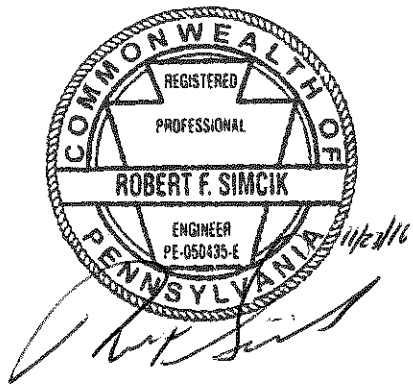
ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT

SUNOCO PENNSYLVANIA PIPELINE PROJECT

WESTMORELAND, INDIANA AND CAMBRIA COUNTIES, PENNSYLVANIA



ACT 167 PLAN TRACKING TABLE
Pennsylvania Pipeline Project
Southwest Region
Permanent Above Ground Facilties

County	Countywide Act 167 Plan?	Name of Adopted Plan	Date Approved	Municipalities That Have Enacted the Plan	Design is Consistent with Which Agency
Washington	Yes	Washington County Act 167 County-Wide Stormwater Management Plan	June 17, 2010	All- Chartiers, North Strabane, Nottingham (5/2/11), Union (5/9/11)	PADEP SWM Manual and Washington County Act 167
Allegheny	In Progress	Allegheny County Stormwater Management Plan Phase 1	April 2014	All	PADEP SWM Manual
Westmoreland	In Progress	Westmoreland County Act 167 Stormwater Mangement Plan -Phase 1	June 2010	N/A	PADEP SWM Manual
		Turtle Creek River Watershed Conservation Plan	March 23, 1992	Jeannette, Hempfield (12/12/94), Murrysville (12/30/92), Penn (8/17/92)	PADEP SWM Manual
Indiana	In Progress	Southern Indiana County Cooperative Communities Comprehensive Plan	August 2004	Burrell (8/2004)	PADEP SWM Manual and Indiana County
		Indiana County Phase 1 Act 167 Stormwater Management Plan	March 2015	N/A	PADEP SWM Manual and Indiana County Act 167
Cambria	No	Little Conemaugh River Watershed Act 167 Plan	October 18, 2004	Cambria, Cresson, Jackson, Munster, Washington	PADEP SWM Manual

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR WASHINGTON COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Washington Countywide Watershed Act 167 Stormwater Management Plan and the Pennsylvania Pipeline Project. The pipeline will traverse through four townships in Washington County: Chartiers, North Strabane, Nottingham, and Union Townships. The County of Washington developed the Countywide Act 167 Stormwater Management Plans which was adopted on September 22, 2010. Nottingham and Union Townships adopted the Countywide Plan in May, 2010, Chartiers Township adopted the Countywide Plan in 2012, and North Strabane has not yet adopted the Countywide Plan.

2.0 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. The project involves the installation of approximately two parallel pipelines within a 306.8-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 (306.8 miles) and a second, 16-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 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of an injection station pad, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration. The total LOD will be 192 acres in Washington County.

Fifty feet will be maintained as permanent ROW. 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 the installation of an injection station pad, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Washington County, Pennsylvania, the Pennsylvania Pipeline Project runs approximately 19.1 miles through Chartiers, North Strabane, Nottingham, and Union Townships and spans the Canonsburg, Midway, Washington East, Washington West, Hackett, and Monongahela USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ) warm water fisheries (WWF), and trout stock fisheries (TSF) under PA Code 25 Chapter 93 including Chartiers Run (WWF), UNT to Chartiers Run (WWF), Allison Hollow (WWF), Westland Run (WWF), Chartiers Creek (WWF), UNT to Chartiers Creek (WWF), UNT to Little Chartiers Creek (HQ–WWF), UNT to Little Chartiers Creek (HQ). UNT to Peters Creek (HQ-TSF), Peters Creek (HQ-TSF), UNT to Mingo Creek (HQ– TSF), UNT to Froman Run (TSF), Froman Run (TSF), Monongahela River (WWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Washington County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Washington Countywide Act 167 Stormwater Management Plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within

the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume.

For Washington county portion of the PPP project (Houston, PA to Delmont, PA) one new injection station is proposed to support the pipeline. This station will be located at the Houston Injection station in Chartiers Township. The site's pre-development and post-development drainage characteristics were modeled in accordance with local and state requirements. The 2, 10, 25, 50, and 100-year storm events have been analyzed for pre- and post-developed conditions. Post-development peak flow rates for the 10-year, 25-year, 50-year and 100-year storms are less than pre-development peak flow rates. The post-development peak flow rates for the 2-year storm is more than pre-development peak flow rate. However, it is assumed that the existing wetlands will attenuate this peak flow, given that the post-development water volumes entering the wetlands are less than the pre-development volumes. Because a floodplain encroaches into the developed area, larger storm events will be allowed to flood the development. For the 2-year storm, one BMP is used to control runoff volume and peak flow rates. This BMP works in conjunction with the existing wetlands to the east of the development. The BMP is a Geoweb infiltration/storage area located at the southern end of the pad. Because a floodplain encroaches into the developed area, it is not possible to design a BMP onsite that controls peak rate runoff for all design storms. Therefore, the proposed goal of the BMP design is to contain and infiltrate the 2-year storm event volume and allow larger storm events to flood the development. A portion of the northeastern end of the developed area is not directed to any BMP. The reasoning for this was that it would be more beneficial to allow the wetlands directly to the east of the pad to receive and control the runoff than to cut off the hydrology of the wetlands with a BMP. The goal was to replicate the 2-year storm hydrology of the wetlands, given that wetlands will likely be flooded during the larger storm events. The southwestern end of the developed area is directed to the BMP. This BMP is a Geoweb infiltration/storage area located on the southern end of the pad. The Geoweb consists of cells that are filled with and underlain by gravel. The gravel acts to store and infiltrate runoff, while the Geoweb structure provides support for vehicles and prevents compaction of the gravel.

5.0 ACT 167 COMPLIANCE

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

Post-development discharge rates shall not exceed the predevelopment discharge rates for the 2-, 10-, 25-, 50-, and 100-year, 24-hour storm events. If it is demonstrated that the peak discharge rates indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for the 2-, 10-, 25-, 50-, and 100- year, 24-hour storm events, the peak discharge rate standards have been met.

The proposed injection station that will be built in Chartiers Township will need to follow the rate requirements laid out in the Countywide Plan. Post-development rates for the 10-year, 25-year, 50-year and 100-year storms are less than the pre-development peak flow rates. There is an increase in the 2-year peak discharge rate in post-development conditions. However, for reasons described above, this rate should be controlled by the on-site wetlands, and therefore meets the peak discharge rate standards.

Volume Controls

The volume control standards in the plan include reduction of runoff generated through utilization of

low impact development practices to the maximum extent practicable and permanent removal of a portion of the runoff volume generated from the total runoff flow. The permanent removal of runoff volume can be achieved through 3 different methods. The Design Storm Method (CG-1 in the PA BMP Manual) has been used for this project. The method requires that the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event does not increase.

Stormwater BMPs proposed at the Houston Injection Station have been designed to meet the volume requirements specified in Washington County's Act 167 Stormwater Management Plan.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition and the post-development runoff volume and post-development peak discharge rates will not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR ALLEGHENY COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Monongahela River Watershed Act 167 Stormwater Management Plan and the Pennsylvania Pipeline Project. In Allegheny County, Pennsylvania, the Pennsylvania Pipeline Project runs through Elizabeth and Forward Townships. Allegheny County does not have a Countywide Act 167 Stormwater Management Plan; instead, the county is subdivided into Watershed Study Areas. Elizabeth and Forward Townships are located within the Monongahela River Watershed Study Area. Elizabeth Township adopted the Monongahela River Watershed Act 167 Stormwater Management Plan on February 28, 1995. Forward Township has not yet adopted the Monongahela River Watershed Act 167 Stormwater Management Plan.

2.0 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. The project involves the installation of approximately two parallel pipelines within a 306.8-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 (306.8 miles) and a second, 16-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 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration. The total LOD within Allegheny County will be 97 acres. The pipeline traverses approximately 9.0 miles within Allegheny County.

Fifty feet will be maintained as permanent ROW. 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 trenching, pipe installation, and site restoration.

In Allegheny County, the Pennsylvania Pipeline Project spans the Monongahela, Donora, and McKeesport USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as warm water fisheries (WWF) under PA Code 25 Chapter 93 including Monongahela River (WWF), UNT to Bunola Run (WWF), Bunola Run (WWF), Kelly Run (WWF), UNT to Kelly Run (WWF),

Perry Mill Run (WWF), UNT to Perry Mill Run (WWF), UNT to Sunfish Run WWF), Sunfish Run (WWF), UNT to Beckets Run (WWF), UNT to Gillespie Run (WWF), Long Hollow (WWF), and UNT to Pollock Run (WWF).

The E&S plans contain Antidegradation Best Available Combination of Technologies (ABACT) BMPs used to maintain the designated use of the receiving waters. The basic BMPs anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Allegheny County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Monongahela River Watershed Act 167 Stormwater Management Plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume. Additional permanent access roads and valve sites are not proposed in Allegheny County for the installation and operation of the pipeline.

5.0 ACT 167 COMPLIANCE

Allegheny County does not have a Countywide Act 167 Stormwater Management Plan. Of the two townships that the proposed pipeline goes through, Elizabeth Township adopted the Monongahela River Watershed Act 167 Stormwater Management Plan on February 28, 1995, and Forward Township has not yet adopted the Monongahela River Watershed Act 167 Stormwater Management Plan. Since Elizabeth Township's Act 167 Stormwater Management Plan approved before 2005, and Forward Township does not have an enacted plan, Act 167 compliance is not required. Instead, the stormwater management design was performed following 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)).

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

Post-development discharge rates shall not exceed the predevelopment discharge rates for the 2-, 10-, 25-, 50-, and 100-year, 24-hour storm events. If it is demonstrated that the peak discharge rates indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for the 2-, 10-, 25-, 50-, and 100- year, 24-hour storm events, the peak discharge rate standards have been met.

The portion of the proposed pipeline in Alleghany County does not involve the construction of any impervious area or other permanent facilities. All pipeline ROW will be restored to meadow condition or better. Therefore, peak discharge rates will not increase with this construction.

Volume Controls

The volume control standards in the plan include reduction of runoff generated through utilization of low impact development practices to the maximum extent practicable and permanent removal of a portion of the runoff volume generated from the total runoff flow. The permanent removal of runoff volume can be achieved through 3 different methods. The Design Storm Method (CG-1 in the PA BMP Manual) has been used for this project. The method requires that the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event does not increase.

The portion of the proposed pipeline in Alleghany County does not involve the construction of any impervious area or other permanent facilities. All pipeline ROW will be restored to meadow condition or better. Therefore, volume control BMPs are not required.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition and the post-development runoff volume and post-development peak discharge rates will not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

Allegheny County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. Therefore, by meeting all of PADEP's requirements, the Sunoco Pipeline project meets the criteria for Allegheny County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR WESTMORELAND COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Turtle Creek Watershed Act 167 Stormwater Management Plan and the Pennsylvania Pipeline Project. In Westmoreland County, Pennsylvania, the Pennsylvania Pipeline Project will traverse 10 townships: Rostraver, South Huntingdon, Sewickley, Hempfield, Jeannette, Penn, Murrysville, Salem, Loyalhanna, and Derry Townships. Westmoreland County does not have a Countywide Act 167 Stormwater Management Plan; instead, the county is subdivided into Watershed Study Areas. Penn Township, the Municipality of Murrysville, Hempfield Township, and Jeannette City are in the study area of the Turtle Creek Watershed Act 167 Stormwater Management Plan.

Rostraver, Sewickley, South Huntingdon, Salem, Loyalhanna, and Derry Townships, and the County of Westmoreland Stormwater Management Plans are reviewed by the Westmoreland County Conservation District.

2.0 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. The project involves the installation of approximately two parallel pipelines within a 306.8-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 (306.8 miles) and a second, 16-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 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve access roads, block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration. The total LOD will be 385 acres in Westmoreland County.

Fifty feet will be maintained as permanent ROW. 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 the installation of 1 pump station/substation, 3 permanent access roads, 3 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, boring, pipe installation, and site restoration/post construction stormwater management.

In Westmoreland County, Pennsylvania, the Pennsylvania Pipeline Project runs approximately 38.3 miles through Rostraver, South Huntingdon, Sewickley, Hempfield, Jeannette, Penn, Murrysville, Salem, Loyalhanna, and Derry Townships. The townships span the Donora, Smithton, Irwin, McKeesport, Murrysville, Greensburg, Slicksville, Saltsburg, and Blairsville USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), warm water fisheries (WWF), trout stock fisheries (TSF), and cold water fisheries (CWF) under PA Code 25 Chapter 93 including Sewickley Creek (WWF), Youghiogheny River (WWF), UNT to Pollock Run (WWF), Pollock Run (WWF), UNT to Sewickley Creek (WWF), UNT to Little Sewickley Creek (WWF), Little Sewickley Creek (TSF), UNT to Kellys Run (WWF), UNT to Brush Creek (TSF), Brush Creek (TSF), UNT to Bushy Run (TSF), Bushy Run (TSF), UNT to Turtle Creek (TSF), Turtle Creek (TSF), Thorn Run (TSF), UNT to Beaver Run (HQ-CWF), Beaver Run (HQ-CWF), UNT to Porters Run (HQ-CWF), Porters Run (HQ-CWF), UNT to Loyalhanna Creek (WWF), UNT to Serviceberry Run (HQ-WWF), Serviceberry Run (HQ-WWF), Loyalhanna Creek (WWF), UNT to Conemaugh River (CWF), UNT to Boatyard Run (CWF), Boatyard Run (CWF), UNT to Spruce Run (HQ-CWF), Spruce Run (HQ-CWF), and Conemaugh River (CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) BMPs to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Westmoreland County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Turtle Creek Watershed Act 167 Stormwater Management Plan, where applicable. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. For Construction Spread 1 of the PPP project (Houston, PA to Delmont, PA) no new additional access roads or block valves are proposed to support the pipeline. One new pump station/substation (neighboring the ME1 Delmont Pump station) is proposed to support the pipeline. For Construction Spread 2, three permanent access roads and block valves (Koontz Road, Bush Road and Westinghouse Road) are proposed to support the pipeline. As a result of restoring all disturbed areas along the pipeline corridor to a meadow condition, the project will not result in increased stormwater runoff rate or volume. The Best Management Practices (BMPs) will ensure that no additional stormwater drainage will be added from the construction of these facilities.

There will be 3 permanent access roads and 3 block valve pad areas installed in Westmoreland County at Koontz Road, Bush Road and Westinghouse Road. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of soil amendment or infiltration berms downslope of the proposed access roads or gravel pads. The soil amendment areas will be constructed in accordance with the PA Stormwater BMP Manual using on-site compost at a 2:1 ratio (soil: compost). The proposed soil amendment areas and infiltration berm have been sized to provide adequate runoff volume storage to eliminate the different between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. The post-construction rate has been modeled to account for the slowing effect of volume-reducing BMPs to show that the post-construction runoff rates are overdetained. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW.

The proposed, permanent access roads which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. Maintenance of the soil amendment areas will consist of biannual inspections. Additional soil and compost mixture will be applied to the soil amendment areas as needed to maintain an adequate thickness to meet the volume storage capacity, and to ensure vegetation is established. The infiltration berm shall be inspected regularly to ensure it is infiltrating properly and not clogged with sediment. Vegetation over the berm shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

At the Delmont pump station expansion, stormwater quality management will comply with Township ordinances and state regulations through the implementation of erosion and sediment controls during construction and implementation and maintenance of Post Construction Stormwater Management (PCSM) controls after construction. The underground storage pipes, infiltration basins, and infiltration filter BMPs will capture suspended solids through settling and filtration and will improve water quality. The post development peak flow is less than 100% of the pre-development peak flow for each design storm event.

For the 2-year storm, the post development hydrograph volume is less than the pre-development hydrograph volume.

5.0 ACT 167 COMPLIANCE

A summary of the technical standards for stormwater management in the Plan follows.

Peak Discharge Rate Standards

Post-development discharge rates shall not exceed the pre-development discharge rates for the 2-, 10-, 25-, 50-, and 100-year, 24-hour storm events. If it is demonstrated that the peak discharge rates indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for the 2-, 10-, 25-, 50-, and 100- year, 24-hour storm events, the peak discharge rate standards have been met.

None of the proposed block valve sites in Westmoreland County are governed by the Turtle Creek Watershed Act 167 Stormwater Management Plan. Their peak discharge rate standards instead follow 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)). In addition, areas within the proposed pipeline ROW will be restored to meadow condition or better, thus peak discharge release rates do not apply. Therefore, construction of the proposed pipeline is compliant with Westmoreland County's Act 167 requirements.

Volume Controls

The volume control standards in the Plan include reduction of runoff generated through utilization of low impact development practices to the maximum extent practicable and permanent removal of a portion of the runoff volume generated from the total runoff flow. The permanent removal of runoff volume can be achieved through 3 different methods. The Design Storm Method (CG-1 in the PA BMP Manual) has been used for this project. The method requires that the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event does not increase.

Stormwater BMPs have been proposed at each of the proposed block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The Plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the Plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction, restoration and stormwater management practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas associated with the project, excluding the permanent access roads and block valve pads, will be restored

to a meadow in good condition. Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

Westmoreland County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. Therefore, by meeting all of PADEP's requirements, the Sunoco Pipeline project meets the criteria for Westmoreland County.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR INDIANA COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The report verifies consistency between the provisions of the Indiana Countywide Phase 1 Watershed Act 167 Stormwater Management Plan and the Pennsylvania Pipeline Project. The pipeline will traverse through three townships in Indiana County: Burrell, East Wheatfield, and West Wheatfield Townships. The County of Indiana developed the Countywide Act 167 Stormwater Management Plan, Phase 1 which was approved in March 2015. The townships have yet to adopt the Phase 1 plan. Burrell Township adopted the *Southern Indiana County Cooperative Communities Comprehensive Plan* in 2004, East Wheatfield and West Wheatfield have yet to adopt any type of Stormwater Management or Comprehensive Plan.

2.0 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. The project involves the installation of approximately two parallel pipelines within a 306.8-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 (306.8 miles) and a second, 16-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 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of permanent access roads, block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration. The total LOD will be 209 acres in Indiana County.

Fifty feet will be maintained as permanent ROW. 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 the installation of 3 permanent access roads, 3 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Indiana County, Pennsylvania, the Pennsylvania Pipeline Project runs approximately 19.4 linear miles through Burrell, East Wheatfield, and West Wheatfield Townships and spans the Blairsville, Bolivar, New Florence, and Vintondale USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ) and cold water fisheries (CWF) under PA Code 25 Chapter 93 including Conemaugh River (WWF), UNT to Blacklick Creek (CWF), UNT to Conemaugh River (CWF), UNT to

Toms Run (CWF), Toms Run (CWF), UNT to Roaring Run (CWF), Roaring Run (CWF), West Branch Richards Run (CWF), UNT to West Branch Richards Run (CWF), UNT to East Branch Richards Run (CWF), UNT to Findley Run (HQ-CWF), and Findley Run (HQ-CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Indiana County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the Indiana Countywide Phase 1 Watershed Act 167 Stormwater Management Plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas to a meadow condition, the project will not result in increased stormwater runoff rate or volume.

There will be 3 permanent access roads and 3 block valve pad areas installed in Indiana County: Newport Road, Chestnut Ridge Road, and Grange Hall Road. The proposed access roads will remain as a permanent gravel drive after pipeline construction is complete. The post-construction stormwater runoff rate and volume were evaluated for the drainage areas encompassing the access roads that drain to the nearest streams. A minimal increase in the 2-year 24-hour storm runoff occurs in the watersheds containing the proposed permanent access roads and pads as result of the additional gravel installation. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of infiltration berms downslope of the proposed access roads. The proposed infiltration berms have been sized to provide adequate runoff volume storage to eliminate the different between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. The post-construction rate has been modeled to account for the slowing effect of volume-reducing BMPs to show that the post-construction runoff rates are overdetained. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW.

The proposed permanent access roads, which will remain as permanent gravel drives, shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. The infiltration berm shall be inspected regularly to ensure it is infiltrating properly and not clogged with sediment. Vegetation over the berm shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

Post-development discharge rates shall not exceed the predevelopment discharge rates for the 2-, 10-, 25-, 50-, and 100-year, 24-hour storm events. If it is demonstrated that the peak discharge rates indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for the 2-, 10-, 25-, 50-, and 100- year, 24-hour storm events, the peak discharge rate standards have been met.

None of the proposed block valve sites in Indiana County are controlled by a rate release map. In addition, because the pipeline ROW will be restored to meadow condition or better, peak discharge release rates do not apply. Therefore, construction of the proposed pipeline is compliant with Indiana County and the associated Township's Act 167 requirements.

Volume Controls

The volume control standards in the plan include reduction of runoff generated through utilization of low impact development practices to the maximum extent practicable and permanent removal of a portion of the runoff volume generated from the total runoff flow. The permanent removal of runoff volume can be achieved through 3 different methods. The Design Storm Method (CG-1 in the PA BMP Manual) has been used for this project. The method requires that the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event does not increase.

Stormwater BMPs have been proposed at each of the proposed block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads.

The construction, restoration and stormwater management practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas associated with the project, excluding the permanent access roads and block valve pads, will be restored to a meadow in good condition. Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

ACT 167 STORMWATER CONSISTENCY VERIFICATION REPORT FOR CAMBRIA COUNTY

1.0 INTRODUCTION

Tetra Tech, Inc. (Tt) has prepared this Act 167 Stormwater Consistency Verification Report. The pipeline will traverse through five townships in Cambria County: Cambria, Cresson, Jackson, Munster, and Washington Townships. The County of Cambria does not currently have a Countywide Act 167 Stormwater Management Plan; instead, the county is subdivided into Watershed Study Areas. Currently, Cambria, Cresson, Jackson, Munster, and Washington Townships have adopted the Little Conemaugh River Watershed Act 167 Stormwater Management Plan, which was developed in October of 2004. Since the Little Conemaugh River Act 167 Plan was approved before 2005, the Pennsylvania Department of Environmental Protection (PADEP) does not require consistency with the Act 167 Plan and the plan is not applicable when developing the Post Construction Stormwater Management (PCSM) Plan.

2.0 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. The project involves the installation of approximately two parallel pipelines within a 306.8-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 (306.8 miles) and a second, 16-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 255.8 miles. The majority of the new ROW will be co-located adjacent to existing utility corridors, including approximately 230 miles of pipeline that will be co-located in the existing SPLP Mariner East pipeline system. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required will be implemented in accordance with this Erosion and Sediment (E&S) Plan. Both pipelines will be installed within the same limit of disturbance (LOD) and in the same construction period. Construction activities will involve the installation of access roads, block valve pads, tree removal, clearing and grubbing within the right of way, trenching, pipe installation, and site restoration. The total LOD will be 249 acres in Cambria County.

Fifty feet will be maintained as permanent ROW. 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 the installation of 3 permanent access roads, 3 block valve pads, tree removal, clearing and grubbing within the ROW, trenching, pipe installation, and site restoration.

In Cambria County, Pennsylvania, the Pennsylvania Pipeline Project runs approximately 23.5 linear miles through Cambria, Cresson, Jackson, Munster, and Washington Townships and spans the Nanty Glo, Vintondale, Ebensburg, Cresson, Beaverdale, and Blue Knob USGS Quadrangles. A USGS location map showing the proposed alignment can be found in Attachment 1 of the E&S report. Past and present land use of the project area and surrounding area is agricultural and forested land. Future land use will be a maintained vegetated natural gas pipeline ROW and agricultural land.

The project area surface water runoff drains to surface waters and unnamed tributaries (UNTs) designated as high quality (HQ), warm water fisheries (WWF), trout stock fisheries (TSF), and cold water fisheries (CWF) under PA Code 25 Chapter 93 including UNT to Findley Run (HQ-CWF), UNT to Laurel Run (HQ-CWF), Laurel Run (HQ-CWF), Hinckston Run (CWF), UNT to Hickston Run (CWF), UNT to Saltlick Run (HQ-CWF), Saltlick Run (HQ-CWF), Stewart Run (HQ-CWF), UNT to Stewart Run (HQ-CWF), UNT to Roaring Run (CWF), Roaring Run (CWF), Howells Run (CWF), Sanders Run (CWF), UNT to Howells Run (CWF), UNT to North Branch Little Conemaugh River (CWF), North Branch Little Conemaugh River (CWF), UNT to Noels Creek (HQ-CWF), Noels Creek (HQ-CWF), UNT to Little Conemaugh River (CWF), Little Conemaugh River (CWF), Burgoon Run (CWF), UNT to Bear Rock Run (CWF), and UNT to Blair Run (CWF).

The E&S plan contains Antidegradation Best Available Combination of Technologies (ABACT) best management practices (BMPs) to maintain the designated use of the receiving waters. The basic BMPs that are anticipated to be employed during the construction activities include:

- Minimizing disturbances to site areas, especially those currently covered with pavement or vegetation.
- Minimizing the time that soil is exposed.
- Preventing the runoff from flowing across disturbed areas (divert the flow to vegetated areas).
- Stabilizing disturbed soils as soon as possible.
- Slowing down the runoff flowing across the site.
- Removing sediment from surface water runoff before it leaves the site.

3.0 SITE RESTORATION

Following completion of pipeline installation and trench backfilling, the pipeline right of way, associated workspaces, and temporary access roads shall be returned to the general grade present prior to pipeline installation in order to maintain preconstruction drainage patterns. After completion of major construction work, topsoil that was stockpiled during construction will be placed along the ROW. Grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded, or if specified, sodded, unless occupied by structures, paved or designated as a permanent access road. Disturbed areas, which are at final grade, shall be seeded and mulched as soon as practical. The permanent seed mixture will restore disturbed areas to a meadow in good condition or better. As a result of restoring the right of way, workspaces, and temporary access roads to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to those areas.

Within Cambria County, all disturbed areas within the pipeline right of way, additional temporary workspaces, and temporary access roads will be restored to a meadow in good condition or better. The pre-construction drainage patterns surrounding the project will be maintained for the areas of the project within the township. As a result of restoring the pipeline right of way, additional temporary workspaces, and temporary access roads to a meadow condition and maintaining pre-construction drainage patterns in accordance with 25 Pa Code § 102.8(n), there will be no increase in stormwater runoff rate or volume attributed to these locations, and a quantitative stormwater analysis is not required for the pipeline ROW. Where an existing lawn condition exists and the property owner specifies, the area will be restored to a lawn condition instead of meadow.

4.0 STORMWATER MANAGEMENT

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions PADEP Chapter 102 regulations. In general, the pre-construction drainage patterns surrounding the project will be maintained, and all disturbed areas within the pipeline ROW will be restored to a meadow in good condition. As a result of restoring all disturbed areas within the pipeline ROW to a meadow condition, the project will not result in increased stormwater runoff rate or volume.

There will be 2 block valve pad areas installed in Cambria County: Cooney Road and Kozak Road. The post-construction stormwater management calculations show that the minimal increase in runoff volume will be accounted for by providing areas of infiltration berms or soil amendment downslope of the proposed access roads. The soil amendment areas will be constructed in accordance with the PA Stormwater BMP Manual using on-site compost at a 2:1 ratio (soil:compost). The proposed soil amendment areas and infiltration berms have been sized to provide adequate runoff volume storage to eliminate the different between pre- and post-construction stormwater runoff volumes. There is no increase in the stormwater runoff rate for the 24-hour 2-, 10-, 25-, 50-, and 100-year storm events in the drainage area as a result of the access road and pad construction. The post-construction rate has been modeled to account for the slowing effect of volume-reducing BMPs to show that the post-construction runoff rates are overdetained. As a result of restoring the ROW to a meadow condition, there will be no increase in stormwater runoff rates or volume attributed to the ROW.

The proposed permanent access roads, which will remain as permanent gravel drives shall be inspected periodically. Aggregate will be applied to the permanent access road as needed to maintain an adequate thickness. Maintenance of the soil amendment areas will consist of biannual inspections. Additional soil and compost mixture will be applied to the soil amendment areas as needed to maintain an adequate thickness to meet the volume storage capacity, and to ensure vegetation is established. The infiltration berm shall be inspected regularly to ensure it is infiltrating properly and not clogged with sediment. Vegetation over the berm shall be maintained as necessary, which may require annual mulching. Routinely remove accumulated debris and invasive plants as needed. Inspect for signs of flow channelization and restore level gradient immediately after any deficiencies are observed.

5.0 ACT 167 COMPLIANCE

Cambria County does not have a Countywide Act 167 Stormwater Management Plan. The watershed plans that have been adopted by certain townships were adopted prior to 2005. Therefore, the Pennsylvania Department of Environmental Protection (PADEP) does not require consistency with the Act 167 Plan and the plan is not applicable when developing the Post Construction Stormwater Management (PCSM) Plan. Instead, the stormwater management design was performed following 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)) requirements.

A summary of the technical standards for stormwater management in the plan follows.

Peak Discharge Rate Standards

Post-development discharge rates shall not exceed the predevelopment discharge rates for the 2-, 10-, 25-, 50-, and 100-year, 24-hour storm events. If it is demonstrated that the peak discharge rates indicated by the post-development analysis are less than or equal to the peak rates of discharge indicated by the pre-development analysis for the 2-, 10-, 25-, 50-, and 100- year, 24-hour storm events, the peak discharge rate standards have been met.

The proposed permanent block valve stations and access roads have been designed with BMPs so that the post-development peak discharge rate is less than the pre-development peak discharge rate. This satisfies the requirement set forth by PADEP in 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)).

Volume Controls

The volume control standards in the plan include reduction of runoff generated through utilization of low impact development practices to the maximum extent practicable and permanent removal of a portion of the runoff volume generated from the total runoff flow. The permanent removal of runoff volume can be achieved through 3 different methods. The Design Storm Method (CG-1 in the PA BMP Manual) has been used for this project. The method requires that the post-development total runoff volume for all storms equal to or less than the 2-year 24-hour storm event does not increase.

Stormwater BMPs have been proposed at each of the proposed block valve stations and along the associated access roads. All proposed BMPs have been sized to control the increase in volume associated with the increased impervious area. Therefore, all volume control requirements have been met.

Channel Protection Standards

The channel protection standards aim to reduce the erosion to channels downslope of stormwater discharges. The plan states that channel protection standards will be achieved through implementation of permanent removal of increased volume from discharges during low flow storm events.

Water Quality Standards

A combination of source reduction measures through non-structural BMPs and water quality treatment through use of structural BMPs is the proposed water quality control strategy of the plan. Reducing the amount of runoff is the preferred strategy and includes minimizing disturbance, preserving and maintaining trees and woodlands, establishing non-erosive flow conditions in natural flow pathways, minimizing soil disturbance and compaction, and directing runoff to pervious areas where possible.

The construction and restoration practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas will be restored to a meadow in good condition, with the exception of the permanent access roads.

The construction, restoration and stormwater management practices for the proposed pipeline have been designed to meet the provisions of the plan. In general, the pre-construction drainage patterns surrounding the project will be maintained, the LOD will be minimized to the extent practicable, and all disturbed areas associated with the project, excluding the permanent access roads and block valve pads, will be restored to a meadow in good condition. Stormwater management best management practices will be used to ensure that the post-development runoff volume and post-development peak discharge rates do not increase. The channel protection standards have been achieved by eliminating the increase in the post-development runoff volume. The water quality standards have been met by minimizing disturbance, maintaining trees and woodlands where possible, maintaining pre-construction drainage patterns to the extent practicable, minimizing soil disturbance and replacing topsoil.

Cambria County does not have an approved County-wide Act 167 Stormwater Consistency Verification Report. Therefore, by meeting all of PADEP's requirements, the Sunoco Pipeline project meets the criteria for Cambria County.