

## Post Construction Stormwater Management/Site Restoration Plans Narrative

### Atlantic Sunrise Project Phase 1

Compressor Station 605  
Clinton Township  
Wyoming County  
Pennsylvania

Prepared For:

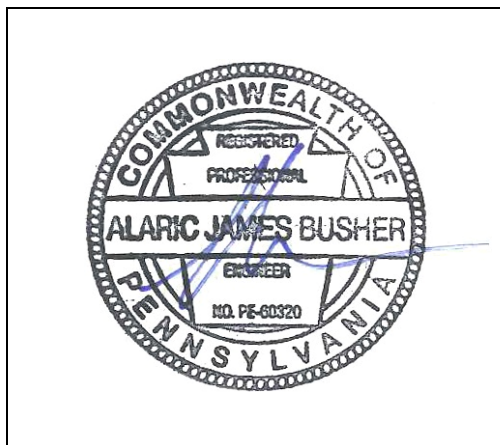


**Transcontinental Gas Pipe Line Company, LLC**  
2800 Post Oak Blvd  
Houston, TX, 77251

Issued: August 2015  
**Revised: August 2017**

BL Project No. 14C4909

Prepared By:  
BL Companies  
4242 Carlisle Pike, Suite 260  
Camp Hill, PA 17011



Alaric J Busher, PE  
P.E. 60320

## CONTENTS

<u>Part</u>	<u>Description</u>	<u>Page</u>
<b>1.0</b>	<b>GENERAL INFORMATION</b> .....	<b>1</b>
1.1	Topographic Features	
	USGS Site Location Map .....	3
	Aerial Location Map .....	4
1.2	Soil Characteristics .....	5
1.3	Earth Disturbance Activity Characterization.....	7
1.4	Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff .....	9
1.5	Surface Water Classification.....	11
1.6	BMP Description Narrative.....	12
1.7	BMP Installation Sequence Narrative .....	13
1.8	Supporting Calculations .....	16
1.9	Plan Drawings.....	16
1.10	Long Term Operation and Maintenance Schedule .....	16
1.11	Material Recycling and Disposal.....	18
1.12	Soil Conditions and Geologic Formations .....	22
1.13	Thermal Impacts.....	23
1.14	Riparian Forest Buffer Management Plan.....	23
1.15	Antidegradation Requirements .....	23
1.16	Preparedness Prevention and Contingency Plan .....	23

## APPENDICES

<u>Part</u>	<u>Description</u>
Appendix A	Compressor Station 605 Supporting Calculations
	A.1 Pre-Development Calculations
	A.2 Post Development Calculations
	A.3 Conveyance Calculations
	A.4 PCSM BMP Calculations
	A.5 Water Quality Worksheets
	A.6 Site Characterization Assessment
	A.7 Supporting Documentation
Appendix B	Preparer Qualifications

Appendix C

Appendix C United States Department of  
Agriculture (USDA) Natural Resources  
Conservation Service (NRCS) Custom Soil  
Resource Report

## **1.0 GENERAL INFORMATION**

The following narrative was prepared as a supplement to the Transcontinental Gas Pipe Line Company, LLC's (Transco's) Environmental Construction Plan (ECP) provided in Section 4 of the Erosion and Sediment Control General Permit 2 (ESCGP-2) Notice of Intent (NOI), which was prepared for the Atlantic Sunrise Project ("Project"). This narrative is intended to describe the post construction stormwater management/site restoration (PCSM/SR) design for the Compressor Station 605 ("Site") to be constructed as part of the Project, within Clinton Township, Wyoming County, Pennsylvania. Similar narratives were prepared, under separate cover, for facilities in other affected counties, as well as for the pipeline construction.

The facility proposed to be constructed as part of Phase 1 of the Project in Wyoming County is the following:

Facility Name	Facility Description	Facility Coordinates
Compressor Station 605	Compressor Station	N41°34'40.56", W75°47'48.39"

The Compressor Station 605 will be approximately 50.55 acres in area including a 3,100 linear foot new access road, 265,400 square feet (6.09 acres) of new gravel pad, and 172,510 square feet (3.96 acres) of impervious area. The Site will utilize existing public and private roads for access to the Site during and after construction. Best Management Practices (BMPs), in accordance with the standards and specifications in the Pennsylvania Department of Environmental Protection's (PADEP's) "Pennsylvania Stormwater Best Management Practices Manual", Technical Guidance No. 363-300-002, as amended and "Erosion and Sediment Pollution Control (E&S) Program Manual," Technical Guidance No. 363-2134-008, as amended and updated (E&S Manual) will be implemented to minimize and/or avoid potential adverse environmental impacts due to the construction, operation and maintenance activities associated with the Site. The proposed practices are designed to maximize volume reduction technologies, eliminate or minimize point source discharges to surface waters, preserve the integrity of stream channels, and protect the physical, biological, and chemical qualities of the receiving surface water. The intent is to keep the post construction runoff volume and flow rate no greater than the pre-construction conditions while maintaining water quality. Impervious areas, land clearing and soil compaction are minimized and natural drainage features and vegetation are protected wherever possible. Heavy equipment will be restricted from infiltration areas. E&SC and PCSM BMP measures will be installed and maintained as needed to control stormwater movement in the Site area.

Refer to the ECP (Section 4 of the ESCGP-2 NOI) for overall Project information.

There are no impacts to regulated wetlands associated with this proposed Site. Refer to the Wetland Delineation Report provided in Section 5 of the ESCGP-2 NOI for information supporting wetland mapping as shown on the Erosion and Sediment Control (E&SC) Plans (Section 2 of the ESCGP-2 NOI).

## 1.2 Soil Characteristics

In addition to the below use limitations and resolutions, refer to Appendix C for the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for the Site.

**Soil Type and Use Limitations**

Map Symbol	Soil Name	Slope	Cut Banks Cave	Corrosive to Concrete or Steel	Droughty	Easily Erodible	Flooding	High Water Table	Hydric/Hydric Inclusions	Low Strength	Slow Percolation	Piping	Poor Source of Topsoil	Frost Action	Shrink-Swell	Potential Sinkhole	Ponding	Wetness
MsB	Morris very stony silt loam	0-8%	X	C/S	X	X		X	X	X	X		X	X				X
MsC	Morris channery silt loam	3-8%	X	C/S	X	X		X	X	X	X	X		X				X
MrB	Morris channery silt loam	3-8%	X	C/S	X	X		X	X	X	X	X		X				X
MrC	Morris flaggy silt loam	8-15%	X	C/S	X	X		X	X	X	X	X	X	X				X
NcB	Norwich and Chippewa soils	3-8%	X	C/S	X	X		X	X	X	X		X	X			X	X
OcC	Oquaga channery loam	8-15%	X	C	X	X			X		X			X				
OcD	Oquaga channery loam	15-25%	X	C/S	X	X			X		X			X			X	X
OfB	Oquaga flaggy loam	3-8%	X	C/S	X	X			X		X			X			X	X
WcB	Wellsboro channery loam	8-15%	X	C/S	X	X		X	X	X	X	X		X				X
WcD	Wellsboro channery loam	15-25%	X	C/S	X	X		X	X	X	X	X		X				X

Source: Appendix E, Table E-1, PADEP, *Erosion and Sediment Pollution Control (E&S) Program Manual* Technical Guidance Number 363-2134-008.

**Soil Use Limitations Resolutions**

<b>Limitation</b>	<b>Resolution</b>
Cut Banks Cave	Excavations will be properly supported by sheeting and shoring to prevent caves.
Corrosive to Concrete or Steel	No concrete or steel piping is proposed without appropriate coatings and protection.
Droughty	Existing suitable topsoil and soil amendments will be used during construction.
Easily Erodible	Temporary and permanent erosion control BMPs will be employed throughout the Site.
Flooding	Ensure that the Site has proper drainage.
High Water Table	A geotechnical investigation was conducted to minimize conflicts with saturated zones.
Hydric/Hydric Inclusions	A wetland investigation was completed to determine no wetlands are present in the development area.
Low Strength	A maximum of 3:1 slopes are proposed.
Slow Percolation	A field investigation of percolation rates at the infiltration areas was performed to verify the soils percolation capacity.
Piping	Watertight pipe, antiseep collars, clay cores through basin berms, and concrete endwalls will be used to minimize the danger of piping.
Poor Source of Topsoil	Existing topsoil, which has proven to be suitable, will be reused on the Site.
Frost Action	Pavement subbase will be provided to minimize frost effects.
Shrink-Swell	Stone base will be provided to prevent shrink-swell from effecting pavement.
Potential Sinkhole	Geotechnical engineer of record recommendations will be followed for any potential occurrences.
Ponding	Surface grading and drainage facilities will be provided to minimize ponding affects.
Wetness	Wet weather construction recommendations, per the geotechnical engineer's recommendations, will be employed to minimize the effects of wetness during construction, surface grading. Surface grading and drainage will be provided to minimize wetness affects after construction.

### 1.3 Earth Disturbance Activity Characterization

#### Proposed Improvements and Land Use

The proposed Compressor Station 605 will be constructed in Clinton Township, Wyoming County, Pennsylvania. Compressor Station 605 will involve the construction of a natural gas compressor station. The earthmoving activity will involve the stripping and stockpiling of top soil, Site grading, Site excavation, placement of fill, trenching and backfill, construction of buildings and equipment with gravel pad/parking lot, construction of a macadam access drive, construction of a stormwater management system, finish grading, and stabilization of disturbed surfaces. Approximately 172,510 square feet (3.96 acres) of additional impervious area and 265,400 square feet (6.09 acres) of additional gravel surface will result on-site. Areas outside the Site limit of disturbance (LOD) may be used for staging of equipment and materials, but no earth disturbance will occur in these areas.

#### Present/Past Land Use

This section identifies the land requirements for construction and operation of the proposed CPL North, CPL South, and Associated Facilities. Table 1.3.1 summarizes the land requirements for the proposed Compressor Station 605 associated with the CPL North and CPL South mainlines.

The characterization of land use within the proposed CPL North, CPL South, and Associated Facilities project areas is based on interpretation of aerial photographs taken in the spring of 2014 and information gathered from field surveys conducted during 2014 and 2015. Transco classified land uses within the proposed CPL North, CPL South, and Associated Facilities project areas into the following eight broad types:

- Agricultural Land – land associated with active cultivation of row and field crops; areas of grasses planted for livestock grazing or for the production of hay crops; orchards; and specialty crops, including vineyards, Christmas trees, and fruits and vegetables.
- Upland Forest/Woodland – includes upland deciduous forest, evergreen forest, and mixed (deciduous and evergreen) forest, but does not include forested wetlands.
- Industrial/Commercial Land – land used for mines or quarries and associated processing plants; manufacturing or other industrial facilities; and land developed for commercial or retail uses, including malls, strip plazas, business parks, and medical facilities.



- Transportation Land – land used for transportation purposes, including interstate highways; state, county, and local highways and roads; and railroad lines.
- Residential Land – residential areas, including yards of individual residences.
- Open Land – non-forested and undeveloped land not classified for another use, including land maintained as utility ROWs for overhead and underground electric transmission, natural gas transmission, and oil transmission facilities.
- Wetlands – includes wetlands covered with emergent, scrub-shrub, and forested vegetation.
- Open Water – include rivers, streams, creeks, canals, and other linear waterbodies, as well as lakes, ponds, and other non-flowing waterbodies.

New MLVs will be wholly located within the permanent ROWs for the proposed CPL North and CPL South mainlines. Construction will primarily occur within the proposed CPL North and CPL South construction ROWs.

**Table 1.3.1  
Land Requirements for the New Aboveground Facilities<sup>a</sup>**

Facility	Milepost	County	Agricultural Land (acres)		Upland Forest / Woodland (acres)		Open Land (acres)		Total (acres)	
			Cons	Op	Cons	Op	Cons	Op	Cons	Op
New Compressor Station 605	CPL North 44.9	Wyoming	45.0	36.0	5.1	3.2	0.0	0.0	50.1	39.2
<b>Compressor Station 605 Subtotal</b>			<b>45.0</b>	<b>36.0</b>	<b>5.1</b>	<b>3.2</b>	<b>0.0</b>	<b>0.0</b>	<b>50.1</b>	<b>39.2</b>

Notes:

<sup>a</sup> Land use acreages for construction and operation are provided for reference only. Acreages provided were calculated by using kmz files and prepared as part of the June 8, 2015 FERC Supplement. Refer to plans and ESCGP-2 NOI for actual site conditions.

Key:

Cons = Construction  
L = Leidy Line system milepost  
Op = Operation

Please refer to the PCSM/SR Plans and Detail Sheets, as provided in Section 3 of the ESCGP-2 NOI, and Section 1.2 and Appendix C of this PCSM/SR Narrative for information on the Site soils.

#### **1.4 Stormwater Management Calculation Methodology & Net Change in Volume and Rate of Runoff**

Runoff volume and rate calculations have been performed for the Site and are included in Appendix A.

Pre-development and Post Development runoff hydrographs were developed for the 1-, 2-, 10-, 25-, 50-, and 100-year 24 hour storm events using the Soil Conservation Service's TR-55 Method. The PCSM/SR BMPs will meet the volume reduction and water quality requirements of Control Guideline 1 (CG 1). PCSM Standard Worksheet #4 was used to complete the CG 1 volume analysis for the 2-year storm event. Stormwater models were created using the HydroCAD Version 7.10 computer program produced by HydroCAD Software Solutions, LLC. Stormwater conveyance calculations were performed using Worksheet #11 of the Pennsylvania Erosion and Sediment Pollution Control (E&S) Program Manual. Analysis of rates and flows at each point of interest (POI) were completed to meet CG 1 Requirements. National Oceanic Atmospheric Administration (NOAA) Atlas 14 rainfall intensities were used in the calculations. See Appendix A for calculations and results.

##### Drainage Area Summary:

The proposed Compressor Station 605 will be located at a highpoint that drains into two primary drainage areas that are sub-drainage areas of the South Branch of Tunkhannock Creek watershed. Drainage Area A and Drainage Area B comprise a single larger drainage with a combined POI located at POI B. However, they were analyzed separately to demonstrate that there will be no increase in discharge from the site into the existing roadside swale. The Ultimate Point of Interest is located to the south of the site and is shown on the Aerial Location Map and USGS Location Map in this narrative. The peak rate discharges for the sub-drainage areas have been analyzed to demonstrate that there will be no increase in runoff from the site for the 1, 2, 5, 10, 25, 50 and 100 24 hour year storm events. A list of the POIs is given below:

POI A: POI A will drain to an existing roadside swale west of the Site that will convey runoff south to a point of convergence with POI B.

POI B: POI B will drain to an existing roadside swale west of the Site where it will combine with the discharge from POI A. The flow will then be conveyed in the roadside swale to an unnamed tributary to South Branch Tunkhannock Creek and then to South Branch Tunkhannock Creek.

POI C: POI C drains to a convergence point east of the Site. Stormwater runoff will be conveyed from the convergence point, via existing waterways to an unnamed tributary to South Branch Tunkhannock Creek. The runoff will then travel along South Branch Tunkhannock Creek to the ultimate POI.

Overall POI: South Branch of Tunkhannock Creek (see Aerial Location Map and USGS Location Map)

Overall Site: Susquehanna River Watershed

### Volume Summary Table

WATERSHED	2- YR PRE (FT <sup>3</sup> )	2- YR POST (FT <sup>3</sup> )	2- YR VOLUME INCREASE (FT <sup>3</sup> )	2- YR STRUCTURAL AND NONSTRUCTURAL CREDITS (FT <sup>3</sup> )	DIFFERENCE (FT <sup>3</sup> )
<b>POI A&amp;B</b>	<b>90,777</b>	<b>119,448</b>	<b>28,671</b>	<b>29,523</b>	<b>852</b>
<b>POI C</b>	<b>47,187</b>	<b>56,392</b>	<b>9,206</b>	<b>9,211</b>	<b>5</b>

\*1% of the predevelopment watershed volume. See Appendix A for calculations.

To minimize runoff volume increases a number of non-structural BMP's were considered for the site. To minimize disturbance, the Site Limit of Disturbance was reduced to the minimum needed to construct the facility and associated pipeline. When feasible, gravel cover was used in lieu of pavement to minimize impervious cover. Finally, amended soils are proposed to manage stormwater runoff volume and quality. As a result of these BMP's, some, but not all of the 2 year, 24-hr stormwater volume increase was managed. Therefore, structural BMP's were evaluated for further stormwater volume reduction.

Multiple structural volume reduction BMP's were evaluated to determine if CG1 volume control guidelines could be met. During evaluation of the site, it was discovered the majority of the site has seasonal high groundwater and bedrock elevations which are less than 24" from existing grade. As a result, no excavation or construction of infiltration BMP's is feasible, with exception of the area within Infiltration Basin #1. Vegetative roofs and water reuse BMP's are impractical due to the nature of the use including operation and maintenance concerns

The individual POI's utilize the PCSM BMPs listed below to meet the structural volume requirement, as well as the water quality requirement:

- POI A&B: The 2-year volume increase has been addressed via Infiltration Basin 1 **and soil amendments**. Water quality has been addressed with an infiltration basin, rain gardens, vegetated swales and street sweeping.
- POI C: The 2-year volume increase has been addressed via soil amendments. Water quality has been addressed with raingardens, landscape restoration, and street sweeping.

### Runoff Rate Summary Table

STORM EVENT	DRAINAGE AREA A			DRAINAGE AREA B			DRAINAGE AREA C		
	PRE (CFS)	POST (CFS)	REDUCTION (CFS)	PRE (CFS)	POST (CFS)	REDUCTION (CFS)	PRE (CFS)	POST (CFS)	REDUCTION (CFS)
1-yr	29.35	23.63	5.72	40.28	38.56	1.72	79.31	77.39	1.92
2-yr	46.03	36.93	9.10	64.64	61.32	3.32	127.17	124.09	3.08
5-yr	72.83	58.08	14.75	103.55	97.80	5.75	204.67	199.72	4.95
10-yr	97.39	77.38	20.01	139.39	131.90	7.49	276.36	269.68	6.68
25-yr	137.66	109.19	28.47	198.32	187.12	11.20	394.44	384.90	9.54
50-yr	175.94	139.31	36.63	254.47	239.62	14.85	507.32	495.05	12.27
100-yr	220.71	174.50	46.21	320.23	301.18	19.05	639.80	624.36	15.54

\*See Appendix A.1 for Pre-Development Calculations with Mapping and Appendix A.2 for Post Development Calculations with Mapping.

#### Act 167 Summary

The Site is not located within a current, PADEP approved Act 167 Stormwater Management Watershed Plan. Therefore, the Site has been designed to be consistent with CG 1 requirements.

#### **1.5 Surface Water Classification**

The PCSM/SR drawings in Section 3 of the ESCGP-2 NOI depict the locations of the streams and wetlands in and near the LOD for the Site. The Site area surface water runoff drains to South Branch Tunkhannock Creek, which is not a High Quality (HQ) or Exceptional Value (EV) stream. The receiving waters are designated as Cold Water Fishery (CWF) under PA Code 25 Chapter 93. The Site watershed is not listed as impaired in the PADEP Integrated List.

## 1.6 BMP Description Narrative

The structural PCSM BMPs listed below are to be used for this Site. The calculations used to design the PCSM BMPs are included in Appendix A. The locations of the PCSM BMPs are shown on the PCSM/SR Plans and Detail Sheets (Section 3 of the ESCGP-2 NOI).

Infiltration Basin: An infiltration basin with a total volume of approximately 25,482 cubic feet will be utilized to infiltrate post construction stormwater runoff and provide runoff rate control.

Raingardens: Multiple raingardens will be utilized to provide the required pollutant reduction.

Permanent Vegetated Channels: Vegetated Channels may be temporary or permanent. Channels may be designed to convey clean water around disturbed areas or may be designed to convey sediment-laden water to sediment removal BMPs. Upon Site stabilization, temporary channels shall be removed along with any unsuitable material, and the area restored or converted to final grades. Permanent channels will remain in place and be part of the final PCSM design.

Street Sweeping: Street sweeping will be performed to remove larger debris materials and smaller particle pollutants, preventing the material from clogging the storm water management system and washing into receiving waterways/waterbodies.

Soil Amendment and Restoration: Soil amendments shall be installed where indicated on the plan after construction in order to restore soil porosity and enhance long term infiltration and water quality. Approximately **7.30** acres will receive soil amendments.

Reduce Parking Impervious Area: Impervious parking areas will be minimized to the maximum extent practicable. Overflow parking will be on gravel areas. This BMP is not proposed to account for any pollutant removal or volume reduction requirements over and above those of the infiltration basin.

Landscape Restoration: Landscape restoration shall be installed after construction is complete to improve water quality and treat stormwater runoff.

## 1.7 BMP Installation Sequence Narrative

1. At least 7 days prior to starting any earth disturbance activities, including clearing and grubbing, the owner and/or operator shall invite all contractors, Environmental Inspectors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the local conservation district to an on-site preconstruction meeting.
2. At least 3 days prior to starting any earth disturbance activities, or expanding into an area previously unmarked, the Pennsylvania One Call System Inc. shall be notified at 1-800-242-1776 for the location of existing underground utilities.
3. Hold pre-construction conference with the Environmental Inspectors, local County Conservation District (CCD), PADEP, and Design Engineer.
4. Install orange construction fence around areas to be protected.
5. Locate staging areas and access points including construction entrances. Field locate limits of disturbance.
6. Install rock construction entrances (RCEs).
7. Remove brush to effectively install perimeter controls, level side cuts to grant access for vehicles and workers to safely perform the installation of sediment barriers on the Site as shown on the construction drawings.
8. The Compliance Manager shall provide PADEP and CCD at least three days' notice prior to bulk earth disturbance and upon completed installation of perimeter erosion controls.
9. **\* Install sediment basin #1, including clay core, antiseep collars, slope liners, cleanout stake, and associated improvements. Minimize the use of heavy construction equipment within the basin bottom to avoid compaction of soil.**
10. Install vegetated roadside swales including temporary swales within sediment basin #1, culverts and riprap outlet protection. Rough grade access roads. Install outfall from Rain Garden #1 (OS-3) and plug pipe.
11. **\* Install drainage channel aprons as soon as swale grading is complete.**

12. **\* Install Sediment Trap #1, including clay core, antiseep collars, slope liners, cleanout stake, and associated improvements.**
13. Begin construction staking for grading.
14. Begin grading and strip and stockpile topsoil within the area of improvements and install sediment barriers around stockpiles.
15. Upon temporary cessation of an earth disturbance activity or any stage of an activity where the cessation of earth disturbance activities will exceed four days, the Site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities. For an earth disturbance activity or any stage of an activity to be considered temporarily stabilized, the disturbed areas shall be covered with one of the following: A minimum uniform coverage of mulch and seed, with a density capable of resisting accelerated erosion and sedimentation, or an acceptable BMP which temporarily minimizes accelerated erosion and sedimentation. Temporary stabilization will not occur on active vehicular travel ways within the ROW. The on-Site environmental inspector will log daily activity within the LOD and notify the Contractor of areas requiring temporary stabilization (i.e., areas where work has ceased for at least four days).
16. Grade the compressor station pads, including stormwater runoff conveyance features as shown on the E&SC and PCSM/SR Plans (Sections 2 and 3 of the ESCGP-2 NOI). Install outfall pipe from rain garden #1 (OS-3) and seal pipe.
17. Immediately stabilize side slopes with erosion control matting when slopes are 3:1 or greater. See PCSM/SR Plans and Detail Sheets, as provided in Section 3 of the ESCGP-2 NOI, (patterns differ by slope category). Install rip rap slope stabilization where shown on the PCSM/SR Plans.
18. Establish final grade.
19. Surface Stabilization, apply permanent stabilization measures immediately to any disturbed areas where work has reached final grade.
20. Upon completion of all earthwork activities and permanent stabilization of all disturbed areas, the Owner and/or Operators shall contact the local CCD for an inspection prior to the removal/conversion of the E&SC BMPs.



21. **\* After all upslope disturbed areas are stabilized, install Rain Garden #1 and outfall pipe (OS-2). Remove plug from OS-3 and install orifice plate. Convert sediment basin #1 to proposed infiltration basin 1. Over excavate and install engineered soil within the bottom of the infiltration basin. Minimize the use of heavy construction equipment to avoid compaction of the soil. Install filter sock to protect basin bottom.**
22. **\* Install rain gardens #2 and #4. Convert sediment trap #1 to rain garden #3.**
23. **\* Install areas to receive soil amendments and landscape restoration where indicated on the plan.**
24. After finish grading and topsoil placement is completed, disturbed areas shall be fertilized, seeded, and mulched. Seed mixtures, fertilizer and mulch applications rates and dates shall conform to the tables provided on the PCSM/SR Plans and Detail Sheets (Section 3 of the ESCGP-2 NOI), land owner agreements and/or the ECP (Section 4 of the ESCGP-2 NOI).
25. After seeding, fertilizing and mulching is complete, install ECBs as required or ordered or on slopes of than 3:1 or greater.
26. After the Site is permanently stabilized and upon PADEP or local CCD and Owner approval of stabilization and re-vegetation, remove temporary erosion and sediment control measures and stabilize areas disturbed by removal.
27. **\* Complete Site stabilization, seed application, ECB installing in basin, and mulching.**
28. Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the Owner and/or Operators shall contact the local CCD for a final inspection.
29. Maintain E&SC BMPs until Site work is complete and uniform 70% perennial vegetative cover is established.
30. Remove and properly dispose/recycle E&SC BMPs. Remove orange construction fence. Repair and permanently stabilize areas disturbed during E&SC BMP removal upon establishment of uniform 70% vegetative cover.

**\* indicates a critical stage of PCSM installation to be observed by a licensed**



**professional or designee. Contractor to provide three working days' notice to Design Engineer.**

## **1.8 Supporting Calculations**

Supporting calculations are included in Appendix A.

## **1.9 Plan Drawings**

PCSM/SR Plans, including sensitive resource mapping, are included in Section 3 of the ESCGP-2 NOI.

## **1.10 Long Term Operation and Maintenance Schedule**

### **Monitoring**

Transco's personnel (Operations) will perform visual inspections on an annual basis after permit closure, by qualified personnel, trained and experienced in PCSM/SR, to ascertain that the BMPs are functioning and operating effectively to ensure Compressor Station 605 are causing no undue burden on the property owner or adjacent owners. Repairs of deficiencies will be initiated within ten business days of discovery.

### **Maintenance**

The Contractor will be responsible for the maintenance of the system during construction. After construction, the stormwater management facilities will be owned and maintained by Transco.

Where maintenance of the storm system after acceptance by the Owner will primarily consist of routine cleaning of accumulated sediment and debris by facility staff or private contractors, the specific maintenance steps and schedule are listed below:

#### **1. Infiltration Facility**

Inspect infiltration facility annually and inspect soil, repair eroded areas and remove litter and debris as needed. Inspect twice a year for sediment buildup, erosion and vegetative conditions. Remove and replace dead and diseased vegetation. Any litter, debris, sediment, vegetation, or other items removed during maintenance activities will be disposed of in a manner consistent with the ESCGP-2 requirements. Compaction of the basin bottom shall be prevented.

## 2. Vegetated Swales

Vegetated swales are to be inspected annually for sediment, build-up, erosion debris, and damage due to traffic. Ditches should be maintained to ensure that the specified design dimensions and vegetative lining are available at all times. No more than one-third of the shoot (grass leaf) shall be removed in any mowing. Grass height shall be maintained between 3 and 6 inches unless otherwise specified. Excess vegetation shall be removed from permanent channels to ensure sufficient channel capacity. Any litter, debris, sediment, vegetation, or other items removed during maintenance activities will be disposed of in a manner consistent with the ESCGP-2 requirements.

## 3. Soil Amendment and Restoration

Restrict vehicle access. Monitor water drawdown time in infiltration areas and scarify subsoils to a depth of 1' and replace amended soils if dewatering time increases to more than three days. Maintain Infiltration areas and vegetated swales as indicated on the PCSM/SR Plans.

## 4. Streep Sweeping

Visual inspection of driveways and parking areas for debris, sediment and general drainage conditions. one of the inspections must be performed after the last snow melts (typically in April). Perform street sweeping of these areas at the time of the inspections.

## 5. Reduce Parking Area Imperviousness

Gravel areas will be maintained in good condition and will not be paved without obtaining prior approval from the PADEP or the County Conservation District.

## 6. Annual Records of Maintenance Procedures

The facility shall maintain a checklist whenever the storm system is inspected and cleaned. An annual list of inspections and major cleaning operations and repairs (pumping, sweeping parking lots, cleaning catch basin, etc.) shall be maintained. The local CCD or enforcement officials shall have access to those records.

## 7. Landscape Restoration

Seasonal mowing shall take place and areas shall be reseeded which need reestablished. First year: weeds shall be controlled by mowing to 4-6 inches once they reach 12 inches in height. Second/Third year: Weeds shall continue to be controlled. The meadow shall be mowed very close to the ground and the mowed material shall be removed.

## 8. ESCGP-2

The facility Owner and Operator shall ensure compliance with ESCGP-2 requirements by meeting all ongoing record, keeping maintenance, and other applicable ESCGP-2 and PADEP permit conditions.

### 1.11 Material Recycling and Disposal

Transco has prepared a Spill Plan for Oil and Hazardous Materials to assist in prevention of any spills that may occur at the Site and to respond to any spills that do occur. The Contractor will be required to become familiar with the Spill Plan for Oil and Hazardous Materials and its contents prior to commencing any construction-related activities. The Spill Plan for Oil and Hazardous Materials is included as Attachment 9 to the ECP provided as Section 4 of the ESCGP-2 NOI.

Contractors are required to inventory and manage their construction site materials. The goal is to be aware of the materials on-site; ensure they are properly maintained, used, and disposed of; and to make sure the materials are not exposed to stormwater.

#### ***Materials Covered***

The following materials or substances are expected to be present on-site during construction (Note: this list is not an all-inclusive list and the Materials Management Practices can be modified to address additional materials used on-site):

- Acids
- Detergents
- Fertilizers (nitrogen/phosphorus)
- Hydroseeding mixtures
- Petroleum based products
- Sanitary wastes
- Soil stabilization additives
- Solder
- Solvents

- Other

These materials must be stored as appropriate and shall not contact storm or non-stormwater discharges. Contractor shall provide a weather proof container to store chemicals or erodible substances that must be kept on the Site. Contractor is responsible for reading, maintaining, and making employees and subcontractors aware of safety data sheets (SDSs).

### ***Material Management Practices***

The following are material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

#### 1. Good Housekeeping Practices

The following good housekeeping practices will be followed on Site during construction:

- Store only enough material required to do the job.
- Store materials in a neat, orderly manner.
- Store chemicals in watertight containers or in a storage shed, under a roof, completely enclosed, with appropriate secondary containment to prevent spill or leakage. Drip pans shall be provided under dispensers.
- Substances will not be mixed with one another unless recommended by the Manufacturer.
- Manufacturer's recommendations for proper use and disposal will be followed.
- Inspections will be performed to ensure proper use and disposal of materials.
- Cover and berm loose stockpiled construction materials that are not actively being used (i.e. Soil, spoils, aggregate, etc.).
- Minimize exposure of construction materials to precipitation.
- Minimize the potential for off-site tracking of loose construction and landscape materials.

## 2. Hazardous Products

These practices will be used to reduce the risks associated with hazardous materials. SDSs for each substance with hazardous properties that is used on the job site(s) will be obtained and used for the proper management of potential wastes that may result from these products. A SDS will be posted in the immediate area where such product is stored and/or used and another copy of each SDS will be maintained in a file at the job site construction trailer office. Each employee, who must handle a substance with hazardous properties, will be instructed on the use of SDS and the specific information in the applicable SDS for the product he/she is using, particularly regarding spill control techniques.

- Products will be kept in original containers with the original labels in legible condition.
- Original labels and SDSs will be produced and used for each material.
- If surplus product must be disposed of, manufacturers or local/state/federal recommended methods for proper disposal will be followed.

## 3. Hazardous Wastes

All hazardous waste materials will be disposed of by the Contractor in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. Site personnel will be instructed.

## 4. Concrete and Other Wash Waters

Prevent disposal of rinse, wash waters, or materials on impervious or pervious surfaces, into streams, wetlands or other water bodies.

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the Site, but only in either (1) specifically designated diked areas which have been prepared to prevent contact between the concrete and/or washout and soil and stormwater having the potential to be discharged from the Site; or (2) in locations where waste concrete can be poured into forms to make riprap or other useful concrete products.

The hardened residue from the concrete washout diked areas will be disposed of in the same manner as other non-hazardous construction waste materials or may be broken up and used on the Site as deemed appropriate by the Contractor and

Owner or Owner's representative. The Contractor will be responsible for seeing that these procedures are followed.

All concrete washout areas will be located in an area where the likelihood of the area contributing to stormwater discharge is negligible. If required, additional E&SC BMPs must be implemented to prevent concrete wastes from contributing to stormwater discharges. The location of the concrete washout area(s) must be identified, by the Contractor/Job Site Superintendent, on the job site copy of the E&SC Plans (Section 2 of the ESCGP-2 NOI) and in the E&SC Narrative.

#### 5. Sanitary Wastes

All sanitary waste units will be located in an area where the likelihood of the unit contributing to stormwater discharges is negligible. Additional E&SC BMPs must be implemented, such as containment trays (provided by the rental company) or special containment created with 2" x 4" lumber, impervious plastic, and gravel. The location of the sanitary waste units must be identified on the job site copy of the E&SC Plans (Section 2 of the ESCGP-2 NOI), in the E&SC Narrative, by the Contractor/Job Site Superintendent.

#### 6. Solid and Construction Wastes

All waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will comply with all local and state solid waste management regulations. The dumpster/container lids shall be closed at the end of every business day and during rain events. Appropriate measures shall be taken to prevent discharges from waste disposal containers to the receiving water.

#### 7. Construction Access

A stabilized construction exit will be provided to help reduce vehicle tracking of sediments. The paved roads adjacent to the Site entrance will be inspected daily and swept as necessary to remove any excess mud, dirt, or rock tracked from the Site. Dump trucks hauling material from the construction site will be covered with a tarpaulin as necessary.

#### 8. Petroleum Products

On-site vehicles will be monitored for leaks and receive regular preventative maintenance. Petroleum products will be stored in tightly sealed containers which are clearly labeled. Petroleum storage tanks on-site will have a dike or berm

containment structure constructed around it to contain spills which may occur (containment volume to be 110% of volume stored). The dike or bermed area shall be lined with an impervious material such as a heavy duty plastic sheet. Drip pans shall be provided for all dispensers. Any asphalt substances used on the Site will be applied according to the manufacturer's recommendations.

#### 9. Fertilizers and Landscape Materials

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to minimize the potential for exposure to stormwater. Storage will be under cover. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to minimize the potential for spills. The bin shall be labeled appropriately.

Contain stockpiled materials, such as but not limited to, mulches, top soil, rocks and gravel, and decomposed granite, when they are not actively being used.

Apply erodible landscape material at quantities and application rates according to the manufacturer's recommendations or based on written specifications by knowledgeable and experienced field personnel. Discontinue the application of any erodible landscape material within two days prior to a forecasted rain event or during periods of precipitation.

#### 10. Paints, Paint Solvents and Cleaning Solvents

Containers will be tightly sealed and stored when not in use. Excess paint and solvents will be properly disposed of according to the manufacturer's recommendations or local, state, and/or federal regulations.

#### 11. Contaminated Soils

Any contaminated soils (resulting from spills of materials with hazardous properties) which may result from construction activities will be contained and cleaned up immediately in accordance with applicable local, state and federal regulations.

### 1.12 Soil Conditions and Geologic Formations

There are no naturally occurring geologic formations or soils on-site are expected that may have the potential to cause pollution during earth disturbance activities. See E&SC

Detail Sheets (Section 2 of the ESCGP-2 NOI) for Acid-Producing Soils and Bedrock Control Plan should any unexpected acid runoff producing soils be encountered.

### **1.13 Thermal Impacts**

Thermal impacts associated with CPL North, CPL South, and Associated Facilities will be avoided to the maximum extent practicable. The following provisions related to thermal impacts are included in the E&SC Plan within Section 2 of the ESCGP-2 NOI:

- The minimum permanent changes in land cover, necessary to construct the required facilities are being proposed.
- Runoff from the permanent impervious areas will be collected as part of the Post Construction Stormwater Management/Site Restoration (PCSM/SR) Plan and routed to PCSM/SR BMPs. In addition, impervious areas will be gravel instead of asphalt wherever practical.
- PCSM/SR BMPs incorporate the use of infiltration facilities such as basins, vegetated swales, and raingardens.
- The removal of vegetation, especially tree cover, will be limited to only that necessary for construction.
- The amount of impervious surfaces will be limited to only that necessary to support the construction of CPL North, CPL South, and Associated Facilities and/or operation of the pipeline.
- The impacts to existing riparian corridors will be limited to only that necessary for construction.

### **1.14 Riparian Forest Buffer Management Plan**

There are no regulated riparian buffers within the Site area.

### **1.15 Antidegradation Requirements**

The Site is not located in a special protection or siltation impaired watershed; therefore, no antidegradation analysis is necessary.

### **1.16 Preparedness Prevention and Contingency Plan**



See Attachment 9 of the ECP within Section 4 of the ESCGP-2 NOI for the Preparedness Prevention and Contingency Plan provided.