



TETRA TECH

PITT-07-15-062

July 27, 2015

Project Number 112IC05958

Lebanon County
Municipal Building, Room 207
400 South 8th Street
Lebanon, PA 17042

Reference: Sunoco Pipeline, L.P. (SPLP)
Pennsylvania Pipeline Project

To Whom It May Concern:

This municipal notice, under the requirements of Acts 14, 67, 68, and 127, is to inform you that our client, Sunoco Pipeline, L.P. (SPLP), is applying for coverage under the Erosion and Sediment Control General Permit (ESCGP-2) for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing or Treatment Operations or Transmission Facilities.

Project Name: Pennsylvania Pipeline Project

Applicant Name: Sunoco Pipeline, L.P.
525 Fritztown Road
Sinking Spring, PA 19608

Project Description: Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL) transportation of up to 350,000 barrels per day. The project involves the installation of approximately two parallel pipelines within a 306-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306 miles) and a second, up to 20-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255 miles. The pipeline will traverse through 6 townships in Lebanon County: Cornwall, Heidelberg, South Annville, South Lebanon, South Londonderry, and West Cornwall Townships. In addition, temporary use areas or extra workspaces will be required at some stream and road/railroad crossings; these will typically expand the construction ROW by 25 feet where needed. Construction activities will involve clearing and grubbing within the ROW, trenching, boring, pipe installation, and site restoration. Existing access roads will be used during construction. Erosion and sediment controls will be in place prior to and during earth disturbance activities, and until the project areas are permanently stabilized.

Site Location: Project crosses through Cornwall, Heidelberg, South Annville, South Lebanon, South Londonderry, and West Cornwall Townships in Lebanon County.

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Reference: Sunoco Pipeline, L.P. (SPLP)
Pennsylvania Pipeline Project

*CAN WE
SHARE THIS
W/ THE TOWNS
OPPOSE THE PROJECT?*
*yes
paw*
 R.J.P.
 W.E.A.
 J.E.L. 8, 10, 15
 J.A.W. FYI
 ATTY

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Site Location: Project crosses through Cornwall, Heidelberg, South Annville, South Lebanon, South Londonderry, and West Cornwall Townships in Lebanon County.

Enclosed is a copy of the Notice of Intent (NOI) application for an ESCGP-2 and figures of the proposed pipeline route. Please submit any comments concerning this project within 30 days from date of receipt of this letter to:

Pennsylvania Department of Environmental Protection (PA DEP)
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110-8200
Phone: (717) 705-4700

Should you have questions regarding this correspondence, please do not hesitate to contact me at 412.921.8163 or via e-mail at Robert.Simcik@tetrattech.com.

Sincerely,



Robert F. Simcik, P.E.
E&S Task Manager

RFS/clm

Enclosure: Site Location Maps; Notice of Intent

cc: File 112IC05958



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 OFFICE OF WATER MANAGEMENT
 OFFICE OF OIL AND GAS MANAGEMENT

OFFICIAL USE ONLY
ID # _____
Date Received _____

**NOTICE OF INTENT (NOI) FOR COVERAGE
 UNDER THE EROSION AND SEDIMENT CONTROL GENERAL PERMIT (ESCGP-2)
 FOR EARTH DISTURBANCE ASSOCIATED WITH OIL AND GAS EXPLORATION,
 PRODUCTION, PROCESSING, OR TREATMENT OPERATIONS OR TRANSMISSION FACILITIES**

READ THE INSTRUCTIONS PROVIDED IN THIS PERMIT APPLICATION PACKAGE BEFORE COMPLETING THIS FORM.
 PLEASE PRINT OR TYPE INFORMATION IN BLACK OR BLUE INK.

SECTION A. APPLICANT INFORMATION

APPLICATION TYPE NEW <input checked="" type="checkbox"/> RENEWAL <input type="checkbox"/> MAJOR MODIFICATIONS <input type="checkbox"/> EXPEDITED <input type="checkbox"/> PHASED <input type="checkbox"/>			
Applicant's Last Name (If applicable) Gordon	First Name Matthew	MI L	Phone (610) 216-0583 (cell) FAX
Organization Name or Registered Fictitious Name Sunoco Pipeline, L.P.			Phone (610) 670-3284 (office) FAX
Mailing Address 535 Fritztown Road	City Sinking Spring	State PA	ZIP + 4 19608
Email Address mlgordon@sunocologistics.com			
Co-Applicant's Last Name (If applicable)	First Name	MI	Phone FAX
Organization Name or Registered Fictitious Name			Phone FAX
Mailing Address	City	State	ZIP + 4
Email Address			

SECTION B. SITE INFORMATION

Site Name Pennsylvania Pipeline Project		
Site Location Blair, Hutingdon, Juniata, Perry, Cumberland, York, Dauphin, Lebanon, Lancaster, and Berks Counties		
Site Location – City Juniata Township, Blair County to Caernarvon Township, Berks County	State PA	ZIP+4
Detailed Written Directions to Site See Directions in Attachment 1		

County	Municipality	City	Boro	Twp.
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Blair, Huntingdon, Juniata, Perry, Cumberland, York, Dauphin, Lebanon, Lancaster, and Berks Counties	See Municipalities Table in Attachment 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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SECTION C. PROJECT INFORMATION

1. Total Project Area/Project Site (Ac):	1683	Total Disturbed Area (Ac):	1683
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2. Project Name Pennsylvania Pipeline Project

3. Project Type (Check all that apply)
- Oil/Gas Well
 Transmission Facility
 Gathering Facility
 Processing Facility
 Treatment Facility
 Centralized Fresh Water Impoundment
 Centralized Wastewater Impoundment
 Water Pipeline
 Ground/Surface Water Withdrawal Site
 Other
- If Oil/Gas well, is the well conventional or unconventional?
 Conventional
 Unconventional

Project Description

Sunoco Pipeline, L.P. (SPLP) proposes to construct and operate the Pennsylvania Pipeline Project that would expand existing pipeline systems to provide natural gas liquid (NGL) transportation of up to 350,000 barrels per day. The project involves the installation of approximately two parallel pipelines within a 306-mile, 50-foot-wide right-of-way (ROW) from Houston, Washington County, Pennsylvania (PA) to SPLP's Marcus Hook facility in Delaware County, PA with the purpose of interconnecting with existing SPLP Mariner East pipelines. A 20-inch diameter pipeline would be installed within the ROW from Houston to Marcus Hook (306 miles) and a second, up to 20-inch diameter pipeline, will also be installed in the same ROW. The second line is proposed to be installed from SPLP's Delmont Station, Westmoreland County, PA to the Marcus Hook facility, paralleling the initial line for approximately 255 miles. Construction activities will involve clearing and grubbing, trenching, pipe installation, site restoration, and access road construction/improvement. Erosion and sediment controls will be in place during earth disturbance activities. Following completion of pipeline installation, the area will be returned to the general grade present prior to pipeline installation in order to maintain preconstruction elevations and drainage patterns. Disturbed areas will be seeded and mulched. Erosion and sedimentation devices will be maintained until site work is complete and revegetation is successful.

The project will be constructed for 162 miles in the PADEP South Central Region. The project disturbance by county is as follows:

Blair County: 218
 Huntingdon County: 269
 Juniata County: 33
 Perry County: 120
 Cumberland County: 305
 York County: 66
 Dauphin County: 114
 Lebanon County: 223
 Lancaster County: 76
 Berks County: 259

4. Please provide the latitude and longitude coordinates for the center of the project. The coordinates should be in degrees, minutes seconds (DD MM SS.SS) and North American Datum 1983. For linear projects provide the project's termini.

Latitude 40° degrees 24' minutes 31.56" seconds Longitude 78° degrees 33' minutes 23.36" seconds
 Latitude 40° degrees 09' minutes 21.15" seconds Longitude 75° degrees 50' minutes 34.44" seconds

Horizontal Collection Method:
 GPS
 Interpolated from U.S.G.S. Topographic Map
 DEP's eMAP

5. U.S.G.S. 7.5 min. Quad Map Name Cresson, Hollidaysburg, Frankstown, Williamsburg, Cassville, Entriaken, Huntingdon, Butler Knob, Mount Union, Aughwick, Blairs Mills, Blain, Andersonburg, Newville, Landisburg, Plainfield, Carlisle, Shermans Dale, Mechanicsburg, Wetzville, Lemoyne, Steelton, Middletown, Elizabethtown, Lebanon, Manheim, Palmyra, Richland, Womelsdorf, Ephrata, Sinking Spring, Terre Hill, Reading, Morgantown, Elverson, Downingtown, Pottstown, and Washington. (Include a copy of the project area on the 7.5 min quad map)

6. Will the project be conducted as a phased permit project? Yes No
 If Yes, Include Master Site Plan Estimated Timetable for Phased Projects. Additional sheet(s) attached.

Phase No. or Name	Description	Total Area	Disturbed Area	Start Date	End Date
1	Installation of pipeline	1683	1683		
2	Expansion of Beckersville, Middletown, Mt. Union and Doylesburg station facilities	7	7		

7. List existing and previous land use for a minimum of the previous 5 years. Forested/ agricultural/ rural residential

8. Other Pollutants: Will the stormwater discharge contain pollutional substances other than sediment? Yes No
 If yes, explain and provide any available quantitative data.

9. Will fuels, chemicals, solvents, other hazardous waste or materials be used or stored on site during earth disturbance activities?
 Yes No (If yes, a PPC Plan must be maintained on site during earth disturbance.)

10. Does the project have the potential to discharge to siltation-impaired waters?
 Yes No (If yes, show how the project will not result in a net change in volume, rate or water quality. See section G below.)

11. Has the project site been investigated to identify naturally occurring geologic formations or soil types that may cause pollution when disturbed?
 Yes No
 Have naturally occurring geologic formations or soil types that may cause pollution when disturbed been identified?
 Yes No (If yes, BMPs to avoid or minimize the potential pollution must be utilized.)

12. Has the project site been analyzed to determine potential thermal impacts to surface waters of the Commonwealth?
 Yes No
 Have potential thermal impacts to surface water of the Commonwealth from earth disturbance activity been identified?
 Yes No (If yes, BMPs to avoid, minimize or mitigated the thermal pollution must be utilized.)

13. Have the E&S Plan and PCSM/SR Plan been planned, designed and implemented to be consistent?
 Yes No

14. Have existing and/or proposed Riparian Forest Buffers been identified?
 Yes N/A (If not, they must be shown on the plans.)

15. Is a riparian buffer waiver being requested?
 Yes No
 If yes, the applicant requesting a waiver must submit a written request that demonstrates that reasonable alternatives will meet the requirements of 25 Pa. Code § 102.14 and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

16. Have antidegradation implementation requirements for special protection waters been addressed?
 Yes No (If no, antidegradation requirements must be included in the plan.) N/A

17. Has the seasonal high groundwater level been identified at all excavation locations for pits and impoundments other than those which will contain top-hole water, fresh water and uncontaminated drill cuttings?
Yes No N/A (If no, be advised that a 20-inch separation between the seasonal high groundwater and the bottom of all pits and impoundments containing polluttional substances is required.)

18. Receiving Water/Watershed Name
See Table in Attachment 3.

Chapter 93, Designated Use and Existing Use
Stream Classification

High Quality Exceptional Value
 Other WWF, CWF, TSF

Siltation-impaired

Secondary Receiving Water

Name of Municipal or Private Separate Storm Sewer Operator
See Table in Attachment 4

19. Is an Expedited Review being requested? Yes No
If yes, be advised that the Expedited Review is not available for all projects. Refer to the "Expedited Review Process" Item 8, Page 17 of the ESCGP-2 Instructions to determine if your project is eligible.

SECTION D. EROSION AND SEDIMENT CONTROL PLAN BMPS
See the attached Instructions on how to complete this section.

Erosion and Sediment Control Plan BMPs should be designed to minimize accelerated erosion and sedimentation through limiting the extent and duration of earth disturbance, protection of existing drainage and vegetation, limiting soil compaction and controlling the generation of increased runoff. The Department recommends the use of the Erosion and Sediment Control BMP Manual to achieve this goal. The E&S Plan must meet the requirements of Pa. Code § 102.4(b) and submitted with the NOI.

1. E & S Plan

The E & S Plan must satisfy at least one of subparagraph A or B below.

Provide a brief summary of proposed BMPs and their performance to manage E & S for the project. If E & S BMPs and their application do not follow the guidelines referenced in the Pa. Erosion and Sediment Pollution Control Program Manual, provide documentation to demonstrate performance equivalent to, or better than, the BMPs in the Manual.

Compost Filter Socks - This temporary sedimentation control measure consists of wood or metal posts driven through a compost filled mesh tube. Filter socks will be located as needed on side-slope and down-slope boundaries of disturbed areas. Compost filter socks will be sized using the DEP Construction Detail.

Tarpaulin Covers - Tarpaulin covers may be used, as necessary, to protect topsoil storage stockpiles from wind and precipitation erosion. Stockpile slopes will be 2:1 or less. A minimal amount of soil will be stockpiled so that the height of the stockpile is less than 35 feet.

Rock Construction Entrance – Temporary access routes will be established on and proximate to the site to facilitate construction activities. The use of access routes will help confine truck and equipment traffic to specific corridors thus minimizing land disturbance and protecting vegetation. Site traffic during wet weather will be limited. No vehicles will be permitted in streams or rivers.

Wash Racks – Wash racks will be used at rock construction entrances and will be designed to accommodate anticipated vehicular traffic. A water supply will be made available at wash racks to wash the wheels of vehicles exiting the site.

Pumped Water Filter Bag – Pumped water filter bags may be used to filter water pumped from disturbed areas prior to discharging to surface waters. Compost filter socks shall be installed within 50 feet of any receiving surface water or where grassy area is not available.

Erosion Control Blanket - A manufactured erosion control blanket shall be installed on all slopes 3:1 (H:V) or steeper and within 100 feet of stream banks, where applicable. The blanket shall be biodegradable but capable of providing protection for two growing seasons. Straw or similar fiber material shall be placed between two biodegradable nets. The top net shall be heavyweight and UV stabilized; the bottom net shall be a lightweight netting. Erosion control blankets shall be anchored and stapled in place in accordance with the manufacturer's recommendations and the detail on the construction drawings. For slopes between 3:1 and 1:1 (H:V) use erosion control blanket SC 150 as manufactured by North American Green or Owner approved equal material or equal method.

Waterbars – Waterbars shall be installed across the right-of-way on all slopes greater than 5%. Waterbars should be constructed at a slope of 2% and discharge to a well-vegetated area. Waterbars should not discharge into an open trench. Waterbars should be oriented so that the discharge does not flow back onto the right-of-way. Obstructions (e.g. compost filter socks etc.) should not be placed in any waterbars. Where needed, they should be located below the discharge end of the waterbar.

Trench Plugs - To be used to prevent piping along the pipeline.

- A. E & S plan is designed using BMPs in the Pennsylvania Erosion & Sedimentation Pollution Control Manual (ESPC) (Technical Guidance #3632134-008/March 2012)

OR

- B. E & S plan is designed using an alternative BMP or design standard

2. Riparian Buffer Information

- A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as a part of this project?

Protect Yes No Convert Yes No Establish Yes No

- B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this project?

Yes No

- C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required as part of the Chapter 78 permit authorization in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?

Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.

- D. If the regulations require a riparian buffer or riparian forest buffer and you are not providing one, list the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(2)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

This project qualifies for an exception of the riparian forest buffer requirement under Chapter 102.14(d)(1)(ix). Existing riparian forest buffers within the project area are identified on the E&S plan drawings in Attachment 2 of the E&S Plan. Existing riparian forest buffers will be protected to the extent practicable by minimizing the limit of disturbance at stream crossings. In addition to the exception, we are requesting a waiver under 102.14(d)(2)(ii) for areas within 150' of surface waters that are outside of the Chapter 105 permit area.

All disturbance activities, including those which impact riparian forest buffers, have been reduced to the extent practicable. The limit of disturbance has been reduced to 50 feet wide at all stream crossings within the riparian forest buffer area where possible. In areas where it is not practicable to reduce the LOD throughout the entire extent of the riparian forest buffer, the LOD has been reduced to 50 feet wide surrounding the stream channel. The operations within the LOD near stream crossings typically includes a topsoil stockpile, a stockpile for pipe trench excavation material, a pipe trench, a travel lane, a work area for equipment operation and pipeline welding outside the trench, and an area to install the erosion control BMPs. In addition, site conditions such as steep slopes, varying depths of topsoil, and other on-site conditions limit the amount of work area. Reducing the LOD to a greater extent could potentially result in unsafe working conditions and would hinder the ability to complete the stream crossing within the required time frame of 24 hours or less. Workspaces that provide additional space for stream crossing activities have been placed outside of riparian forest buffers where possible.

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. Thermal Impacts Analysis

Please explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. The disturbed areas will be reseeded as soon as practicable following construction

SECTION E. SITE RESTORATION (SR) PLAN BMPS
 See the attached Instructions on how to complete this section.

If this section is not applicable to your project, please indicate by checking this box: N/A

For earth disturbance projects involving oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure provide the information outlined below. If your project includes both oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure and other activities requiring Post Construction Stormwater Management, provide the information outlined in this Section as well as Section F.

Site Restoration BMPs should be designed to use natural measures to eliminate pollution, infiltrate runoff, not require extensive construction/maintenance activity, promote pollutant reduction, and preserve the integrity of stream channels. The Department recommends the use of PA Stormwater BMP manual to achieve this goal. The SR Plan must meet the requirements of Pa Code § 102.8(n) and be submitted with the NOI.

1. Site Restoration Plan Information – The Site Restoration Plan should be designed to maximize volume reduction technologies, eliminate (where possible) or minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological and chemical qualities of the receiving surface water.

Design standards applied to develop the Site Restoration Plan. Check those that apply.

Act 167 Plan – The attached SR Plan is consistent with an applicable approved Act 167 Plan.

Complete the following for all approved Act 167 Stormwater Management Plans. (Use additional sheets if necessary)

Act 167 Plan Name	Date Adopted	Consistency Letter Included	<input type="checkbox"/>
_____	_____	Verification Report Included	<input checked="" type="checkbox"/>

NOTE: A consistency letter is not required if a verification report is provided. Please see NOI Instructions. The Site Restoration Plan must satisfy either sub paragraph A, B, or C below. Check those that apply.

- A. Act 167 Plan approvals on or after January 2005 - The attached PCSM Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an Act 167 Stormwater Management Plan approved by DEP on or after January 2005. Letter A must be checked if a current, DEP approved Act 167 plan exists.
- B. The PCSM meets the standard design criteria from the PA Stormwater BMP Manual. For projects involving oil and gas activities authorized by a permit issued under Chapter 78 (well pads) or pipelines and other similar utility infrastructure, post construction stormwater management requirements are met for all areas that are restored to preconstruction conditions or to a condition of meadow in good condition or better.
- C. Alternative Design Standard – The attached PCSM Plan was developed using approaches other than 102.8(g)(2). Demonstrate/explain in the space provided below how this standard will be either more protective than what is required in 102.8(g)(2) or will maintain and protect existing water quality and existing and designated uses.

2. Riparian Buffer Information

- A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as part of this activity?
Protect Yes No Convert Yes No Establish Yes No
- B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this activity?
 Yes No
- C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required under a permit issued under the authority of the 2012 Oil and Gas Act and Chapter 78 in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?
 Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.

- D. If the regulations require a riparian buffer or riparian forest buffer and you are **not** providing one, list below the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

This project qualifies for an exception of the riparian forest buffer requirement under Chapter 102.14(d)(1)(ix). Existing riparian forest buffers within the project area are identified on the E&S plan drawings in Attachment 2 of the E&S Plan. Existing riparian forest buffers will be protected to the extent practicable by minimizing the limit of disturbance at stream crossings. In addition to the exception, we are requesting a waiver under 102.14(d)(2)(ii) for areas within 150' of surface waters that are outside of the Chapter 105 permit area.

All disturbance activities, including those which impact riparian forest buffers, have been reduced to the extent practicable. The limit of disturbance has been reduced to 50 feet wide at all stream crossings within the riparian forest buffer area where possible. In areas where it is not practicable to reduce the LOD throughout the entire extent of the riparian forest buffer, the LOD has been reduced to 50 feet wide surrounding the stream channel. The operations within the LOD near stream crossings typically includes a topsoil stockpile, a stockpile for pipe trench excavation material, a pipe trench, a travel lane, a work area for equipment operation and pipeline welding outside the trench, and an area to install the erosion control BMPs. In addition, site conditions such as steep slopes, varying depths of topsoil, and other on-site conditions limit the amount of work area. Reducing the LOD to a greater extent could potentially result in unsafe working conditions and would hinder the ability to complete the stream crossing within the required time frame of 24 hours or less. Workspaces that provide additional space for stream crossing activities have been placed outside of riparian forest buffers where possible.

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA

See Attachment D in the Instructions on how to Complete This Section

This section does not need to be completed for areas of projects involving oil and gas activities authorized by Chapter 78 (well pads) or pipelines and other similar utility infrastructure which will be restored to meadow in good condition or better or existing conditions.

Watershed Name:			
Design storm frequency _____ Rainfall amount _____ inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)			
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs			
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs			
Stormwater discharge rate for the design frequency storm	Pre-construction	Post Construction	Net Change
1) 2-Year/24-Hour			
2) 10-Year/24-Hour			
3) 50-year/24-Hour			
4) 100-year/24-Hour			

4. SUMMARY DESCRIPTION OF SITE RESTORATION BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Site Restoration <input type="checkbox"/> Restore Site to Meadow in Good Condition or Better, or Existing Conditions	Infiltration/Recharge Detention/WQ Treatment	_____	_____
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input checked="" type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____	_____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input type="checkbox"/> _____	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and Site Restoration Plans that the discharge will not cause erosion, damage, or a nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

SECTION F. POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) PLAN BMPS
 See the attached Instructions on how to complete this section.

If this section is not applicable to your project, please indicate by checking this box: N/A

For earth disturbance projects requiring post construction stormwater management, provide the information outlined below. If your project includes both oil and gas activities authorized under a well permit issued under the 2012 Oil and Gas Act and Chapter 78 (well pads) or pipelines and other similar utility infrastructure and other activities requiring Post Construction Stormwater Management, provide the information outlined in this Section as well as Section E.

Post Construction Stormwater Management BMPs should be designed to use natural measures to eliminate pollution, infiltrate runoff, not require extensive construction/maintenance activity, promote pollutant reduction, and preserve the integrity of stream channels. The Department recommends the use of PA Stormwater BMP manual to achieve this goal. If PCSM BMPs and their application do not follow the guidelines referenced in the PA Stormwater BMP Manual, provide documentation to demonstrate performance equivalent to, or better than, the BMPs in the Manual.

1. Post Construction Stormwater Management Plan Information – The Post Construction Stormwater Management Plan must meet the requirements in 25 Pa. Code §102.8 and should be designed to maximize volume reduction technologies, eliminate (where possible) or minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological and chemical qualities of the receiving surface water.

Design standards applied to develop the Post Construction Stormwater Management Plan. Check those that apply.

Act 167 Plan – The attached PCSM Plan is consistent with an applicable approved Act 167 Plan.

Complete the following for all approved Act 167 Stormwater Management Plans. (Use additional sheets if necessary)

Act 167 Plan Name	Date Adopted	Consistency Letter Included	<input type="checkbox"/>
_____	_____	Verification Report Included	<input checked="" type="checkbox"/>

NOTE: A consistency letter is not required if a verification report is provided. Please see NOI Instructions.

The PCSM Plan must satisfy either subparagraph A, B, or C below. Check those that apply. If a current, DEP approved Act 167 Plan exists, letter A must be checked.

- A. Act 167 Plan approvals on or after January 2005 - The attached PCSM Plan, in its entirety, is consistent with all requirements pertaining to rate, volume, and water quality from an Act 167 Stormwater Management Plan approved by DEP on or after January 2005.
- B. The PCSM meets the standard design criteria from 102.8(g)(2) and (3) the PA Stormwater BMP Manual. [Note: PCSM plans have to meet both the volume and rate requirements in the regulations, which are provided in these 2 sections].
- C. Alternative Design Standard – The attached PCSM Plan was developed using alternative approaches as provided in 102.8(g)(2)(iv) and 102.(g)(3)(iii). Demonstrate/explain in the space provided below how this standard will be either more protective than what is required in 102.8(g)(2) and 102.8(g)(3) or will maintain and protect existing water quality and existing and designated uses.

2. Riparian Buffer Information

- A. Will you be protecting, converting or establishing a riparian buffer or a riparian forest buffer as part of this activity?
Protect Yes No Convert Yes No Establish Yes No
- B. Will you be protecting, converting or establishing a voluntary riparian forest buffer as part of this activity?
 Yes No
- C. Are you proposing to conduct oil and gas activities for which site reclamation or restoration is required under a well permit issued under the authority of the 2012 Oil and Gas Act and Chapter 78 and in a high quality or exceptional value watershed that is currently attaining its designated use and within 150 ft of a perennial or intermittent river, stream or creek or lake, pond or reservoir?
 Yes No If yes, provide a demonstration that any existing riparian buffer is undisturbed to the extent practicable.
- D. If the regulations require a riparian buffer or riparian forest buffer and you are not providing one, list below the waiver provisions in the Chapter 102 regulations, Section 102.14(d)(i)-(vi), that you are requesting and provide additional documentation to demonstrate reasonable alternatives for compliance with 102.14 requirements and to demonstrate that any existing riparian buffer will remain undisturbed to the extent practicable.

This project qualifies for an exception of the riparian forest buffer requirement under Chapter 102.14(d)(1)(ix). Existing riparian forest buffers within the project area are identified on the E&S plan drawings in Attachment 2 of the E&S Plan. Existing riparian forest buffers will be protected to the extent practicable by minimizing the limit of disturbance at stream crossings. In addition to the exception, we are requesting a waiver under 102.14(d)(2)(ii) for areas within 150' of surface waters that are outside of the Chapter 105 permit area.

All disturbance activities, including those which impact riparian forest buffers, have been reduced to the extent practicable. The limit of disturbance has been reduced to 50 feet wide at all stream crossings within the riparian forest buffer area where possible. In areas where it is not practicable to reduce the LOD throughout the entire extent of the riparian forest buffer, the LOD has been reduced to 50 feet wide surrounding the stream channel. The operations within the LOD near stream crossings typically includes a topsoil stockpile, a stockpile for pipe trench excavation material, a pipe trench, a travel lane, a work area for equipment operation and pipeline welding outside the trench, and an area to install the erosion control BMPs. In addition, site conditions such as steep slopes, varying depths of topsoil, and other on-site conditions limit the amount of work area. Reducing the LOD to a greater extent could potentially result in unsafe working conditions and would hinder the ability to complete the stream crossing within the required time frame of 24 hours or less. Workspaces that provide additional space for stream crossing activities have been placed outside of riparian forest buffers where possible

Note: If the proposed activity protects, converts or establishes a riparian or riparian forest buffer a Buffer Management Plan is required in the PCSM Plan.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Valley Forge Road - Blair County

Design storm frequency <u>2-yr</u> Rainfall amount <u>2.80</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.21	0.21
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.01	0.03	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	1.83	1.82	-0.01
2) 10-Year/24-Hour	5.66	5.30	-0.36
3) 50-year/24-Hour	10.89	9.97	-0.92
4) 100-year/24-Hour	13.95	12.69	-1.26

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>980</u>	_____ _____ _____ <u>0.65</u>

5. Off-site Discharge Analysis.
 Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.
 The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.
 Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.
 Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.
 Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.
 A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Hamer - Blair County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.24	0.24
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.03	0.05	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.03	0.03
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	4.16	3.71	-0.45
2) 10-Year/24-Hour	10.19	9.21	-0.98
3) 50-year/24-Hour	17.91	16.22	-1.69
4) 100-year/24-Hour	19.81	18.00	-1.81

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>960</u>	_____ _____ _____ <u>0.89</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the soil amendment area to verify the correct soil:compost ratio and soil amendment depth.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Locke Mountain - Blair County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.17	0.17
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.02	0.03	0.01
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	2.14	1.95	-0.19
2) 10-Year/24-Hour	4.69	4.29	-0.40
3) 50-year/24-Hour	7.81	7.16	-0.65
4) 100-year/24-Hour	9.57	8.76	-0.81

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltratio Berm	Infiltration/Recharge	_____ _____ _____ <u>540</u>	_____ _____ _____ <u>0.26</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Juniata River West - Blair County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.17	0.17
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.02	0.03	0.01
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.02	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.86	0.83	-0.03
2) 10-Year/24-Hour	2.01	1.84	-0.17
3) 50-year/24-Hour	3.49	3.08	-0.38
4) 100-year/24-Hour	3.86	3.38	-0.48

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>860</u>	_____ _____ _____ <u>0.32</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Juniata River East High Street - Blair County

Design storm frequency <u>2</u> -yr Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.18	0.18
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.01	0.03	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.20	0.15	-0.05
2) 10-Year/24-Hour	1.24	0.65	-0.59
3) 50-year/24-Hour	2.90	1.47	-1.43
4) 100-year/24-Hour	3.34	1.68	-1.66

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ 849	_____ _____ _____ 0.46

5. Off-site Discharge Analysis.
 Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.
 The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.
 Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.
 Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.
 Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.
 A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: SR 26 Raystown Road			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.18	0.18
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.02	0.03	0.01
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.02	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	6.88	6.72	-0.16
2) 10-Year/24-Hour	15.27	14.68	-0.59
3) 50-year/24-Hour	25.47	24.27	1.2
4) 100-year/24-Hour	29.26	27.82	1.44

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>1590</u>	_____ _____ _____ <u>0.39</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the soil amendment area to verify the correct soil:compost ratio and soil amendment depth.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Raystown Lake West - Huntingdon County

Design storm frequency <u>2</u> -yr Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.20	0.20
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.01	0.03	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	1.15	0.94	-0.21
2) 10-Year/24-Hour	4.87	3.92	-0.95
3) 50-year/24-Hour	10.19	8.27	-1.92
4) 100-year/24-Hour	12.32	10.01	-2.32

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>900</u>	_____ _____ _____ <u>0.56</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA See Attachment D in the Instructions on how to Complete This Section			
Watershed Name: Raystown Lake East Happy Hills - Huntingdon County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.80</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.19	0.19
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.05	0.06	0.01
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.05	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	2.67	2.61	-0.06
2) 10-Year/24-Hour	5.48	5.28	-0.20
3) 50-year/24-Hour	8.79	8.38	-0.41
4) 100-year/24-Hour	10.01	9.52	0.49
4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs			
In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".			
BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>605</u>	_____ _____ _____ <u>0.46</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: PA 655 - Huntingdon County

Design storm frequency <u>2</u> -yr _____ Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.18	0.18
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.06	0.10	0.04
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.06	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.54	0.76	-0.22
2) 10-Year/24-Hour	1.72	2.07	-0.35
3) 50-year/24-Hour	3.35	3.82	-0.47
4) 100-year/24-Hour	3.99	4.50	-0.51

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>1760</u>	_____ _____ _____ <u>0.97</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Shade Valley Highway 35 - Huntingdon County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.8</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.21	0.21
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.01	0.03	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.36	0.36	0
2) 10-Year/24-Hour	1.14	1.14	0
3) 50-year/24-Hour	2.21	2.21	0
4) 100-year/24-Hour	2.64	2.64	0

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>880</u>	_____ _____ _____ <u>0.28</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Plainfield - Cumberland County

Design storm frequency <u>2</u> -yr Rainfall amount <u>3.30</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.14	0.14
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.03	0.04	0.01
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.03	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.80	0.80	0
2) 10-Year/24-Hour	1.59	1.59	0
3) 50-year/24-Hour	2.16	2.16	0
4) 100-year/24-Hour	2.72	2.72	0

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ 545	_____ _____ _____ 0.26

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Creek Road - Cumberland County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.30</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.26	0.26
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.19	0.21	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.19	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	11.25	10.72	-0.53
2) 10-Year/24-Hour	22.09	20.80	-1.29
3) 50-year/24-Hour	30.11	28.20	-1.91
4) 100-year/24-Hour	37.82	35.28	-2.54

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>880</u>	_____ _____ _____ <u>1.65</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Wolf Bridge DA1 - Cumberland			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.42</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.03	0.03
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.001	0.003	0.002
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.001	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.41	0.38	-0.03
2) 10-Year/24-Hour	0.97	0.89	-0.08
3) 50-year/24-Hour	1.93	1.76	-0.17
4) 100-year/24-Hour	2.70	2.45	-0.25

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>146</u>	_____ _____ _____ <u>0.05</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Wolf Bridge DA2 - Cumberland			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.42</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.15	0.15
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.004	0.017	0.013
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.004	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.10	0.10	0
2) 10-Year/24-Hour	0.61	0.39	-0.22
3) 50-year/24-Hour	1.72	1.00	-0.72
4) 100-year/24-Hour	2.71	1.54	-1.17

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>576</u>	_____ _____ _____ <u>0.42</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Middlesex - Cumberland

Design storm frequency <u>2</u> -yr Rainfall amount <u>3.30</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.27	0.27
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.03	0.06	0.03
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.03	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	1.26	1.19	-0.07
2) 10-Year/24-Hour	4.75	3.99	-0.76
3) 50-year/24-Hour	7.83	6.45	-1.38
4) 100-year/24-Hour	11.05	9.01	-2.04

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>1327</u>	_____ _____ _____ <u>0.18</u>

5. Off-site Discharge Analysis.
 Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.
 The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.
 Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.
 Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.
 Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.
 A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Arcona - Cumberland County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.30</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.25	0.25
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.04	0.07	0.03
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.04	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	5.91	5.44	-0.47
2) 10-Year/24-Hour	16.87	15.64	-1.23
3) 50-year/24-Hour	25.92	24.03	-1.09
4) 100-year/24-Hour	35.13	32.65	-2.48

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>1320</u>	_____ _____ _____ <u>0.56</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site:

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Old York Road - York County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>3.20</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.22	0
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.01	0.04	0.03
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.01	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	2.82	2.46	-0.36
2) 10-Year/24-Hour	8.40	7.30	-1.10
3) 50-year/24-Hour	14.02	12.15	-1.87
4) 100-year/24-Hour	18.66	16.17	-2.49

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>1328</u>	_____ _____ _____ <u>0.22</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Middletown Junction DA1- Dauphin County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.10</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.08	0.08
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.001	0.009	0.008
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.001	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0	0	0
2) 10-Year/24-Hour	0	0	0
3) 50-year/24-Hour	0.09	0.09	0
4) 100-year/24-Hour	0.45	0.19	-0.26

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>910</u>	_____ _____ _____ <u>0.28</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Middletown Junction DA2- Dauphin County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.10</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.14	0.14
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.002	0.015	0.013
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.002	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0	0	0
2) 10-Year/24-Hour	0.21	0.06	-0.15
3) 50-year/24-Hour	1.49	0.22	-1.27
4) 100-year/24-Hour	2.54	0.35	-2.19

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>1080</u>	_____ _____ _____ <u>0.37</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Gates Road - Dauphin County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>3.10</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.18	0.18
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.02	0.04	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.02	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0	0	0
2) 10-Year/24-Hour	0.71	0.35	-0.36
3) 50-year/24-Hour	2.34	1.08	-1.26
4) 100-year/24-Hour	3.83	1.75	-2.08

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration berm</u>	Infiltration/Recharge	_____ _____ _____ <u>880</u>	_____ _____ _____ <u>0.59</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Schaefferstown Tie-in - Lebanon County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>2.42</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.26	0.26
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.006	.034	.028
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		.006	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.05	0.20	0.15
2) 10-Year/24-Hour	0.40	0.51	0.11
3) 50-year/24-Hour	1.15	1.05	-0.10
4) 100-year/24-Hour	1.83	1.48	-0.35

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>1380</u>	_____ _____ _____ <u>0.67</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA

See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Hopeland - Lebanon County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.20</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.22	0.22
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.04	0.06	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.04	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	1.15	0.92	-0.23
2) 10-Year/24-Hour	3.59	2.91	-0.68
3) 50-year/24-Hour	8.00	6.35	-1.65
4) 100-year/24-Hour	10.55	8.28	-2.27

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration berm _____	Infiltration/Recharge	_____ _____ _____ <u>1150</u>	_____ _____ _____ <u>1.29</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Blainsport Valve - Lancaster County			
Design storm frequency <u>2-yr</u> Rainfall amount <u>3.20</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.17	0.17
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.005	0.029	0.024
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.024	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	4.43	4.43	0
2) 10-Year/24-Hour	11.18	11.18	0
3) 50-year/24-Hour	19.65	19.65	0
4) 100-year/24-Hour	25.36	25.36	0

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____	_____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____	_____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____	_____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____	_____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ 1320	_____ _____ _____ 0.17

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Montello - Berks County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.40</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.16	0.16
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	.006	.026	.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		.006	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	0.25	0.09	-0.16
2) 10-Year/24-Hour	0.79	0.24	-0.55
3) 50-year/24-Hour	1.60	0.43	-1.17
4) 100-year/24-Hour	2.11	0.54	-1.57

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> <u>Infiltration Berm</u>	Infiltration/Recharge	_____ _____ _____ <u>1960</u>	_____ _____ _____ <u>0.16</u>

5. Off-site Discharge Analysis.
 Does the activity propose any off-site discharges to areas other than surface waters? Yes No
 If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.
 The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.
 Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.
 Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.
 Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.
 A licensed professional or designee shall be present on site for the construction of the infiltration berm.

3. SUMMARY TABLE FOR SUPPORTING CALCULATION AND MEASUREMENT DATA
 See Attachment D in the Instructions on how to Complete This Section

Watershed Name: Wyomissing - Berks County

Design storm frequency <u>2-yr</u> Rainfall amount <u>3.40</u> inches	Pre-construction	Post Construction	Net Change
Impervious area (acres)	0	0.21	0.21
Volume of stormwater runoff (acre-feet) without planned stormwater BMPs	0.02	0.04	0.02
Volume of stormwater runoff (acre-feet) with planned stormwater BMPs		0.02	0
Stormwater discharge rate for the design frequency storm			
1) 2-Year/24-Hour	1.54	1.28	-0.26
2) 10-Year/24-Hour	4.25	3.56	-0.69
3) 50-year/24-Hour	8.08	6.55	-1.53
4) 100-year/24-Hour	10.41	8.36	-2.05

4. SUMMARY DESCRIPTION OF POST CONSTRUCTION STORMWATER BMPs

In the lists below, check the BMPs identified in the Post Construction Stormwater Management Plan. The primary function(s) of the BMP listed in the functions column (infiltration/recharge; detention/retention; water quality). Additional functions may be added if applicable to that BMP. List the stormwater volume and area of runoff to be treated by each BMP type when calculations are required. If any BMP in the Site Restoration Plan is not listed below, describe it in the space provided after "Other".

BMP	Function(s)	Volume of stormwater treated	Acres treated
Bio-infiltration areas <input type="checkbox"/> Infiltration Trench <input type="checkbox"/> Infiltration Bed <input type="checkbox"/> Infiltrated Basin	Infiltration/Recharge	_____ _____ _____	_____ _____ _____
Natural Area Conservation <input type="checkbox"/> Streamside Buffer Zone <input type="checkbox"/> Wetland Buffer Zone <input type="checkbox"/> Sensitive Area Buffer Zone <input type="checkbox"/> Pre-Construction Drainage Pattern Intact	Infiltration/Recharge	_____ _____ _____ _____	_____ _____ _____ _____
Stormwater Retention <input type="checkbox"/> Constructed Wetlands <input type="checkbox"/> Wet Ponds <input type="checkbox"/> Retention Basin	Detention/Retention	_____ _____ _____	_____ _____ _____
Sediment and Pollutant Removal <input type="checkbox"/> Vegetated Filter Strips <input type="checkbox"/> Compost Filter Sock <input type="checkbox"/> Detention Basins	Water Quality Treatment	_____ _____ _____	_____ _____ _____

Access Road Design <input type="checkbox"/> Road Crowning <input type="checkbox"/> Ditches <input type="checkbox"/> Turnouts <input type="checkbox"/> Culverts <input type="checkbox"/> Roadside Vegetated Filter Strips	Infiltration/Recharge	_____ _____ _____ _____ _____	_____ _____ _____ _____ _____
Stormwater Energy Dissipaters <input type="checkbox"/> Level Spreaders <input type="checkbox"/> Riprap Aprons <input type="checkbox"/> Upslope Diversions <input checked="" type="checkbox"/> Infiltration Berm	Infiltration/Recharge	_____ _____ _____ <u>1370</u>	_____ _____ _____ <u>0.51</u>

5. Off-site Discharge Analysis.

Does the activity propose any off-site discharges to areas other than surface waters? Yes No

If yes, it is the applicant's responsibility to ensure that they have legal authority for any off-site discharge.

The Applicant must provide a demonstration in both the E&S and PCSM Plans that the discharge will not cause erosion, damage, or nuisance to off-site properties.

6. Thermal Impact Analysis.

Explain how thermal impacts associated with this project were avoided, minimized, or mitigated.

Potential thermal impacts to surface waters will be minimized by minimizing clearing and retaining existing vegetation where possible. Permanent seeding will occur as soon as practicable during germinating months.

7. Critical PCSM Plan stages.

Identify and list critical stages of implementation of the PCSM Plan for which a licensed professional or designee shall be present on site.

A licensed professional or designee shall be present on site for the construction of the infiltration berm.

SECTION G. ANTIDegradation ANALYSIS

This section must be completed where earth disturbance activities will be conducted in special protection or siltation-impaired watersheds.

Part 1 NONDISCHARGE ALTERNATIVES EVALUATION

The applicant must consider and describe any and all nondischarge alternatives for the entire project area which are environmentally sound and will:

- Minimize accelerated erosion and sedimentation during the earth disturbance activity
- Achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in water quality

E & S Plan	<i>Official Use Only</i>	PCSM/Site Restoration Plan	<i>Official Use Only</i>
<p>Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used prior to, during, and after earth disturbance activities that have been incorporated into your E & S Plan based on your site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide your analysis and attach additional sheets if necessary) The best possible pipeline route was selected based on landowner agreements, and minimization of environmental impacts, and engineering/constructibility factors. The project's disturbed area will be limited to the area required for construction, and the duration of construction will be minimized to the extent practicable. Riparian forest buffers will be protected to the extent practicable during construction activities at stream crossings.</p>		<p>Check off the environmentally sound nondischarge Best Management Practices (BMPs) listed below to be used after construction that have been incorporated into your PCSM/SR Plan based on your site analysis. For non-discharge BMPs not checked, provide an explanation of why they were not utilized. Also for BMPs checked, provide an explanation of why they were utilized. (Provide your analysis and attach additional sheets if necessary) The best possible pipeline route was selected based on landowner agreements, and minimization of environmental impacts, and engineering/constructibility factors. The pipeline right of way will be restored to a meadow condition at original contours to maintain the pre-construction drainage patterns. Riparian forest buffers will be protected to the extent practicable.</p>	
<p>Nondischarge BMPs</p> <p><input type="checkbox"/> Alternative Siting</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative location</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative configuration</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative location of discharge</p> <p><input checked="" type="checkbox"/> Limited Disturbed Area</p> <p><input checked="" type="checkbox"/> Limiting Extent & Duration of Disturbance (Phasing, Sequencing)</p> <p><input type="checkbox"/> Riparian Buffers (150 ft. min.)</p> <p><input type="checkbox"/> Riparian Forest Buffer (150 ft. min.)</p> <p><input type="checkbox"/> Other _____</p>		<p>Nondischarge BMPs</p> <p><input type="checkbox"/> Alternative Siting</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative location</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative configuration</p> <p style="padding-left: 20px;"><input type="checkbox"/> Alternative location of discharge</p> <p><input type="checkbox"/> Low Impact Development (LID / BSD)</p> <p><input type="checkbox"/> Riparian Buffers (150 ft. min.)</p> <p><input type="checkbox"/> Riparian Forest Buffer (150 ft. min.)</p> <p><input type="checkbox"/> Infiltration</p> <p><input type="checkbox"/> Water Reuse</p> <p><input checked="" type="checkbox"/> Other <u>re-construction drainage pattern intact within the right of way</u></p>	

Will the non-discharge alternative BMPs eliminate the net change in rate, volume and quality during and after construction?

- Yes No

If yes, antidegradation analysis is complete.
 If no, proceed to Part 2.

PART 2 ANTIDegradation BEST AVAILABLE COMBINATION OF TECHNOLOGIES (ABACT)

If the net change in stormwater discharge from or after construction is not fully managed by nondischarge BMPs, the applicant must utilize ABACT BMPs to manage the difference. The Applicant must specify whether the discharge will occur during construction, post-construction or both, and identify the technologies that will be used to ensure that the discharge will be a non-degrading discharge. ABACT BMPs include but are not limited to:

E & S Plan	<i>Official Use Only</i>	PCSM/Site Restoration Plan	<i>Official Use Only</i>
<p><input checked="" type="checkbox"/> Treatment BMPs:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sediment basin with skimmer <input type="checkbox"/> Sediment basin ratio of 4:1 or greater (flow length to basin width) <input type="checkbox"/> Sediment basin with 4-7 day detention <input type="checkbox"/> Flocculants <input checked="" type="checkbox"/> Compost Filter Socks <input type="checkbox"/> Compost Filter Sock Sediment Basin <input checked="" type="checkbox"/> RCE w/ Wash Rack <p><input type="checkbox"/> Land disposal:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Vegetated filters <input type="checkbox"/> Riparian buffers <150ft. <input type="checkbox"/> Riparian Forest Buffer <150ft. <input type="checkbox"/> Immediate stabilization <p><input checked="" type="checkbox"/> Pollution prevention:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> PPC Plans <input type="checkbox"/> Street sweeping <input type="checkbox"/> Channels, collectors and diversions lined with permanent vegetation, rock, geotextile or other non-erosive materials <p><input type="checkbox"/> Stormwater reuse technologies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sediment basin water for dust control <input type="checkbox"/> Sediment basin water for irrigation <p><input checked="" type="checkbox"/> <u>Other Rock construction entrances with wash racks, compost filter socks, erosion control blanket placed within 100-feet of streams</u></p>		<p><input type="checkbox"/> Treatment BMPs:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Infiltration Practices <input type="checkbox"/> Wet ponds <input type="checkbox"/> Created wetland treatment systems <input type="checkbox"/> Vegetated swales <input type="checkbox"/> Manufactured devices <input type="checkbox"/> Bio-retention/infiltration <input type="checkbox"/> Green Roofs <p><input type="checkbox"/> Land disposal:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Vegetated filters <input type="checkbox"/> Riparian Buffers <150ft. <input type="checkbox"/> Riparian Forest Buffer <150ft. <input type="checkbox"/> Disconnection of roof drainage <input type="checkbox"/> Bio-retention/bio-infiltration <p><input type="checkbox"/> Pollution prevention:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Street sweeping <input type="checkbox"/> Nutrient, pesticide, herbicide or other chemical application plan alternatives <input type="checkbox"/> PPC Plans <input type="checkbox"/> Non-structural Practices <input type="checkbox"/> Restoration BMPs <p><input type="checkbox"/> Stormwater reuse technologies:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Divert rainwater into impoundment <input type="checkbox"/> Underground storage <input type="checkbox"/> Spray/Drip Irrigation <p><input type="checkbox"/> Other _____</p>	

SECTION H. COMPLIANCE REVIEW

Is the applicant in violation of any existing permit, regulation, order, or schedule of compliance issued by the Department within the last 5 years?

Yes No

If yes, provide the permit number or facility name, a brief description of the violation, the compliance schedule (including dates and steps to achieve compliance) and the current compliance status. (Attach additional information on a separate sheets, when necessary)

Notices of Violations attached in formal application

SECTION I. CERTIFICATION BY PERSON PREPARING APPLICATION

I do hereby certify to the best of my knowledge, information, and belief, that the Erosion and Sediment Control and PCSM/Site Restoration Plans are true and correct, represent actual field conditions, and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Print Name Robert F. Simcik, P.E.	Signature	Professional Seal
Company Tetra Tech		
Address 661 Andersen Drive, Foster Plaza 7, Pittsburgh, PA 15220		
Phone (412) 921-8163		
Most Recent DEP Training Attended	Location Greensburg, PA Date 04/03/2014	
e-Mail Address robert.simcik@tetrattech.com		

EXPEDITED REVIEW PROCESS

In addition to the certification required above applicants using the expedited permit review process must attach an E&S and PCSM/Site Restoration Plans developed and sealed by a licensed professional engineer, surveyor or professional geologist. The plans shall contain the following certification:

I do hereby certify to the best of my knowledge, information, and belief, that the E & S Control and SR/PCSM BMPs are true and correct, represent actual field conditions and are in accordance with the 25 Pa. Code Chapters 78 and 102 of the Department's rules and regulations. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SECTION J. APPLICANT CERTIFICATION

Applicant Certification. I certify under penalty of law that this document and all attachments were prepared by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. The responsible official's signature also verifies that the activity is eligible to participate in the permit, and that the applicant agrees to abide by the terms and conditions of the permit. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Matthew L. Gordon - Project Manager - Sunoco	
Print Name and Title of Applicant	Print Name and Title of Co-Applicant (if applicable)
Signature of Applicant	Signature of Co-Applicant
Date Application Signed	Date Application Signed

Notarization	
Sworn to and subscribed to before me this	Commonwealth of Pennsylvania
_____ day of _____, 20_____	County of _____
	My Commission expires _____

Notary Public

AFFIX SEAL

ATTACHMENT 1:

Site Directions

Detailed Written Directions to the Site

Blair County

From the DEP South Central Regional Office to Locke Mountain Road Block Valve site (approximately 4 Locke Mountain Road, Hollidaysburg, PA 16648)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (55.9 mi). Take the US-22 W/US-522 S exit on the left toward Mt Union (0.6 mi). Continue onto US-22 W/US-522 S (58.7 mi). Turn left onto Old Rte 22/Reservoir Rd (269 ft). Turn left onto Locke Mt Rd (0.4 mi). Slight right onto Locke Mountain Rd. The Juniata River West block valve will be on the left hand side about 1 mile down the road.

Huntingdon County

From the DEP South Central Regional Office to Happy Hills Road Block Valve site (approximately 0.3 mi south of 14987 Happy Hills Road, Huntingdon, PA 16652)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (55.9 mi). Take the US-22 W/US-522 S exit on the left toward Mt Union (0.6 mi). Continue onto US-22 W/US-522 S (29.2 mi). Turn left onto PA-829 S (6.8 mi). Turn right onto Happy Hills Rd. The Happy Hills Road Block Valve will be on the left hand side about 1.4 miles down the road.

From the DEP South Central Regional Office to the Pennsylvania 655 Block Valve site.

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (55.9 mi). Take the US-22 W/US-522 S exit on the left toward Mt Union (0.6 mi). Continue onto US-22 W/US-522 S (25.0 mi). Slight left onto Oriskany Rd (0.8 mi). Turn left onto PA-655 S/Bridge St (0.2 mi). Slight right onto Main St (0.1 mi). Turn left onto Campbell St (0.3 mi). Campbell St turns slightly left and becomes PA-655 S. The Pennsylvania 655 Block Valve will be on the left side approximately 3.1 miles down the road.

Juniata County

From the DEP South Central Regional Office to the Pennsylvania- 75 road crossing. (Approximately 2982 Pennsylvania 75, East Waterford, PA 17021)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (40.2 mi). Take the Pennsylvania 75 exit toward Port Royal (0.2 mi). Keep right at the fork and merge onto PA-75 S (3.0 mi). Slight right to stay on PA-75 S. The pipe crosses Pennsylvania 75 approximately 23.0 miles down the road.

Perry County

From the DEP South Central Regional Office to the Doylesburg Station. (Approximately Pennsylvania-274 West/ West Main Street)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.2 mi). Keep left at the fork, follow signs for I-81 S/Carlisle and merge onto I-81 S (7.7 mi). Keep right at the fork to stay on I-81 S (2.6 mi). Take exit 57 for PA-114 toward Mechanicsburg (0.3 mi). Turn right onto PA-114 W (signs for Wertzville Rd) (1.0 mi). Turn left onto PA-944 W (3.4 mi). Continue onto Sunnyside Dr. (1.1 mi). At the traffic circle, take the 2nd exit and stay on Sunnyside Dr (322 ft). Continue onto PA-34 N (5.1 mi). Turn left onto PA-850 W (6.6 mi). Turn right onto PA-850 W/Carlisle St (2.9 mi). Turn left onto PA-274 W/PA-850 W (9.7 mi). Turn left onto PA-274 W/W Main St. The Doylesburg Station will be on the left hand side approximately 6.7 miles down the road.

Cumberland County

From the DEP South Central Regional Office to the Creek Road/Conodonquinet River Block Valve (Approximately 100 Creek Road, Carlisle, PA 17013)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.2 mi). Keep left at the fork, follow signs for I-81 S/Carlisle and merge onto I-81 S (0.8 mi). Merge onto I-81 S (6.8 mi). Keep right at the fork to stay on I-81 S (8.0 mi). Take exit 52 for US-11 toward I-76/New Kingstown/Middlesex (0.3 mi). Turn right onto US-11 S (0.6 mi). Turn right onto N Middlesex Rd (0.3 mi). Turn left onto Clemson Dr (1.3 mi). Turn right onto Wolf Bridge Rd (0.7 mi). Turn left onto W Middlesex Dr (0.6 mi). Turn left onto Spring Rd (0.4 mi). Turn right onto Creek Rd. The Creek Road Block Valve will be on the right side approximately 0.2 miles down the road.

York County

From the DEP South Central Regional Office to the Old York Road Block Valve (Approximately 429 Old York Road, New Cumberland, PA 17070)

Head southwest on Elmerton Ave (0.2 mi). Turn left onto N Cameron St (0.6 mi). Continue straight onto PA-230 E/N Cameron St (2.0 mi). Turn left onto Paxton St (0.2 mi). Turn right onto S 13th St (302 ft). Turn right onto the Interstate 83 S ramp to York (0.2 mi). Merge onto I-83 S (1.5 mi). Keep right at the fork to stay on I-83 S, follow signs for Interstate 83 S/Interstate 76/Penna Turnpike/York/Baltimore (3.98 mi). Take exit 38 toward Reesers/Summit (279 ft). Turn left onto Pleasant View Rd (0.4 mi). Turn left onto Gurtner Rd (0.6 mi). Turn left onto Park Rd (0.4 mi). Turn right onto Old York Rd. The Old York Block Valve Site will be on the left approximately 0.2 miles down the road.

Dauphin County

From the DEP South Central Regional Office to the Middletown Station (Approximately 1320 North Union Street, Middletown, PA 17057)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.7 mi). Keep right at the fork to continue on US-322 E, follow signs for I-83 S/Hershey York (0.5 mi). Continue onto I-83 S (3.7 mi). Keep left at the fork to continue on I-283 S, follow signs for Interstate 283 S/Interstate 76/Pennsylvania Turnpike/Airport (2.9 mi). Take exit 1A to merge onto PA-283 E toward Airport/Lancaster (2.6 mi). Take the N Union St exit toward Fulling Mill Rd (0.3 mi). Turn right onto N Union St. The Middletown Station will be on the left approximately 0.9 miles down the road.

Lebanon County

From the DEP South Central Regional Office to the Schaeffer Road Block Valve (Approximately State Drive, South Lebanon, PA)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.7 mi). Merge onto I-81 N/US-322 E (1.8 mi). Keep right at the fork to continue on US-322 E, follow signs for I-83 S/Hershey York (0.5 mi). Continue onto I-83 S/US-322 E (3.0 mi). Take exit 47 for US-322 E toward Hershey (0.4 mi). Continue onto US-322 E (0.4 mi). Take the ramp to U.S. 322 E/Hershey (0.5 mi). Continue onto US-322 E (6.5 mi). Merge onto US-322 E/W Governor Rd via the ramp to Ephrata (13.1 mi). Turn left onto PA-419 N (1.9 mi). Turn left onto PA-419 N/Schaeffer Rd (2.0 mi). Once you pass State Drive, make left down the second drive/lane. The Schaeffer Road Block Valve is down the drive approximately 0.15 miles.

Lancaster County

From the DEP South Central Regional Office to the Blainsport Station (Approximately 1924 State Route 1057, Reinholds, PA 17569)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.7 mi). Merge onto I-81 N/US-322 E (1.8 mi). Keep right at the fork to continue on US-322 E, follow signs for I-83 S/Hershey York (0.5 mi). Continue onto I-83 S (3.7 mi). Keep left at the fork to continue on I-283 S, follow signs for Interstate 283 S/Interstate 76/Pennsylvania Turnpike/Airport (3.1 mi). Take exit 266-359 on the left to merge onto I-76 E toward Philadelphia (19.2 mi). Take exit 266 toward PA-72 N (0.6 mi). Turn left onto PA-72 N (2.6 mi). Take the Pennsylvania 72 N exit toward Lebanon (0.3 mi). Continue onto Quentin Rd (0.3 mi). Turn right onto E Main St (0.2 mi). Continue onto Freeman Dr (1.0 mi). Freeman Dr turns right and becomes Cornwall Rd (361 ft). Turn left onto PA-419 N/Schaeffer Rd (6.7 mi). Continue

onto PA-897 S/Heidelberg Ave/E Main St (8.5 mi). Sharp left onto Texter Mountain Rd (361 ft). The Blainsport Station will be on the right hand side about 750 feet off the road.

Berks County

From the DEP South Central Regional Office to the Wyomissing Road Block Valve (Approximately 1558 Wyomissing Road, Mohnton, PA 19540)

Head southwest on Elmerton Ave (0.2 mi). Turn right onto US-22 W (signs for I-81/US-322/Carlisle 22/Lewistown 55/Hazleton 80) (0.4 mi). Take the US-322 E/I-81 N/I-78 ramp to Hazleton/Allentown (0.7 mi). Merge onto I-81 N/US-322 E (1.8 mi). Merge onto I-81 N/US-322 E (1.8 mi). Keep right at the fork to continue on US-322 E, follow signs for I-83 S/Hershey York (0.5 mi). Continue onto I-83 S (3.7 mi). Keep left at the fork to continue on I-283 S, follow signs for Interstate 283 S/Interstate 76/Pennsylvania Turnpike/Airport (2.9 mi). Take exit 1A to merge onto PA-283 E toward Airport/Lancaster (29.0 mi). Merge onto U.S. 30 E (1.3 mi). Keep right at the fork to continue on US-222 N, follow signs for Route 222 (19.5 mi). Take the PA-272 S exit toward PA-568 E/Adamstown/Knauers (0.3 mi). Turn right onto Alleghenyville Rd (2.1 mi). Turn left onto PA-625 N (0.7 mi). Turn left onto Wyomissing Rd. The Wyomissing Block Valve will be on the right approximately 0.4 miles down the road.

SECTION K. CONTACT FOR ADDITIONAL INFORMATION

Contact's Last Name	First Name	MI	Phone	(412) 921-8163
Simcik	Robert	F	FAX	
Mailing Address	City	State	ZIP + 4	
661 Andersen Drive, Foster Plaza 7	Pittsburgh	PA	15220	
e-Mail Address robert.simcik@tetrattech.com				

ATTACHMENT 2:
Municipalities Table

Municipalities
Pennsylvania Pipeline Project
South-Central Region

County	Municipality
Blair	Juniata
	Allegheny
	Blair
	Frankstown
	Woodbury
Huntingdon	Penn
	Union
	Shirley
	Tell
Juniata	Lack
Perry	Toboyne
	Jackson
Cumberland	Lower Mifflin
	Upper Frankford
	Lower Frankford
	North Middleton
	Middlesex
	Silver Spring
	Monroe
	Upper Allen
	Lower Allen
York	Fairview
Dauphin	Highspire
	Lower Swatara
	Middletown
	Londonderry
	Derry
	Conewago
Lebanon	South Londonderry
	South Annville
	West Cornwall
	Cornwall
	South Lebanon
	Heidelberg
Lancaster	Clay
	West Cocalico
Berks	South Heidelberg
	Spring
	Cumru
	Brecknock
	Robeson
	New Morgan
	Caernarvon

ATTACHMENT 3:
Water/Watershed Table

Receiving Waters Table
Pennsylvania Pipeline Project
South-Central Region

Stream Name	County	Township	Chapter 93 Designated Use	Chapter 93 Code	Siltation Impaired
UNT to Blair Run	Blair	Juniata	CWF(COLD WATER FISHES)	CWF	No
Blair Run	Blair	Juniata	CWF(COLD WATER FISHES)	CWF	No
UNT to Poplar Run	Blair	Juniata	CWF(COLD WATER FISHES)	CWF	No
Dry Run	Blair	Juniata	WWF(WARM WATER FISHES)	WWF	No
UNT to Dry Run	Blair	Juniata	WWF(WARM WATER FISHES)	WWF	No
UNT to Blair Gap Run	Blair	Juniata	TSF(TROUT STOCKING)	TSF	No
UNT to Beaverdam Branch	Blair	Blair	WWF(WARM WATER FISHES)	WWF	No
UNT to Frankstown Branch Juniata River	Blair	Blair	WWF(WARM WATER FISHES)	WWF	No
Frankstown Branch Juniata River	Blair	Blair	WWF(WARM WATER FISHES)	WWF	No
UNT to Oldtown Run	Blair	Frankstown	WWF(WARM WATER FISHES)	WWF	No
Oldtown Run	Blair	Frankstown	WWF(WARM WATER FISHES)	WWF	No
UNT to Robinson Run	Blair	Frankstown	WWF(WARM WATER FISHES)	WWF	No
Juniata River	Blair	Frankstown	WWF(WARM WATER FISHES)	WWF	No
Frankstown Branch Juniata River	Blair	Frankstown	WWF(WARM WATER FISHES)	WWF	No
UNT to Piney Creek	Blair	Woodbury	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Piney Creek	Blair	Woodbury	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Clover Creek	Blair	Woodbury	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Clover Creek	Blair	Woodbury	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
James Creek	Huntingdon	Penn	WWF(WARM WATER FISHES)	WWF	No
UNT to James Creek	Huntingdon	Penn	WWF(WARM WATER FISHES)	WWF	No
UNT to Raystown Branch Juniata River	Huntingdon	Penn	WWF(WARM WATER FISHES)	WWF	No
UNT to Raystown Branch Juniata River	Huntingdon	Penn	WWF(WARM WATER FISHES)	WWF	No
Raystown Branch Juniata River	Huntingdon	Penn	WWF(WARM WATER FISHES)	WWF	No
UNT to Little Trough Creek	Huntingdon	Union	TSF(TROUT STOCKING)	TSF	Yes
Little Trough Creek	Huntingdon	Union	TSF(TROUT STOCKING)	TSF	Yes
Smith Run	Huntingdon	Union	TSF(TROUT STOCKING)	TSF	No
UNT to Hares Valley Creek	Huntingdon	Union	TSF(TROUT STOCKING)	TSF	No
Hares Valley Creek	Huntingdon	Union	TSF(TROUT STOCKING)	TSF	No
Singers Gap Run	Huntingdon	Shirley	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Hill Valley Creek	Huntingdon	Shirley	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Juniata River	Huntingdon	Shirley	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Aughwick Creek	Huntingdon	Shirley	TSF(TROUT STOCKING)	TSF	No
Aughwick Creek	Huntingdon	Shirley	TSF(TROUT STOCKING)	TSF	No
UNT to Fort Run	Huntingdon	Shirley	CWF(COLD WATER FISHES)	CWF	Yes

Receiving Waters Table
Pennsylvania Pipeline Project
South-Central Region

Stream Name	County	Township	Chapter 93 Designated Use	Chapter 93 Code	Siltation Impaired
Fort Run	Huntingdon	Shirley	CWF(COLD WATER FISHES)	CWF	Yes
Blacklog Creek	Huntingdon	Shirley	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
George Creek	Huntingdon	Tell	CWF(COLD WATER FISHES)	CWF	No
UNT to George Creek	Huntingdon	Tell	CWF(COLD WATER FISHES)	CWF	No
UNT to George Creek	Juniata	Lack	CWF(COLD WATER FISHES)	CWF	No
George Creek	Juniata	Lack	CWF(COLD WATER FISHES)	CWF	No
UNT to Tuscarora Creek	Juniata	Lack	CWF(COLD WATER FISHES)	CWF	No
Tuscarora Creek	Juniata	Lack	CWF(COLD WATER FISHES)	CWF	No
Horse Valley Run	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Shermans Creek	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Shermans Creek	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Shultz Creek	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Shaeffer Run	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Shaeffer Run	Perry	Toboyne	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	
Bull Run	Perry	Jackson	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Laurel Run	Perry	Jackson	EV(EXCEPTIONAL VALUE)	EV	No
South Branch Laurel Run	Perry	Jackson	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Laurel Run	Perry	Jackson	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	
UNT to Double Gap Creek	Cumberland	Lower Mifflin	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Doubling Gap Creek	Cumberland	Lower Mifflin	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Rock Run	Cumberland	Upper Frankford	WWF(WARM WATER FISHES)	WWF	No
UNT to Conodoguinet Creek	Cumberland	Upper Frankford	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Bloser Creek	Cumberland	Upper Frankford	WWF(WARM WATER FISHES)	WWF	No
Bloser Creek	Cumberland	Upper Frankford	WWF(WARM WATER FISHES)	WWF	No
Locust Creek	Cumberland	Lower Frankford	WWF(WARM WATER FISHES)	WWF	No
UNT to Locust Creek	Cumberland	Lower Frankford	WWF(WARM WATER FISHES)	WWF	No
UNT to Opossum Creek	Cumberland	Lower Frankford	HQ-TSF(HIGH QUALITY-TROUT STOCKING)	HQ	Yes
Opossum Creek	Cumberland	Lower Frankford	HQ-TSF(HIGH QUALITY-TROUT STOCKING)	HQ	Yes
Meetinghouse Run	Cumberland	North Middleton	WWF(WARM WATER FISHES)	WWF	No
Conodoguinet Creek	Cumberland	North Middleton	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Conodoguinet Creek	Cumberland	North Middleton	WWF(WARM WATER FISHES)	WWF	Yes
Letort Spring Run	Cumberland	Middlesex	CWF(COLD WATER FISHES)	CWF	No
UNT to Letort Spring Run	Cumberland	Middlesex	CWF(COLD WATER FISHES)	CWF	No
Trindle Spring Run	Cumberland	Monroe	CWF(COLD WATER FISHES)	CWF	No

Receiving Waters Table
Pennsylvania Pipeline Project
South-Central Region

Stream Name	County	Township	Chapter 93 Designated Use	Chapter 93 Code	Siltation Impaired
UNTO to Trindle Spring Run	Cumberland	Monroe	CWF(COLD WATER FISHES)	CWF	No
Hogestown Run	Cumberland	Silver Spring	CWF(COLD WATER FISHES)	CWF	Yes
UNT to Cedar Run	Cumberland	Upper Allen	CWF(COLD WATER FISHES)	CWF	Yes
Cedar Run	Cumberland	Lower Allen	CWF(COLD WATER FISHES)	CWF	Yes
Yellow Breeches Creek	Cumberland	Lower Allen	CWF(COLD WATER FISHES)	CWF	No
UNT to Yellow Breeches Creek	Cumberland	Lower Allen	CWF(COLD WATER FISHES)	CWF	Yes
Yellow Breeches Creek	York	Fairview	CWF(COLD WATER FISHES)	CWF	No
Iron Stone Run	York	Fairview	CWF(COLD WATER FISHES)	CWF	No
UNT to Iron Stone Run	York	Fairview	CWF(COLD WATER FISHES)	CWF	No
Priest Run	York	Fairview	CWF(COLD WATER FISHES)	CWF	No
Ratler Run	York	Fairview	WWF(WARM WATER FISHES)	WWF	No
UNT to Marsh Run	York	Fairview	WWF(WARM WATER FISHES)	WWF	No
UNT to Susquehanna River	York	Fairview	WWF(WARM WATER FISHES)	WWF	No
Susquehanna River	Dauphin	Lower Swatara	WWF(WARM WATER FISHES)	WWF	No
Buser Run	Dauphin	Lower Swatara	WWF(WARM WATER FISHES)	WWF	No
Burd Run	Dauphin	Lower Swatara	WWF(WARM WATER FISHES)	WWF	No
UNT to Susquehanna River	Dauphin	Lower Swatara	WWF(WARM WATER FISHES)	WWF	No
UNT to Swatara Creek	Dauphin	Lower Swatara	WWF(WARM WATER FISHES)	WWF	Yes
Swatara Creek	Dauphin	Londonderry	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Chester Creek	Dauphin	Derry	WWF(WARM WATER FISHES)	WWF	No
UNT to Iron Run	Dauphin	Derry	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Spring Creek	Dauphin	Conewago	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Spring Creek	Lebanon	South Londonderry	WWF(WARM WATER FISHES)	WWF	Yes
UNT to Killinger Creek	Lebanon	South Londonderry	TSF(TROUT STOCKING)	TSF	Yes
UNT to Buckholder Run	Lebanon	South Annville	TSF(TROUT STOCKING)	TSF	Yes
UNT to Gingrich Run	Lebanon	South Annville	TSF(TROUT STOCKING)	TSF	Yes
Gingrich Run	Lebanon	South Annville	TSF(TROUT STOCKING)	TSF	Yes
Bachman Run	Lebanon	South Annville	TSF(TROUT STOCKING)	TSF	No
Beck Creek	Lebanon	West Cornwall	TSF(TROUT STOCKING)	TSF	No
Snitz Creek	Lebanon	West Cornwall	TSF(TROUT STOCKING)	TSF	No
UNT to Quittapahilla Creek	Lebanon	South Lebanon	TSF(TROUT STOCKING)	TSF	Yes
UNT to Hammer Creek	Lebanon	South Lebanon	CWF(COLD WATER FISHES)	CWF	Yes
Hammer Creek	Lebanon	Heidelberg	CWF(COLD WATER FISHES)	CWF	Yes
UNT to Middle Creek	Lebanon	Heidelberg	WWF(WARM WATER FISHES)	WWF	No

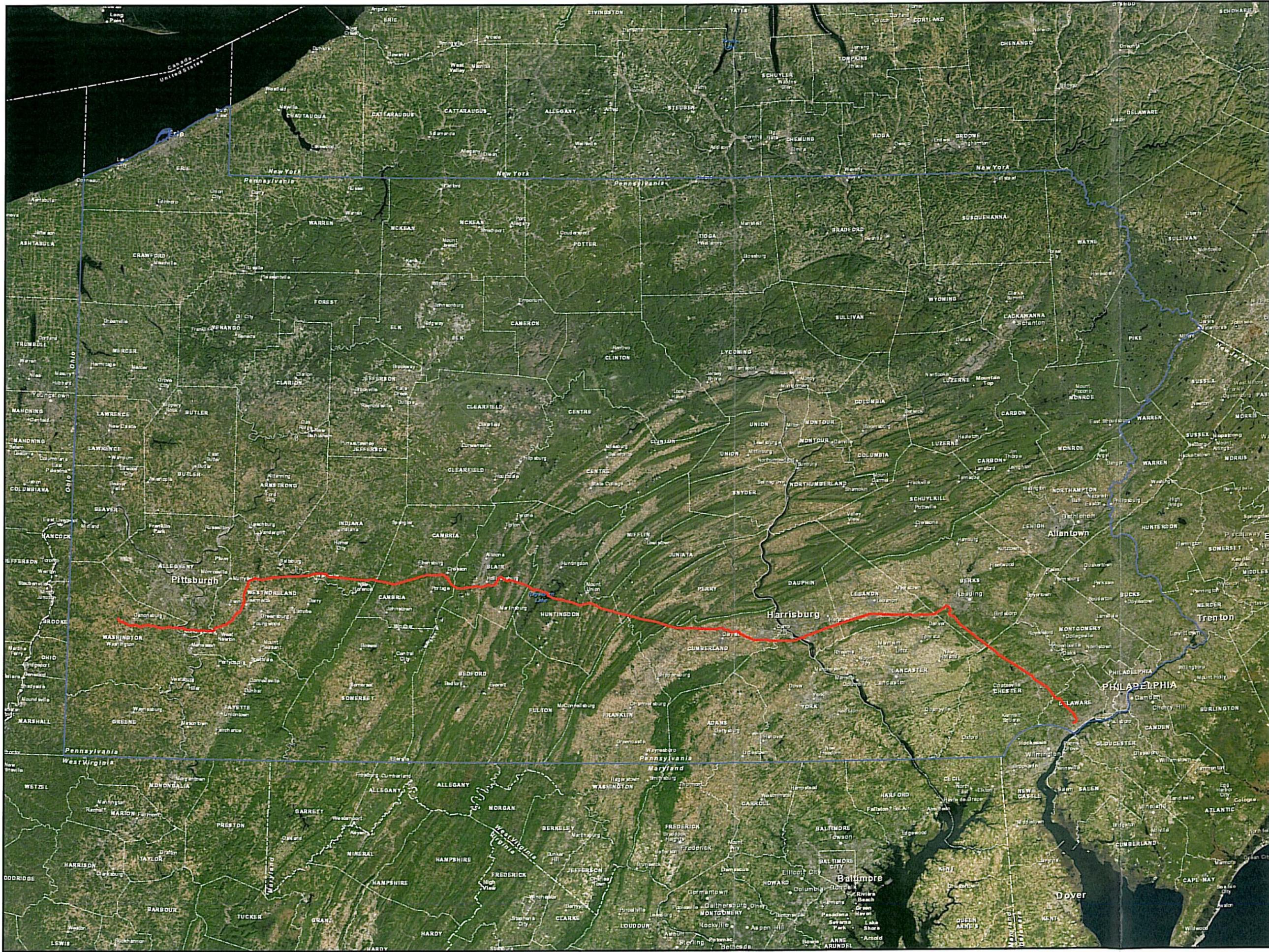
Receiving Waters Table
Pennsylvania Pipeline Project
South-Central Region

Stream Name	County	Township	Chapter 93 Designated Use	Chapter 93 Code	Siltation Impaired
Middle Creek	Lebanon	Heidelberg	WWF(WARM WATER FISHES)	WWF	No
UNT to Cocalico Creek	Lancaster	West Cocalico	HQ-WWF(HIGH QUALITY-WARM WATER FISHES)	HQ	No
Cocalico Creek	Lancaster	West Cocalico	HQ-WWF(HIGH QUALITY-WARM WATER FISHES)	HQ	No
Harnish Run	Lancaster	West Cocalico	WWF(WARM WATER FISHES)	WWF	No
UNT to Harnish Run	Lancaster	West Cocalico	WWF(WARM WATER FISHES)	WWF	No
UNT to Little Cocalico Creek	Lancaster	West Cocalico	TSF(TROUT STOCKING)	TSF	No
UNT to Cocalico Creek	Berks	South Heidelberg	TSF(TROUT STOCKING)	TSF	No
Cacoosing Creek	Berks	South Heidelberg	CWF(COLD WATER FISHES)	CWF	No
Little Muddy Creek	Berks	Spring	TSF(TROUT STOCKING)	TSF	No
UNT to Cacoosing Creek	Berks	Spring	CWF(COLD WATER FISHES)	CWF	No
UNT to Wyomissing Creek	Berks	Cumru	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
Wyomissing Creek	Berks	Cumru	HQ-CWF(HIGH QUALITY-COLD WATER FISHES)	HQ	No
UNT to Allegheny Creek	Berks	Brecknock	CWF(COLD WATER FISHES)	CWF	No
Allegheny Creek	Berks	Brecknock	CWF(COLD WATER FISHES)	CWF	No
UNT to Sleepy Hollow Run	Berks	Brecknock	CWF(COLD WATER FISHES)	CWF	No
UNT to Muddy Creek	Berks	Brecknock	HQ-TSF(HIGH QUALITY-TROUT STOCKING)	HQ	No
Hay Creek	Berks	New Morgan	EV(EXCEPTIONAL VALUE)	EV	No
UNT to Hay Creek	Berks	New Morgan	EV(EXCEPTIONAL VALUE)	EV	No
UNT to Conestoga River	Berks	New Morgan	WWF(WARM WATER FISHES)	WWF	No
UNT to East Branch Conestoga River	Berks	New Morgan	WWF(WARM WATER FISHES)	WWF	No
East Branch Conestoga River	Berks	Caernarvon	WWF(WARM WATER FISHES)	WWF	No

ATTACHMENT 4:
Storm Sewer Operator Table

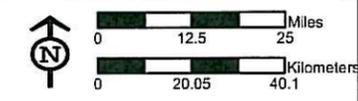
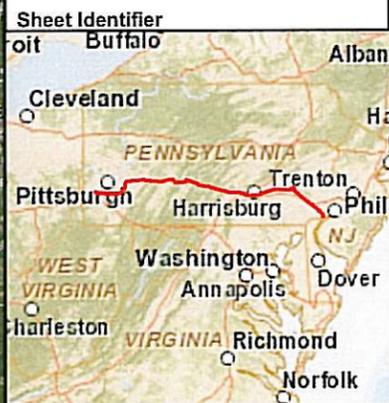
Municipal Separate Storm Sewer Operators
Pennsylvania Pipeline Project
South-Central Region

MUNICIPALITY	TYPE	COUNTY	STATUS	PERMIT NUMBER	APPROVED
FRANKSTOWN	Township	Blair	General	PAG133661	11/17/2003
BLAIR	Township	Blair	General	PAG133597	11/17/2003
ALLEGHENY	Township	Blair	General	PAG133693	10/26/2006
JUNIATA	Township	Blair	Waiver	PAG133631	3/4/2005
MONROE	Township	Cumberland	General	PAG133573	12/9/2004
UPPER ALLEN	Township	Cumberland	General	PAG133708	7/23/2008
SILVER SPRING	Township	Cumberland	Individual	PAI133514	1/22/2004
LOWER ALLEN	Township	Cumberland	Individual	PAI133511	1/22/2004
FAIRVIEW	Township	York	General	PAG133557	11/23/2004
HIGHSPIRE	Borough	Dauphin	General	PAG133544	12/2/2004
LONDONDERRY	Township	Dauphin	General	PAG133547	12/9/2004
MIDDLETOWN	Borough	Dauphin	General	PAG133645	12/3/2004
DERRY	Township	Dauphin	General	PAG133637	12/1/2004
LOWER SWATARA	Township	Dauphin	General	PAG133543	12/3/2004
CONEWAGO	Township	Dauphin	Waiver	PAG133621	10/24/2006
WEST COCALICO	Township	Lancaster	General	PAG133542	1/27/2004
CLAY	Township	Lancaster	Individual	PAI133510	1/29/2004
SOUTH LONDONDERRY	Township	Lebanon	General	PAG133546	1/28/2005
SOUTH ANNVILLE	Township	Lebanon	Waiver	PAG133623	11/2/2004
SOUTH LEBANON	Township	Lebanon	General	PAG133684	1/12/2005
CORNWALL	Borough	Lebanon	General	PAG133700	12/14/2004
WEST CORNWALL	Township	Lebanon	General	PAG133699	1/28/2005
BRECKNOCK	Township	Berks	Individual	PAI133508	1/21/2004
ROBESON	Township	Berks	General	PAG133525	11/10/2003
CUMRU	Township	Berks	Individual	PAI133507	1/21/2004
SOUTH HEIDELBERG	Township	Berks	Waiver	PAG133630	
SPRING	Township	Berks	Individual	PAI133503	1/22/2004



Legend

- Alignment Centerline
- Pennsylvania State Border

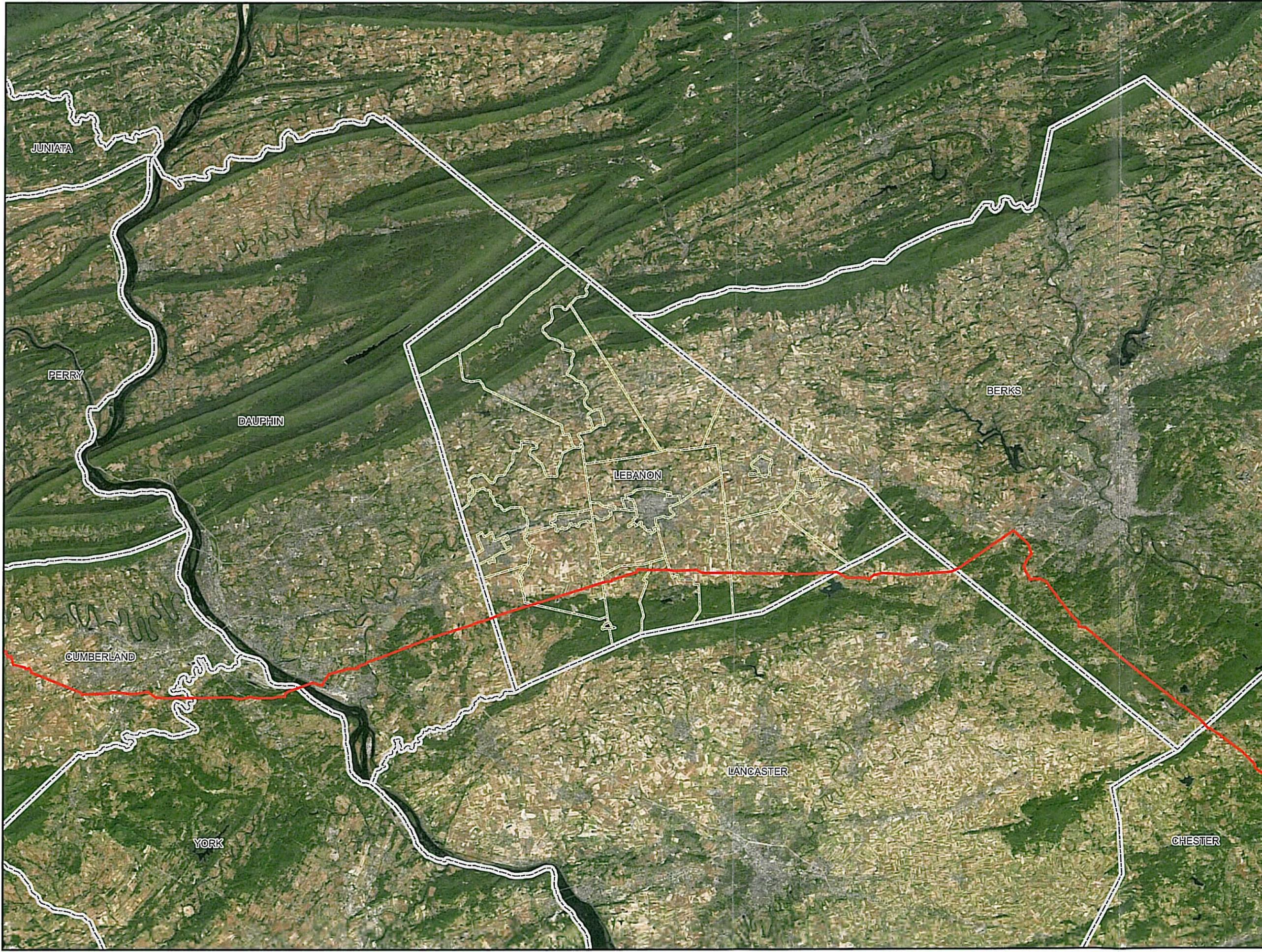


**PROJECT LOCATION MAP
STATE LEVEL
FIGURE 1
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.**

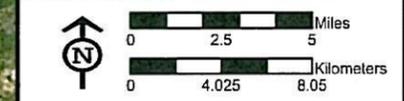


Notes:
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- Legend**
-  Alignment Centerline
 -  County Boundary
 -  Township Boundary



**PROJECT LOCATION MAP
COUNTY LEVEL
FIGURE 2-13
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA**

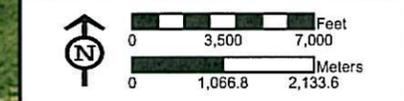
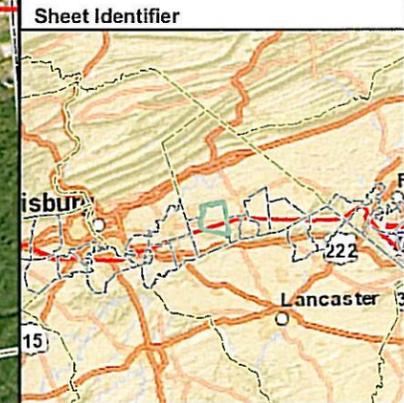


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Path: P:\GIS\PROJECTS\LEBANON\FIGURE_2-13_ALIGNMENT_MAP\FIGURE_2-13_ALIGNMENT_MAP.mxd



- Legend**
- Alignment Centerline
 - County Boundary
 - Township Boundary



**PROJECT LOCATION MAP
SOUTH ANNVILLE TOWNSHIP
FIGURE 3 -54
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA**

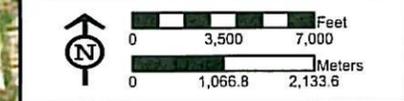
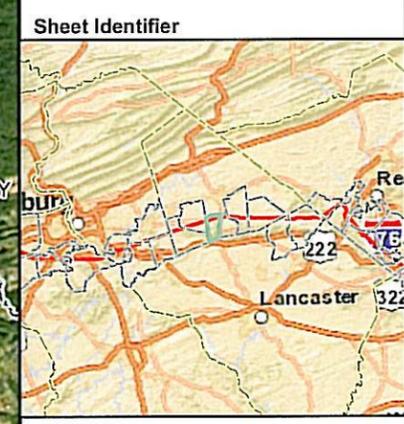


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POINT: P:\GIS\PROJECTS\2015\PA\20150717\PA-222\MAPS\FIGURE 3-54.TIF



- Legend**
- Alignment Centerline
 - County Boundary
 - Township Boundary



**PROJECT LOCATION MAP
WEST CORNWALL TOWNSHIP
FIGURE 3 -55
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA**

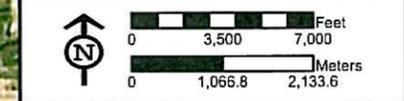
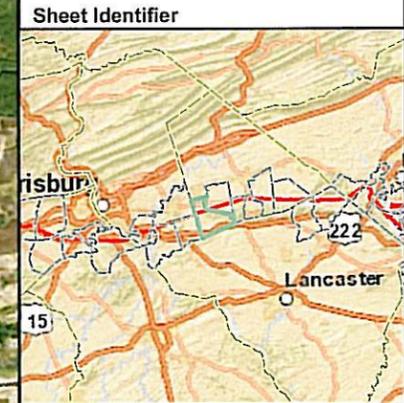


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POH P:\GIS\PROJECTS\2015\PPP\ACT\TETRA\PP\FIGURE_3-55_TOWNSHIP_MAPS\FIGURE_3-55_TOWNSHIP_MAPS_000007.DWG_34



- Legend**
-  Alignment Centerline
 -  County Boundary
 -  Township Boundary



PROJECT LOCATION MAP
SOUTH LONDONDERRY TOWNSHIP
FIGURE 3 -53
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA

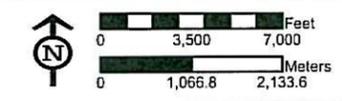
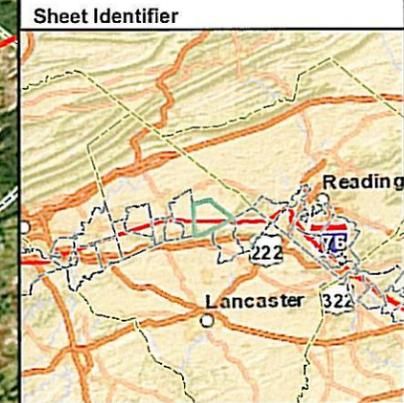


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Post-Processing Number: EAST-20150717-AC-14-TEMP-1-FIGURE-3-53-TOWNSHIP-LEBANON-PA-072015-31



- Legend**
- Alignment Centerline
 - County Boundary
 - Township Boundary



**PROJECT LOCATION MAP
HEIDELBERG TOWNSHIP
FIGURE 3 -58
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA**

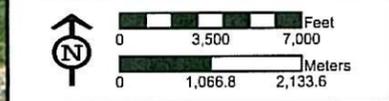
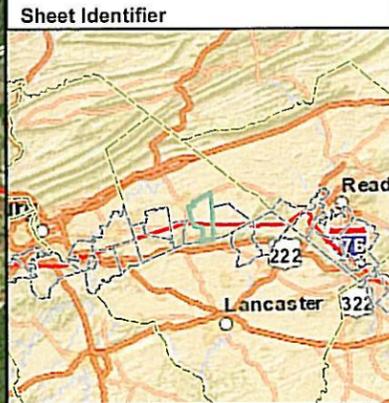


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FIGURE 3-58: PROJECT LOCATION MAP HEIDELBERG TOWNSHIP



- Legend**
- Alignment Centerline
 - County Boundary
 - Township Boundary



PROJECT LOCATION MAP
SOUTH LEBANON TOWNSHIP
FIGURE 3 -57
PENNSYLVANIA PIPELINE PROJECT
JULY 17, 2015 ALIGNMENT
SUNOCO LOGISTICS, L.P.
LEBANON COUNTY, PA



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