Transcontinental Gas Pipe Line Company, LLC

Clean Water Act Section 401 Upland Certification Request

Pittsylvania County

Southeast Supply Enhancement Project

Virginia

June 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

API	American Petroleum Institute
ATWS	additional temporary workspace
BMP	best management practice
CFR	Code of Federal Regulations
DWR	Virginia's Department of Wildlife Resources
EMD	electric motor-driven
E&S	Erosion and sedimentation control
FERC	Federal Energy Regulatory Commission
HDD	horizontal directional drill(ing)
HP	horsepower
K factor	Erodibility factor
LOD	Limits of Disturbance
MLV	mainline valves
Project	Southeast Supply Enhancement Project
PWS	Public Water Supply
ROW	right-of-way
SHWT	Seasonally High Water Table
Transco	Transcontinental Gas Pipe Line Company, LLC
Transco Plan	Project-specific Upland Erosion Control, Revegetation, and Maintenance Plan
Transco Procedures	Project-specific Wetland and Waterbody Construction and Mitigation Procedures
TMDL	Total Maximum Daily Load
USDOT	U.S. Department of Transportation
VA	Virginia
VADCR	Virginia's Department of Cultural Resources
VADEQ	Virginia's Department of Environmental Quality
VADGMR	Virginia's Department of Geology and Mineral Resources
VESMA	Virginia Erosion and Stormwater Management Act
VPDES	VA Pollutant Discharge Elimination System
Williams	The Williams Companies, Inc.

1 PROJECT INFORMATION

Transcontinental Gas Pipe Line Company, LLC (Transco[1]) is proposing to construct the Southeast Supply Enhancement Project (SSE or Project). The Project is an expansion of Transco's existing natural gas transmission system designed to enable Transco to reliably provide additional natural gas to major local distribution and utility companies in Virginia and throughout the southeast to meet the growing demand for natural gas in the southeast United States. The Project is regulated by the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act. Transco began public outreach for the Project in November 2023 to educate and build relationships with stakeholders and communities. On October 29, 2024 Transco filed a request for authorization from FERC under Sections 7(b) and 7(c) of the Natural Gas Act for appropriate abandonment and a Certificate of Public Convenience and Necessity (Certificate) to construct, own, operate, and maintain the proposed Project facilities (FERC Docket No. CP25-10).2 In addition to the Certificate, the Project will require several additional permits, authorizations and approvals to construct or operate the Project facilities.

- The purpose of this application package (Application) is to request from VADEQ the Additional Upland Conditions for Water Quality Certification[2]. Additionally, under separate cover, Transco is concurrently requesting: Individual Permit from the U.S. Army Corps of Engineers (USACE or Corps) Norfolk District for wetland and waterbody impacts under Section 404 of the Clean Water Act (CWA);
- 401 Water Quality Certification (WQC) from the Virginia Department of Environmental Quality (VADEQ); and
- Request for authorization to rely on a Virginia Marine Resources Commission (VMRC) General Permit for Utility Line Encroachments Beneath or Over State-Owned Subaqueous Beds for the utility crossings associated with the Banister and Sandy River crossings[3].

Pre-application meetings regarding this Application and other state applications were held between representatives of Transco and the USACE Norfolk District and VADEQ between March

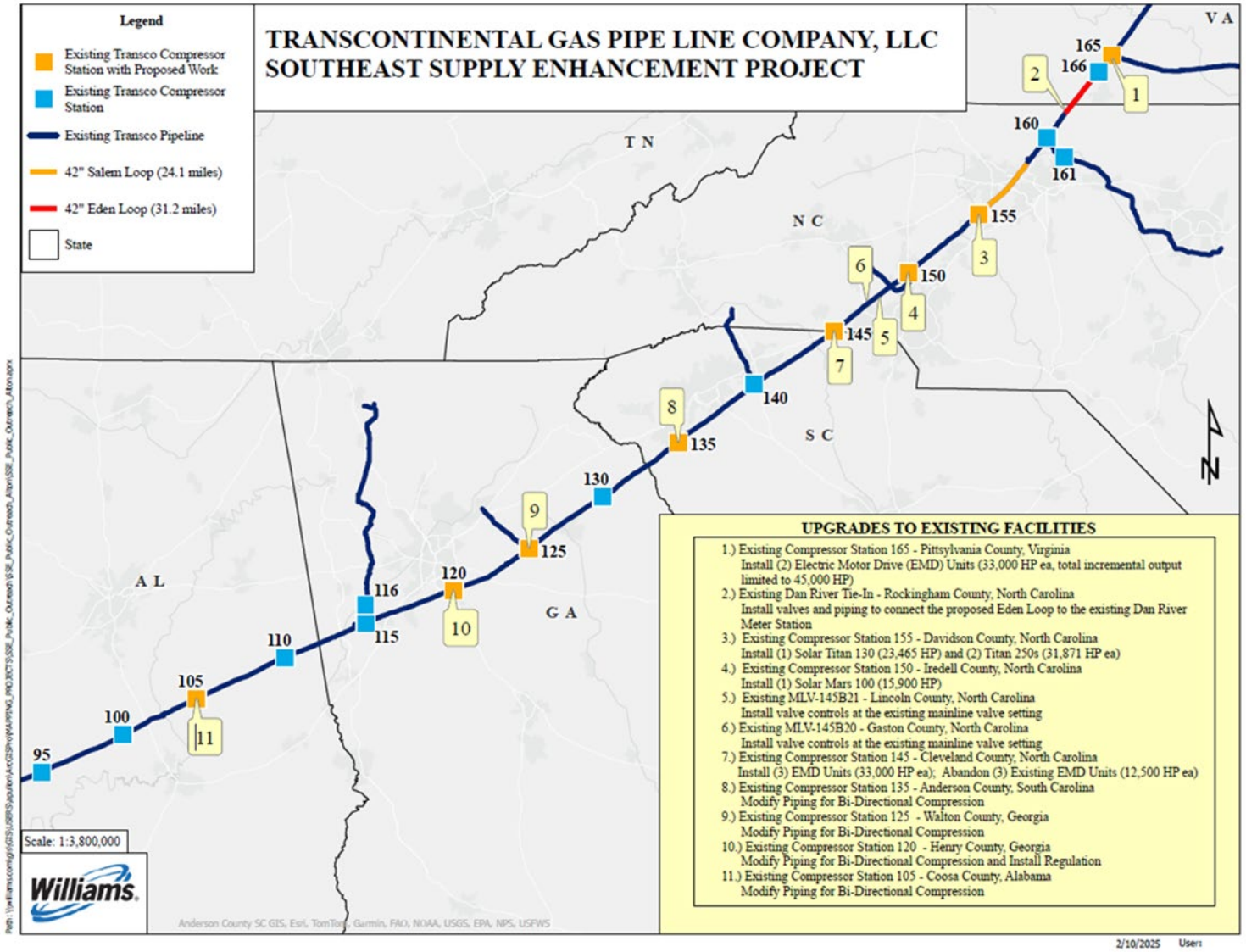
[1] Transco is an indirect, wholly owned subsidiary of The Williams Companies, Inc. (Williams)

[2] In accordance with Article 2.6 § 62.1-44.15:80 in the Code of Virginia

[3] *See* 4 VAC 20-1410.

2024 and May 2025. On February 14, 2025, Transco requested a 401 WQC and Upland 401 pre-filing meeting with VADEQ which was held on February 20, 2025. A Project overview map depicting the overall Project components is provided in Figure 1.1 below.

Figure 1: Southeast Supply Enhancement Project Overall Map



1.1 PROJECT DESCRIPTION

The Virginia components of the Southeast Supply Enhancement Project included in this application are outlined below:

Pipeline Facilities

- Approximately 26.8 miles of the 42-inch-diameter Eden Loop pipeline in Pittsylvania County, Virginia.

Compression Facilities

- The addition of two [33,000 horsepower (HP) each] electric motor-driven (EMD) compressor units at Transco's existing Compressor Station 165 located in Pittsylvania County, Virginia. Compressor Station 165 will be limited to a total incremental output of 45,000 HP, thereby increasing the total certificated station output to 96,930 HP;

The use of existing, improved, and new access roads, and contractor yards will also be required for the Project. Additional ancillary facilities and piping, such as mainline valves (MLVs), cathodic protection, communication facilities, and internal inspection devices (e.g., pig launchers and receivers) will be necessary to support the Project.

Transco has designed the workspace at Compressor Station 165 to avoid crossings of wetlands or waterbodies. A section of the Eden loop extends into Compressor Station 165 limits of disturbance and includes stream and wetland crossings. Those impacts are accounted for in this Application associated with Eden Loop.

1.1.1 Project Schedule

Subject to FERC's certification of the Project and receipt of other necessary permits and authorizations, Transco anticipates construction of the Project would commence in March 2026 to meet a proposed partial in-service date for the pipeline components in December 2026 with a full Project proposed in service date of November 1, 2027.

1.2 GENERAL CONSTRUCTION INFORMATION

Transco will use conventional techniques for buried pipeline construction to ensure safe, stable, reliable transmission facilities consistent with FERC and U.S. Department of Transportation (USDOT) specifications. Transco proposed a 100-foot-wide construction right-of-way (ROW) or limit of disturbance, for the Eden Loop 42-inch pipelines. This includes 65 feet on

the working side, which includes the travel lane, and 35 feet on the spoils side. The proposed 100-foot-wide construction ROW is consistent with the Interstate Natural Gas Association of America's (INGAA's) recommendations for pipelines with diameters of 42 inches. INGAA recommends a ROW width of 125 feet for a 42-inch pipeline. Transco safely designed the construction ROW with a 100-foot construction ROW to minimize and avoid disturbances where practicable. Transco is proposing to collocate the proposed Project within or adjacent to the existing Transco Mainline System to the extent practicable. Approximately 91.5 percent of Eden Loop in Virginia is collocated with existing ROWs. This collocation design will help reduce the overall operational footprint of the Project, minimizing new disturbances to the extent practicable.

Additional temporary workspace (ATWS) outside the standard 100-foot construction ROW will be required at or near roads, railroad, wetland, waterbody, and agricultural land crossings, cathodic protection, and in areas where specialized construction techniques are required (e.g., on steep slopes). The ATWS will be limited to the minimum amount necessary to safely perform construction and be protective of the environment based on site specific conditions. Typical cross sections 13-22 in Attachment 1 illustrate an example of how ATWS can be used during construction. Upon completion of the Project, ATWS areas will be restored to pre-construction conditions as outlined in Transco's Plan and Procedures (Attachment 2). ATWS will typically be set back 50 feet from the waterbody bank, where practicable. Exceptions to ATWS the 50-foot setbacks may be required when there is limited work area between features such as wetlands, waterbodies, and roads; when additional area is needed for temporary spoil storage to avoid sensitive areas, or because excavated soils are poorly consolidated; or to accommodate the additional workspace required for specialized construction techniques.

Transco will use temporary contractor yards for temporary contractor field offices, parking, equipment/pipe/material storage, equipment turn-arounds, and pipe preparation/field assembly areas. The contractor yards will be located at various points in the vicinity of the Project, and in locations with convenient and safe access to the Project components.

Temporary access roads and permanent access roads are necessary to construct and operate the Project facilities. Transco will utilize existing and new roads to access Project workspaces where possible. Temporary access roads will be used during the Project's construction phase and restored to pre-construction conditions following Project completion. Permanent access roads used during construction will be maintained for the life of the respective facility. Temporary access roads will have a typical width of up to 30 feet to provide adequate

space for equipment and safe travel, with additional width as needed to support site-specific requirements. Permanent access roads will have a typical width of up to 12 feet, with additional width (up to 30 feet wide) as needed to support site-specific requirements.

There are 6.6 miles of access roads along the Eden Loop in Virginia including one new permanent access road (PAR), 55 feet in length, designated as PAR-VA-MAIN-1405-2 providing permanent access to a mainline valve. There are no stream or wetland impacts associated with this permanent access road. The remaining access roads are temporary and will be restored to pre-existing conditions as specified below and in the Erosion and Sediment Control (E&S) and Stormwater Management (SWM) Plans submitted separately in connection with the VADEQ Additional Upland Conditions for Water Quality Certification.

There are four types of access roads:

- Type 1 – Existing Gravel Road to be maintained. No widening proposed. No best management practices (BMPs) proposed.
- Type 2 – Existing Gravel Road to be widened and then restored to pre-construction width and conditions upon restoration. Perimeter BMPs near wetlands and streams proposed.
- Type 3 – New Temporary Gravel Road to be restored to pre-construction conditions upon restoration. Perimeter BMPs proposed for entire road length.
- Type 4 – Existing Paved Road. No maintenance or BMPs proposed.

The following excerpt from the E&S plans describes the Construction Sequence for Restoration of Type 2 and Type 3 Access Roads:

1. Remove gravel to pre-construction width and condition. Heavy vehicular and foot traffic shall be kept out of all restored pervious area after construction.
2. Spread a minimum of 6-inches of approved compost across the surface and incorporate into the soil using a rototiller, tiller, or subsoiler to a depth of 12-inches. Compost shall be incorporated during dry conditions.
3. Permanent seeding or sodding shall follow immediately upon completion of soil restoration.

The construction ROW width was reduced to 75 feet at wetland and waterbody crossings to the extent practicable. Specialized construction techniques will be utilized in sensitive resource areas where stream and wetland impacts are proposed on the Eden Loop. Limited areas along

Eden Loop where Transco determined more than 75 feet of workspace is required in a stream or wetland are listed with detailed justifications in Attachment 12 of the JPA, submitted under separate cover. Additionally, Transco will utilize Transco's Plan and Procedures, Virginia approved erosion and sedimentation control plans and stormwater plans, which include best management practices including but not limited to topsoil segregation and matted travel lanes when crossing wetlands and crossing streams via dry-open cut methods and trenchless technologies. Streams or wetlands on access roads will be matted or bridged to minimize impacts.

Aboveground facilities associated with the project include Compressor Station 165 and mainline valves (MLV). MLV facilities are installed along pipelines to isolate gas flows. There are two proposed MLVs in Virginia which are located along the permanent ROW. Pig launchers/ receivers and communication equipment are often located at the MLVs. Transco designs aboveground facilities to ensure safe, stable, and reliable transmission facilities in accordance with FERC and US DOT requirements. The aboveground facilities will be cleared of vegetation, graded, and compacted, as necessary, to create level surfaces for the movement of construction vehicles on the sites and to prepare the areas for construction. Transco will install appropriate erosion and sediment controls around disturbed areas prior to the start of facility construction to minimize the potential for erosion and the potential for impacts on off-site wetlands and waterbodies.

Areas disturbed by construction that are not part of the permanent aboveground facilities will be restored following the completion of construction activities as required by applicable agency requirements. ROWs will be restored to approximate pre-construction contours; however, permanent ROWs will be maintained in an herbaceous state for the operational life of the pipeline.

1.3 PROJECT LOCATION

Transco's Compressor Station 165 is located within Transco Village, Pittsylvania County, Virginia (36.834228° N, -79.336743° W). The Virginia portion of the Eden Loop starts at milepost (MP) 1386.90 in Pittsylvania County, Virginia (36.541636° N, -79.633178° W) and ends at Compression Station 165. A vicinity map of the location and boundary of the proposed Project area is enclosed within Attachment 3. The topography is provided in United States Geological Survey Quad excerpt in Attachment 4. The portion of the proposed Project subject to VADEQ review is solely within Pittsylvania County.

2 SENSITIVE UPLAND AREAS

Transco has taken care to identify and plan for sensitive areas in and around the Project. The following information describes these areas and additional information can be found in the Geohazard Report included as (Attachment 5).

2.1 STEEP SLOPES

Understanding the Project's topography is critical to managing the stormwater appropriately and minimizing environmental impacts. The presence of steep slopes and water infiltration above these areas can lead to landslides and slope failures (VADEQ, 2025).

Landslide hazards can be assessed in two different ways:

- Incidence: Areas where landslides have occurred in the past.
- Susceptibility: Areas with soils and rock with a high probability of responding with land failure if exposed to undercutting, loading or high precipitation.

Susceptibility to landslides and incidence of landslides are rated from low (less than 1.5% of area affected), to moderate (1.5 -15% of area affected), to high (more than 15% of the area affected).

As a result of a desktop review (Godt, 2000), the Applicant has identified an area of high susceptibility/moderate incidence from MP 1401.73 to 1413.76 and an area of moderate susceptibility/low incidence from MP 1382.53 and 1401.73. In addition, Compressor Station 165 is considered as a moderate susceptibility/low incidence area.

In addition, steep slopes and steep side slopes are defined as instances where the pipeline runs parallel to the slope. These locations were identified using two-foot contours that were created utilizing LiDAR survey data. These locations are shown in Attachment 6 and in the Geohazard Report in Attachment 5.

The Project pipelines are proposed to cross minimal amounts of steep slopes and steep side slopes exceeding 30 percent. A 30% slope is inclined at about 17 degrees from the horizontal, which is approximately the same as 3 horizontal to 1 vertical (3:1). Slopes inclined at 30% and flatter are generally not a concern from a stability standpoint. Transco will construct in such areas in accordance with its Upland Erosion Control, Vegetation and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures, commonly referred to as Transco's Plan and Procedures (Attachment 2). Furthermore, there has not been a history of

landslides along Transco's existing operational corridor. For all these reasons, Transco anticipates that risk of landslides is minimal.

2.2 KARST GEOLOGY

Karst is a landform produced by the dissolution of soluble bedrock along fractures, faults, and boundaries between different rock layers. Karst is frequently characterized by landscape features such as sinkholes, sinking and losing streams, swallets, caves and springs. Karst areas develop voids and connective channels as water slowly dissolves the bedrock. In these cases, groundwater flow can be extremely unpredictable and accelerate the formation of sinkholes. Sediment-laden or pollutant-laden runoff can percolate into the karst bedrock aquifers rapidly degrading the groundwater resources in the area (VADEQ, 2025).

The Virginia Cave Protection Act helps protect karst resources, which ensures the identification, protection of sensitive karst areas, the rare species and natural communities associated with these features, and clean water supply for everyone (VDCR, 2025).

The Applicant evaluated the potential for karst topography within the Project area through review of available information from Virginia's Department of Geology and Mineral Resources (VADGMR). The risk for karst formation is unlikely due to the absence of soluble rock units within the bedrock formations stratigraphy in the Project's alignment. The Newark Supergroup formation is the only local formation that possesses carbonate type rock, as shown in Attachment 7. However, the formation is a conglomerate of mixed rock types, reducing the likelihood of karst development. There are no documented sinkholes or surface depressions in the vicinity of the proposed SSE alignment, based on VADGMR mapping.

Based on desktop assessments performed by the Applicant, Transco does not anticipate significant impacts due to karst topography along the proposed Project pipelines or aboveground facilities.

2.3 PROXIMITY TO SENSITIVE STREAMS AND WETLANDS

There are no sensitive wetlands or waterbodies designated by Virginia's Department of Cultural Resources (DCR) or Virginia's Department of Wildlife Resources (DWR) intersecting the Project area. Regardless, Transco has designed the E&S and Stormwater Management (SWM) Plans to minimize impacts to streams and wetlands crossed by or adjacent to the Project.

2.3.1 Perennial streams within 50 feet of the Limits of Disturbance

The location of all perennial streams within 50 feet of the limits of disturbance (LOD) and their water designation is provided in Attachment 8. This comprehensive list also includes the perennial streams that will be crossed via horizontal directional drilling (HDD) to avoid any impacts to these resources. No streams crossed by the Project are considered stockable (Class V) or natural (Class VI) trout streams[4].

2.3.2 Endangered/Threatened Species Waters

The Dan River and Cascade Creek are crossed by the Project via HDD in North Carolina. Per ongoing coordination with Virginia's Department of Wildlife Resources (DWR), the Dan River is a Threatened and Endangered Water due to the presence of Federally- and State-Threatened Atlantic Pigtoe, Federally-Proposed Threatened and State-Threatened Green Floater and Federally-and State-Endangered James Spinymussel. Cascade Creek is a Threatened and Endangered Water due to the presence of Federally-Endangered Roanoke Logperch. In Virginia, the Project crosses tributaries of the Dan River. These crossings are located more than a mile upstream from their confluence with the Dan River and Transco has designed the Project to avoid and minimize impacts to these resources where practicable.

2.3.3 Public Water Supplies

A desktop review did not identify potable water intake sources within 3 miles downstream of the Project waterbody crossings to date[5]. Transco would implement mitigation measures specified in the Transco Plan and Procedures, to minimize any potential impact on public water supply intakes. However, the Project crosses several streams designated by VADEQ as Public Water Supply (PWS) waters. The PWS streams are identified in the Impact Table within Attachment 20 of the JPA, submitted under separate cover. In addition, private water supply wells located within 150 feet of the proposed workspace were identified through desktop analysis, civil and environmental surveys, and consultation with the landowners. A list of these wells is provided in Table 2.1.

[4] https://apps.deq.virginia.gov/EDM/ (Accessed on February 25, 2025)

[5] https://geopub.epa.gov/dwwidgetapp/ (Accessed on March 5, 2025)

Table 2.1: Private Water Supply Wells

Facility/Nearest MP	Use Type	Distance from Workspace(ft)	Direction from Project
1386.07	Private	100.27	West
1393.46	Private	32.10	West
1393.49	Private	103.08	West
1396.10	Private	129.82	West
1396.46	Private	111.93	West
1396.59	Private	23.12	West
1398.01	Private	142.92	West
1402.07	Private	122.31	West
1402.24	Private	50.99	West
1402.61	Private	119.75	West
1402.64	Private	25.62	West
1408.53	Private	49.45	West
1408.63	Private	96.53	West
1408.65	Private	118.58	West
1408.65	Private	131.47	West
1408.67	Private	86.60	East
CS 165	Private	Within Transco's existing Station	Within Transco's existing Station

2.3.4 Tier 3 Streams

No Exceptional State Waters (Tier III) are identified within the Project area[6].

2.3.5 TMDL Waters

Table 2.4 below identifies the impaired waterbodies crossed by the Project, per Virginia's 303(d) list[7]. Waters that are not attaining water quality standards are often referred to as

[6] https://law.lis.virginia.gov/admincode/title9/agency25/chapter260/Section30/ (Accessed May 24, 2025)

[7] https://apps.deq.virginia.gov/EDM/ (Accessed March 10, 2025)

"impaired" waters. The EPA electronic system for accessing information about the health and status of the Nation's surface waters, Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS) and the Virginia 2024 Water Quality Assessment Guidance Manual use five categories ("Category 4" having three EPA subcategories) to help prioritize and characterize the water quality of each assessment unit. Category 4 waters are those where one or more designated uses are impaired or threatened but establishment of a Total Maximum Daily Load (TMDL) is not required. In Category 4A, a TMDL is not required because the state-developed TMDL has already been approved by EPA or a TMDL has been established by EPA for any water-pollutant combination. Category 5 lists waterbodies where TMDLs need to be developed by the state and would be included in the state's 303(d) list. No Category 5 waterbodies are crossed by the Project in Virginia.

Table 2.2: Impaired Waterbodies

Resource Name	Resource ID	Nearest MP	303(d) Category	Pollutant
Sandy Creek	L006-VA	1400.10	4A	Escherichia Coli
White Oak Creek	L009-VA	1402.80	4A	Escherichia Coli
Little Cherrystone Creek	L121-VA	1412.30	4A	Escherichia Coli

2.4 SEASONAL HIGH-WATER TABLE

The location of a seasonal high-water table (SHWT) is considered for the design of stormwater management (SWM) BMPs. In addition, SHWT can affect nutrient management plans and crop management (USDA, 2025).

Soils with a SHWT have characteristics such as high shrink/swell potential, high compressibility, low bearing strength, and shallow water tables that may result in poor drainage, building settlement or unstable slopes (Fairfax County, 2025). Therefore, the SHWT should be determined by direct observation of soil morphology and observed groundwater levels by a qualified professional for each BMP (VADEQ, 2025).

The Applicant performed a Geotech study at Compressor Station 165 and at the two MLV locations along the pipeline, where in-ground SWM BMPs are proposed to ensure the adequate design of these BMPs, per Virginia's Stormwater Management Handbook requirement. The results are provided within Attachment 9. No SHWT was present at any of the testing pits.

SHWTs may be encountered along the ROW during pipeline or facility construction. BMPs from the VA SWM Handbook, including but not limited to; deck matting, compost filter socks, dewatering into dewatering structures or filter bags will be implemented as needed to address SHWTs.

2.5 WATER IMPOUNDMENTS STRUCTURES AND RESERVOIRS

There are no water impoundment structures or reservoirs within the Project areas or downstream of the Project. Therefore, the Applicant does not anticipate impacts to impoundments or reservoirs.

2.6 ERODIBLE SOILS, LOW PH, AND ACID FORMING MATERIALS

2.6.1 Erodible Soils

Soil types can be classified as erosion-resistant or easily erodible. Erosion-resistant soils present an erodibility factor (K factor) greater than or equal to 0.37, a high clay content and high plasticity. Easily erodible soils present a K factor less than 0.37, a high content of sand or silt and low plasticity (VADEQ 2025).

Clearing of vegetation, grading, and equipment movement during construction can accelerate the erosion process and, without adequate protection, result in the transportation of soils into adjacent wetlands and waterbodies. In addition, accelerated erosion can reduce soil fertility and revegetation potential.

Knowing the location of areas with easily erodible soils can help determine the most suitable construction and post-construction SWM BMPs and erosion and sedimentation control measures. Transco's E&S and SWM Plans considered the soil erodibility when designing BMPs for the project. Locations where easily erodible soils are present is provided in Attachment 10.

2.6.2 Low pH

Soils with pH that is too high or too low can lead to a deficiency of many nutrients, decline in microbial activity, decrease in vegetation growth and deterioration of soil health. In addition, low pH or acidic soils can cause problems like accelerated corrosion of metals and concrete, weakening foundations, and impacting the durability of structures.

To prevent damage to the proposed pipe due to corrosion, a cathodic protection system will be installed for new facilities as well as tie-in to existing ground beds where possible. Cathodic

protection systems consist of a sacrificial metal that will corrode instead of the pipeline preventing damage to the pipe due to corrosion and ensuring the pipeline integrity and safety.

2.6.3 Acid Sulfate Soils

Acid sulfate soils form when sulfide-containing geologic materials are excavated from below the land surface and are exposed to the atmosphere during construction, land drainage, dredge disposal, or other significant land-disturbing activities. When these soils become exposed due to land disturbing activities, they can oxidize to produce highly problematic soil and local water quality conditions. The resulting material is highly acidic (pH<3.5), and it is often associated with acidic, metal-laden runoff or seepage to groundwater (VADEQ, 2025). Exposure of sulfidic materials presents a number of impacts including the increase of acidity of affected waterbodies, impairments to water quality and aquatic life, or effects on plant growth and revegetation.

A desktop review of available online data was performed to assess the potential of sulfidic materials, the results are provided within Attachment 11. As provided in FERC Resource Report 6: Geological Resources[8], sulfidic materials, including pyrite, are commonly found in coastal, marsh, and brackish lake sediment areas due to their marine formative environment. Pyritic soil can also form from the weathering of underlying pyritic bedrock, which is an acid producing rock (Bryant et al., 2003). Since the Project is not located within any area underlain by pyritic bedrock, the risk for encountering acid sulfate soils is low.

Transco does not anticipate encountering acid sulfate soils during construction. However, if a coal or acid producing rock is encountered, Transco will identify the approximate percent sulfur and develop mitigation measures, which may include:

- Segregating the top 12 inches of topsoil or the total depth of soil to the top on an acid producing layer in the trench.
- Segregating the acid-producing rock or soil from the trench separately from other soil stockpiles.
- Placing a cover of sand or other clean material over the pipeline to minimize the potential for corrosion.

[8] https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20241029-5078

- Mixing acid-producing rock or subsoil averaging more than 0.5 percent sulfur with a neutralizing material such as limestone, quick lime, or hydrated lime prior to replacement within the trench.
- Utilizing clay or a geosynthetic clay liner to create a layer of low permeability above the acid producing rock to reduce contact with oxygen.

In addition, the length of time that acid producing rock or soils, if encountered, are stockpiled will be minimized to reduce the likelihood of iron sulfide mineral oxidation and production of sulfuric acid.

3 PROPOSED CONSTRUCTION ACTIVITIES AND MITIGATION MEASURES

The following information is a brief description of the proposed construction activities in the above-described sensitive upland areas along with additional mitigation measures that the Applicant will implement to prevent any discharge from these activities to state waters as required by Virginia General Assembly (§ 62.1-44.15:80). The E&S and SW plans for Eden Loop in Virginia and the E&S & SW Plans for Compressor Station 165 are being submitted under separate covers. These plans contain specific design and locations for temporary and permanent BMPs.

3.1 EROSION AND SEDIMENT CONTROL

Temporary erosion and sediment control measures will be installed along the construction LOD to mitigate construction effects, in accordance with Transco's Plan and Procedures (Attachment 2) and Virginia's Stormwater Management Handbook[9], and Transco's Standards & Specifications and Standard Details (Attachment 12). As designated on the E&S and SWM plans, Transco will install Phase I BMPs at the time of initial ground disturbance, Phase II BMPs will be installed as construction progresses. As required, sediment barriers will be installed across the entire ROW at the base of slopes greater than 5% where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing to stop the flow of sediments. This is intended to prevent the deposition of sediments beyond approved workspaces or into sensitive resources.

[9] Virginia Stormwater Management Handbook Version 1.1: https://online.encodeplus.com/regs/deq-va/index.aspx

3.2 CLEARING AND GRADING

Tree clearing will be conducted either by hand or by mechanized equipment. When felling trees by hand, all tree removal activities will be carried out exclusively through hand felling methods, ensuring that no mechanized equipment is employed during the felling process.

Transco will use mechanized equipment for clearing and grubbing, to facilitate the Installation of Phase 1 E&S Controls (Minimum Standard 4). Following the completion of non-mechanized tree felling, Transco will initiate the process of tree removal, clearing, and grubbing in a manner that supports installation of Phase 1 erosion and sediment controls. At a minimum, Phase I E&S controls will be installed by the end of each workday, or sooner, if a rain event is eminent. These activities will be conducted systematically along the linear Project alignment, as work progresses, to limit the potential for erosion and sediment transport. These operations will be closely coordinated with Transco environmental inspectors. Trees or stumps may be chipped onsite and spread across the ROW within upland areas in a manner that does not inhibit revegetation or result in a discharge into a waterbody or wetland.

At least one foot of topsoil will be segregated, to be used in restoration. In areas with less than one foot of topsoil, the entire topsoil layer will be segregated. Topsoil piles will be stabilized with the use of sediment barriers, mulch, temporary seeding, tackifiers or other functional equivalents where necessary. The construction corridor will be graded where necessary, to create a level workspace to allow for safe construction conditions.

Temporary waterbars will be installed to reduce runoff velocity and divert water away from the construction ROW. Trench plugs will be installed following pipe lowering in activities to segment a continuous open trench prior to backfill. These will reduce trenchline erosion and minimize the volume and velocity of trench water flow at the base of the slopes and prevents a french drain effect in resource areas.

Transco will seed and stabilize the ROW after pipe installation (except in agricultural land). These measures will minimize erosion of disturbed soils and prevent the transportation of sediment outside of the construction ROWs and into environmentally sensitive areas such as wetlands and waterbodies.

All equipment will be parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. These activities can occur closer if

the Environmental Inspector determines there is no reasonable alternatives, and appropriate steps have been taken to prevent spills and provide for prompt cleanup in the event of a spill.

3.3 TEMPORARY ACCESS ROADS AND TRAVEL LANES

Where possible, access roads will be located in existing travel ways. The Applicant will return these roads to pre-construction conditions when no longer needed. See Section 1.2 General Construction Information for details about the 4 types of access roads and the corresponding restoration plans.

If a travel lane is left open temporarily to allow construction traffic, temporary erosion control structures will be installed following Transco Plan and Procedures (Attachment 2) and Virginia's Stormwater Management Handbook.

3.4 PIPE STRINGING

Stringing operations involve moving pipe Sections into position along the prepared ROW. Pipe will be delivered to the Project's contractor yards, typically by truck. It will then be trucked to approved construction workspaces. Individual joints of pipe will be strung along the ROW parallel to the centerline and arranged so they are easily accessible to construction personnel. The amount of pipe necessary for waterbody or road crossings will typically be stockpiled in the approved ATWS near each crossing.

3.5 PIPE BENDING

Bending of the pipe will be required to allow the pipeline to follow natural topographic grade changes and direction changes of the ROW. For this purpose, prior to line-up and welding, selected joints will be field-bent by track-mounted hydraulic bending machines. For larger horizontal changes of direction, manufactured induction bends may be used.

3.6 PIPE ASSEMBLY AND WELDING

Following stringing and bending, the joints of pipe will be placed on temporary supports adjacent to the trench. The ends will be carefully aligned and welded together using multiple passes for a full penetration weld. Bending, welding, and coating in the field will comply with USDOT regulations (49 CFR Part 192).

3.7 X-RAY AND WELD REPAIR

To confirm that the assembled pipe meets or exceeds the design strength requirements and to ensure weld quality and integrity, the welds will be inspected visually and tested non-destructively using radiographic (X-ray) or another approved test method, in accordance with American Petroleum Institute (API) Standards. Welds displaying inclusions (void spaces) or other defects will be repaired or cut out (removed) and new welds will be installed and retested.

3.8 COATING FIELD WELDS, INSPECTION, AND REPAIR

Following welding, the previously uncoated ends of the pipe at the joints will be field coated with an approved anti-corrosion coating. Prior to lowering the pipe into the trench, the coating on the entire pipe Section will be inspected and damaged areas repaired.

3.9 TRENCHING

Generally, the trench will be approximately 14 to 24 inches wider than the depth of the pipe, depending upon the nature of the substrate, with sufficient depth to allow for the minimum cover requirements to the top of the pipeline, in accordance with USDOT regulations pursuant to the Natural Gas Pipeline Safety Act of 1968.Transco will install the pipeline with a minimum of 36 inches of cover, except where bedrock prevents this depth.

In order to prevent sediment discharges, or silt-laden water into any waterbody, all spoils will be placed in the construction ROW at least 10 feet from the water's edge or in an ATWS area and sediment barriers will be installed.

3.10 TRENCH DEWATERING

Trench dewatering is required for the removal of stormwater or infiltrated water in areas of shallow groundwater or saturated wetlands. The water will be pumped from the trench to a location downgradient of the trench and in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into a waterbody or wetland. The water will be discharged to an energy dissipation dewatering device, such as a hay bale structure or a filter bag. Silt-laden water must first pass through a filter bag. The dewatering structure will be removed as soon as possible after completion of the dewatering activities. Pumps will be placed in secondary containment structures. Additional information is provided within the details of the E&S Plans, submitted under separate cover.

3.11 BLASTING

If rock removal cannot be accomplished with mechanized equipment, blasting procedures followed by backhoe excavation will be implemented. Blasting procedures will be performed according to strict guidelines designed to control energy release and minimize potential effects and impacts on sensitive, special, or impaired waterbodies and wetlands. Proper safeguards will be taken to protect people and property in the area of blasting. Transco's Blasting Plan (Attachment 13) establishes procedures and safety measures to which Transco's contractor will be required to adhere while conducting blasting activities along the pipeline ROWs during the Project. Mats made of heavy steel mesh or other materials will be used, as necessary, to prevent scattering of rock and debris. Sand and/or gravel from off-site will be utilized for packing of blast charges in all areas requiring blasting, including wetlands and waterbodies. While performing blasting activities, Transco will adhere to regulations applicable to controlled blasting and blast vibration limits with regard to structures and underground utilities. Special care will be taken to monitor and assess blasting within 150 feet of dwellings and private or public water supply wells. Excess rock that cannot be clearly reused for beneficial reuse would be hauled off to an approved disposal site.

3.12 PIPE PREPARATION AND LOWERING-IN

Once the pipeline has been welded together, coated, and inspected, the pipe will be lowered into the trench. If the bottom of the trench is rocky, methods to protect the pipe will be used, including sandbags or support pillows at designated intervals along the trench. Trench dewatering may be required in certain locations to prevent the pipe from floating and to allow certain limited activities to be performed in the trench. The trench will be dewatered following the method described in Section 3.10 and in a manner that does not cause erosion and does not result in silt-laden water flowing into a waterbody. The dewatering structures will be removed as soon as practicable after the completion of dewatering activities.

3.13 TIE-INS

At select locations, such as terrain changes along the pipeline, the pipe will be lowered into the trench in segments. The segments will then be welded together or tied-in prior to backfilling. A crew will be assigned to make these tie-ins at designated locations ahead of the backfill operations.

3.14 PADDING, BACKFILLING, AND GRADE RESTORATION

After the pipe is lowered into the trench, the trench will be backfilled. Backfill usually consists of the material originally excavated from the trench; however, in some cases, additional backfill from other sources may be required. Prior to backfilling, the pipe will be padded to prevent rock material mixing with subsoil from making direct contact with the pipeline. Once the pipeline is adequately protected with screened subsoil, conventional backfilling operations will occur. Excess excavated materials or materials unsuitable for backfill will be handled as approved by the applicable agency or disposed of in accordance with applicable regulations. In areas where topsoil has been segregated, the subsoil will be placed in the trench second, and then the topsoil will be placed over the subsoil. Backfilling will occur to approximate grade; however, a soil crown may be placed above the trench to accommodate future soil settlement.

3.15 HYDROSTATIC TESTING

The pipeline will be hydrostatically tested in accordance with USDOT regulations, 49 CFR Part 192. The pipeline will be filled with water and maintained at a test pressure for a duration of eight hours in compliance with Transco's engineering standards and applicable federal regulations. Only municipal water sources for the hydrostatic pressure tests will be used for the hydrostatic testing.

The Applicant, although exempt from submitting a registration statement[10], will discharge directly to state waters following the procedure described below, and in accordance with the Virginia Pollutant Discharge Elimination System (VPDES) General Permit Regulation for Discharges from Groundwater Remediation of Contaminated Sites, Dewatering Activities of Contaminated Sites, and Hydrostatic Tests (9VAC25-120-60).

After the completion of a satisfactory test, test water may be discharged directly back to surface waters through a weir tank and diffuser to reduce velocity, and discharge hoses fitted

[10] In accordance with 9VAC25-120-70. Registration statement, owners of water storage tanks, pipelines, or distribution system component are authorized to discharge wastewater from hydrostatic testing directly to state waters under VPDES General Permit Regulation for Discharges from Groundwater Remediation of Contaminated Sites, Dewatering Activities of Contaminated Sites, and Hydrostatic Tests immediately upon the permit's effective date of March 1, 2023. However, the Applicant shall notify the department's regional office in writing within 14 days of the completion of the discharge.

upward at a 90-degree angle to dissipate the remaining energy. Discharged waters can also be dispersed by a splash plate and filtered through straw bales or equivalent to minimize erosion and sedimentation. The use of well-vegetated upland areas as the final discharge point will provide additional filtering, as well as an impediment to accelerated erosion. Discharge rates will be adjusted as necessary to slow runoff rates and promote infiltration. Additional information is provided within the details of the E&S Plans, submitted under separate cover.

3.16 CLEAN-UP AND RESTORATION

The Applicant will restore the construction workspace in accordance with Transco's Plan and Procedures (Attachment 2). Cleanup operations will begin immediately following backfilling the pipe, or as soon as reasonably possible thereafter. Final grading, topsoil replacement, and installation of permanent erosion control structures will be completed within 20 days of backfilling the trench, and within 10 days in residential areas, or as soon as reasonably possible thereafter. Upon setting final grade, completion of work, and topsoil replacement, stabilization shall be applied to denuded areas within 7 days. Permanent erosion control measures include site-specific contouring, slope breakers, mulching, and reseeding to establish soil-holding vegetation. If seasonal, other weather conditions or other construction conditions prevent compliance with these timeframes, temporary erosion control measures will be maintained until the cleanup is completed. The topsoil and subsoil will be tested for compaction at regular intervals in disturbed agricultural and residential areas. Where necessary, soil compaction mitigation measures will be implemented.

In order to successfully restore and revegetate the work areas and minimize sedimentation into adjacent wetlands and waterbodies, fertilizer and lime will be applied in areas of poor revegetation potential as needed and in accordance with applicable requirements. However, Transco will not use soil additives or fertilizers within wetlands or near waterbodies, unless required by regulatory agencies.

3.17 PIPE INSTALLATION IN STEEP/SIDE SLOPES

To address concerns related to slope stability and construction on steep/side slopes in areas characterized with high to moderate incidents of landslides, the Applicant has developed the Transco Plan and Procedures to manage and control erosion, surface water, and slope stability. The Project will also comply will all applicable federal and state requirements during the construction and post-construction phases. In addition, the Applicant is also following the special

construction methods described below at these locations. Typical cross Sections for these methods are provided in Attachment 1.

Steep Slopes: In areas where slope exceeds 30%, or on lesser slopes where dictated by soils, geologic hazards, and other conditions, the construction equipment must be adequately stabilized for safety prior to operation. The preferred method will be “winching” the equipment. This process consists of placing and anchoring a piece of equipment at the top of the slope and using a winch to manipulate the construction equipment up and down the slope. Temporary trench breakers consisting of sandbags or foam will be installed in the ditch over and around the pipe in areas of slope with high erosion potential. Trench breakers also will be used to isolate wet areas and to minimize channeling of groundwater along the ditch line.

Steep Side Slopes: In areas of side slopes, the upslope side of the pipeline ROW will require the “two-tone” construction technique to provide safe working conditions. In the two-tone construction technique, the uphill side of the construction ROW is cut during grading. The material removed from the cut is used to fill the downhill side of the construction ROW to provide a safe, level surface for operating heavy equipment. The pipeline trench is then excavated along the newly graded ROW. The two-tone construction technique will require ATWS for staging of additional fill material that will be needed to create a level working surface. Following pipeline installation and backfilling of the trench, excavated material is placed back in the cut and compacted to restore the approximate original surface contours.

In addition, trench breakers will be installed at the base of slopes greater than 5% where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland. Temporary slope breakers every 300 feet on slopes between 5-15%, every 200 ft on more than 15%-30% slopes, and every 100 feet on slopes over 30%. The outfall will be positioned to prevent any sediment discharge into wetlands, waterbodies or other sensitive areas.

To ensure the integrity of existing adjacent pipelines on steep and side slopes, Transco will implement safety measures that may include installation of safety fencing, sheet piles, and padding/matting.

3.18 TRENCHLESS PIPE INSTALLATION

The Applicant is proposing to cross Sandy River and Banister River using HDD methods. HDD methods are typically used to install a pipeline in areas where traditional open-cut excavations are not feasible and/or practical due to sensitive resource areas or logistical reasons such as waterbodies and wetlands or existing infrastructures including roads and railroads. The HDD method allows for trenchless construction across an area by drilling and enlarging a hole below the conventional pipeline depth and pulling the pipeline through the pre-drilled hole. Initially, a small diameter pilot hole is drilled along a prescribed underground path. The path of the pilot hole is monitored using a steering tool position near the bit. This pilot hole is then enlarged to a diameter that will accommodate the future pipe which can involve one or multiple reaming passes depending on the size of the prospective line. In soft soils, the drilling process is done by hydraulic excavation where the soil is displaced by a high-velocity stream of drilling fluid. In firmer soils, excavation is achieved through mechanical cutting by the drill bit. The reaming tool is usually custom made depending on the type of soil and hole size. They generally consist of a circular array of cutters outfit with drilling fluid jets. At the final stage the pipeline is pulled into the previously enlarged hole. Water-based drilling fluid is used throughout the entire HDD process to assist the transport of the drilled soil reduce friction and stabilize the hole (PRCI, 2024).

Transco has developed this Horizontal Directional Drill Monitoring, Inadvertent Return Response, and Contingency Plan (Attachment 14) to establish procedures for handling these inherent risks and to address potential impacts associated with inadvertent releases of drilling fluid returns during the HDD process. This Plan identifies operational procedures and responsibilities for abandoning HDD drill holes and the prevention, containment, and clean-up of drilling fluids that have pooled on the ground surface or within a wetland or waterbody in response to an inadvertent release of drilling fluid during HDD operations

4 ADDITIONAL UPLAND 401 CERTIFICATION INFORMATION

4.1 PROTECTIVE MEASURES FOR IMPACTS ASSOCIATED WITH HYDROTESTING AND DUST CONTROL ACTIVITIES

In compliance with PHMSA/USDOT requirements, the new pipeline segments will be hydrostatically pressure-tested before they are placed into service. Transco will only use municipal water sources for the hydrostatic pressure-tests in Virginia. Transco will follow all the requirements associated with the Virginia Pollutant Discharge Elimination System (VPDES)

General Permit Regulation for Discharges from Groundwater Remediation of Contaminated Sites, Dewatering Activities of Contaminated Sites, and Hydrostatic Tests (9VAC25-120-60) including effluent monitoring as mentioned above.

Transco has prepared a Fugitive Dust Control Plan (Attachment 15) in order to minimize any potential impacts due to fugitive dust from construction-related activities, worker commuter vehicles on paved and unpaved roads, and wind erosion of disturbed areas prior vegetation.

In Virginia, Transco anticipates using municipal water sources to support dust control measures, which may also include water for wash stations and hydroseeding where necessary.

4.2 PROTECTION OF RIPARIAN BUFFERS DURING CONSTRUCTION

The Applicant proposes to collocate the pipeline within or adjacent to the existing Transco Mainline System to the extent practicable reducing the overall operational footprint of the Project and avoiding and minimizing impact on adjacent landowners, natural resources including streams and wetlands, and cultural resources. Where this collocation occurs, the Applicant plans to overlap the construction ROWs with existing Transco maintained ROW to minimize new disturbance to the extent practicable. The pipeline requires a permanent operational footprint that is 50 feet wide, 25 feet on either side of the pipe, which is typical for a FERC-regulated project. When collocating with Transco's existing maintained ROW, Transco will generally allow the two inside 25-foot-maintained ROWs to overlap, reducing the permanent footprint of the Project. This is depicted graphically in Attachment 21A of the JPA, submitted under separate cover.

Where possible, Transco will cross streams as perpendicular to the axis of the waterbody channel as engineering and routing conditions permit in order to minimize temporary impacts to the extent possible. As required by FERC, Transco will also limit the width of the construction ROW to 75 feet to avoid additional impacts to wetlands and waterbodies where practicable.

To minimize potential adverse effects at stream and wetland crossings, the Applicant also proposes implementing Transco's Plan and Procedures (Attachment 2) during the construction, post-construction restoration, and operation of the Project to ensure that construction activities will be performed in accordance with applicable federal and applicable state permit requirements.

4.3 SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN

Transco has developed a Spill Prevention Control and Countermeasure (SPCC) Plan that describes measures to prevent and control inadvertent spills of hazardous materials that could

affect water quality. A copy of the SPCC Plan is provided within Attachment 16. In Addition to the SPCC Plan, Transco has developed and will implement and maintain a Stormwater Pollution Prevention Plan (SWPPP).

4.4 ONSITE ENVIRONMENTAL MONITORING AND INSPECTION MEASURES DURING CONSTRUCTION

To ensure quality assurance and compliance with mitigation measures and other applicable regulatory requirements, Transco will assign a Chief Inspector to each construction spread. The Chief Inspector will be supported by one or more craft inspectors and an Environmental Compliance Manager. In addition, a Lead Environmental Inspector will supervise a team of Environmental Inspectors. The Environmental Inspectors will report directly to Transco's Construction Manager and will have stop work authority. The Environmental Inspectors' duties are consistent with those contained in paragraph III.B, Responsibilities of the Environmental Inspector, of the Transco Plan (Attachment 2) and include ensuring Project compliance with environmental conditions associated with the FERC Certificate, Transco's environmental designs and specifications, and environmental conditions attached to other permits or authorizations. In addition, the Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the permits and approvals, and landowner easement agreements, and to order the appropriate corrective action. Prior to construction, Project Environmental Inspectors and the contractor's supervisory personnel will receive copies of the Project permits, compliance documents and the construction drawings.

Inspections to ensure the maintenance of temporary erosion control measures will be performed at least:

- On a daily basis in areas of active construction or equipment operation
- A minimum of once a week in areas with no construction or equipment operation, and
- Within 24 hours of each 0.25-inch of rainfall

Transco will also conduct safety and specialized training for its Environmental Inspectors and general environmental awareness training for other company construction personnel and contractors regarding proper field implementation of the Transco Plan and Transco Procedures, regulatory conditions, and other mitigation measures. Transco's Operation and Maintenance Plan will include copies of pertinent permits, with particular reference to long-term permit conditions that require training.

4.5 PERMANENT OPERATIONAL ROW MAINTENANCE MEASURES RELEVANT TO MINIMIZING EROSION OR OTHER WATER QUALITY IMPACTS

Permanent erosion controls, including water bars, trench breakers and vegetative cover, will be used in upland areas to minimize long-term sedimentation in wetlands. In addition, trench plugs will be installed in upland slopes adjacent to wetlands and on either side of the waterbody to prevent trench erosion and subsurface drainage along the pipeline that could modify the hydrology of the resource.

Transco will ensure successful revegetation of soils disturbed by Project-related activities. In order to ensure the success of revegetation, inspections will be conducted after the first and second growing seasons, at a minimum. Revegetation efforts will continue until revegetation is successful. Revegetation will be considered successful when the density and cover of non-nuisance vegetation are similar to adjacent undisturbed lands.

Restoration will be considered successful when the ROW surface condition is similar to adjacent undisturbed lands, construction debris is removed, revegetation is successful, and proper drainage has been restored.

Operational activity on the pipeline will be limited primarily to maintenance of the permanent ROW and inspection, repair and cleaning of the pipeline, as required by FERC regulations. Regular patrols will provide information on possible leaks, third-party construction activities, erosion, exposed pipe, possible encroachment and other potential problems that may affect the safe operation of the pipeline.

In general, maintaining a mowed and maintained ROW is necessary for accessing the routine pipeline patrols and corrosion surveys, or in the event of emergency repairs, but also for visibility during aerial patrols or to serve as a visual indicator to the public of an underground pipeline utility and easement. During operations of the Project, a 10-foot wide herbaceous corridor centered over the pipeline will be maintained within the riparian buffer to facilitate periodic surveys and repairs. In wetlands, maintenance will be limited to the 10-foot-wide corridor centered over the pipelines to facilitate patrols and emergency access. Transco will selectively cut and remove trees within wetlands that are larger than 15 feet in height and located within 15 feet of the pipeline as their roots could compromise the integrity of the pipeline coating. The Applicant will not use herbicides or pesticides within 100 feet of a wetland or waterbody unless approved by applicable regulatory agencies.

As part of the regular ROW patrols, all permanent stormwater devices installed during construction will be inspected to confirm that they function properly. In addition, attention will be given to:

- Stormwater BMP inspection
- Erosion and washout along the ROW
- Soil movement in steep slope areas
- Condition of banks of drainage ditch crossings
- Fallen timber and other potential threats to the pipeline.
- Vegetation

Transco has also submitted a set of standard and specifications to VADEQ for the construction, installation, operation and maintenance of natural gas transmission facilities including pipelines, compressor stations, and associated equipment and facilities to conduct land-disturbing activities in a manner that will be consistent with the requirements of the Virginia Erosion and Stormwater Management Act (VESMA), Virginia Erosion and Stormwater Management Regulation, and the General VPDES Permit for Discharges of Stormwater from Construction Activities (Construction General Permit).

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