



Shell Pipeline Company LP

FALCON ETHANE PIPELINE SYSTEM

Anti-Degradation Analysis

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Submitted by:

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Acronym List

ABACT	Antidegradation Best Available Combination of Technologies
ATWS	Additional Temporary Workspace
BMPs	Best Management Practices
CEA	Comprehensive Environmental Assessment
CWA	Clean Water Act
DCNR	Pennsylvania Department Conservation and Natural Resources
EA	Environmental Assessment
EI	Environmental Inspector
ESCGP	Erosion and Sediment Control General Permit
E&SCP	Erosion and Sediment Control Plan
E&S	Erosion and Sediment
EV	Exceptional Value
GPS	Global Positioning System
HDD	Horizontal Directional Drilling
HQ	High-Quality
IR	Inadvertent Return
JPA	Joint Permit Application
LOD	Limits of Disturbance
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
Pa. Code	Pennsylvania Code
Pa.C.S.	Pennsylvania Consolidated Statutes
PADEP	Pennsylvania Department of Environmental Protection
PCSM	Post Construction Stormwater Management
PEM	Palustrine Emergent
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine Forested
PGC	Pennsylvania Game Commission
Plant	Pennsylvania Shell Chemical Plant
PPC	Preparedness, Prevention and Contingency
Project	Falcon Ethane Pipeline System



PSS	Palustrine Scrub-Shrub
ROW	Right-of-Way
SPLC	Shell Pipeline Company LP
SPCC	Spill Prevention Control and Countermeasure Plan
T&E	Threatened and endangered
TDS	Total Dissolved Solid
TGD	Technical Guidance Document
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WQS	Water Quality Standard



1.0 Introduction

1.1 Project Description

Shell Pipeline Company LP (SPLC) proposes to build, own, and operate the Falcon Ethane Pipeline System (Project). The Project will consist of an approximately 98-mile common carrier ethane supply pipeline that will be located in southwestern Pennsylvania, Ohio, and West Virginia. Falcon will connect three major ethane sources in Houston, Pennsylvania, Scio, Ohio, and Cadiz, Ohio to Shell Chemical's planned Pennsylvania Petrochemical Plant (Plant) located in Monaca, Pennsylvania.

The location of the pipeline system will be in a key area that will link the rich gas areas of the Marcellus and Utica shale reservoirs to the future petrochemical plant in Monaca, Pennsylvania. Approximately 70 percent of the North American polyethylene market is located within a 700-mile radius of Pittsburgh, Pennsylvania. The system will allow for a safe and reliable means of transporting ethane feed stock to the Plant. The Project will bring new jobs to the area, with up to 1,000 construction workers involved in building the pipeline. The Project will also support four to five permanent employees when complete to operate and maintain the line.

The Project will consist of an approximately 11-mile 10-inch diameter steel pipeline that will run from the existing MarkWest Cadiz, Ohio facility to a junction point located two miles southeast of Scio, Ohio. An approximately 53-mile 12-inch diameter steel pipeline will stretch from the Utica East Ohio plant in Scio, Ohio to a junction site located four miles southwest of the Plant (referred to as the Scio to Junction Pipeline). A third 12-inch diameter steel pipeline will originate out of MarkWest's Houston, Pennsylvania fractionation plant and proceed north to the junction site that is located four miles southwest of the Plant (referred to as the Houston to Junction Pipeline). Then, a 16-inch diameter steel pipeline will continue north from that junction site to the Plant in Monaca, Pennsylvania (referred to as the Junction to Monaca Pipeline).

Overall, approximately 43.4 miles of pipeline will be located in Ohio, 8.7 miles in West Virginia, and 45.5 miles in Pennsylvania. Construction activities will temporarily disturb both soil and ground cover during installation of the pipeline. The proposed Project will typically utilize a 100-foot-wide limit-of-disturbance (LOD) for general construction. Additional temporary work space will be utilized strategically throughout the Project. In Pennsylvania, the total disturbed area for the entire Project is approximately 580 acres along the proposed pipeline including; approximately 103 acres Allegheny County, 293 acres in Beaver County and 184 acres in Washington County.

1.2 Anti-Degradation Analysis Requirement

In accordance with the requirements contained within the Pennsylvania Department of Environmental Protection's (PADEP) Comprehensive Environmental Assessment of Proposed Project Impacts for Chapter 105 Water Obstruction and Encroachment Permit Applications Technical Guidance Document (TGD) (Document No. 310-2137-006, 12/16/2017) and the assessment criteria detailed in Module 3 of the Environmental Assessment (EA) Form (Document No. 3150-PM-BWEW0017, Revised 6/2017), SPLC has prepared this Antidegradation Analysis to support its Joint Permit Application (JPA) for the Project (PADEP 2018). The antidegradation requirements are intended to promote the maintenance and protection of existing water quality for high-quality (HQ) and exceptional value (EV) waters, and protect existing water quality and uses. SPLC will analyze consistency with state antidegradation requirements contained in Chapter 93, 95, and 102 (relating to water quality standards (WQS); wastewater treatment



requirements; and erosion and sediment control) and the federal Clean Water Act (CWA) (33 U.S.C.A § 1251—1376) to make a determination of impact. SPLC has provided a complete analysis and discussion of the antidegradation analysis of the proposed Project in Allegheny, Beaver and Washington Counties, Pennsylvania.

The sections of this document provide an overview of the water resources impacted by the Project and a summary of the avoidance and minimization measures proposed to reduce impacts and provides for a comprehensive review of the antidegradation requirements of Chapters 93, 95, 102 and 105 as well as the CWA.



2.0 Summary of Project Resource Impacts

SPLC completed a wetland and watercourse investigation of the Project area and the boundary of this investigation and those environmental resources identified during this investigation that fall within the Project LOD are shown in the Erosion and Sediment Control Plan (E&SCP) drawings. The study area associated with the Project typically included a 300-foot buffer centered on the proposed pipeline or a 50-foot buffer centered on proposed access roads. A Wetland and Watercourse Delineation Report is included in the Section 404/Chapter 105 Joint Permit applications detailing the wetlands and streams identified in Allegheny, Beaver, and Washington Counties.

2.1 Proposed Project Impacts

SPLC has routed the proposed pipeline facilities and work areas to avoid and minimize effects on wetlands and waterbodies to the greatest extent practicable while maintaining engineering standards and safety. However, because this is a linear Project, complete avoidance of all wetlands and waterbodies was not possible or practicable. The routing process has allowed SPLC to identify a constructible pipeline alignment that will minimize disturbances to the environment while maintaining engineering standards and safety and, where possible, taking advantage of collocating with existing utilities. With the proper installation and maintenance of the Project's best management practices (BMPs), impacts to wetlands and streams will be minor and mostly temporary, and result in no more than minimal individual and cumulative adverse environmental effects.

The Project will result in temporary disturbance to waterbodies and wetlands during construction and also permanent conversion impacts to wetland resources as a result of operation and maintenance. Disturbances were calculated using the engineered Project area, which incorporated additional temporary workspace (ATWS), access roads and utilized a typical construction workspace of 100-feet in upland areas and 75-feet at wetland and stream crossings, and a 50-foot wide permanent right-of-way (ROW). SPLC will limit the typical width of the construction ROW to 75-feet, unless an alternative measure is requested at specific crossings. Conversion of palustrine forested (PFO) wetlands and palustrine scrub-shrub (PSS) wetlands to palustrine emergent (PEM) wetlands will occur within the 50-foot wide maintained ROW. Trees within the pipeline ROW (including trees located within wetlands), which may have roots that could damage the pipeline coating, will be cut and removed from the permanent ROW.

Table 2.1 provides a summary of the total number of HQ/EV streams and EV wetlands traversed by the Project alignment including the Project LOD. Appendix A Tables A.1 and A.2 further detail the streams and wetlands crossed related to their HQ and EV designation and crossing construction method.

Table 2.1 – Number of HQ/EV Streams and EV Wetlands Crossed by the Project

County	Total Streams Crossed	HQ Streams	EV Streams	EV Wetlands
Beaver	84	5	0	0
Allegheny	32	0	0	3
Washington	32	0	0	0
Total	148	5	0	3



Wetland Impacts

The Project will result in a limited PFO and PSS wetland cover type conversion to PEM and this conversion would not result in a significant change in the functions and values of the wetlands impacted by the Project. Some functions/values may be slightly altered as it relates to changing cover type from forest to herbaceous (wildlife habitat), some will not be altered (groundwater discharge), and others may be increased due the establishment of a thick herbaceous ground cover (sediment retention and nutrient removal). In addition, wetlands avoided by horizontal directional drilling (HDD) that are present within the limits of the 50-foot permanent ROW will not be cleared or maintained and all impacts will be avoided within these resources. While use of HDD technology can potentially result in inadvertent returns (IR), SPLC has developed an Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan to detail how HDDs will be installed and monitored, and should an IR be identified, how they will be handled.

According to Pennsylvania Code, Title 25, Chapter 105.17 the proposed Project does traverse three EV wetlands related to threatened and endangered (T&E) species habitat. The EV wetlands impacted are PEM; therefore they will not have a change in functions/values since there is no resulting conversion of wetland strata type (e.g. PFO/PSS to PEM).

Wetlands that will be temporarily altered will be restored to pre-construction conditions and allowed to revegetate. Upon completion of construction in wetlands, all topsoil disturbed during construction will be replaced to original horizons, and wetland contours will be restored. This will restore the drainage patterns to pre-construction conditions and will promote re-establishment of wetland hydrology and hydrophytic vegetation. If a perched wetland is encountered, the associated clay layer that maintains that portion of the perched wetland hydrology will be segregated and then replaced along the same horizon during backfilling of the pipeline, and compacted so that hydrology may be maintained. Trench plugs will be installed at the edges of wetlands before the trench is backfilled to restore hydrology to pre-construction conditions. Trench plugs will also be installed at 100-foot intervals within wetland crossings that exceed 100-feet. Therefore, aside from minor conversion of vegetation type, no long-term or permanent fill impacts on wetlands will result from pipeline construction or operation.

The standard crossing method on wetlands would be via open trench. SPLC would minimize the length of time that topsoil is segregated and the trench is open to the extent possible. BMPs, including the use of timber mats and assembling pipeline in upland locations, would be implemented to further avoid and minimize wetland disturbance. Where trench dewatering is necessary, water would be discharged through an energy-dissipation structure such as a filter bag into a well-vegetated upland area to minimize erosion associated with discharge.

Additionally, Project-wide BMPs will minimize impacts to wetlands. The stormwater BMPs for this Project have been planned to minimize the extent of the proposed earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction and employ measures and controls that minimize the generation of increased stormwater runoff. Stormwater management site planning techniques were used throughout the site design process to preserve natural systems and hydrologic functions to the maximum extent possible through the use of non-structural BMPs.

To maintain water quality in wetland resources crossed by the Project or downgradient (potential secondary impacts) of the construction ROW, SPLC will implement pollution prevention procedures. To minimize impacts, SPLC would implement an approved E&SCP that would be executed throughout the



duration of the Project to reduce risks of erosion and sedimentation, and stormwater runoff from construction areas with exposed soils. Erosion controls, such as compost filter socks and/or silt fencing would be utilized in an effort to avoid the transport of disturbed sediments to wetlands to the maximum extent practicable. To ensure BMPs are correctly implemented, Environmental Inspectors (EIs) will oversee the installation of erosion control devices and once installed, BMPs would be monitored by EIs and maintained by contractors until grading and restoration efforts are finalized.

Waterbody Impacts

Temporary impacts to surface waterbodies during construction activities include stream bank vegetation removal, stream bank disturbances and, in some instances, flow modifications during dry-crossing construction. The crossing of all streams located within the Project ROW will use temporary equipment bridge installation and/or timber matting to facilitate the crossing of waterbodies with vehicles, equipment and haul trucks. The proposed Project does not traverse any EV watersheds and only one HQ watershed consisting of the Service Creek watershed.

SPLC proposes to cross waterbodies with flow at the time of construction using a combination of trenchless and conventional dry-crossing methods. Upon completion of construction in waterbodies, all stream grades will be restored. This will restore the drainage patterns to pre-construction conditions and will re-establish hydrology. Construction of the proposed Project will not affect natural drainage patterns. There are no stream relocations, enclosures or channel deepening/dredging activities proposed in conjunction with the pipeline crossings.

To minimize impacts, SPLC proposes to cross waterbodies using a combination of HDD, conventional bores and dry-crossing methods. SPLC evaluated dry crossing methods for each watercourse crossing, including conventional open cut and trenchless techniques. The use of HDD will ultimately avoid open trenching activities within waterbodies avoided by the use of this construction methodology. Several criteria were considered in determining the most appropriate crossing method:

- Size of the watercourse and flow regime;
- Sensitivity of the natural resource, including seasonal constraints to minimize impacts to fishery resources;
- Anticipated time required to construct and stabilize the construction workspace;
- Constructability constraints posed by topography and proximity to roads and other man-made structures; and
- Landowner concerns and requests.

During dry construction installations, natural drainage patterns, flushing characteristics and current flow patterns of waterbodies may be temporarily disturbed. However, the normal quantity of stream flow will continue unabated by diverting flows through (i.e., flume or cofferdam) or around (i.e., dam and pump) the installation area. All natural flow patterns will be restored to pre-construction conditions upon Project completion. SPLC will locate ATWS for waterbodies crossed by the Project at least 50-feet from water's edge, except where not feasible. For streams located parallel to the alignment, but not crossed by the Project, SPLC will maintain at least 15-feet of undisturbed vegetation between the waterbody and the construction ROW, where feasible. Vegetated riparian buffers will be protected in accordance with Chapter 102 guidelines and permit conditions to minimize impacts to water quality.



To maintain water quality in the stream resources crossed by the Project or downgradient (potential secondary impacts) of the construction ROW, SPLC will implement pollution prevention procedures. SPLC will implement construction methods and soil erosion and sediment control measures in accordance with PADEP's Erosion and Sediment (E&S) Manual to maintain flow/hydrology, protect sources/headwaters, minimize soil mixing and compaction, and minimize direct and secondary impacts to on-site and off-site resources. To minimize impacts, SPLC will implement an approved E&SCP throughout the duration of the Project to reduce risks of erosion and sedimentation, and stormwater runoff from construction areas with exposed soils. Erosion controls, such as compost filter socks and/or silt fencing would be utilized in an effort to avoid the transport of disturbed sediments to surface waterbodies to the maximum extent practicable. To ensure BMPs are correctly implemented, EIs will oversee the installation of erosion control devices and once installed, BMPs would be monitored by EIs and maintained by contractors until grading and restoration efforts are finalized. While use of HDD technology can potentially result in IRs, SPLC has developed an Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan to detail how HDDs will be installed and monitored, and should an IR be identified, how they will be handled. Implementation of this Plan will avoid and/or minimize any secondary impacts to waterbodies from HDD activities.

New aboveground facilities have been sited to avoid surface water resources to the extent possible. The site design for aboveground facilities was planned to avoid encroachment upon, disturbance of and alteration to natural features, which are sensitive to stormwater impacts. The facility location planning process involved the early identification of floodplains, wetlands, streams, steep slopes and historic and natural resources to avoid these features to the maximum extent practicable.

The proposed land cover in the LOD will change throughout the duration of the proposed Project. During the initial construction stage of the Project, much of the area will be bare earth. Once the pipeline is constructed, the ROW will be stabilized with vegetative cover and in some instances depending on the aboveground facility, impervious gravel cover, as indicated in the Project E&SCP. The stormwater BMPs for this Project have been designed to minimize the extent of the proposed earth disturbance, maximize protection of existing drainage features and vegetation, minimize soil compaction and employ measures and controls that minimize the generation of increased stormwater runoff. Stormwater management site planning techniques were used throughout the site design process to preserve natural systems and hydrologic functions to the maximum extent possible through the use of non-structural BMPs.



3.0 Chapter 93 Compliance

Chapter 93 (93.4a-93.4c) established the WQS for surface waters of the Commonwealth, including wetlands in specific instances. WQS are based on water uses including designated and existing uses and are protected as such under the authority of the Clean Streams Law and related regulations. The following sections of Chapter 93 related to antidegradation are discussed below.

PADEP regulations at §93.1 define a nonpoint source as “a pollution source which is not a point source discharge.” The same section of the regulation defines a point source discharge as “a pollutant source regulated under the National Pollutant Discharge Elimination System (NPDES).” The nature of all construction activities in Allegheny, Beaver, and Washington Counties are associated with the SPLC pipeline and as such do not generate any point source discharges. Unlike point source discharges, non-point discharges do not involve a discreet conveyance point and are typically related to precipitation induced sources such as rainfall and snow melt runoff that contact the earth disturbance areas of the Project during the construction stage.

3.1 Section 93.4a – Antidegradation Requirements

Per this requirement, any activity conducted within a surface water of the Commonwealth shall do the following:

Section 93.4a(b): *Existing use protection for surface waters. Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.*

For activities that may affect surface water and which requires a PADEP permit or approval, the existing uses, or designated use if no existing use is identified for the waterbody, of the water must be protected. These required protections extend to the protection of federal and Pennsylvania-listed threatened and endangered (T&E) species that are dependent on surface waters for survival (e.g. aquatic species).

Chapter 93 water uses designation and Pennsylvania state-wide existing use classifications have been determined for each waterbody impacted by the Project and is further detailed within Appendix A Table A.1. Each waterbody crossed by the Project has a designated use per Chapter 93 and has not been assigned an existing use classification.

PADEP’s comprehensive stormwater management policy goals are to improve and sustain ground and surface water quality and quantity through the use of planning practices and BMPs that minimize the generation of stormwater runoff, provide groundwater recharge and minimize the adverse effects of stormwater discharge on ground and surface water resources.

Through the development and implementation of the selected alternatives presented in the Alternative Analysis portion of the Comprehensive Environmental Assessment (CEA), the erosion and sediment control measures provided in the Chapter 102 Erosion and Sediment Control General Permit (ESCGP) Application, and the BMPs that will be applied that will minimize the generation of stormwater runoff, the adverse effects of stormwater discharge on ground and surface water resources will be minimized, thereby resulting in the protection of water quality and quantities. This is primarily accomplished through minimization of workspace, following the requirements of the written Project E&SCP for earth disturbance activities in accordance with PADEP’s Erosion and Sediment Pollution Control Program



Manual (PADEP 2012), and execution of dry open cut trenching for a majority of the resource crossings. Reduction of construction workspace at stream and wetland crossings, limiting the crossing time and duration of in-stream activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5-feet of cover under stream crossings, in addition to the implementation of erosion and sediment control BMPs, further protect water resources existing uses.

SPLC has prepared a Preparedness, Prevention and Contingency (PPC) and Spill Prevention Control and Countermeasure (SPCC) Plan for the Project, which is provided within the ESCGP-2 application. The purpose of these plans is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by SPLC and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. The PPC and SPCC Plan also contain the Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation, construction or maintenance activity associated with construction. Since HDDs are currently proposed, SPLC has developed an Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of potential inadvertent returns associated with any directional drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases.

Section 93.4a(c): *Protection for HQ Waters - The water quality of HQ Waters shall be maintained and protected, except as provided in §93.4c(b)(1)(iii) (relating to implementation of antidegradation requirements).*

Chapter 93 water use designations and Pennsylvania state-wide existing use classifications have been determined for each waterbody impacted by the Project and is provided within the stream impact tables submitted in the JPA application. However, all streams crossed by the Project only have designated water uses and none have been assigned an existing use by the state. A portion of the Project is located within the Service Creek watershed, which has a Title 25, Chapter 93 Designated Protected Aquatic Life Use of *HQ-CWF* from the watercourse source to the J.C. Bacon Dam (Pennsylvania Code, 2018).

Through the development and implementation of the selected alternatives presented in the Alternative Analysis within the CEA, the erosion and sediment control measures provided in the Chapter 102 ESCGP Application, and the BMPs that will be applied that will minimize the generation of stormwater runoff; the adverse effects of stormwater discharge on ground and surface water resources will be minimized, thereby resulting in the protection of water quality and quantities. This primarily is accomplished through minimization of workspace, following the requirements of the written Project E&SCP for earth disturbance activities in accordance with PADEP's Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for a majority of the resource crossings. Reduction of construction workspace limiting the LOD at stream and wetland crossings; limiting the crossing time and duration of in-stream activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5-feet of cover under stream crossings, in addition to the implementation of erosion and sediment control BMPs, further protect water resources existing uses.



In addition, Antidegradation Best Available Combination of Technologies (ABACT) will be utilized in the one HQ watershed to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The Project E&SCP shows the locations of all planned ABACT BMPs and details for construction of these facilities.

The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long rock construction entrance(s).

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls within the one HQ watershed and has been proposed for the entirety of the Project LOD regardless of watershed water quality designation.

Stabilization: Disturbed areas will be immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas will be stabilized with erosion control blanket within 100-feet of special protection surface waters, within 50-feet of all other receiving surface waters and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to streams, including HQ waters, are temporary, short-term impacts that are limited to the construction phase of the Project. Through the development and implementation of avoidance and minimization practices, the Project E&SCP with integration of ABACT, and other Project Plans including the PPC, the Project will maintain and protect water quality of HQ waters by reducing/controlling turbidity associated with in-stream construction activities and potential sedimentation.

Section 93.4a(d): Protection for Exceptional Value Waters - The water quality of Exceptional Value Waters shall be maintained and protected.

Chapter 93 water use designations and Pennsylvania state-wide existing use classifications have been determined for each waterbody impacted by the Project as provided in the JPA impact tables. All waterbodies crossed by the Project only have a designated use per Chapter 93 and have not been assigned an existing use classification. The Project does not traverse any EV designated watersheds; however, the Project does traverse three EV designated wetlands pertaining to Chapter 105 EV definitions, not Chapter 93 as detailed below.

The designation of EV wetlands is based on specific characteristics or uses. EV wetlands are a category of wetlands that deserve special protection. In accordance with Chapter 105.17, EV wetlands exhibit one or more of the following characteristics:

- Wetlands that serve as habitat for flora or fauna listed as federal or state “threatened” or “endangered”;
- Wetlands that are hydrologically connected to or located within ½ mile of wetlands that maintain the habitat of the threatened and endangered species;
- **Wetlands that are located in or along the floodplain of the reach of a wild trout stream or waters listed as EV under Chapter 93 and the floodplain of streams tributary thereto or**



wetlands within the corridor of a watercourse or body of water that has been designated a national or state wild or scenic river; (as it pertains to this Chapter 93 section)

- Wetlands located along an existing public or private drinking water supply, including both surface water and groundwater sources that maintain the quality or quantity of the drinking water supply; and
- Wetlands located in areas designated by the PADEP as “natural” or “wild” areas within the state forest or park lands, areas designated as federal wilderness areas or areas designated as National Natural Landmarks.

According to Pennsylvania Code, Title 25, Chapter 105.17 (1, paragraph iii), wetlands that are located in or along the floodplain of the reach of Chapter 93 EV Waters and/or Wild Trout Waters and their tributaries are considered EV Wetlands. The proposed Project does not have any EV wetlands related to either Chapter 93 EV waters or wild trout waters.

Through the development and implementation of the selected alternatives presented in the Alternative Analysis, the erosion and sediment control measures provided in the Chapter 102 ESCGP Application, and the BMPs that will be applied that will minimize the generation of stormwater runoff; the adverse effects of stormwater discharge on ground and surface water resources will be minimized, thereby resulting in the protection of water quality and quantities. This is accomplished primarily through minimization of workspace, following the requirements of the Projects E&SCP for earth disturbance activities in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for a majority of the resource crossings. Reduction of construction workspace limiting the LOD at stream and wetland crossings; limiting the crossing time and duration of in-stream activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5-feet of cover under stream crossings in addition to the implementation of erosion and sediment control BMPs further protect the water resources existing uses.

In addition, ABACT will be utilized in the one HQ watershed traversed and along those three EV wetlands to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The Project E&SCP shows the locations of all planned ABACT BMPs and details for construction of these facilities.

The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long rock construction entrance(s).

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls within the one HQ watershed and for the entirety of the Project. Silt fence will generally be utilized for linear perimeter controls outside of the one HQ watershed traversed except where a compost filter sock is required due to steep slope and slope length.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100-feet of special



protection surface waters, within 50-feet of all other receiving surface waters, and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to streams, including EV wetlands, are temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, the E&SCP with integration of ABACT, and other Project Plans including the PPC, the Project will not include any direct discharge of pollutants into EV wetlands and will otherwise maintain and protect water quality of EV wetlands.

3.2 Section 93.4c – Implementation of Antidegradation Requirements

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 93.4c(a)(2): Existing Use Protection. Endangered or threatened species. If the Department has confirmed the presence, critical habitat, or critical dependence of endangered or threatened Federal or Pennsylvania species in or on a surface water, the Department will ensure protection of the species and critical habitat.

SPLC has coordinated with U.S. Fish and Wildlife Service (USFWS) PA Field Office, Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Game Commission (PGC), and Department of Conservation and Natural Resources (DCNR) to identify the potential presence of federal and state listed T&E species within the Project area and those dependent on surface waters.

PFBC responded on September 22, 2015 (SIR#44863) that the Project may impact the Southern redbelly dace (*Phoxinus erythrogaster*, PA Threatened) within the Service Creek watershed. As a result, no instream work is permitted to occur during May 1 through July 31 and with adherence to this avoidance measure PFBC provided clearance on May 23, 2016. Regarding listed mussel species, SPLC informed USFWS that the Ohio River in Pennsylvania will not be impacted by the Project and Raccoon Creek will be crossed via HDD. As a result, the USFWS did not require mussel surveys. However, SPLC conducted a mussel survey in 2016 and the report was sent to the USFWS on July 25, 2017 and USFWS responded in an August 8, 2017 letter stating that their September 15, 2015 assessment remains valid.

SPLC's consultations, coordination, surveys and reporting regarding T&E species has resulted in shifting the alignment to avoid identified species and their habitat, avoidance of earth disturbances in identified habitat through the use of HDD, and the adherence to timing restrictions in order for the Project to result in minimal adverse impact to listed species. In addition, SPLC will ensure successful restoration of vegetation and habitat within the construction workspace and necessary revegetation monitoring per the federal and state requirements. This review process has achieved clearance from all the federal and state agencies required to review the Project. The summary of findings is detailed within the CEA and all copies of correspondence were provided to PADEP as part of the JPA.

With the use of conventional bore or horizontal drill methods and in-the-dry construction techniques for pipeline installation across the watercourses, no impacts are anticipated to occur to fish, mussel, or other aquatic species of concern. In addition, during construction SPLC has agreed to adhere to a May 1 through July 31 timing restriction within the Service Creek watershed to minimize disturbance to the



southern redbelly dace. Use of an approved Project E&SCP and BMPs will minimize impacts to upland and wetland habitats that may support T&E species.

As described in Section 2.0, Project impacts to streams, including EV wetlands, are temporary short-term impacts during construction to water resources crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, the E&SCP with integration of ABACT, and other Project Plans including the PPC, the Project will maintain and protect critical habitat for threatened and endangered species.

Section 93.4c(b)(1): *Protection of HQ and EV Waters. Point Source Control.*

Per Chapter 93.1 and 92a.2, a point source discharge is defined as “a discernible, confined and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, CAAP, CAFP, landfill leachate collection system, or vessel or other floating craft, from which pollutants are or may be discharged.” The Project does not involve the construction/installation of any permanent point source discharges into HQ and EV waters.

Once the pipeline is completed and before it is placed into service, it will be hydrostatically tested for structural integrity. SPLC will be discharging hydrostatic test water associated with the pressure testing of the pipeline prior to commissioning. In general, the discharge locations are located outside of floodways and wetlands and outside the limits of HQ/EV watersheds. The activity consists of discharging testing water through an energy dissipater, a hay bale structure, and then discharging overland through a well vegetated upland area, per PAG-10 requirements, and is not considered a point source discharge. Details of the hydrostatic test water discharge equipment and structures are provided in the PADEP PAG-10 NPDES Discharge Permit Notice of Intent (NOI) Applications submitted to PADEP. The equipment and structures will only be in place as long as necessary to conduct the required tests and discharge the water. Hay bale discharge structures will typically be used according to BMPs, and ABACT BMPs will be implemented as necessary. Details of the discharge structures are included in the Chapter 102 drawings. All discharge structures are located within the LOD presented in the Project impacts.

The Project will not involve or create any new, additional or increased discharge to HQ or EV Waters and hydrostatic testing discharge activities will not occur within the one HQ watershed present within the Project area. Primarily this is accomplished through minimization of workspace, following the requirements of the Project E&SCP for earth disturbance activities in accordance with PADEP’s Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for a majority of the resource crossings. Reduction of construction workspace limiting the LOD at stream and wetland crossings, limiting the crossing time and duration of in-stream activities associated with each individual resource crossing, execution of dry crossing methods, and placement of the pipeline such that a minimum of 5-feet of cover under stream crossings in addition to the implementation of erosion and sediment control BMPs further protect the water resources. SPLC has also incorporated BMPs and ABACT BMPs (e.g. compost filter socks) into their Project E&SCP to further reduce potential erosion and sediment impacts to HQ and EV water resources crossed by the Project or located within the limits of disturbance. Therefore, the proposed Project does not include the direct discharge of pollutants associated with Project construction into HQ and EV water resources.



Section 93.4c(b)(2): Protection of HQ and EV Waters. Nonpoint source control. The department will ensure that cost-effective and reasonable best management practices for nonpoint source control are achieved.

SPLC has incorporated cost-effective and reasonable BMPs as well as ABACT BMPs throughout the Project, as specifically detailed in the Project E&SCP. These ABACT BMPs will maintain and protect the water quality of all waters, including those HQ water resources present along the alignment, from nonpoint source discharges associated with the temporary and short-term impacts of the construction of the pipeline and associated facilities.

3.3 Section 93.6 – General Water Quality Criteria

Section 93.6(a): Water may not contain substances attributable to point or nonpoint source discharges in concentrations or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (b) In addition to other substances listed within or addressed by this chapter, specific substances to be controlled include, but are not limited to, floating materials, oil, grease, scum and substances that produce color, tastes, odors, turbidity or settle from deposits.

Construction of the Project includes temporary short-term impacts during construction to surface water resources crossed by the pipeline or located within the Project workspace. Temporary impacts on surface waters include disturbance of stream banks, removal of riparian vegetation and, in some instances, the temporary diversion of stream flow during dry crossing construction resulting in a temporary increase in turbidity during construction activities.

Through the development and implementation of the selected alternatives presented in the Alternative Analysis within the CEA, the erosion and sediment control measures provided in the Chapter 102 ESCGP Application, and the BMPs that will be applied that will minimize the generation of stormwater runoff, the adverse effects of stormwater discharge on ground and surface water resources will be minimized, thereby resulting in the protection of water quality and quantities. This is accomplished primarily through minimization of workspace, following the requirements of the Project E&SCP for earth disturbance activities in accordance with PADEP's Erosion and Sediment Pollution Control Program Manual (PADEP 2012), and execution of dry crossing techniques for a majority of the resource crossings. Reduction of construction workspace limiting the LOD at stream and wetland crossings, limiting the crossing time and duration of in-stream activities associated with each individual resource crossing, execution of dry crossing methods, placement of the pipeline such that a minimum of 5-feet of cover under stream crossings, and restoring pre-construction contours to affected resources, in addition to the implementation of erosion and sediment control BMPs, further protect the water resources existing uses.

The Project does not include new point source discharges or include the discharge of substances that would alter the long-term chemical, biological or physical conditions of water resources within the Project area. Consequently, the potential does not exist for the construction of the Project to modify the water use of aquatic life of the resources impacted or to human, animal, or plant life.



SPLC has prepared a PPC and SPCC Plan for the Project. The purpose of this plan is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by SPLC and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. The PPC and SPCC Plan also contains the Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation, construction or maintenance activity associated with construction. Since HDDs are currently proposed, SPLC has developed an Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of inadvertent returns associated with any direction drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases.



4.0 Chapter 95 Compliance

Chapter 95 applies to wastewater treatment requirements. As this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project. In addition, the Project is exempt from Total Dissolved Solid (TDS) treatment requirements because any turbidity issues that potentially occur as a result of construction are temporary in nature and TDSs will be less than 5,000 pounds per day.



5.0 Chapter 102 Compliance

According to Chapter 102 projects involving earth disturbance activities must “develop, implement and maintain BMPs to minimize the potential of accelerated erosion and sedimentation and to manage post construction stormwater. The BMPs shall be undertaken to protect, maintain, reclaim and restore water quality and the existing and designated use of waters of this Commonwealth” (25 Pa. Code § 102). SPLC has developed a full Project E&SCP for the PA Chapter 102 ESCGP Application. The Plan consists of a written narrative and appendices including plan drawings. It was developed to be in accordance with the requirements of 25 Pa. Code Chapters 78 and 102, as well as the Clean Streams Law (35 P. S. §§ 691.1001), as amended, utilizing guidelines and BMP information provided in the Erosion and Sediment Control BMP Manual.

The components of Chapter 102 associated with antidegradation requirement have been identified and Project compliance with these regulatory requirements are discussed in detail below. This document, in combination with the ESCGP Application, provides additional information related to the Chapter 102 antidegradation requirements that the Project proposes for earth disturbance activities.

5.1 Section 102.4(b) – Erosion and Sediment Control Requirements

Section 102.4(b) applies to earth disturbance activities other than agricultural plowing and tilling or animal heavy use areas and requires the implementation and maintenance of E&S BMPs. The development of a written E&SCP is required if one or more of the criteria apply to the earth disturbance activities: total earth disturbance is 5,000 square feet or more, E&SCP is a requirement under other department regulations, and/or earth disturbance activities have the potential to discharge to a water classified as a HQ or EV water under Chapter 93. The Project fulfills all three of the criteria for the development of a written E&SCP as earth disturbance activities are over 5,000 square feet, the development of a written E&SCP is a requirement of the Chapter 105 Joint Permit and Chapter 102 ESCGP Application process and the Project crosses five HQ streams and three EV wetland as discussed above in Section 2.0. In accordance with these requirements, a Project E&SCP has been prepared by a person trained and experienced in E&S controls methods and techniques for the size and scope of this Project.

The E&SCP describes the plan and implementation process for minimizing the extent and duration of the earth disturbance, maximizing protection of existing drainage features and vegetation, minimizing and mitigating soil compaction, preventing or minimizing the generation of increased stormwater runoff, and restoring temporary ground disturbances. The LOD delineated on the E&SCP drawings has been established to restrict construction activities to the minimum area needed to effectively, efficiently and safely construct the proposed facilities. In addition to limiting the extents of the proposed earth disturbance, construction activities have been sequenced to limit the duration of earth disturbance. Installation of the pipeline will typically proceed from one end of the construction spread to the other as one continuous operation. The spacing between the individual crews responsible for each interdependent activity is based on anticipated rate of progress. Construction is sequenced (1) to limit, to the extent possible, the amount and duration of open trench sections, and (2) to limit the amount of clearing and grubbing that occurs to prevent excessive erosion or sediment flow into environmental resource areas.



5.2 Section 102.4(b)(6) – Erosion and Sediment Control Requirements

Per this requirement and in accordance with Chapter 11 of PADEP’s antidegradation guidelines (PADEP 2003), any earth disturbance activity associated with HQ and EV waters/wetlands shall do the following:

Section 102.4(b)(6)(i): Evaluate and include non-discharge alternatives in the E&SCP, unless a person demonstrates that non-discharge alternatives do not exist for the project.

The proposed Project has been evaluated for non-discharge alternatives for compliance with state regulatory agency antidegradation requirements. Non-discharge alternatives are defined as “environmentally sound and cost effective BMPs that individually or collectively eliminate the net change in stormwater volume, rate and quality for storm events up to and including the 2-year/24-hour storm when compared to the stormwater rate, volume and quality prior to the earth disturbance activities to maintain and protect the existing quality of the receiving surface waters of the Commonwealth.”

Various BMPs identified as non-discharge alternatives in the Erosion and Sediment Pollution Control Program Manual (PADEP 2012) were considered and evaluated for implementation as part of the proposed activities. These alternatives were evaluated individually, and in various combinations, for their ability to minimize accelerated erosion and sedimentation during the earth disturbance activity in order to achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff. The following summarizes the non-discharge alternatives utilized or considered for implementation on this Project as presented in the Project E&SCP.

- Alternative Routes were evaluated as part of the process during routing study and is presented within the CEA. Relocation of the Project outside of a special protection watershed was not feasible. Avoidance of wetland and waterbody impacts by routing the pipeline around or under through the use of conventional bore or HDD practices and siting the workplace outside of protected resources where possible, and minimization of impacts through reduced LOD was completed through alternative route evaluations.
- Designing the Project to co-locate with existing utilities where feasible (41% of the route) in order to further minimize impacts to forest cover by paralleling existing ROWs.
- Minimization of earth disturbance by reduction of LOD to restrict construction activities to the minimum area needed to effectively, efficiently and safely construct the proposed facilities. Reduced LODs for each waterbody and wetland crossing are shown on the E&SCP Sheets.
- Limiting extent and duration of the disturbance through construction progression in one continuous operation that sequences the construction to limit the amount and duration of each stage to prevent excessive erosion or sediment flow in environmental resource areas.
- The feasibility of protecting, converting or establishing a riparian forest buffer meeting the requirements of 25 PA Code §102.14 was analyzed for the Project. Due to the linear nature of the Project that requires the crossing of riparian forest buffers, impact to riparian forest buffers were limited by reducing workspace at waterbody crossings and utilizing HDD methods where feasible in special protection watersheds.
- Combination of cost-effective and environmentally sound BMPs which collectively eliminate the net change in stormwater volume, rate and quality from pre-development to post-development conditions.



A summary of the BMPs and associated explanations are presented in Table 5.1 below.

Table 5.1 - Summary of Project Non-Discharge Alternative Best Management Practices

Non-discharge alternative BMP	Implemented in Project Design	Explanation
Alternative Routes	Yes and No	Alternative routes were evaluated and implemented, and while none would entirely avoid special protection watersheds, effort was given to avoid where possible and/or further minimize impact to resources through alignment shifts and use of HDD. Based on the linear nature of the Project, special protection watersheds cannot be avoided entirely.
Limited Disturbed Area	Yes	The proposed Limits of Disturbance restrict construction activities to the minimum area needed to effectively, efficiently, and safely construct the Project.
Limiting Extent and Duration of the Disturbance	Yes	Earth disturbance will be limited to the respective stage of work in the construction sequence. Temporary or permanent stabilization will occur as soon as possible upon the completion of each stage.
Riparian Buffers and Riparian Forest Buffers	Yes and No	<u>Yes:</u> Forested riparian buffers were avoided to the extent practicable for above-ground facilities. <u>No:</u> Based on the linear nature of the pipeline, forested riparian buffers cannot be avoided during construction. During Project operation, SPLC must maintain a 50-foot wide tree-free area centered over the pipeline to protect the integrity of the pipeline coating. SPLC has applied for the requisite Chapter 102 Riparian buffer waiver for linear utilities,
Treatment Train Combination of BMPs	No	There is no combination of non-discharge alternative BMPs that would result in no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff; therefore, SPLC proposes to use ABACT BMPs for the Pennsylvania portion of the Project.

Furthermore, erosion and sediment control BMPs will be deployed during earth disturbance activities to protect existing drainage features and vegetation, minimize and mitigate soil compaction and minimize the generation of increased runoff as detailed in the Project E&SCP. Post-construction BMPs will also be employed for the life of the Project to address restoration and operation of the pipeline ROW to further ensure the minimization of potential erosion and sedimentation on the ROW.



Waterbars: Earthen waterbars (slope breakers) are specified on the E&SCP view drawings in hillside locations where it will be necessary to divert both upslope and disturbed area runoff to vegetated areas to help minimize accelerated erosion and sedimentation. A construction detail is provided on Drawing SPLC-GOM-AE-SD119688 of the Project E&SCP. They are to be aligned such that runoff will be directed towards the downslope side of the disturbed area and avoid flowing back into the ROW. The construction details call for a sediment barrier (typically a compost filter sock or silt fence) at the waterbar point of discharge. Waterbars on ROWs shall be left in place after permanent stabilization has been achieved. Waterbars will be removed from agricultural and residential use parcels to allow for the continuation of previous land use activities. Maintenance of waterbars shall be provided until ROW has achieved permanent stabilization.

Trench Plugs: Temporary trench plugs are specified on the E&SCP drawings to inhibit channelized flow which may occur in the trench when open during construction and also alter backfilling of the trenchline. Permanent trench plugs shall be installed to prevent the trench from draining the wetlands and or changing the hydrology. The construction details are presented on Drawings SPLC-GOM-AE-SD119688 of the E&SCP.

Rock Construction Entrances: Rock construction entrances are specified on the E&SCP view drawings to control sediment tracking from the construction site at egress points. Vehicle access locations are shown in Drawings 000-03-03-001 through 000-03-03-084. The rock construction entrance detail is presented on Drawing SPLC-GOM-AE-SD119689. In special protection watersheds, rock construction entrances will be extended to a minimum of 100-feet in length. In addition, a wash rack and/or vacuum truck shall be used in HQ/EV areas.

Erosion Control Blanket: In accordance with the notes listed on Drawing SPLC-GOM-AE-SD119686 of the E&SCP, an erosion control blanket is to be placed on disturbed areas within 50-feet of streams and a double mat straw fiber matrix is to be placed on slopes steeper than 3H:1V. In the one HQ watershed, an erosion control blanket is to be placed on disturbed areas within 100-feet of streams. Areas to be blanketed are indicated on the E&SCP view drawings.

Wood Chip Filter Berms: Wood chip filter berms may be used on wooded or rocky slopes where staking and trenching of SF and CFS is very difficult or impossible and will be installed in accordance with the Standard Detail Sheets. They are not to be used within 50-feet of streams and wetlands. Wood Chip Filter Berms are ABACT for HQ watersheds if a 6-inch thick layer of compost is added to the upslope side. Wood chip filter berms may be used in place of CFS and SF in flat areas and 50-feet away from wetlands and streams. A construction detail is provided on Drawing SPLC-GOM-AE-SD119687 of the Project E&SCP.

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.

Rock Filter Outlets: Rock filter outlets may be used to control runoff; they may also be used below construction work while flow is being diverted past the work area. Rock filter outlets may be used to control sediment either during construction or during temporary disturbance. Rock filter outlets should be constructed according to the specifications shown in the Standard Detail Sheets (SPLC-GOM-AE-SD11968). Anchored compost layer shall be used on the upslope face in HQ watersheds.



Sediment Barriers: In special protection watersheds, compost filter socks are specified on the E&SCP plan view drawings. CFS is a sediment barrier consisting of a mesh sock and coarse compost. CFS will be placed to control runoff and collect sedimentation. CFS is an ABACT control for HQ watersheds. CFS locations are clearly depicted on the Plan Drawings. The compost filter sock details are presented on Drawing SPLC-GOM-AE-SD119686.

Pumped Water Filter Bag: If required, sediment laden water that collects during excavation shall be pumped into a sediment filter bag. The means and methods of construction by the Contractor will dictate the location and placement of this control, but the Contractor must conform to the manufacturer's recommendations for use. This device is not an ABACT for special protection watersheds unless surrounded by a CFS ring or operated in conjunction with a sump pit. A construction detail is provided on Drawing SPLC-GOM-AE-SD119688 of the Project E&SCP.

In non-special protection watersheds, silt fence is generally specified on the E&SCP view drawings. The silt fence construction detail is presented on Drawing SPLC-GOM-AE-SD119687. Wood chip filter berms may be used in place of silt fence in flat areas and 50-feet away from wetlands and streams or on wooded or rocky slopes where staking and trenching of other BMP's is very difficult or impossible. Further details on wood chip filter berms are provided on Drawing SPLC-GOM-AE-SD119687.

Revegetation: The construction workspace will be reseeded and revegetated with native species to ensure proper restoration. The ROW will be monitored after construction to identify any areas not successfully restored to ensure all disturbed areas reach 70% uniform revegetation in order to return the area to its preconstruction state.

Based on the evaluation of the non-discharge alternatives and implementation of the E&S control BMPs there is no combination of non-discharge alternative BMPs that enable the earth disturbance activities to achieve no net change from pre-development to post-development volume, rate and concentration of pollutants in stormwater runoff up to and including the 2-year/24-hour storm. In the absence of feasible non-discharge alternatives, ABACT BMPs will be utilized to address antidegradation requirements for the Pennsylvania portion of the Project. SPLC's use of the ABACT measures detailed above, in lieu of strictly non-discharge alternatives, will not adversely impact HQ waters and will ensure stormwater is managed so there is no net change from pre- to post- construction, as demonstrated in SPLC's ESCP-2 application. SPLC's routing of the Project and efforts to avoid and minimize wetland impacts, could not entirely avoid wetland conversion and implementing ABACTS BMPs will prevent degradation to HQ/EV water resources.

Section 102.4(b)(6)(ii): If the person makes the demonstration in subparagraph (i) that non-discharge alternatives do not exist for the project, the E&SCP must include ABACT, except as provided in §93.4c(b)(1)(iii).

As demonstrated in the previous section, non-discharge alternatives do not exist for the proposed Project, however implementing ABACTS BMPs will prevent degradation to HQ/EV water resources. Environmentally sound and cost-effective ABACT BMPs will be utilized to demonstrate that any change in PA stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The Project E&SCP shows the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary



of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s). In addition, a wash rack and/or vacuum truck shall be used in HQ/EV areas.

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls within the one HQ watershed and for the entirety of the Project, including adjacent to the three identified EV wetlands. Silt fence will generally be utilized for linear perimeter controls outside of the one HQ watershed traversed except where a compost filter sock is required due to steep slope and slope length.

Wood Chip Filter Berms: Wood chip filter berms may be used on wooded or rocky slopes where staking and trenching of SF and CFS is very difficult or impossible and will be installed in accordance with the Standard Detail Sheets. They are not to be used within 50-feet of streams and wetlands. Wood Chip Filter Berms are ABACT for HQ watersheds if a 6-inch thick layer of compost is added to the upslope side. Wood chip filter berms may be used in place of CFS and SF in flat areas and 50-feet away from wetlands and streams.

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.

Rock Filter Outlets: Rock filter outlets may be used to control runoff; they may also be used below construction work while flow is being diverted past the work area. Rock filter outlets may be used to control sediment either during construction or during temporary disturbance. Rock filter outlets should be constructed according to the specifications shown in the Standard Detail Sheets. Anchored compost layer shall be used on the upslope face in HQ watersheds.

Pumped Water Filter Bag: If required, sediment laden water that collects during excavation shall be pumped into a sediment filter bag. The means and methods of construction by the Contractor will dictate the location and placement of this control, but the Contractor must conform to the manufacturer's recommendations for use. This device is not an ABACT for special protection watersheds unless surrounded by a CFS ring or operated in conjunction with a sump pit.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100-feet of special protection surface waters, within 50-feet of all other receiving surface waters and on slopes 3H:1V or steeper.

Non-discharge alternatives and ABACT and their design standards were developed according to the *Erosion and Sediment Pollution Control Program Manual*, Commonwealth of Pennsylvania, Department of Environmental Protection, No. 363-2134-008 (March 2012).

5.3 Section 102.8(h) – Post Construction Stormwater Management Requirements

Per this requirement, any earth disturbance activity associated with HQ waters and EV wetlands shall do the following in relation to post construction stormwater management (PCSM):



Section 102.8(h)(1): Evaluate and include non-discharge alternatives in the Post Construction Stormwater Management (PCSM) Plan unless a person demonstrates that non-discharge alternatives do not exist for the project.

The Project is linear in nature and therefore, as demonstrated above, non-discharge alternatives cannot be utilized in their entirety to address discharges. The majority of runoff from the Project will occur through overland flow from temporarily disturbed areas to existing agricultural, open land and forested/wooded areas. Construction will occur so that the Project area will be returned to original contours allowing for the existing drainage patterns to remain intact. As a result, the amount of runoff from the Project will be the same pre and post construction.

The Project proposes the construction of one new, permanent gravel access road and associated Meter Site. The installation of an infiltration basin downgradient of the meter pad is expected to mitigate the runoff volume. Due to the linear nature of this Project and the negligible change in land use from pre- to post construction conditions, it is anticipated that there will be no increase in runoff volume and peak rate of discharge for the Project, as demonstrated within SPLC's ESCP-2 application and PCSM.

The following details the PCSM and Site Restoration (SR) BMPs that will remain permanently upon completion of the Project to ensure stormwater runoff is adequately addressed and is not increased:

Waterbar: A waterbar is a compacted berm that will be vegetated that will be used to divert upslope stormwater runoff off the ROW to a well vegetated area. Waterbars are proposed to reduce the amount of upslope contributory drainage to PCSM BMPs.

Temporary Seeding: Temporary grass cover will be established where soil stockpiles are exposed for a period greater than 4 days.

Permanent Vegetative Stabilization: Immediately upon completion of final grading, disturbed areas will receive topsoil and permanent vegetative stabilization, defined as a minimum uniform 70 percent perennial vegetative cover.

Mulching: The purpose of mulch is to reduce runoff and erosion, prevent surface compaction or crusting, conserve moisture, aid in establishing plant cover, and control weeds. Mulch shall be applied on any area subject to erosion, or which has unfavorable conditions for plant establishment and growth. The practice may be used alone or in conjunction with other structural and vegetative conservation practices, such as waterways, ponds, sediment traps or critical area planting.

Section 102.8(h)(2): If the person makes the demonstration in paragraph (1) that non-discharge alternatives do not exist for the project, the PCSM Plan must include ABACT, except as provided in §93.4c(b)(1)(iii).

As detailed above, no new, additional or increased discharge is proposed to HQ or EV Waters. The approximate original contours of the workspace will be maintained and/or restored to their original condition following construction, and all disturbed areas will be re-vegetated or restored with pervious material. ABACT measures (e.g. compost filter socks) are proposed for the Project as listed above in their entirety in Section 5.2.



5.4 Section 102.14 – Riparian Buffer Requirements

The pipeline route will cross riparian buffers regulated under 25 Pennsylvania Code Chapter 102.14. Specifically, these regulated areas include 150-feet from perennial and intermittent waters located within EV and HQ watersheds. The Project is of a temporary nature and only traverses one HQ watershed, and the site will be fully restored to its pre-existing condition during the term of the permit per Chapter 102.14 (d)(2)(iv). The proposed Project requires site reclamation or restoration as part of its permit authorization in Pennsylvania Code Chapters 78, 86-90 and 102. Water Obstruction and Encroachment Permits are being sought for the stream and wetland crossings associated with the Project. These permits would authorize impacts to the Riparian Areas associated with each crossing, and pipeline construction would be an allowable activity as per Chapter 102.14(f)(2)(ii). Impacts to the riparian buffer have been minimized to the extent possible in accordance with 25, Pa. Code 102.14(d)(1)(vii) as further detailed below.

Project construction will result in the clearing of areas located within the construction corridor and 100-foot landward of streams and 150-foot landward of those identified HQ streams, but impacts have been minimized to the maximum extent possible while allowing safe installation of the pipeline. Specifically, SPLC has implemented the following measures to reduce long-term impacts to riparian buffers:

- The Project has been co-located with existing ROWs, where feasible, to minimize tree clearing at stream crossings. This measure aids in reducing the area of vegetation that will be cleared since the existing ROW being co-located previously required clearing in the area, hence it avoids cutting a ROW at stream crossing that has otherwise undisturbed forest.
- The construction ROW width has been reduced at stream crossings from 100-feet to 75-feet;
- During construction, use of equipment operating within waterbodies will be limited to those required to construct the crossing;
- During construction, using an equipment bridge to cross non-essential construction equipment;
- Crossing waterbodies perpendicular to the waterbody as engineering and routing conditions permit;
- Restoring the stream channel and banks to preconstruction contours;
- Removing all construction equipment and materials from within the waterbody as soon as practical; and
- Permanently stabilizing stream banks immediately following the pipe installation and seeding with an appropriate native riparian seed mix to facilitate vegetative growth along the stream channel.

SPLC has applied for the necessary Chapter 102 Riparian Buffer waiver from PADEP since the Project is linear nature and effort to minimize impacts from this water dependent facility has been demonstrated as explained above.



6.0 Chapter 105 Compliance

6.1 Section 105.14 – Review of Applications

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 105.14(b)(11): Consistency with state antidegradation requirements contained in Chapters 93, 95 and 102 (relating to WQS; wastewater treatment requirements; and E&S control) and the CWA (33 U.S.C.A. § §1251-1376).

Section 3.0 of this enclosure details the compliance of the Project with the Chapter 93 antidegradation requirements to maintain and protect the existing and designated water use for surface waters impacted by the Project. Chapter 95 applies to wastewater treatment requirements. As discussed in Section 4 above, because this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project. Chapter 102 is related to E&S Control Requirements and ABACT BMPs for special protection waters. The Project compliance with these protection requirements are detailed above in Section 5.0. The CWA antidegradation requirements and the Project compliance with respect to these requirements are discussed below in Section 7.0. These sections, in combination with the specific Project E&SCP, demonstrate that the Project will not cause or contribute to a violation of the state WQS.

6.2 Section 105.16 – Environmental, Social and Economic Balancing

Per this requirement, any activity associated with the waters of the Commonwealth shall do the following:

Section 105.16c: An application for a permit will not be approved by the Department in the following areas unless the applicant demonstrates and the Department finds that the Project will not have an adverse impact upon the public natural resources:

- (1) A project located in or within 100-feet of a watercourse or body of water that has been designated as a Natural or State wild or scenic river in accordance with the Wild and Scenic Rivers Act of 1968 (16 U.S.C.A § § 1271 – 1287) or the Pennsylvania Scenic Rivers Act (32 P.S. § § 820.21 – 820.29).
- (2) A project located in or within 100-feet of a Federal wilderness area designated in accordance with the Wilderness Act (16 U.S.C.A § § 1131 – 1136) or the Federal Eastern Wilderness Act of 1975 (16 U.S.C.A § § 1132.)
- (3) A project located within an area which serves as a habitat of a threatened or endangered species protected by the Endangered Species Act of 1973 (7 U.S.C.A. § 136; 16 U.S.C.A § § 4601-9, 460k, 668dd, 715a, 1362, 1371, 1372, 1402 and 1531 – 1543) or for a species which has been designated as a threatened or endangered species under the Wild Resource Conservation Act (32 P.S. § § 5301 – 5314), 30 Pa.C.S. (relating to the Fish and Boat Code) or 34 Pa.C.S. (relating to the Game and Wildlife Code).
- (4) A project located in waters designated as exceptional value in Chapter 93 (relating to water quality standards).

The proposed Project would be constructed in compliance with applicable specifications, federal regulations and guidelines, and Project specific permit conditions. SPLC selected the proposed pipeline route to avoid and minimize effects to environmental features to the greatest extent practicable while maintaining the economic and safety standards of the Project, also taking into consideration the balance of



requisite landowner approval for the final routing alignment. The proposed Project does traverse EV wetlands related to T&E habitat and while public and private drinking water supplies are present along the alignment, review of wetlands did not identify any EV wetlands associated with these water supplies. The Project does not impact any wetlands within a state forest or park lands, areas designated as federal wilderness areas or areas designated as National Natural Landmarks. Details regarding the Project's potential impact and applicable avoidance and minimization measures are provided in the JPA.

6.3 Section 105.18a – Permitting of structures and activities in wetlands.

Section 105.18(a)(4): The project will not cause or contribute to a violation of an applicable state WQS.

Section 3.0 of this enclosure details the compliance of the Project with the Chapter 93 antidegradation requirements to maintain and protect the existing and designated water use for surface waters impacted by the Project. Chapter 95 applies to wastewater treatment requirements. As discussed in Section 4 above, because this Project does not involve the treatment or discharge of wastewater, this chapter is not applicable to the Project. Chapter 102 is related to E&S Control Requirements and ABACT BMPs for special protection waters. The Project compliance with these protection requirements are detailed above in Section 5.0. The CWA antidegradation requirements and the Project compliance with these requirements are discussed below in Section 7.0. These sections, in combination with the specific Project E&SCP, demonstrate that the Project will not cause or contribute to a violation of the state WQS.

Section 105.18a(a)(6): The cumulative effect of this project and other projects will not result in the impairment of the Commonwealth's exceptional value wetland resources.

As previously described, all wetlands crossed by the proposed Project were evaluated in accordance with 25 Pa. Code § 105.17(1) as well as Chapter 93.4a(d) to determine whether or not the wetland area satisfies the requirements for classification as an EV wetland resource. Along the entire Project alignment only three wetlands within Allegheny County were identified as EV, due to the presence of identified northern harrier and associated habitat. The EV wetlands impacted are PEM and therefore will not have a change in functions/values since there is no resulting conversion of wetland strata type (e.g. PFO/PSS to PEM). In addition, per PGC input, SPLC will adhere to timing restrictions within these wetlands so as not to disturb the breeding season of this bird species. SPLC completed a CEA and Cumulative Impact Assessment referred to as Appendix B of the CEA, which detail the findings of this review. Ultimately the Project, in addition with those cumulative actions identified, will not result in impairment of the Commonwealth's EV wetland resources due to efforts to avoid and minimize and the implementation of approved Chapter 105 and Chapter 102 permits and construction methods, installation of associated BMPs, restoration and mitigation.

SPLC has evaluated and routed the proposed pipeline facilities and work areas to avoid and minimize effects on wetlands to the greatest extent practicable while maintaining engineering standards and safety. As part of the overall pipeline route evaluation process, SPLC conducted a thorough routing study and then the pipeline location was field evaluated for constructability and initial aquatic resource identification. The preliminary routes were field adjusted utilizing Global Positioning System (GPS) units to avoid or minimize resource impacts. Streams and wetlands were identified and surveyed to allow SPLC to shift the pipeline ROW around resources where possible. Due to physical constraints such as roadways and steep terrain, not all impacts to aquatic resources from the pipeline could be avoided.



Impacts from the pipeline were minimized by shifting to cross wetlands and streams at their narrowest practicable point and then limiting the workspace at these resource crossings. Through the final design engineering process and environmental avoidance activities, the proposed route, was developed as the best (most cost effective and least environmental impact) version of the combined alternatives evaluated.

In addition, ABACT will be utilized in the one HQ watershed and in the area of the three EV wetlands to provide environmentally sound and cost-effective ABACT BMPs to demonstrate that any change in stormwater runoff rate, volume or quality will maintain and protect the existing quality and water uses of receiving surface waters and preserve existing baseflow. The Project E&SCP shows the locations of all planned ABACT BMPs and details for construction of these facilities. The following is a summary of the combination of ABACT BMPs that have been incorporated into the site design and the features that make them ABACT:

Site Access: 100-foot long Rock Construction Entrance(s). In addition, a wash rack and/or vacuum truck shall be used in HQ/EV areas.

Sediment Barriers: Compost filter socks will generally be utilized for all linear perimeter controls within the one HQ watershed and for the entirety of the Project, including adjacent to the three identified EV wetlands. Silt fence will generally be utilized for linear perimeter controls outside of the one HQ watershed traversed except where a compost filter sock is required due to steep slope and slope length.

Wood Chip Filter Berms: Wood chip filter berms may be used on wooded or rocky slopes where staking and trenching of SF and CFS is very difficult or impossible and will be installed in accordance with the Standard Detail Sheets. They are not to be used within 50-feet of streams and wetlands. Wood Chip Filter Berms are ABACT for HQ watersheds if a 6-inch thick layer of compost is added to the upslope side. Wood chip filter berms may be used in place of CFS and SF in flat areas and 50-feet away from wetlands and streams.

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.

Rock Filter Outlets: Rock filter outlets may be used to control runoff; they may also be used below construction work while flow is being diverted past the work area. Rock filter outlets may be used to control sediment either during construction or during temporary disturbance. Rock filter outlets should be constructed according to the specifications shown in the Standard Detail Sheets. Anchored compost layer shall be used on the upslope face in HQ watersheds.

Pumped Water Filter Bag: If required, sediment laden water that collects during excavation shall be pumped into a sediment filter bag. The means and methods of construction by the Contractor will dictate the location and placement of this control, but the Contractor must conform to the manufacturer's recommendations for use. This device is not an ABACT for special protection watersheds unless surrounded by a CFS ring or operated in conjunction with a sump pit.

Stabilization: Disturbed areas immediately stabilized upon completion, or temporary cessation, of earth disturbance activity. Disturbed areas stabilized with erosion control blanket within 100-feet of special



protection surface waters, within 50-feet of all other receiving surface waters and on slopes 3H:1V or steeper.

As described in Section 2.0, Project impacts to HQ watersheds and EV wetlands are temporary short-term impacts during construction to wetlands crossed by the pipeline or located within the Project workspace. Through the development and implementation of avoidance and minimization, E&SCP with integration of ABACT BMPs, and other Project Plans including the PPC and SPCC Plan and the Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan, the Project will maintain and protect water quality of the one traversed HQ watershed and EV wetlands.

Section 105.18a(b)(6): The cumulative effect of the project and other projects will not result in the major impairment of this Commonwealth's wetland resources.

The Project does not propose any permanent wetland or stream fill along the entire approximately 45.5 miles of proposed ROW located within the Commonwealth. The wetland impacts are temporary in nature and will be restored to original contours following construction. Proper BMPs will be utilized throughout construction to protect resources from excess sediment. Additionally, during construction, wetland soils will be separated and segregated from upland soils so that they can be properly returned with minimal impact. Grubbing in PSS and PFO wetlands will be limited to a typical 50-foot-wide permanent ROW. The remaining woody vegetation within the construction LOD will be cleared to ground level and not grubbed and allowed to revegetate naturally upon completion of the Project.

SPLC completed a Cumulative Impact Assessment referred to as Appendix B of the CEA, which details the findings of this review. Ultimately the Project, in addition with those cumulative actions identified, will not result in impairment of the Commonwealth's wetland resources due to efforts to avoid and minimize and the implementation of approved Chapter 105 and Chapter 102 permits and construction methods, installation of associated BMPs, restoration and mitigation. Therefore, there should be no negative cumulative effect on wetlands within the Commonwealth.



7.0 Clean Water Act Compliance

The Federal Water Pollution Control Act, 33 U.S.C. § 1251 et seq., (Clean Water Act, or CWA) was reorganized and expanded in 1972, with the goal of restoring and maintaining the chemical, physical and biological integrity of the nation's waters so that they can support the protection and propagation of fish, shellfish and wildlife and recreation in and on the water (33 U.S.C. § 1251 et seq.). The sections of the CWA that relate to water quality issues and are applicable to the antidegradation requirements are presented below.

7.1 Section 301 – Effluent Limitations

Section 301 sets standards and enforcement for effluent limitations related to point source discharges and outlines state involvement in setting state standards and requirements for effluent of pollutants in point source discharges. As stated further above within this report, the nature of all construction activities in Allegheny, Beaver, and Washington Counties are associated with the pipeline and as such do not generate any point source discharges. Non-point discharges are related to precipitation induced sources such as rainfall and snow melt runoff that contact the earth disturbance areas of the Project during the construction stage.

SPLC, through the use of an approved ESCGP-2, will implement approved BMPs as detailed throughout this document to ensure stormwater will be managed so that there is no direct discharge of pollutants to waters of the Commonwealth. In addition, SPLC will ensure the proper handling of materials per their PPC and SPCC Plan and Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan.

7.2 Section 302 – Water Quality Related Effluent Limitations

The section is related to discharges of pollutants from a point source or group of point sources where effluent limitations would still not attain the water quality for a specific portion of the navigable water and includes alternative effluent control strategies and outline permit requirements. The Project does not include any discharge of toxic pollutants or point source discharges; therefore this section is not applicable to this Project.

7.3 Section 311 – Oil and Hazardous Substance Liability

This portion of the CWA is related to the policy against the discharge of oil or hazardous substances, implementation of a higher standard of care and outlines penalties including civil penalties. SPLC has prepared a PPC and SPCC Plan for the Project. The purpose of these plans is to reduce the probability and risk of a potential spill or release of oil or hazardous materials by SPLC and/or contractor(s) during construction-related activities by providing instruction and expediting spill response and clean-up. The PPC and SPCC Plans also contain the Unanticipated Discovery of Contamination Plan that provides work, investigation and reporting procedures for responding to the unanticipated discovery of contamination in soil, groundwater or sediment during excavation, construction or maintenance activity associated with construction. The PPC and SPCC Plan detail that 1) refueling and service of equipment will take place in upland locations, at least 100-feet away from water bodies; and 2) adequate supplies of absorbent material and other equipment will be available on all construction spreads.



Since HDDs are currently proposed, SPLC has developed an Inadvertent Returns from HDD: Assessment, Preparedness, Prevention and Response Plan for the Project to address preconstruction preparation and establish operational procedures and responsibilities for the prevention, containment and clean-up of inadvertent returns associated with any direction drilling. The development and integration of these plans further protect and maintain water quality through preventative protection and proactive containment and control of any potential releases to comply with the CWA requirements.

7.4 Section 316 – Thermal Discharges

Effluent limitation for the control of thermal components of any discharge for point sources is covered in Section 316 where it mandates that effluent limitations need to be *“more stringent than necessary to ensure the projection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made.”* Thermal impacts associated with this Project will be avoided to the maximum extent possible and minimal permanent changes in land cover are being proposed. All earth disturbances will be stabilized with native vegetation (or mulch in non-germinating season) to promote discharges infiltrating to the ground which assists in mitigating temperature rises in waterbodies by decreasing runoff. Limited removal of tree cover will occur, and only that necessary for construction. The Project will have a total 9 permanent access roads within Pennsylvania and three graveled meter sites. Runoff from the permanent gravel areas will be routed to a stormwater BMP to reduce potential thermal impacts downslope of the Project site. Therefore, the Project post construction impact on thermal components will not alter aquatic resources. Because there are no long-term point source discharges associated with the Project, there is no possible discharge that would impact thermal components of waterbodies.

7.5 Section 401 – Permits and Licenses

Section 401 of the Clean Water Act requires that any person applying for a federal permit or license, which may result in a discharge of pollutants into waters of the United States, must obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. Through the United States Army Corps of Engineers (USACE) and PADEP’s Pennsylvania State Programmatic General Permit # 5 this Project will receive a Section 404 and Section 401 Water Quality Certification upon review and approval of the submitted applications, which will provide compliance with this requirement.

7.6 Section 402 – National Pollutant Discharge Elimination System

NPDES requirements are contained in Section 402 of the CWA for obtaining permits to discharge any pollutants. This section provides provisions for each state to administer its own permit program for discharges into navigable waters. Pennsylvania has an approved state program regulated under PA Chapter 92a. SPLC will prepare the necessary Notice of Intent for the discharge of hydrostatic discharge water for coverage under PADEP PAG-10 NPDES General Permit for Discharge from Hydrostatic Testing of Tanks and Pipelines in compliance with this Section and Chapter 92a.



7.7 Section 404 – Permits for Dredged or Fill Material

Section 404 of the CWA regulates the permits for dredged or fill material discharged into navigable waters. The USACE and the PADEP administers the Section 404 Certification process in Pennsylvania through the JPA Process. The requirements of this section and related USACE and PADEP program have been included in Chapter 105 Dam Safety and Waterway Management JPA for the Project. The Project will obtain all necessary permits under this section from USACE and PADEP in those areas under the jurisdiction of these agencies prior to commencement of construction. Hence the Project is in compliance with the requirements of this section of the CWA.



8.0 References

The Pennsylvania Code. 2018. Chapter 93 Water Quality Standards. <http://www.pacode.com/secure/data/025/chapter93/chap93toc.html> accessed June 2018.

Pennsylvania Department of Environmental Protection (PADEP). 2003. Water Quality Antidegradation Implementation Guidance. Document Number 391-0300-002. PADEP, Bureau of Water Supply and Wastewater Management. Available online at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-47704/391-0300-002.pdf>

PADEP. 2018. Comprehensive Environmental Assessment of Proposed Project Impacts for Chapter 105 Water Obstruction and Encroachment Permit Applications Technical Guidance Number 310-2137-006.

PADEP 2012. Erosion and Sediment Pollution Control Program Manual. Technical Guidance Number 363-2134-008. PADEP, Bureau of Water Supply and Wastewater Management. Available online at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

25 Pa. Code § 93. Water Quality Standards.

25 Pa. Code § 95. Wastewater Treatment Requirements.

25 Pa. Code § 102. Erosion and Sediment Control.

33 U.S.C. § 1251 et seq. Federal Water Pollution Control Act.



APPENDIX A
PROJET SUMMARY TABLES



Table A.1: Stream Resources Crossed by the Falcon Ethane Pipeline System

County / Stream Type	Number of Streams Crossed ^a	Number of HQ Streams ^d			Number of EV Streams ^d			Stream Designation or Existing Uses (more protective presented) ^{c,d}					
		Dry Crossing	HDD/Bore	Other ^b	Dry Crossing	HDD/Bore	Other ^b	EV	HQ	TSF	CWF	WWF	MF
Beaver County													
Perennial	31	3	0	0	0	0	0	0	3	4	0	24	0
Intermittent	35	1	0	0	0	0	0	0	1	6	0	28	0
Ephemeral	18	1	0	0	0	0	0	0	1	2	0	15	0
County Totals	84	5	0	0	0	0	0	0	5	12	0	67	0
Allegheny County													
Perennial	9	0	0	0	0	0	0	0	0	0	0	9	0
Intermittent	18	0	0	0	0	0	0	0	0	2	0	16	0
Ephemeral	5	0	0	0	0	0	0	0	0	0	0	5	0
County Totals	32	0	0	0	0	0	0	0	0	2	0	30	0
Washington County													
Perennial	14	0	0	0	0	0	0	0	0	0	0	14	0
Intermittent	12	0	0	0	0	0	0	0	0	0	0	12	0
Ephemeral	6	0	0	0	0	0	0	0	0	0	0	6	0
County Totals	32	0	0	0	0	0	0	0	0	0	0	32	0

^a Only includes streams actually crossed by the Project. Does not include streams with a crossing method of avoid, floodway crossing, floodway only, HDD floodway, bore floodway, or open cut floodway.

^b Includes all crossing methods other than dry crossing, bore, or HDD; including but not limited to temporary bridge and travel lane.

^c Pennsylvania 25 Chapter 93 Water Quality Standards: WWF - Warm Water Fishery; CWF - Cold Water Fishery; EV - Exceptional Value; HQ- High Quality; TSF - Trout Stocked Fishery; MF - Migratory Fishes. ^d Includes streams classified as "Drains to..."

^d Includes streams classified as "Drains to..."



Table A.2: Exceptional Value Wetland Resources Crossed by the Falcon Ethane Pipeline System

County	Total Number Crossed ^a	Number of EV Wetland Crossings by Construction Type ^d		
		Open Cut	HDD/Bore	Other ^b
Beaver	0	0	0	0
Allegheny	3	3	0	0
Washington	0	0	0	0
Project Total	3	3	0	0

^a Only includes wetlands actually crossed by the Project. Does not include wetlands with a crossing method of avoid.

^b Includes all crossing methods other than dry crossing, bore, or HDD; including but not limited to temporary bridge and travel lane.

^c Pennsylvania classifies wetlands as exceptional value or other per 25 Pa. Code Ch. 105.



Table A.3: Resource Specific Antidegradation Analysis for all HQ/EV Streams and EV Wetlands, by County

County / Resource ^a	Resource Type	HQ/EV	Cover Type Conversion	Antidegradation Requirement		ABACT Measure	Justification	Erosion & Sediment Sheet No.
				Non-Discharge	ABACT			
Beaver County								
S-PA-151104-MRK-001	Stream	HQ	No		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119476119476
S-PA-151104-MRK-002	Stream	HQ	No		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119477119477
S-PA-151104-MRK-005	Stream	HQ	No		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119480119479/480
S-PA-151104-MRK-006	Stream	HQ	No		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119480119480



Table A.3: Resource Specific Antidegradation Analysis for all HQ/EV Streams and EV Wetlands, by County

County / Resource ^a	Resource Type	HQ/EV	Cover Type Conversion	Antidegradation Requirement		ABACT Measure	Justification	Erosion & Sediment Sheet No.
				Non-Discharge	ABACT			
S-PA-151104-MRK-008C	Stream	HQ	No		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented	SPLC-GOM-AE-SD119481119481
Allegheny County								
W-PA-170207-MRK-003	Wetland	EV	No - PEM		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119352119352
W-PA-170207-MRK-002	Wetland	EV	No - PEM		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119352119352
W-PA-161205-WRA-001	Wetland	EV	No - PEM		X	Compost filter sock, immediate stabilization, PPC plan, RCE with Wash Rack & Erosion Control Blanket	Procedural BMP's such as Immediate stabilization and the PPC plan are implemented for areas requiring ABACT and throughout the project. Compost filter sock, rock construction entrances, and erosion control blanket for 100' from the top of stream bank are all approved ABACT measures to manage the potential for an increase in stormwater discharge during construction. The combination of these technologies ensures that when implemented properly the stormwater discharge will be a non-degrading discharge.	SPLC-GOM-AE-SD119354119354
Washington County								
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

^a Only includes streams actually crossed by the Project. Does not include streams with a crossing method of avoid, floodway crossing, floodway only, HDD floodway, bore floodway, or open cut floodway.

N/A - Not Applicable ABACT - Antidegradation Best Available Combination of Technologies BMP - Best Management Practices HQ - High Quality EV - Exceptional Value PEM - Palustrine Emergent PPC - Pollution Prevention Control RCE - Rock Construction Entrance