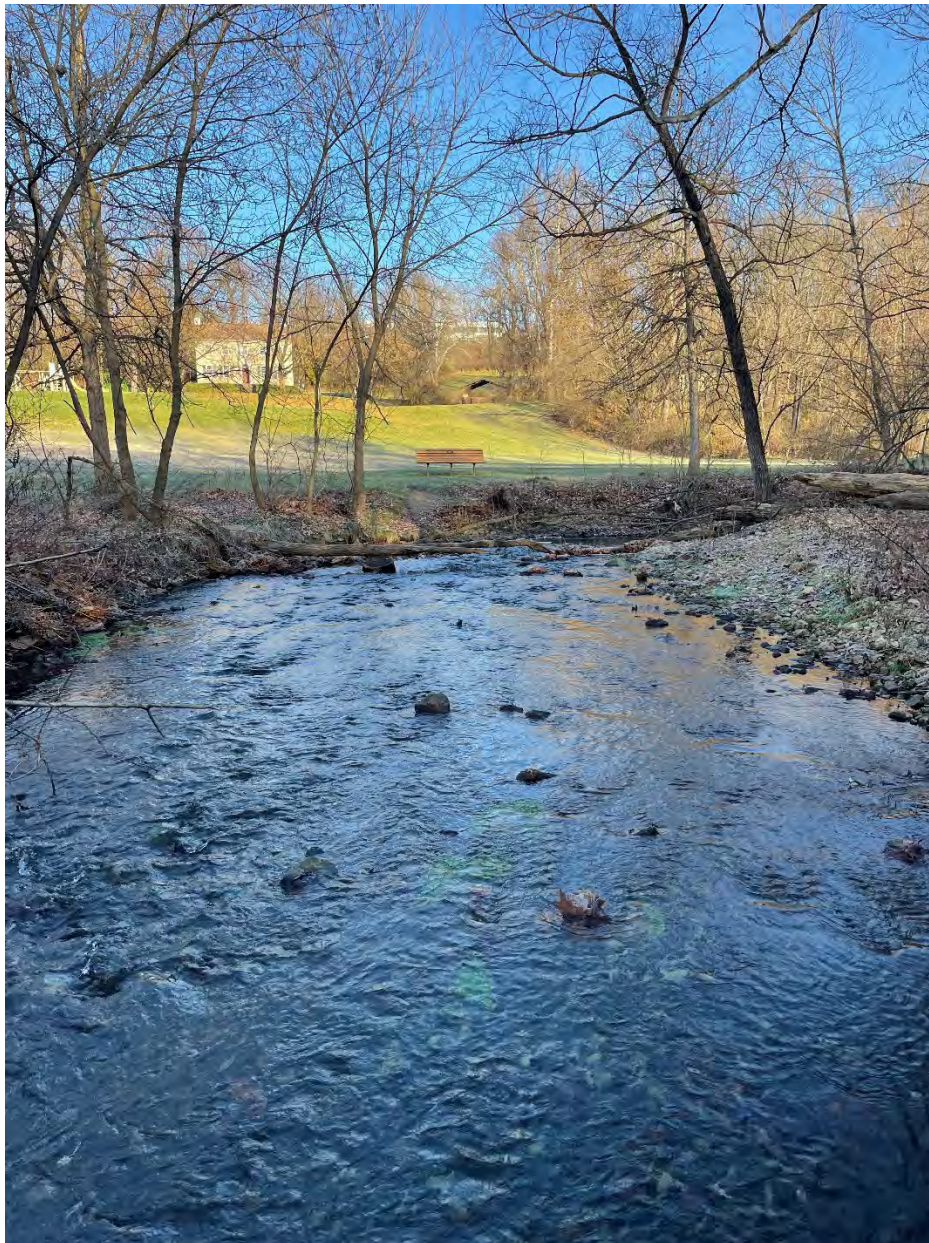
U.S. Fish & Wildlife Service. May 2015. Final Draft Function-Based Rapid Stream Assessment Methodology.



## Appendix A

### Photographs





*Photo 1: View facing northeast at XS-1R downstream.*





*Photo 2: View facing southwest at XS-1R upstream.*





*Photo 3: View facing west at XS-1R towards left bank.*





*Photo 4: View Facing east at XS-1R towards right bank.*





*Photo 5: View facing west at XS-1P upstream.*





*Photo 6: View facing east at XS-1P towards right bank.*





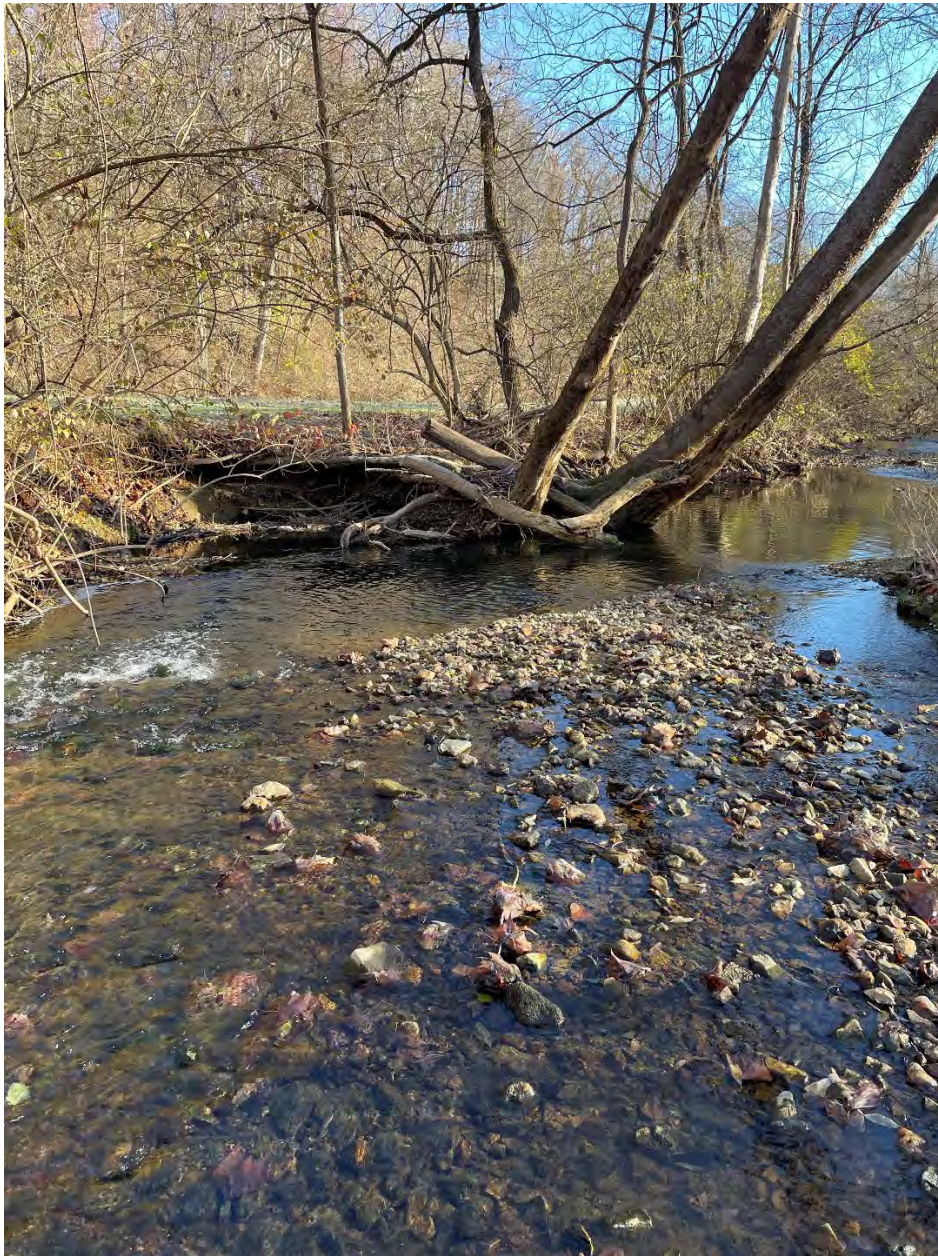
*Photo 7: View facing north at XS-1P towards left bank.*





*Photo 8: View facing east at XS-1P downstream.*





*Photo 9: View facing northeast at XS-2R downstream.*





*Photo 10: View facing north at XS-2R towards left bank.*





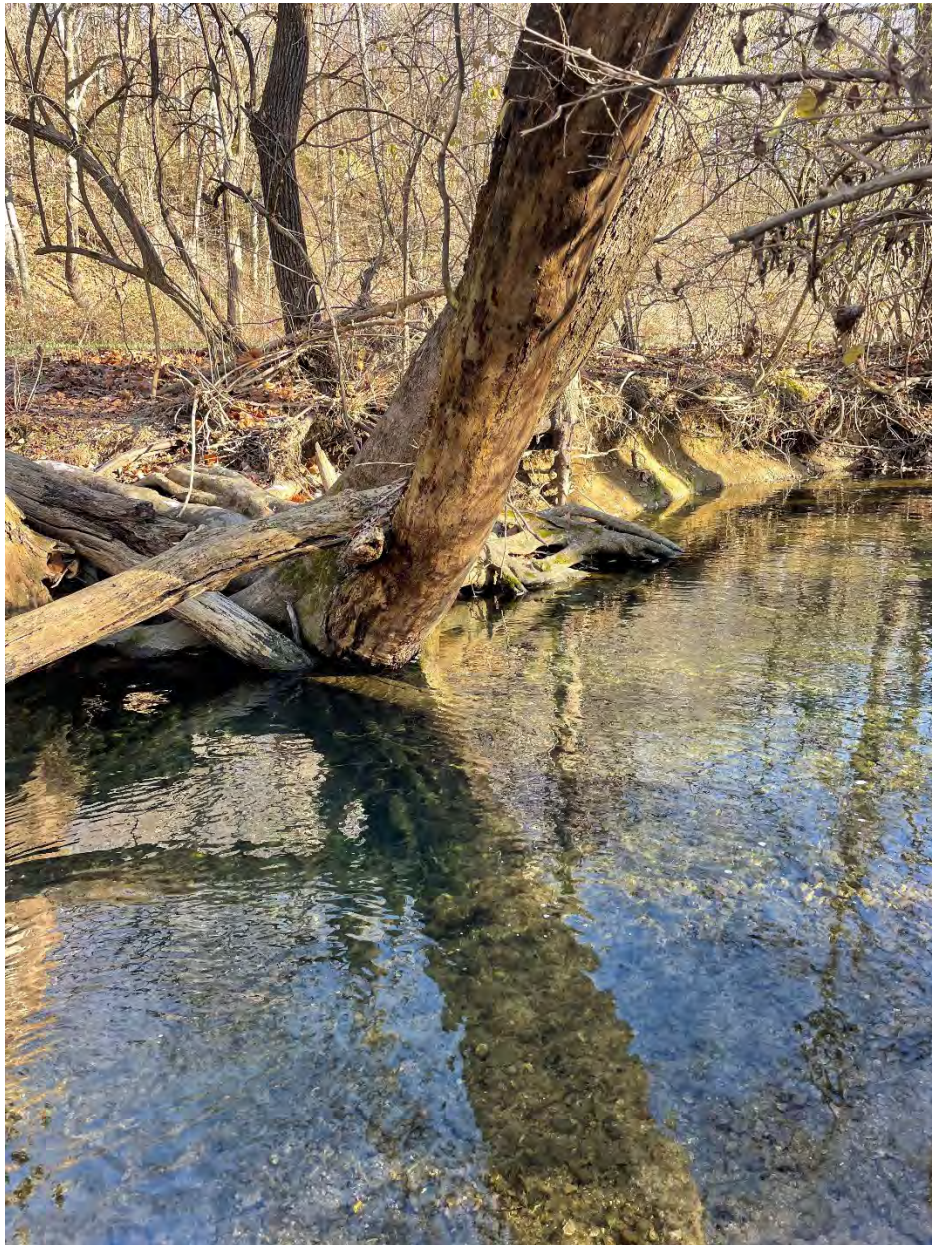
*Photo 11: View facing southeast at XS-2R towards right bank.*





*Photo 12: View facing southwest at XS-2R upstream.*





*Photo 13: View facing northeast at XS-2P facing left bank.*





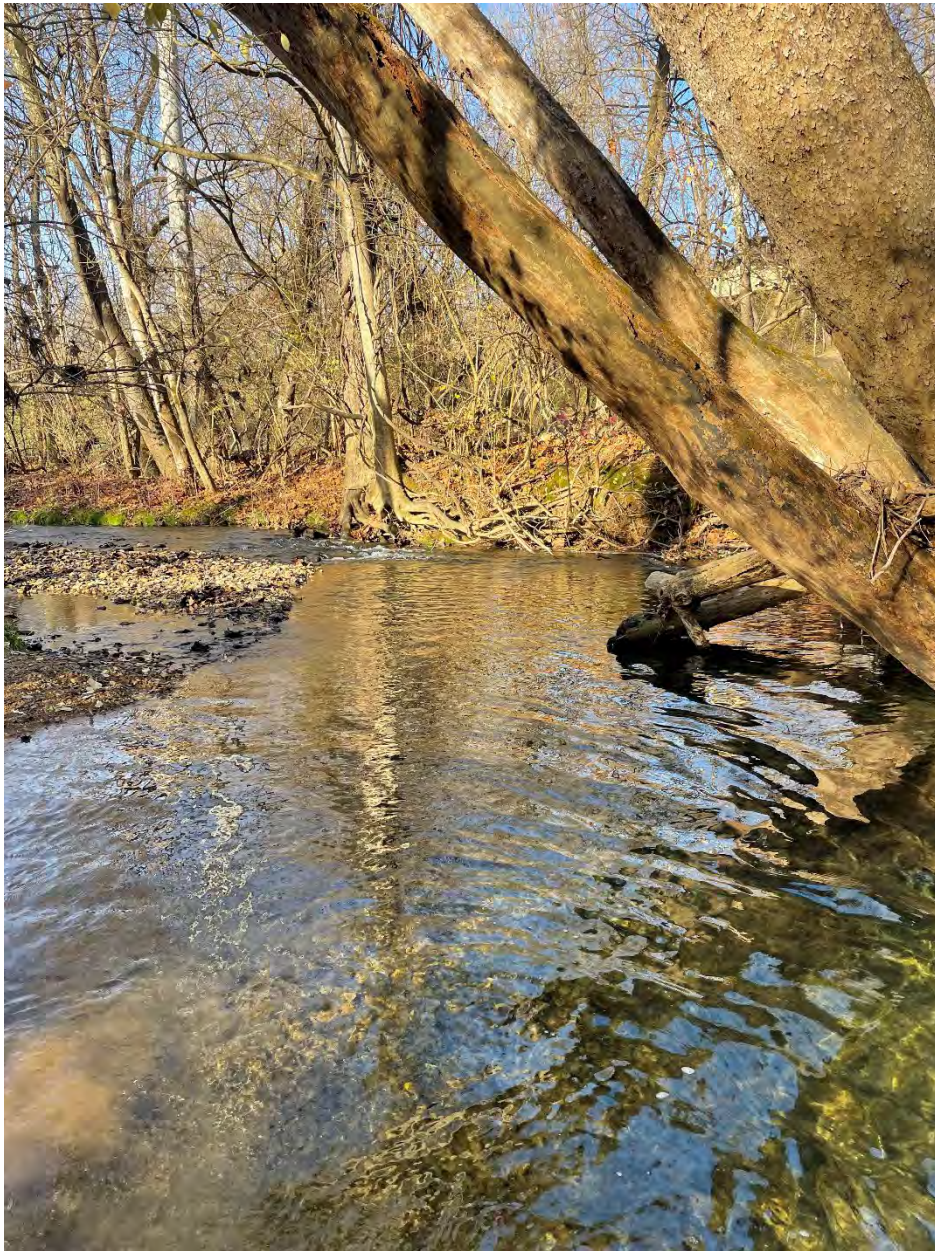
*Photo 14: View facing southeast at XS-2P facing right bank.*





*Photo 15: View facing northeast at XS-2P downstream.*





*Photo 16: View facing west at XS-2P upstream.*





*Photo 17: View facing southeast at XS-3R downstream.*





*Photo 18: View facing northwest at XS-3R upstream.*





*Photo 19: View facing southwest at XS-3R towards right bank.*





*Photo 20: View facing northeast at XS-3R towards left bank.*





*Photo 21: View facing southeast at XS-3P towards right bank.*





*Photo 22: View facing southwest at XS-3P upstream.*





*Photo 23: View facing northeast at XS-3P downstream.*





*Photo 24: View facing northwest at XS-3P towards left bank.*





*Photo 25: View facing northwest at XS-4R towards left bank.*





*Photo 26: View facing southeast at XS-4R towards left bank.*





*Photo 27: View facing northeast at XS-4R downstream.*





*Photo 28: View facing southwest at XS-4R upstream.*





*Photo 29: View facing northwest at XS-4P towards left bank.*





*Photo 30: View facing southeast at XS-4P towards right bank.*





*Photo 31: View facing northeast at XS-4P downstream.*





*Photo 32: View facing northwest at XS-5R upstream.*





*Photo 33: View facing northeast at XS-5R towards left bank.*





*Photo 34: View facing southeast at XS-5R downstream.*





*Photo 35: View facing southeast at XS-5R towards right bank.*





*Photo 36: View facing southeast at XS-5P towards right bank.*





*Photo 37: View facing east at XS-5P downstream.*





*Photo 38: View facing southeast at XS-5P towards right bank.*





*Photo 39: View facing north at XS-5P towards left bank.*





*Photo 40: View facing northeast at XS-6R downstream.*





*Photo 41: View facing east at XS-6R towards right bank.*





*Photo 42: View facing southeast at XS-6R upstream.*





*Photo 43: View facing northwest at XS-6R towards left bank.*





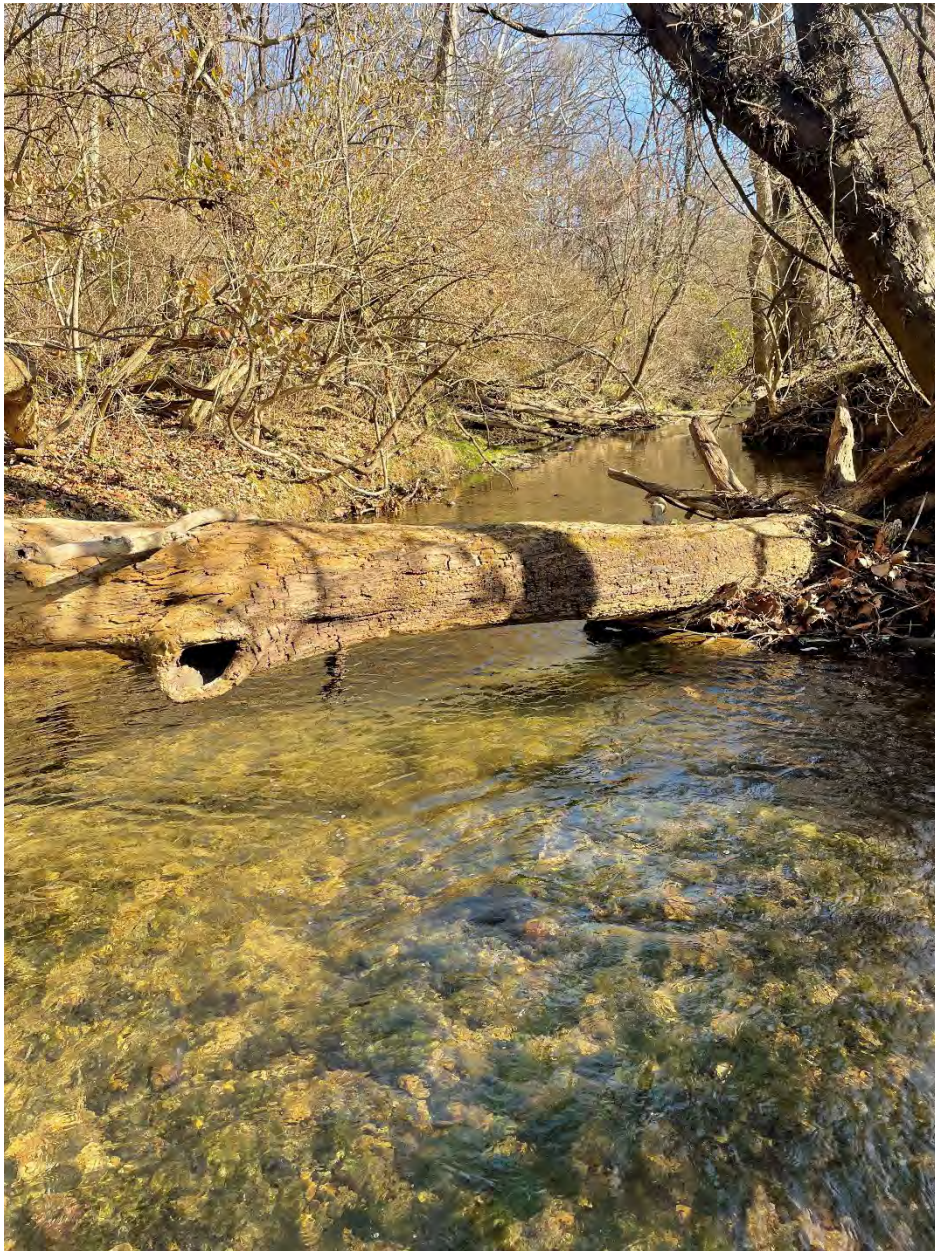
*Photo 44: View facing north at XS-6P towards left bank.*





*Photo 45: View facing south at XS-6R towards right bank.*





*Photo 46: View facing northeast at XS-6P downstream.*





*Photo 47: View facing west at XS-6P upstream.*



## Appendix B

### Mapping









### Legend

- Photo Locations
- Stormwater Gully
- Cross Sections
- Top of Banks
- Stormwater Basins
- Parcel Boundaries

Parcel Number:  
42-16-53.3

Parcel Number:  
42-4-51

Valley Creek

Quarry Mill Road

N Morehall Road

0 125 250 500 Feet

  
**Rippled Waters**  
Rippled Waters Engineering, LLC  
Milford, NJ 08848  
mary@rippledwatersllc.com  
www.rippledwatersllc.com

  
**WORKING LANDS**  
INVESTMENT PARTNERS, LLC

Preliminary Fluvial Geomorphology  
Assessment  
Valley Creek Restoration  
East Whiteland Township,  
Chester County, Pennsylvania

Notes:  
1. Map Created December 28, 2022.  
2. Photos were taken by RWE on  
December 14, 2022.  
3. Aerial Imagery was obtained from  
PASDA dated 2017.



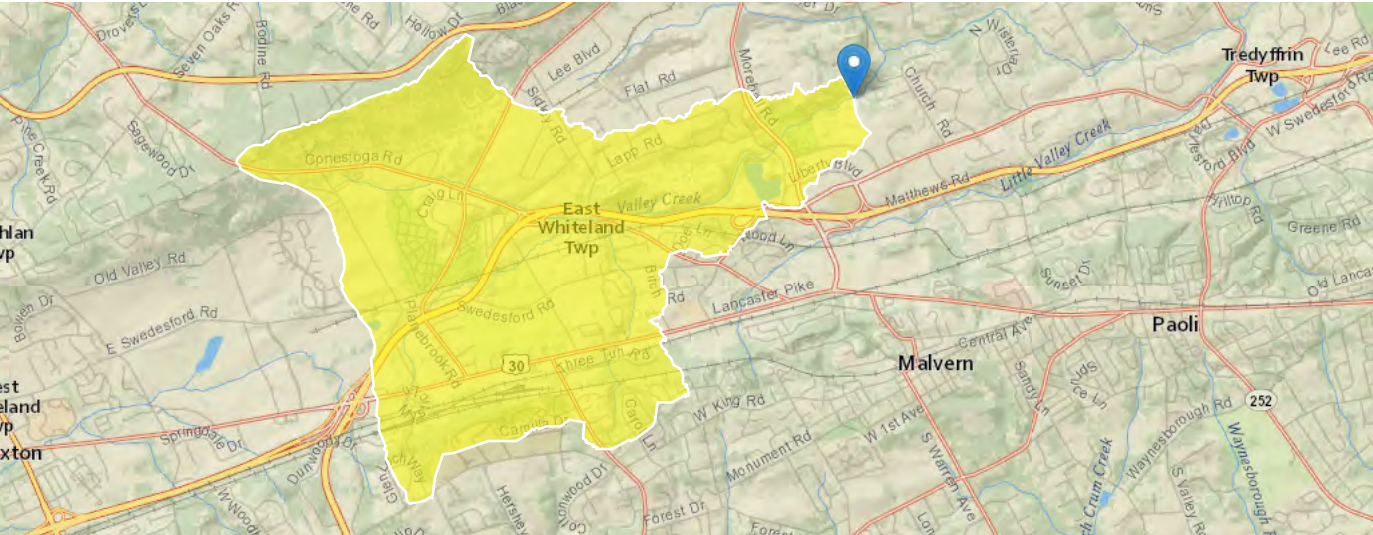


**Appendix C**  
**Baseline Geomorphic Data Sheets**



StreamStats Report

Region ID: PA  
Workspace ID: PA20221229203141951000  
Clicked Point (Latitude, Longitude): 40.06305, -75.52110  
Time: 2022-12-29 15:32:02 -0500



+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLOPD	Mean basin slope measured in degrees	4.1198	degrees
CARBON	Percentage of area of carbonate rock	76.67	percent
DRNAREA	Area that drains to a point on a stream	6.41	square miles
ELEV	Mean Basin Elevation	389	feet
FOREST	Percentage of area covered by forest	40.3147	percent
PRECIP	Mean Annual Precipitation	45	inches
ROCKDEP	Depth to rock	5.6	feet
URBAN	Percentage of basin with urban development	36.7125	percent

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Region 4 SIR 2019 5094]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	1.2	512
CARBON	Percent Carbonate	76.67	percent	0	68.5

Peak-Flow Statistics Disclaimers [Peak Flow Region 4 SIR 2019 5094]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.



Peak-Flow Statistics Flow Report [Peak Flow Region 4 SIR 2019 5094]

Statistic	Value	Unit
50-percent AEP flood	575	ft^3/s
20-percent AEP flood	980	ft^3/s
10-percent AEP flood	1320	ft^3/s
4-percent AEP flood	1810	ft^3/s
2-percent AEP flood	2220	ft^3/s
1-percent AEP flood	2680	ft^3/s
0.5-percent AEP flood	3170	ft^3/s
0.2-percent AEP flood	3920	ft^3/s

Peak-Flow Statistics Citations

Roland, M.A., and Stuckey, M.H.,2019, Development of regression equations for the estimation of flood flows at ungaged streams in Pennsylvania: U.S. Geological Survey Scientific Investigations Report 2019–5094, 36 p. (<https://doi.org/10.3133/sir20195094>)

➤ Annual Flow Statistics

Annual Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	2.26	1720
ELEV	Mean Basin Elevation	389	feet	130	2700
PRECIP	Mean Annual Precipitation	45	inches	33.1	50.4
FOREST	Percent Forest	40.3147	percent	5.1	100
URBAN	Percent Urban	36.7125	percent	0	89

Annual Flow Statistics Flow Report [Statewide Mean and Base Flow]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
Mean Annual Flow	9.85	ft^3/s	12	12

Annual Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 1]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	4.78	1150
BSLOPD	Mean Basin Slope degrees	4.1198	degrees	1.7	6.4
ROCKDEP	Depth to Rock	5.6	feet	4.13	5.21
URBAN	Percent Urban	36.7125	percent	0	89

Low-Flow Statistics Disclaimers [Low Flow Region 1]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.



Low-Flow Statistics Flow Report [Low Flow Region 1]

Statistic	Value	Unit
7 Day 2 Year Low Flow	4.1	ft^3/s
30 Day 2 Year Low Flow	4.94	ft^3/s
7 Day 10 Year Low Flow	2.45	ft^3/s
30 Day 10 Year Low Flow	2.94	ft^3/s
90 Day 10 Year Low Flow	4.15	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ General Flow Statistics

General Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	45	inches	33.1	50.4
CARBON	Percent Carbonate	76.67	percent	0	99
FOREST	Percent Forest	40.3147	percent	5.1	100
URBAN	Percent Urban	36.7125	percent	0	89

General Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
Harmonic Mean Streamflow	10.7	ft^3/s	38	38

General Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	45	inches	33.1	50.4
CARBON	Percent Carbonate	76.67	percent	0	99
FOREST	Percent Forest	40.3147	percent	5.1	100
URBAN	Percent Urban	36.7125	percent	0	89

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

PIl: Prediction Interval-Lower, PIu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	SE	ASEp
Base Flow 10 Year Recurrence Interval	6.52	ft^3/s	21	21
Base Flow 25 Year Recurrence Interval	5.86	ft^3/s	21	21
Base Flow 50 Year Recurrence Interval	5.49	ft^3/s	23	23



Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (<http://pubs.usgs.gov/sir/2006/5130/>)

➤ Bankfull Statistics

Bankfull Statistics Parameters [Statewide Bankfull Carbonate 2018 5066]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	18.9	213
CARBON	Percent Carbonate	76.67	percent		

Bankfull Statistics Parameters [Appalachian Highlands D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	0.07722	940.1535

Bankfull Statistics Parameters [Piedmont P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	0.289575	939.99906

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	6.41	square miles	0.07722	59927.7393

Bankfull Statistics Disclaimers [Statewide Bankfull Carbonate 2018 5066]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Bankfull Statistics Flow Report [Statewide Bankfull Carbonate 2018 5066]

Statistic	Value	Unit
Bankfull Area	15.8	ft^2
Bankfull Streamflow	39.6	ft^3/s
Bankfull Width	15.4	ft
Bankfull Depth	1.07	ft

Bankfull Statistics Flow Report [Appalachian Highlands D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	32.8	ft
Bieger_D_channel_depth	1.91	ft
Bieger_D_channel_cross_sectional_area	63.8	ft^2

Bankfull Statistics Flow Report [Piedmont P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	29.5	ft
Bieger_P_channel_depth	2.04	ft
Bieger_P_channel_cross_sectional_area	62.8	ft^2



Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	23.8	ft
Bieger_USA_channel_depth	1.79	ft
Bieger_USA_channel_cross_sectional_area	46.6	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bankfull Area	15.8	ft^2
Bankfull Streamflow	39.6	ft^3/s
Bankfull Width	15.4	ft
Bankfull Depth	1.07	ft
Bieger_D_channel_width	32.8	ft
Bieger_D_channel_depth	1.91	ft
Bieger_D_channel_cross_sectional_area	63.8	ft^2
Bieger_P_channel_width	29.5	ft
Bieger_P_channel_depth	2.04	ft
Bieger_P_channel_cross_sectional_area	62.8	ft^2
Bieger_USA_channel_width	23.8	ft
Bieger_USA_channel_depth	1.79	ft
Bieger_USA_channel_cross_sectional_area	46.6	ft^2

Bankfull Statistics Citations

Clune, J.W., Chaplin, J.J., and White, K.E.,2018, Comparison of regression relations of bankfull discharge and channel geometry for the glaciated and nonglaciated settings of Pennsylvania and southern New York: U.S. Geological Survey Scientific Investigations Report 2018–5066, 20 p. (<https://doi.org/10.3133/sir20185066>)

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. ([https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm\\_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm\\_medium=PDF&utm\\_campaign=PDFCoverPages](https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverPages))

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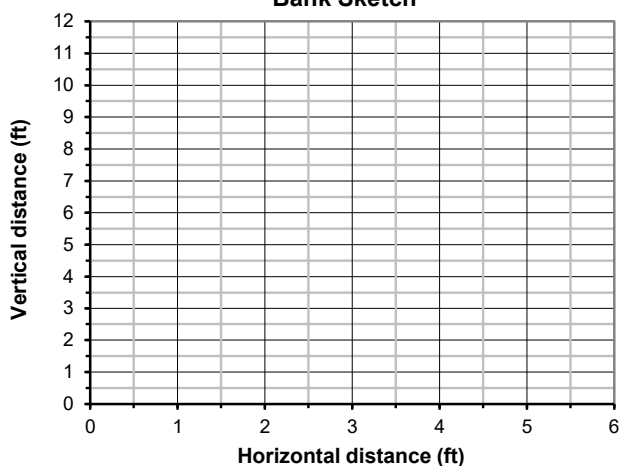
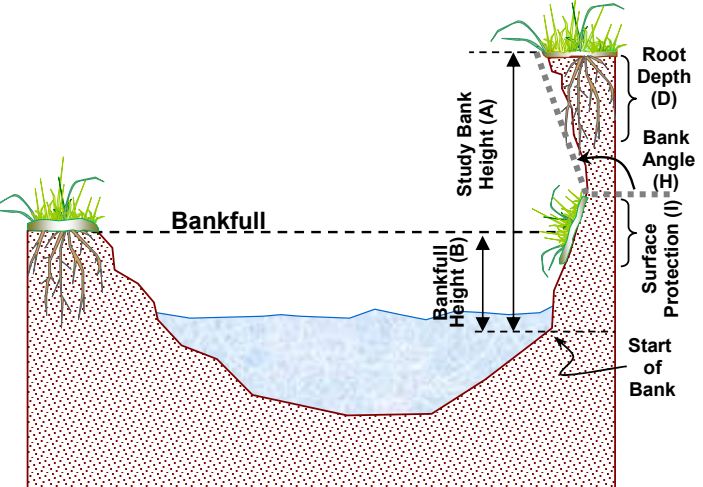
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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.11.1  
StreamStats Services Version: 1.2.22  
NSS Services Version: 2.2.1



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-1P-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	4.33 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.89 (C)			8.5	
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.50 (D)	Study Bank Height (ft) =	4.33 (A)	$(D) / (A) =$		0.81 (E)			2.5	
<b>Weighted Root Density ( G )</b>										
Root Density as % =	60.00 (F)			$(F) \times (E) =$		48.4988 (G)			4.0	
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		22.9 (H)						2.5		
<b>Surface Protection ( I )</b>										
Surface Protection as % =		100% (I)						0.0		
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  27.5		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-1P-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	3.83 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$	3.83 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.83 (D)	Study Bank Height (ft) =	3.83 (A)	$(D) / (A) =$	0.48 (E)	4.0			
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)			$(F) \times (E) =$	4.77807 (G)	9.5			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	24.9 (H)				2.5				
<b>Surface Protection ( I )</b>									
Surface Protection as % =	90% (I)				1.0				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					10				
<b>Stratification Adjustment</b>					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b> 37.0	
<b>Bank Sketch</b> 									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-1R-LB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	2.58 (A)	Bankfull Height (ft) =	0.92 (B)	$(A) / (B) =$		2.80 (C)	8.5		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	2.58 (D)	Study Bank Height (ft) =	2.58 (A)	$(D) / (A) =$		1.00 (E)	0.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	30.00 (F)			$(F) \times (E) =$		30 (G)	6.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		26.17 (H)				2.5			
<b>Surface Protection ( I )</b>									
Surface Protection as % =		40% (I)				5.0			
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <b>Bank Material Adjustment:</b>  <b>Bedrock</b> (Overall <i>Very Low</i> BEHI)  <b>Boulders</b> (Overall <i>Low</i> BEHI)  <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)  <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)  <b>Sand</b> (Add 10 points)  <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay) </div> <div style="width: 35%; text-align: center;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Bank Material Adjustment</b>  <div style="background-color: #e0f0ff; padding: 5px; font-weight: bold; font-size: 1.2em;">10</div> </div> <div style="border: 1px solid black; padding: 5px;"> <b>Stratification Adjustment</b>            Add 5–10 points, depending on position of unstable layers in relation to bankfull stage </div> </div> </div>									
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50 </div> <div style="font-size: 2em; color: #00a0e3;">➔</div> </div>							<b>Adjective Rating and Total Score</b> <div style="background-color: #e0f0ff; padding: 5px; font-weight: bold; font-size: 1.2em;">High</div> <div style="background-color: #e0f0ff; padding: 5px; font-weight: bold; font-size: 1.2em;">32.0</div>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-1R-RB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	2.58 (A)	Bankfull Height (ft) =	1.33 (B)	$(A) / (B) =$		1.94 (C)			7.5	
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.33 (D)	Study Bank Height (ft) =	2.58 (A)	$(D) / (A) =$		0.90 (E)			2.0	
<b>Weighted Root Density ( G )</b>										
Root Density as % =	30.00 (F)			$(F) \times (E) =$		27.093 (G)			5.5	
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	14.36 (H)								1.5	
<b>Surface Protection ( I )</b>										
Surface Protection as % =	80% (I)								2.0	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  28.5		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-2P-LB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			

Study Bank Height to Bankfull Height ( C )						BEHI Score (Fig. 3-7)
Study Bank Height (ft) =	5.33 (A)	Bankfull Height (ft) =	2.17 (B)	$(A) / (B) =$	2.46 (C)	8.5

Root Depth to Study Bank Height ( E )						BEHI Score
Root Depth (ft) =	1.58 (D)	Study Bank Height (ft) =	5.33 (A)	$(D) / (A) =$	0.30 (E)	6.0

Weighted Root Density ( G )				BEHI Score
Root Density as % =	10.00 (F)	$(F) \times (E) =$	2.96435 (G)	9.8

Bank Angle ( H )			BEHI Score
Bank Angle as Degrees =	90 (H)	8.0	

Surface Protection ( I )			BEHI Score
Surface Protection as % =	10% (I)	10.0	

Bank Material Adjustment:					Bank Material Adjustment	BEHI Score
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					10	

Stratification Adjustment					BEHI Score
Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					

Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	Extreme
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50	52.3	52.3

**Bank Sketch**



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-2P-RB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	4.92 (A)	Bankfull Height (ft) =	1.83 (B)	$(A) / (B) =$		2.69 (C)	8.5			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	4.67 (D)	Study Bank Height (ft) =	4.92 (A)	$(D) / (A) =$		0.95 (E)	1.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	70.00 (F)	$(F) \times (E) =$		66.4431 (G)			2.5			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	15.02 (H)						1.5			
<b>Surface Protection ( I )</b>										
Surface Protection as % =	30% (I)						6.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  29.5		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-2R-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>3.83</b> (A)	Bankfull Height (ft) =	<b>0.83</b> (B)	$(A) / (B) =$		<b>4.61</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>3.42</b> (D)	Study Bank Height (ft) =	<b>3.83</b> (A)	$(D) / (A) =$		<b>0.89</b> (E)	<b>2.3</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>70.00</b> (F)		$(F) \times (E) =$		<b>62.5065</b> (G)		<b>3.0</b>			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>24.9</b> (H)				<b>2.5</b>					
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>20%</b> (I)				<b>7.0</b>					
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>10</b>
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b>  <b>34.8</b>		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-2R-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	3.67 (A)	Bankfull Height (ft) =	1.17 (B)	$(A) / (B) =$	3.14 (C)	9.0			
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	3.50 (D)	Study Bank Height (ft) =	3.67 (A)	$(D) / (A) =$	0.95 (E)	1.0			
<b>Weighted Root Density ( G )</b>									
Root Density as % =	80.00 (F)			$(F) \times (E) =$	76.2943 (G)	2.5			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	26.32 (H)				2.5				
<b>Surface Protection ( I )</b>									
Surface Protection as % =	20% (I)				7.0				
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">10</div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b>  32.0	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-3P-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									BEHI Score (Fig. 3-7)	
Study Bank Height (ft) =	3.83 (A)	Bankfull Height (ft) =	0.42 (B)	$(A) / (B) =$		9.12 (C)			10.0	
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.17 (D)	Study Bank Height (ft) =	3.83 (A)	$(D) / (A) =$		0.83 (E)			2.5	
<b>Weighted Root Density ( G )</b>										
Root Density as % =	50.00 (F)		$(F) \times (E) =$		41.3838 (G)				5.0	
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	20.18 (H)								2.0	
<b>Surface Protection ( I )</b>										
Surface Protection as % =	30% (I)								6.0	
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b>  35.5		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-3P-RB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	<b>5.92</b> (A)	Bankfull Height (ft) =	<b>1.33</b> (B)	$(A) / (B) =$		<b>4.45</b> (C)	<b>10.0</b>			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	<b>5.00</b> (D)	Study Bank Height (ft) =	<b>5.92</b> (A)	$(D) / (A) =$		<b>0.84</b> (E)	<b>2.5</b>			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	<b>40.00</b> (F)	$(F) \times (E) =$		<b>33.7838</b> (G)		<b>5.5</b>				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	<b>47.11</b> (H)					<b>3.5</b>				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	<b>80%</b> (I)					<b>2.0</b>				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					<b>10</b>
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b> <b>33.5</b>		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-3R-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.25 (A)	Bankfull Height (ft) =	0.75 (B)	$(A) / (B) =$		4.33 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.50 (D)	Study Bank Height (ft) =	3.25 (A)	$(D) / (A) =$		0.77 (E)	2.5			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	50.00 (F)	$(F) \times (E) =$		38.4615 (G)			5.0			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	10.52 (H)						1.5			
<b>Surface Protection ( I )</b>										
Surface Protection as % =	100% (I)						0.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  <b>29.0</b>		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-3R-RB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.50 (A)	Bankfull Height (ft) =	0.67 (B)	$(A) / (B) =$		5.22 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.50 (D)	Study Bank Height (ft) =	3.50 (A)	$(D) / (A) =$		1.00 (E)	0.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	60.00 (F)	$(F) \times (E) =$		60 (G)		3.5				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	47.12 (H)					3.5				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	70% (I)					2.5				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <b>Very Low</b> 5 – 9.5           </div> <div style="text-align: center;"> <b>Low</b> 10 – 19.5           </div> <div style="text-align: center;"> <b>Moderate</b> 20 – 29.5           </div> <div style="text-align: center;"> <b>High</b> 30 – 39.5           </div> <div style="text-align: center;"> <b>Very High</b> 40 – 45           </div> <div style="text-align: center;"> <b>Extreme</b> 46 – 50           </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  29.5		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><b>Bank Sketch</b></p> </div> <div style="width: 50%;"> </div> </div>										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-4P-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	4.83 (A)	Bankfull Height (ft) =	1.58 (B)	$(A) / (B) =$		3.06 (C)	9.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	4.83 (D)	Study Bank Height (ft) =	4.83 (A)	$(D) / (A) =$		1.00 (E)	0.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	60.00 (F)			$(F) \times (E) =$		60 (G)	3.5			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	42.61 (H)						3.3			
<b>Surface Protection ( I )</b>										
Surface Protection as % =	70% (I)						2.5			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5  <b>Low</b> 10 – 19.5  <b>Moderate</b> 20 – 29.5  <b>High</b> 30 – 39.5  <b>Very High</b> 40 – 45  <b>Extreme</b> 46 – 50         </div> <div style="font-size: 2em; color: #00a0e3;">➔</div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b> <b>28.3</b>		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-4P-RB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	4.25 (A)	Bankfull Height (ft) =	1.75 (B)	$(A) / (B) =$		2.43 (C)	8.5			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.92 (D)	Study Bank Height (ft) =	4.25 (A)	$(D) / (A) =$		0.92 (E)	1.8			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	40.00 (F)	$(F) \times (E) =$		36.8941 (G)		5.5				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	39.42 (H)					3.0				
<b>Surface Protection ( I )</b>										
Surface Protection as % =	10% (I)					10.0				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b> <b>38.8</b>		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-4R-LB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			

Study Bank Height to Bankfull Height ( C )						BEHI Score (Fig. 3-7)
Study Bank Height (ft) =	5.33 (A)	Bankfull Height (ft) =	1.42 (B)	$(A) / (B) =$	3.75 (C)	10.0

Root Depth to Study Bank Height ( E )						BEHI Score
Root Depth (ft) =	5.33 (D)	Study Bank Height (ft) =	5.33 (A)	$(D) / (A) =$	1.00 (E)	0.0

Weighted Root Density ( G )						BEHI Score
Root Density as % =	70.00 (F)	$(F) \times (E) =$	70 (G)			3.0

Bank Angle ( H )						BEHI Score
Bank Angle as Degrees =	46.83 (H)					3.0

Surface Protection ( I )						BEHI Score
Surface Protection as % =	70% (I)					2.5

Bank Material Adjustment:		Bank Material Adjustment	BEHI Score
<b>Bedrock</b> (Overall Very Low BEHI)			
<b>Boulders</b> (Overall Low BEHI)			
<b>Cobble</b> (Subtract 10 points if uniform medium to large cobble)			
<b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand)			
<b>Sand</b> (Add 10 points)			
<b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)			
		<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage	

Very Low	Low	Moderate	High	Very High	Extreme	Adjective Rating and Total Score	BEHI Score
5 – 9.5	10 – 19.5	20 – 29.5	30 – 39.5	40 – 45	46 – 50		Moderate
						<b>28.5</b>	

**Bank Sketch**



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-4R-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	4.42 (A)	Bankfull Height (ft) =	1.25 (B)	$(A) / (B) =$		3.54 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	4.42 (D)	Study Bank Height (ft) =	4.42 (A)	$(D) / (A) =$		1.00 (E)	0.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	90.00 (F)			$(F) \times (E) =$		90 (G)	1.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	17.62 (H)			1.5					
<b>Surface Protection ( I )</b>									
Surface Protection as % =	80% (I)			2.0					
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">10</div>				
					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  <b>24.5</b>	
<b>Bank Sketch</b> 									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-5P-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	3.75 (A)	Bankfull Height (ft) =	0.58 (B)	$(A) / (B) =$		6.47 (C)	10.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.75 (D)	Study Bank Height (ft) =	3.75 (A)	$(D) / (A) =$		1.00 (E)	0.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	40.00 (F)	$(F) \times (E) =$		40 (G)		5.0				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		13.81 (H)				1.5				
<b>Surface Protection ( I )</b>										
Surface Protection as % =		70% (I)				3.0				
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  <b>29.5</b>		
<b>Bank Sketch</b> 										

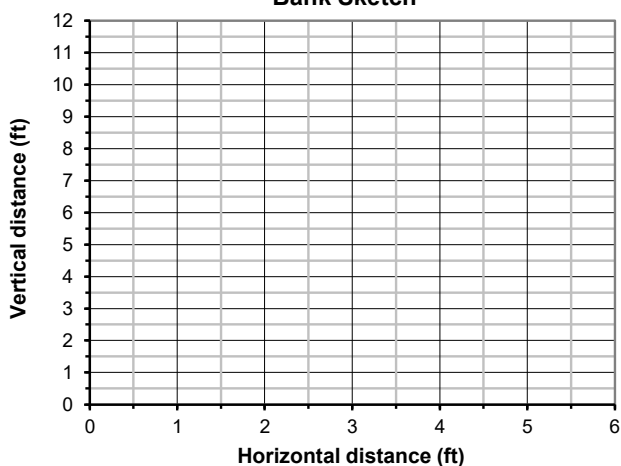
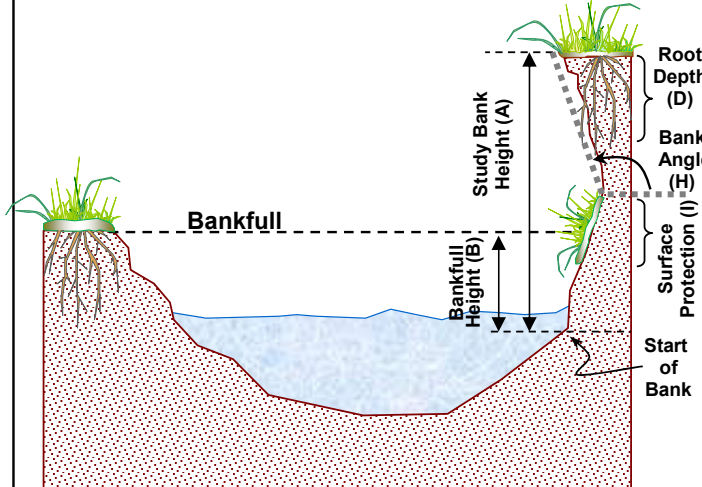


**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>				Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-5P-RB</b>				Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>		Stream Type:				Landscape Type:			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	<b>3.25</b> (A)	Bankfull Height (ft) =	<b>0.83</b> (B)	$(A) / (B) =$		<b>3.92</b> (C)	<b>10.0</b>		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	<b>0.58</b> (D)	Study Bank Height (ft) =	<b>3.25</b> (A)	$(D) / (A) =$		<b>0.18</b> (E)	<b>7.5</b>		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	<b>60.00</b> (F)	$(F) \times (E) =$		<b>10.7077</b> (G)		<b>8.5</b>			
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	<b>90</b> (H)					<b>8.0</b>			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	<b>10%</b> (I)					<b>10.0</b>			
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; text-align: center; width: 100px; margin: 0 auto;"><b>10</b></div>
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage									<div style="border: 1px solid black; height: 40px; width: 100px; margin: 0 auto;"></div>
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Extreme</b>  <b>54.0</b>	
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="flex: 2;"> </div> </div>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-5R-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score (Fig. 3-7)</b>	
Study Bank Height (ft) =	2.50 (A)	Bankfull Height (ft) =	1.58 (B)	$(A) / (B) =$		1.58 (C)	6.5			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	2.50 (D)	Study Bank Height (ft) =	2.50 (A)	$(D) / (A) =$		1.00 (E)	0.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	60.00 (F)			$(F) \times (E) =$		60 (G)	3.5			
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =	30.96 (H)						2.5			
<b>Surface Protection ( I )</b>										
Surface Protection as % =	30% (I)						6.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b>					
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; justify-content: space-between;"> <span><b>Very Low</b></span> <span><b>Low</b></span> <span><b>Moderate</b></span> <span><b>High</b></span> <span><b>Very High</b></span> <span><b>Extreme</b></span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  <b>28.5</b>		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-5R-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	4.42 (A)	Bankfull Height (ft) =	1.50 (B)	$(A) / (B) =$		2.95 (C)	9.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	2.92 (D)	Study Bank Height (ft) =	4.42 (A)	$(D) / (A) =$		0.66 (E)	3.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	30.00 (F)			$(F) \times (E) =$		19.819 (G)	7.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	14.93 (H)					1.5			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	80% (I)					2.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					10				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; justify-content: space-between;"> <span><b>Very Low</b></span> <span><b>Low</b></span> <span><b>Moderate</b></span> <span><b>High</b></span> <span><b>Very High</b></span> <span><b>Extreme</b></span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>High</b>  <b>32.5</b>	
<b>Bank Sketch</b> 									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-6P-LB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>BEHI Score (Fig. 3-7)</b>									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	2.42 (A)	Bankfull Height (ft) =	0.92 (B)	$(A) / (B) =$		2.63 (C)	9.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	1.50 (D)	Study Bank Height (ft) =	2.42 (A)	$(D) / (A) =$		0.62 (E)	3.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	30.00 (F)			$(F) \times (E) =$		18.595 (G)	8.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	90 (H)					8.0			
<b>Surface Protection ( I )</b>									
Surface Protection as % =	10% (I)					10.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall Very Low BEHI) <b>Boulders</b> (Overall Low BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					10				
					<b>Stratification Adjustment</b>				
					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; justify-content: space-between;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Extreme</b>  <b>48.0</b>	
<b>Bank Sketch</b> 									

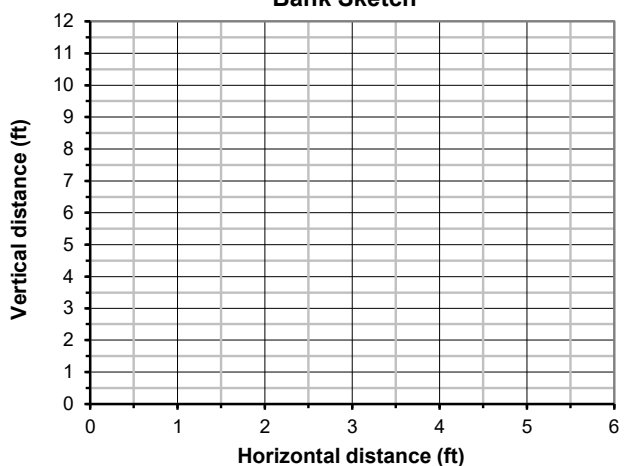
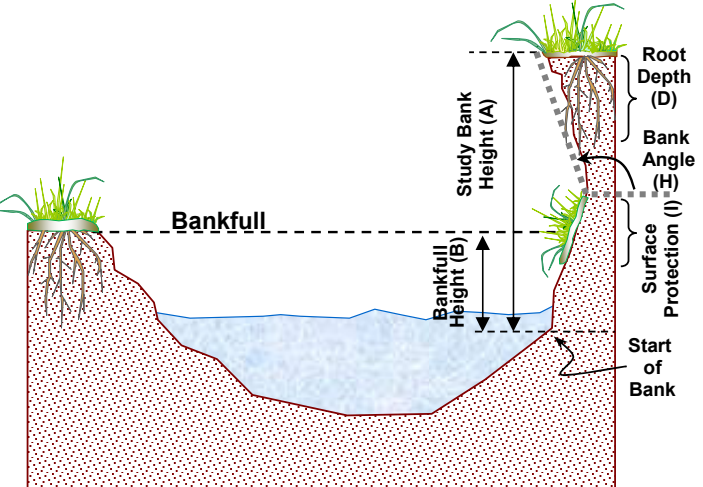


**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

<b>Bank Erosion Hazard Index (BEHI)</b>									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-6P-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)
Study Bank Height (ft) =	5.25 (A)	Bankfull Height (ft) =	2.42 (B)	$(A) / (B) =$		2.17 (C)			8.5
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	0.50 (D)	Study Bank Height (ft) =	5.25 (A)	$(D) / (A) =$		0.10 (E)			8.5
<b>Weighted Root Density ( G )</b>									
Root Density as % =	10.00 (F)	$(F) \times (E) =$		0.95238 (G)				10.0	
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =	68.39 (H)							4.5	
<b>Surface Protection ( I )</b>									
Surface Protection as % =	0% (I)							10.0	
<b>Bank Material Adjustment:</b> <b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)									<b>Bank Material Adjustment</b> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 0 auto;">10</div>
<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage									<div style="border: 1px solid black; height: 30px; width: 100px; margin: 0 auto;"></div>
<div style="display: flex; justify-content: space-between; font-weight: bold;"> <span>Very Low</span> <span>Low</span> <span>Moderate</span> <span>High</span> <span>Very High</span> <span>Extreme</span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Extreme</b>  <b>51.5</b>	
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p style="text-align: center; margin-bottom: 10px;"><b>Bank Sketch</b></p> </div> <div style="flex: 2;"> </div> </div>									



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)										
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>					
Station: <b>XS-6R-LB</b>					Observers: <b>J.Ely</b>					
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:				
<b>Study Bank Height to Bankfull Height ( C )</b>									<b>BEHI Score</b> (Fig. 3-7)	
Study Bank Height (ft) =	3.00 (A)	Bankfull Height (ft) =	1.00 (B)	$(A) / (B) =$		3.00 (C)	9.0			
<b>Root Depth to Study Bank Height ( E )</b>										
Root Depth (ft) =	3.00 (D)	Study Bank Height (ft) =	3.00 (A)	$(D) / (A) =$		1.00 (E)	0.0			
<b>Weighted Root Density ( G )</b>										
Root Density as % =	90.00 (F)	$(F) \times (E) =$		90 (G)		1.0				
<b>Bank Angle ( H )</b>										
Bank Angle as Degrees =		58.61 (H)		3.5						
<b>Surface Protection ( I )</b>										
Surface Protection as % =		70% (I)		3.0						
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>					10
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					<b>Stratification Adjustment</b> Add 5–10 points, depending on position of unstable layers in relation to bankfull stage					
<div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 10px;"> <b>Very Low</b> 5 – 9.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Low</b> 10 – 19.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Moderate</b> 20 – 29.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>High</b> 30 – 39.5         </div> <div style="text-align: center; margin-right: 10px;"> <b>Very High</b> 40 – 45         </div> <div style="text-align: center; margin-right: 10px;"> <b>Extreme</b> 46 – 50         </div> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  26.5		
<b>Bank Sketch</b> 										



**Worksheet 3-11.** Form to calculate an overall Bank Erosion Hazard Index (BEHI) rating. Use **Figure 3-7** to determine individual BEHI scores.

Bank Erosion Hazard Index (BEHI)									
Stream: <b>Valley Creek</b>					Location: <b>East Whiteland, Pennsylvania</b>				
Station: <b>XS-6R-RB</b>					Observers: <b>J.Ely</b>				
Date: <b>12/14/2022</b>			Stream Type:			Landscape Type:			
BEHI Score (Fig. 3-7)									
<b>Study Bank Height to Bankfull Height ( C )</b>									
Study Bank Height (ft) =	5.08 (A)	Bankfull Height (ft) =	0.75 (B)	$(A) / (B) =$		6.78 (C)	10.0		
<b>Root Depth to Study Bank Height ( E )</b>									
Root Depth (ft) =	5.08 (D)	Study Bank Height (ft) =	5.08 (A)	$(D) / (A) =$		1.00 (E)	0.0		
<b>Weighted Root Density ( G )</b>									
Root Density as % =	90.00 (F)			$(F) \times (E) =$		89.9469 (G)	1.0		
<b>Bank Angle ( H )</b>									
Bank Angle as Degrees =		21.99 (H)				2.0			
<b>Surface Protection ( I )</b>									
Surface Protection as % =		80% (I)				2.0			
<b>Bank Material Adjustment:</b>					<b>Bank Material Adjustment</b>				
<b>Bedrock</b> (Overall <i>Very Low</i> BEHI) <b>Boulders</b> (Overall <i>Low</i> BEHI) <b>Cobble</b> (Subtract 10 points if uniform medium to large cobble) <b>Gravel or Composite Matrix</b> (Add 5–10 points depending on percentage of bank material that is composed of sand) <b>Sand</b> (Add 10 points) <b>Silt/Clay</b> (Add 10 points if uniform silt; No adjustment if silt with a mixture of clay; Subtract 10 points if silt/clay mixture with high % of clay; Subtract 20 points if clay)					10				
<b>Stratification Adjustment</b>					Add 5–10 points, depending on position of unstable layers in relation to bankfull stage				
<div style="display: flex; justify-content: space-between;"> <span><b>Very Low</b></span> <span><b>Low</b></span> <span><b>Moderate</b></span> <span><b>High</b></span> <span><b>Very High</b></span> <span><b>Extreme</b></span> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <span>5 – 9.5</span> <span>10 – 19.5</span> <span>20 – 29.5</span> <span>30 – 39.5</span> <span>40 – 45</span> <span>46 – 50</span> </div>						<b>Adjective Rating and Total Score</b>		<b>Moderate</b>  <b>25.0</b>	
<b>Bank Sketch</b> 									