



Transcontinental Gas Pipe Line Company, LLC

**Requirement L-2, Environmental Assessment
Module S1 – Project Summary**

**Regional Energy Access Expansion Project
Regional Energy Lateral and Existing Compressor Station 515**

April 2021

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MODULE S1

PROJECT SUMMARY

Transcontinental Gas Pipe Line Company, LLC (Transco), a subsidiary of The Williams Companies, Inc. is submitting an application to the Pennsylvania Department of Environmental Protection (PADEP) for Project related impacts to Waters of the United States subject to jurisdiction under Section 404 of the Clean Water Act and subject to PA Code Title 25 Chapter 105. The following provides an overall summary of the Regional Energy Access Expansion Project – Regional Energy Lateral and Existing Compressor Station 515 located in Luzerne County.

S1.A Project Description

Transco is proposing the Regional Energy Access Expansion Project (Project). The Project is an expansion of Transco's existing natural gas transmission system and an extension of Transco's system. The Project is an expansion of Transco's existing natural gas transmission system that will enable Transco to provide an incremental 829,400 dekatherms per day (Dth/d) of year-round firm transportation capacity from the Marcellus Shale production area in northeastern Pennsylvania (PA) to multiple delivery points along Transco's Leidy Line in PA, Transco's mainline at the Station 210 Zone 6 Pooling Point¹ in Mercer County, New Jersey (NJ) and multiple delivery points in Transco's Zone 6 in NJ, PA, and Maryland (MD).

The Regional Energy Lateral component of the Project consists of approximately 22.3 miles of new 30-inch-diameter lateral pipeline in Luzerne County, PA. Transco developed the proposed alignment of the Regional Energy Lateral to collocate with Transco's existing Leidy system to the extent practicable in an attempt to minimize overall impacts. Where feasible, Regional Energy Lateral will be collocated with the existing Transco Leidy Line A between MPs 0.00 and 22.32, with a nominal offset of 25 feet from the existing pipeline. In areas where collocation with Leidy Line A was not feasible, Transco also sought to maximize collocation with other existing utility corridors.

¹ A pooling point defines the aggregation of gas from multiple physical and/or virtual receipt points to a single physical or virtual point, and the disaggregation of gas from a single physical or virtual point to multiple physical and/or virtual delivery points.

The Regional Energy Lateral begins at Existing Compressor Station 515 in Buck Township and continues westward to its terminus at Transco's existing Hildebrandt Interconnect in Dallas Township. Transco will be installing four mainline valves with appurtenant equipment, as a means to isolate gas flows along the Regional Energy Lateral. The mainline valve sites at each pipeline terminus (MLV515RA10 at Station 515 and MLV515RA40 at the Hildebrandt Tie-In) will also have pig traps (industry term for manifolds that launch or receive in-line inspection tools). The other two valve sites are proposed along the pipeline route (MLV515RA20 at Milepost 7.5 and MLV515RA30 at Milepost 14.8). Modifications at three existing pipeline interconnects are proposed to tie-in the proposed pipeline to the existing facilities. The Carverton Tie-In is located at Milepost 16.8. The Lower Demunds Tie-In is located at Milepost 22.3 and also includes a +/- 400-ft segment of 20-in pipeline to connect to the existing facility. The Hildebrandt Tie-In is located at the Regional Energy Lateral pipeline terminus and includes MLV515RA40. Aboveground facilities associated with the Regional Energy Lateral are further described in Section B.2 below.

Cathodic protection equipment, including both deep and remote anode groundbeds, are proposed at three separate locations along the pipeline. Deep anode ground beds are proposed at Mileposts 7.5 and 19.8. One remote anode ground bed is proposed at Milepost 15.3. Two contractor yards are also proposed for use during construction, CY-LU-001 at Milepost 15.3 and CY-LU-002 is located at MP 10.5.

The Existing Compressor Station 515 component of the Project is located at the eastern terminus of the Regional Energy Lateral in Buck Township. Proposed at this facility is the addition of two gas-fired turbine driven compressor units with 63,742 nominal HP at ISO conditions and modification of three existing compressors to support the Project and to accommodate the abandonment and replacement of approximately 17,000 HP from five existing gas-fired reciprocating engine driven compressors and increase the certificated station compression by 46,742 HP. One offline contractor yard (CS 515 Laydown Yard) is proposed for use during construction.

S1.A.1 Project Counties and Phases

The Pennsylvania portion of the Project will take place within Bucks, Chester, Luzerne, Monroe, Northampton and York counties in Pennsylvania, as outlined in Figure 1. Chapter 105/Section 404 Joint Permit Applications will be submitted for impacts to waters of the Commonwealth for the Effort Loop within Monroe County and the Regional Energy

Lateral/Existing Compressor Station 515 within Luzerne County. The Project will not require earth disturbance in York county and will not impact waters of the Commonwealth in Bucks, Chester, or Northampton counties. The Project will not be completed in phases, as all Project components will be constructed to meet the target in-service date.

S1.A.1(i) Comprehensive Environmental Assessment

The proposed Project requires a Comprehensive Environmental Assessment (CEA) due to the Project being considered a large-scale Project located in multiple counties. As part of the CEA, Transco analyzed alternatives, impacts, mitigation and antidegradation for all structures and activities associated with the Project, including the cumulative impact of the Project and other existing and potential projects.

To meet the purpose and need of the Project, Transco determined the need for Project facilities including pipelines, compressor stations, meter and regulating stations. Transco determined that the Project would require the construction of the 30-inch-diameter Regional Energy Lateral and 42-inch-diameter Effort Loop. Transco designed the proposed pipeline routes to collocate with Transco's existing Leidy Line system to the extent practicable to minimize impacts. In some areas, residential development has occurred around the existing pipeline ROWs, constraining Transco's ability to construct the Regional Energy Lateral parallel to its existing system and other existing utilities. Transco considered various alternatives for the Regional Energy Lateral pipeline routes, where collocation to the existing Transco pipelines was not an option.

Transco evaluated alternatives to determine if the Project's purpose and need could be met while avoiding or minimizing potential adverse environmental impacts to the greatest extent practicable and be consistent with the guidelines as set forth in 18 Code of Federal Regulations 380.15 and 25 PA. Code § 105.13(e)(viii). Transco also considered stakeholder feedback from landowners and land management agencies when identifying and studying route alternatives. The Effort Loop is entirely collocated and additional route alternatives were not assessed. Several route alternatives were analyzed for the Regional Energy Lateral, as collocation of the existing Transco pipelines could not occur entirely due to various constraints identified during Project routing. The alternative routes compared various resource impacts, including streams and wetlands. These alternatives are discussed in more detail within the respective Joint Permit Application, as it relates to each Project component.

Overall Project impacts are discussed below in Section S1.A.1(iv). Only the Project components located in Luzerne and Monroe counties have resource impacts and permits for these impacts are proposed as outlined in S1A.1(iii). Module S3 within the Joint Permit Application for Luzerne and Monroe counties provides further detail on the Project impacts and also outlines impacts to threatened, endangered, or species of special concern are addressed. The Project is utilizing concurrent review with the Pennsylvania Natural Diversity Agencies (PNDA), therefore communication with each agency is ongoing.

Transco has sited the Project to avoid and minimize effects to wetland and watercourse to the greatest extent practicable while maintaining constructability and safety. Given the linear nature of the pipeline component of the Project, total avoidance of wetlands, watercourses, and floodways is not feasible and therefore installation of the proposed pipelines will result in temporary and permanent impacts to wetlands and watercourses. No permanent loss of wetlands is being proposed; however permanent and temporary functional conversion to PSS and PFO wetlands will be necessary at some locations. Transco implemented reductions or “neck-downs” of the construction right-of-way (ROW) at resource crossing to avoid and minimize resource impacts. At most wetland crossings, this workspace has been necked down to 75 feet. In a reduced 75-foot-wide ROW, the proposed working side of the ROW is typically 50 feet wide. Within the top of bank (TOB) of streams, a 50-foot-wide construction ROW will be used, and a 75-foot-wide construction ROW will be used in floodways, except where Transco has provided site-specific justification. The alternatives analysis for the Regional Energy Lateral and Existing Compressor Station 515 can be found in Requirement S of the permit application which describes in further detail the avoidance and minimization measures.

Mitigation for temporary and permanent functional conversion wetland impacts is proposed for the Project. The proposed wetland mitigation will involve onsite restoration/replanting of impacted PSS and PFO wetlands within the temporary workspace and offsite wetland mitigation, which will include enhancement of existing wetlands at offsite locations. Temporarily impacted forested riparian buffers will also be replanted. Plans for onsite and offsite mitigation, as it relates to wetlands and riparian buffers can be found within Module S4 of the Environmental Assessment.

The Project will implement the appropriate Chapter 102 Erosion and Sediment Control and Post Construction Stormwater Management BMP's as outlined in the permit applications. Antidegradation Best Available Combination of Technologies (ABACT) controls will be utilized in

special protection watersheds. Perimeter controls will be placed as designed along the Project to protect water quality and use of the surrounding areas. Disturbed areas will be stabilized with the appropriate seed and mulch/erosion control blanket as outlined in the plans. Stormwater management design will result in no net increase in the rate of stormwater runoff and minimize any increase in stormwater runoff volume through use of approved BMP's.

Resources identified in the Chapter 105 plans will also be protected during construction through the use of BMP's outlined in the Chapter 102 plans. Specific resource crossing plans (Susquehanna River) have been developed to address appropriate concerns as it relates to the crossing for the Regional Energy Lateral. Hydrostatic test water will either be hauled to an approved treatment facility or discharged on site per CWA Section 402 NPDES requirements. For those discharged on site, water sampling will be conducted to monitor the water quality, as outlined in the permit conditions.

Specific methods, means and equipment to be utilized to avoid, treat, control, manage or monitor potential discharges are outlined in Transco Plan and Procedures, Construction Spill Prevention and Response Procedures for Oil and Hazardous Materials, and Direct Pipe® Monitoring, Inadvertent Return Response, and Contingency, all of which are included with the Joint Permit Applications for each Project.

The cumulative effect of the Project will not result in the impairment of the Commonwealth's "Exceptional Value" and "Other" wetland resources. The wetland impacts will involve temporary disturbance while the pipeline is being installed, as the wetlands will be restored and stabilized upon final restoration. The wetland impacts are isolated to their disturbance area and do not extend beyond the Projects LOD. The Project has been collocated with Transco's existing gas pipeline system to the extent practicable, to avoid fragmentation and to minimize resource impacts. Construction BMPs, including erosion control devices and timber matting, to mitigate for soil compaction within the wetlands, will be utilized to minimize impacts throughout the Project. Transco will follow its Project specific Upland Erosion Control, Revegetation, and Maintenance Plan and its Project-Specific Wetland and Waterbody Construction and Mitigation procedures (Appendix S4-1), as well as other permit conditions outlined by the PADEP. The Regional Energy Access Expansion Project is a single and complete Project, with no foreseeable additional impacts to wetland resources of the Commonwealth of Pennsylvania, other than those proposed.

Transco has evaluated existing and potential projects permanently impacting each wetland resource associated with the Project. Transco identified past, present, and reasonably foreseeable actions and other human-related activities occurring in the vicinity of the Project, which may result in cumulative impacts when combined with the effects of the Project.

Existing permanent Project impacts to wetlands were considered. The majority of the proposed pipelines are collocated with existing Transco pipelines or existing utility corridors. These existing right-of-ways (ROW) were previously cleared with forested or scrub-shrub wetland communities being permanently converted to Palustrine Emergent (PEM) wetlands. Permanent loss of wetlands along the ROW from past projects is considered negligible due to the nature of the linear projects. The proposed Project will expand the functional conversion of some of these forested and scrub-shrub wetland resources; however, Transco minimized permanent functional conversion by proposing replanting within 5' of the proposed pipeline centerline.

The existing Transco pipelines and adjacent utility corridors are subject to routine maintenance in order to maintain safe and reliable energy transmission. The wetlands crossed by the existing ROW's are in many instances an extension of the same resource associated with the Project. These resources would only be temporarily impacted to conduct routine maintenance and are not further discussed due to not being considered permanent impacts.

A list of identified past, current, and reasonably foreseeable actions (federal, non-federal, and private) in the vicinity of the Project are identified in Table S1.A.1-1. With respect to other permanent wetland impacts from projects proposed by other entities. Transco reviewed publicly-available sources to identify actions requiring federal and/or state permits or authorizations, including the FERC's eLibrary of pending and approved major natural gas actions from 2018 to January 2020 (FERC 2021a), FERC-regulated hydropower (FERC 2021b), USACE Public Notices (USACE 2020a, 2020b) published between 2018 and 2020, and state-specific resources such as transportation improvement plans (PennDOT 2020) and public portals for state water quality permits (PADEP 2020). In addition, Transco contacted local county and municipal planning agencies for information regarding current and planned developments in the Project areas.

Table S1-A.1-1 list discusses the potential cumulative effects on resources that could result from the Project in conjunction with those actions identified. Figure 1.1-2 provides a map that shows the locations of those actions considered in the cumulative impacts analysis. Cumulative effects were considered relative to water quality and use, including effects on

groundwater, surface water, and wetlands. The assessment of cumulative water quality and use effects assumes that Project effects are minimized by the successful implementation of the environmental protection and mitigation measures. Reasonably foreseeable actions identified are subject to permit requirements like that of the Project, which will help to minimize and/or mitigate impacts.

**Table S1.A.1-1
Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
FERC-Jurisdictional Natural Gas Actions						
PennEast Pipeline Project (CP15-558-000, CP19-78-000, CP20-47-000)	Luzerne, Carbon, Bucks, Monroe, and Northampton, PA. Mercer and Hunterdon, NJ	Permitting - In Progress Phase I Construction Anticipated : January 2021 to September 2022; Phase II Construction Undetermined (duration estimated at 15 months)	Phase I includes 68 miles of 36-inch pipe, 31,800 HP compressor station, three receipt interconnects, and three delivery interconnects constructed entirely within PA. Phase II includes 46-miles of new greenfield pipeline and one new compressor station in NJ.	Crosses Regional Energy Lateral (closely parallel MP 2.0 to 6.3; MP 14.6 to 15.0; MP 17.3 to 17.8; MP 18.5 to 18.8; MP 22.1 to 22.3); 0.1-mile west of Carverton Interconnect & Tie-In; 0.1-mile east of Lower Demunds REL Tie-in; 0.1-mile south of Hildebrandt Interconnect & M&R; 5.7 miles southwest of Station 210 Pooling Point	1,588 acres	<u>Water Quality and Use:</u> 269 waterbody crossings and approximately 27 acres of wetland impact. Action will cross some of the same waterbodies as the Project; restoration is expected to be complete prior to construction start for the Project. Impacts to wetlands/waterbodies will be permitted by federal/state agencies; therefore, no significant cumulative impacts are anticipated.
Adelphia Gateway (CP18-46-000)	Northampton, Bucks, Montgomery, Chester, PA. New Castle, DE.	In Construction (May 2020 to October 2021)	Conversion of 84 miles of existing pipeline to natural gas pipeline; 5 miles of new pipeline laterals, two new compressor stations, existing and new meter stations, and other appurtenant facilities.	0.1-mile west of Delaware River Regulators Facility; 0.2-mile east of Compressor Station 200;	42 acres	<u>Water Quality and Use:</u> Minimal waterbody (2) and wetland (1 acre) crossings due to use of existing pipeline. No cumulative effects to water quality and use are anticipated.
Other Natural Gas Facility Actions						
Sunoco Mariner East II	Chester and Delaware, PA (and other PA counties – impacts described herein are limited to counties listed here)	Construction ongoing in 2020	Mariner East II is an expansion of the existing Sunoco Mariner East pipeline system. Sunoco recently upgraded its existing Mariner East I pipeline to transport natural gas liquids from Ohio and the Pittsburgh area to its Marcus Hook Industrial Complex in Delaware County	2 miles west of Compressor Station 200	281 acres	<u>Water Quality and Use:</u> 82 waterbody crossings and approximately 5 acres of wetland impact. Construction and restoration are anticipated to be complete before the Project commences; therefore, no cumulative impacts are anticipated.
Various Well Developments	Luzerne, PA	Active oil and gas wells have been constructed throughout the county in the past 10 years.	Oil and Gas Natural Wells	Varies	Varies	Well Development has been minimal in the Project counties over the past 10 years, however future development is possible. Two unconventional wells (no conventional wells) were drilled in Luzerne County within the past 10 years. Well construction may have temporary impacts with localized permanent impacts during operation. BMPs would be utilized during construction and would avoid and/or minimize impacts; therefore, no cumulative impacts are anticipated as a result of oil and gas well development.
USACE Regulated In-Water Actions						
None	-	-	-	-	-	=
Transportation Facility Actions						
Pittston Avenue/Route 315	Luzerne, PA	Ongoing	Intersection upgrade with traffic signals.	1.0 mile northeast of Regional Energy Lateral Loop MP 10.6		<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Various Other Roadway and Bridge Actions	Multiple Counties, PA; Multiple Counties, NJ; and Baltimore County, MD	Completed, ongoing construction, and proposed	Active and proposed PennDOT, NJDOT, and MDOT roadway and bridge actions.	Various	Various	<u>Water Quality and Use:</u> Construction/repairs could have temporary impacts on water resources. BMPs would be utilized during construction and would avoid/minimize impacts; therefore, no cumulative impacts are anticipated.

**Table S1.A.1-1
 Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
Residential/Commercial/Industrial Developments						
North Bacton Hill Road	Chester, PA	Development pending	Reallocation of gross floor area by constructing two buildings, totaling 35000 square feet.	0.4 mile southeast from Compressor Station 200	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
South Bacton Hill Road	Chester, PA	Development approved	Divide an existing 71.5-acre tract into three separate lots for the future development of a data center complex and solar field.	0.96 mile south of Compressor Station 200	71.5 acres	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Phoenixville Pike	Chester, PA	Development under review	Construct two office/flex buildings	1 mile northeast of Compressor Station 200	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Bacton Hill Expansion	Chester, PA	Development approved	Expand surface parking area to include private fueling station and outdoor storage area.	0.20 mile south of Compressor Station 200	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Market Street ^b	Luzerne, PA	Proposed	Single-family home	0.06 mile southwest of Regional Energy Lateral Loop MP 11.1	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Beverage Company ^c	Luzerne, PA	Proposed	Beverage company will be moving into an existing commercial site.	1.2 miles northeast of Regional Energy Lateral Loop MP 10.5	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Railroad Street Salt Shed ^c	Luzerne, PA	Proposed	Construction of a salt shed next to existing pole barn.	2.9 miles southwest of Regional Energy Lateral Loop MP 10.3	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Union Street Quarry ^c	Luzerne, PA	Proposed	Expand quarry operations toward Union Street	0.5 miles southwest of Regional Energy Lateral Loop MP 11.0	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Manchester Drive ^c	Luzerne, PA	Ongoing	Adding infrastructure, in addition to milling and paving work	0.82 miles east of Regional Energy Lateral Loop MP 11.2	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Maplewood Drive ^c	Luzerne, PA	Ongoing	Adding infrastructure, in addition to milling and paving work	0.13 miles east of Regional Energy Lateral Loop MP 11.2	Information Not Available	<u>Water Quality and Use:</u> Action to be conducted in accordance with permit conditions; therefore, no cumulative impacts anticipated.
Various Single-Family Home Construction, Additions, and Out-buildings	Multiple Counties, PA; Multiple Counties, NJ	Completed, ongoing construction, and proposed	Active and proposed construction of single-family homes.	Varies	Varies	Single-family home development is on-going within the Project counties. Residential construction may have temporary impacts with localized permanent impacts during operation. BMPs would be utilized during construction and would avoid and/or minimize impacts; therefore, no cumulative impacts are anticipated as a result of single-family home construction.
Various Residential, Commercial, and Industrial Developments	Multiple Counties, PA; Multiple Counties, NJ	Completed, ongoing construction, and proposed	Active and proposed residential, commercial, and industrial developments.	Various	Various	<u>Water Quality and Use:</u> Construction could have temporary impacts on water resources. Actions to be conducted in accordance with permit conditions; therefore, no cumulative impacts are anticipated.
Air Quality Permitting Actions						

**Table S1.A.1-1
 Past, Present, and Reasonably Foreseeable Future Actions Evaluated for Potential Cumulative Effects**

Project (Company Name as appropriate)	Location (County, State)	Status / Estimated Construction Date	Description	Approximate Closest Distance (miles) (to Project)	Approximate Construction Impacts	Overlapping Geographic Scope(s) and Discussion of Impact
White Haven CTR	White Haven, PA	Permit Issued – Construction Date Unknown	Modification	<10 mi from Compressor Station 515	Information Not Available	White Haven CTR own and operate a power plant in White Haven, PA. A plan approval to apply a voluntary limit on coal throughput to the existing coal boilers was approved. This permit action also incorporates the requirements of NESHAPS Subpart JJJJJJ. No cumulative emissions impact is expected.
Ball Metal Beverage Container Corporation	Wilkes Barre, PA	Permit Issued – Construction Date Unknown	New Facility	<10 mi from Compressor Station 515	Information Not Available	Information Not Available
<p>Sources: FERC 2021a and 2021b; PADEP 2020; PADEP, Office of Oil and Gas 2020; PennDOT 2020a and 2020b; USACE 2020a, 2021b, 2020c; East Whiteland Township Planning Commission 2020a and 2020b; Sipple 2020; Bucks County Planning Commission 2020a and 2020b; Boyd 2020; Kernan 2020; Bilger 2020; Barry 2020; Calluori 2020; Chester County Planning Commission 2020; Calarusso 2020; D'Amico 2020; Dell 2020, Eck 2020; Fairchild 2020a, 2020b, 2020c; LaPlace 2020; Leach 2020; Levecchia 2020; Luzerne County Planning and Zoning Department 2020; Majewski 2020; Rost 2020; Scheffler 2020; Watkins 2020; York County Planning Commission 2020.</p> <p>^a Information provided by Tunkhannock Township ^b Information included due to proximity to the Project ^c Information provided by Laffin Borough ^d Information provided by the Burlington County Planning Board</p> <p>Key: I = Interstate PA = Pennsylvania PADEP = Pennsylvania Department of Environmental Protection PennDOT = Pennsylvania Department of Transportation SR = State Route</p>						

In addition to projects listed in Table S1.A.1-1, Transco anticipates using a local utility company to modify the current electrical power supply for existing Compressor Stations 195 and 515. These utilities likely will require minor construction activities to extend existing power distribution infrastructure to sufficiently support the incremental load requirements for each facility. At this time, no modifications to the utilities' overall distribution networks, such as line change outs, are anticipated. Transco is coordinating facility modifications with customers. Should modifications be completed by the customer, Transco will identify as such.

In summary, Transco reviewed past, present, and reasonably foreseeable actions that, when taken into consideration with the Project, could result in cumulative impacts to water quality and use. Reasonably foreseeable actions identified are subject to permit requirements like that of the Project, which will help to minimize and/or mitigate impacts. Transco is developing Project-specific construction and compliance plans, and will implement BMPs and impact minimization and mitigation measures to minimize environmental impacts for the Project. The Project is not expected to result in significant cumulative impacts.

S1.A.1(ii) Nature, Extent, and Timeline of Project

Subject to FERC's certification of the Project and receipt of the necessary permits and authorizations, Transco anticipates construction of the Project would commence in third quarter 2022 to meet a proposed in-service date of December 1, 2023.

General Construction Techniques

Transco will use conventional techniques for buried pipeline construction and facility construction to ensure safe, stable, and reliable transmission facilities, consistent with Commission and USDOT specifications. Construction of the proposed facilities will follow a set of sequential operations, unique to the pipeline industry. The pipeline component of the Project will require multiple construction spreads that will proceed along the pipeline Right of Way in one continuous operation. The entire process will be coordinated in such a manner as to minimize the total time a tract of land is disturbed and, therefore, susceptible to erosion and/or temporarily precluded from its normal use.

Areas requiring special construction plans and techniques may include road or utility crossings, waterbodies and wetlands, unusual topographies associated with unstable soils and trench conditions, residential or urban areas, agricultural areas, areas requiring rock removal, and permanent recreation facilities, among others. Typically, pipeline construction will take place in the following order:

- Surveying and Staking
- Installation of Erosion and Sediment Controls
- Clearing, Grading, and Fencing
- Trenching
- Pipe Stringing
- Pipe Bending
- Pipe Assembly and Welding
- X-Ray and Weld Repair
- Coating Field Welds, Inspection, and Repair
- Pipe Preparation and Lowering-In
- Tie-Ins
- Padding, Backfilling, and Grade Restoration
- Clean-up and Restoration
- Hydrostatic Testing

Specialized Construction Techniques

In addition to conventional pipeline construction techniques, specialized construction techniques will be utilized in sensitive resource areas, including waterbody and wetland crossings or in areas with construction constraints, such as residential areas, road crossings, utility crossings, areas with side slopes, and rocky areas. These construction methods are outlined within this permit and the Chapter 102 permit application.

S1.A.1(iii) List of Chapter 105 Applications associated with Overall Project

Transco will submit two Chapter 105 Joint Permit Applications for the Project. This application is for the Regional Energy Lateral and Existing Compressor Station 515 which are proposed in Luzerne County. Additionally, one application will be submitted for Effort Loop, which is proposed in Monroe County.

S1.A.1(iv) Summary of Overall Project Impacts

As part of the Project, unavoidable wetland and watercourses impacts are anticipated to occur. Transco proposes to offset impacts through onsite restoration and offsite compensatory wetland mitigation. Mitigation is discussed in greater detail in Module 4. In all instances, impacts have been minimized or avoided to the greatest extent practicable. A summary of the overall impacts is provided below in Table S1.A.1-1. There are no proposed water resources impacts in

York, Delaware, Bucks, Chester and Northampton counties. Maintenance to the proposed facilities could result in temporary impacts to water resources, however, there are no anticipated future permanent impacts associated with the Project.

**Table S1.A.1-1
 Aquatic Resource Impact Summary Table**

Project Component	Impact Type	Resource	Direct (Acres)	Indirect (Acres)
Effort Loop (Monroe County)	Permanent	Wetland	-	1.62
		Watercourse	-	0.71
	Temporary	Wetland	0.60	1.2
		Watercourse	0.11	0.74
Regional Energy Lateral and Existing Compressor Station 515 (Luzerne County)	Permanent	Wetland	-	8.18
		Watercourse	0.03 (50' Floodway only)	7.54
	Temporary	Wetland	3.42	5.28
		Watercourse	1.43	14.94
Notes:				
1. Watercourse impacts include floodway impacts				
2. Temporary direct impact areas are not additory to the impact areas listed as indirect, and such impacts are already accounted for. Temporary direct impact areas consist of timber mats/bridges. Where wetlands and floodways overlap, the direct impact was applied to the wetlands.				

S1.B Additional Information

S1.B.1 Purpose and Need

Transco proposes to construct and operate the Project facilities to provide an incremental 829,400 Dth/d of year-round firm transportation capacity from the Marcellus Shale production areas in northeastern PA to Transco’s mainline at the Station 210 Zone 6 Pooling Point in Mercer County, NJ, and multiple delivery points along Transco’s mainline and Marcus Hook and Trenton Woodbury Laterals in NJ, PA, and MD. To subscribe the proposed firm transportation capacity under the Project, Transco conducted an open season for the Project capacity from March 8, 2019 through May 8, 2019, a supplemental open season from April 28, 2020 to May 28, 2020, and a reverse open season from April 24, 2020 to May 25, 2020. Another supplemental open season is expected in May 2021 for new capacity not previously offered, consistent with FERC policy to solicit bids that became available under the Project. However, Project volumes, paths and facilities for this Project will remain unchanged as the shipper has agreed to reallocate

volumes if other parties bid via the open season. As a result of those offerings, Transco is proposing to construct facilities to provide 829,400 Dth/d of firm transportation capacity by December 1, 2023. Transco has executed long-term, binding precedent agreements for all of the capacity with eight shippers, which together combine for a commitment of firm capacity of 829,400 Dth/d. These agreements are included in the Certificate Application. Placing the Project facilities in service by December 1, 2023 is required to meet the firm transportation service requirements of the Project shippers. As detailed in the Certificate Application, the Project does not rely on subsidization from existing customers.

The Project will provide Transco's customers and the markets they serve with greatly enhanced access to Marcellus Shale supply, therefore, further diversifying fuel supply access. Currently, access to the Marcellus Shale production area is constrained on peak days by limited pipeline take-away capacity. By increasing gas supply access along Transco's existing Leidy Line, the Project will support overall reliability and diversification of energy infrastructure in the Northeast. Moreover, the Project will benefit the public by promoting competitive markets and enhancing the security of natural gas supplies to major delivery points serving the Northeast. As detailed in the Certificate Application, the Project will not adversely affect service to Transco's existing customers, or other pipelines and their captive customers, and supports diversification of supply in the Northeast.

A review of the Annual Energy Outlook 2021 (Energy Information Administration 2021) reference case indicates that natural gas consumption will rise from 33.43 trillion cubic feet (Tcf) in 2020 to 39.75 Tcf in 2040 and will continue to grow to 42.79 Tcf in 2050. Therefore, Transco's proposal is consistent with expected market demand and the needs expressed in Transco's binding precedent agreements that have been executed for this additional capacity. As such, the Project is also fully consistent with the Commission's Statement of Policy on the Certification of New Interstate Natural Gas Pipeline Facilities.

As detailed in the Certificate Application, Transco is taking the necessary steps to minimize adverse impacts on landowners and surrounding communities. Transco has minimized potential environmental impacts by collocating the proposed pipelines with existing ROWs to the extent practicable; in total, approximately 78% of the proposed pipelines will be collocated with existing and/or certificated ROWs. Transco already has obtained one hundred percent of the survey permissions needed for the proposed Project, and will work diligently with landowners to enter into agreements for acquisition of rights of way.

Table S1.B.1-1
Transco’s Customers and Transportation Capacity Subscribed to the Project

Shipper	Transportation Contract Quantity
PECO Energy Company	100,000 Dth/d
Elizabethtown Gas Company	30,000 Dth/d
Baltimore Gas and Electric Company	40,000 Dth/d
South Jersey Gas Company	25,000 Dth/d
PSEG Power, LLC	60,000 Dth/d
South Jersey Resources Group, LLC	71,400 Dth/d
New Jersey Natural Gas Company	353,000 Dth/d
Williams Energy Resources	150,000 Dth/d
Key: Dth/d = dekatherms per day	

S1.B.2 Water Dependency

Based on the Project purpose and need presented above, various Project facilities are required. The Project facilities were sited to avoid and minimize impacts to resources to the extent practicable. Due to the linear nature of the FERC regulated interstate pipeline components and required above ground facilities, the Project is considered water dependent, as unavoidable impacts to resources are proposed.

S1.B.3 Aquatic Resource Summary Table

Wetland and Watercourse Delineations were conducted from Spring 2020 through Fall 2020. A summary of the resources located within the investigation area is provided in Table S1-B.3-1. Flow regimes are noted in the table below, which include ephemeral, intermittent, and perennial streams. Cowardin wetland classifications are also noted, which include Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), Palustrine Forested (PFO), and Palustrine Open-water (POW).

Table S1.B.3-1 Aquatic Resource Summary Table				
Project Component	Resource Type	Cowardin Class / Stream Type	Number Delineated	Total Area Delineated (Acres)
Regional Energy Lateral and Existing Compressor Station 515 (Luzerne County)	Wetland	PEM	191	30.98
		PSS	36	9.2
		PFO	75	23.62

Table S1.B.3-1 Aquatic Resource Summary Table				
Project Component	Resource Type	Cowardin Class / Stream Type	Number Delineated	Total Area Delineated (Acres)
	Watercourse	POW	4	1.47
		Intermittent	45	0.92
		Ephemeral	22	1.20
		Perennial	43	10.20

For detailed information on each specific resource identified as part of the Project, see Module 2, Appendix S2-1.

S1.B.4 Summary of Proposed Project Impacts

A summary of the proposed Regional Energy Lateral and Existing Compressor Station 515 permanent and temporary direct and indirect impacts is provided in Table S1.B.4-1. Further detail regarding the impacts at each specific resource can be found in Module S3.A.

Table S1.B.4-1 Aquatic Resource Impact Summary Table				
Project Component	Impact Type	Resource	Direct (Acres)	Indirect (Acres)
Regional Energy Lateral and Existing Compressor Station 515 (Luzerne County)	Permanent	Wetland	-	8.18
		Watercourse	0.03 (50' Floodway only)	7.54
	Temporary	Wetland	3.42	5.28
		Watercourse	1.43	14.94

Notes:

1. Watercourse impacts include floodway impacts
2. Temporary direct impact areas are not additory to the impact areas listed as indirect, and such impacts are already accounted for. Temporary direct impact areas consist of timber mats/bridges. Where wetlands and floodways overlap, the direct impact was applied to the wetlands.

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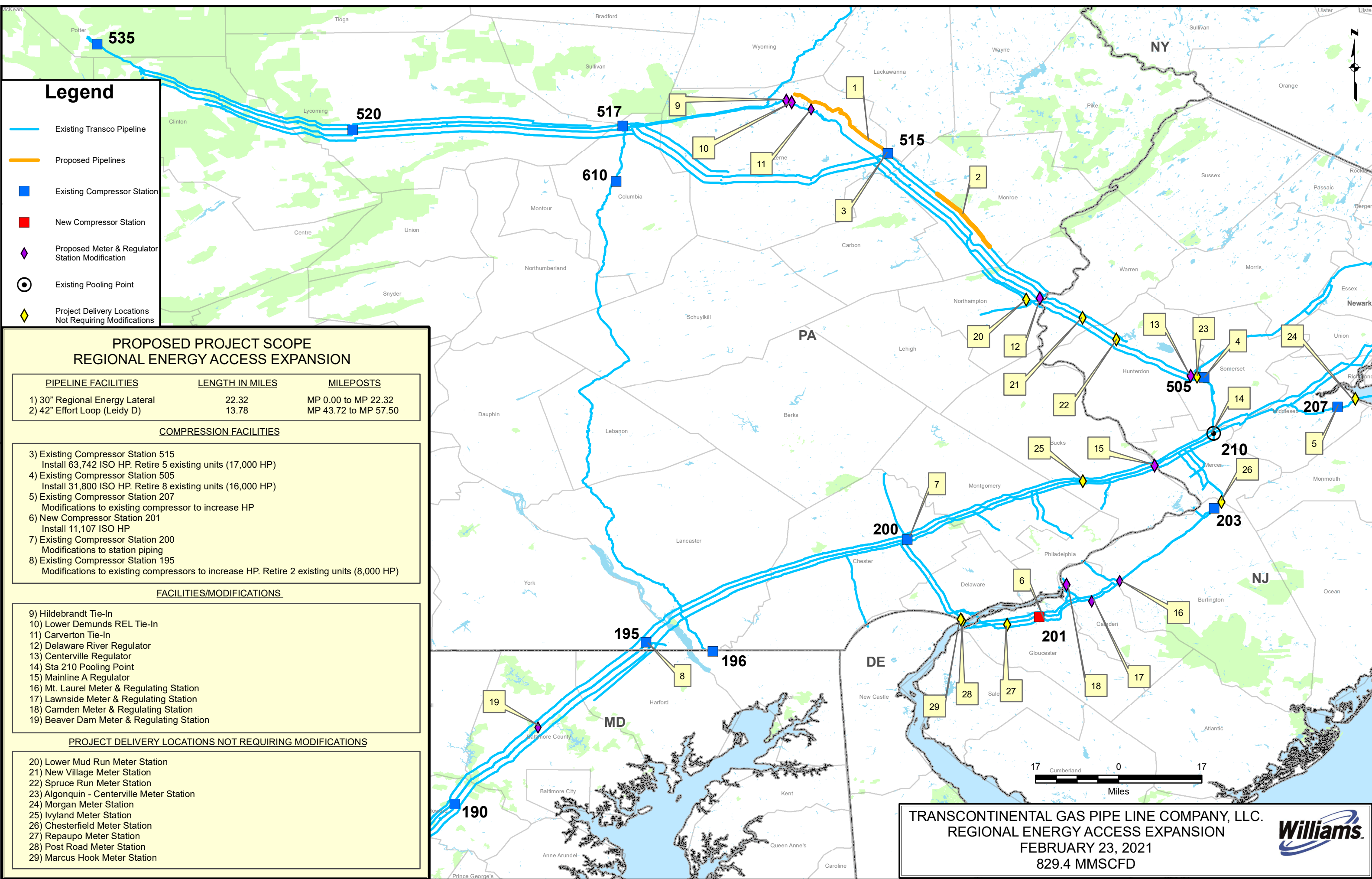
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FIGURES



Legend

- Existing Transco Pipeline
- Proposed Pipelines
- Existing Compressor Station
- New Compressor Station
- ◆ Proposed Meter & Regulator Station Modification
- Existing Pooling Point
- ◆ Project Delivery Locations Not Requiring Modifications

PROPOSED PROJECT SCOPE REGIONAL ENERGY ACCESS EXPANSION

PIPELINE FACILITIES	LENGTH IN MILES	MILEPOSTS
1) 30" Regional Energy Lateral	22.32	MP 0.00 to MP 22.32
2) 42" Effort Loop (Leidy D)	13.78	MP 43.72 to MP 57.50

COMPRESSION FACILITIES

- 3) Existing Compressor Station 515
Install 63,742 ISO HP. Retire 5 existing units (17,000 HP)
- 4) Existing Compressor Station 505
Install 31,800 ISO HP. Retire 8 existing units (16,000 HP)
- 5) Existing Compressor Station 207
Modifications to existing compressor to increase HP
- 6) New Compressor Station 201
Install 11,107 ISO HP
- 7) Existing Compressor Station 200
Modifications to station piping
- 8) Existing Compressor Station 195
Modifications to existing compressors to increase HP. Retire 2 existing units (8,000 HP)

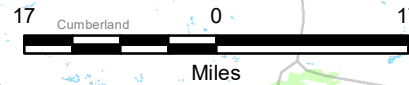
FACILITIES/MODIFICATIONS

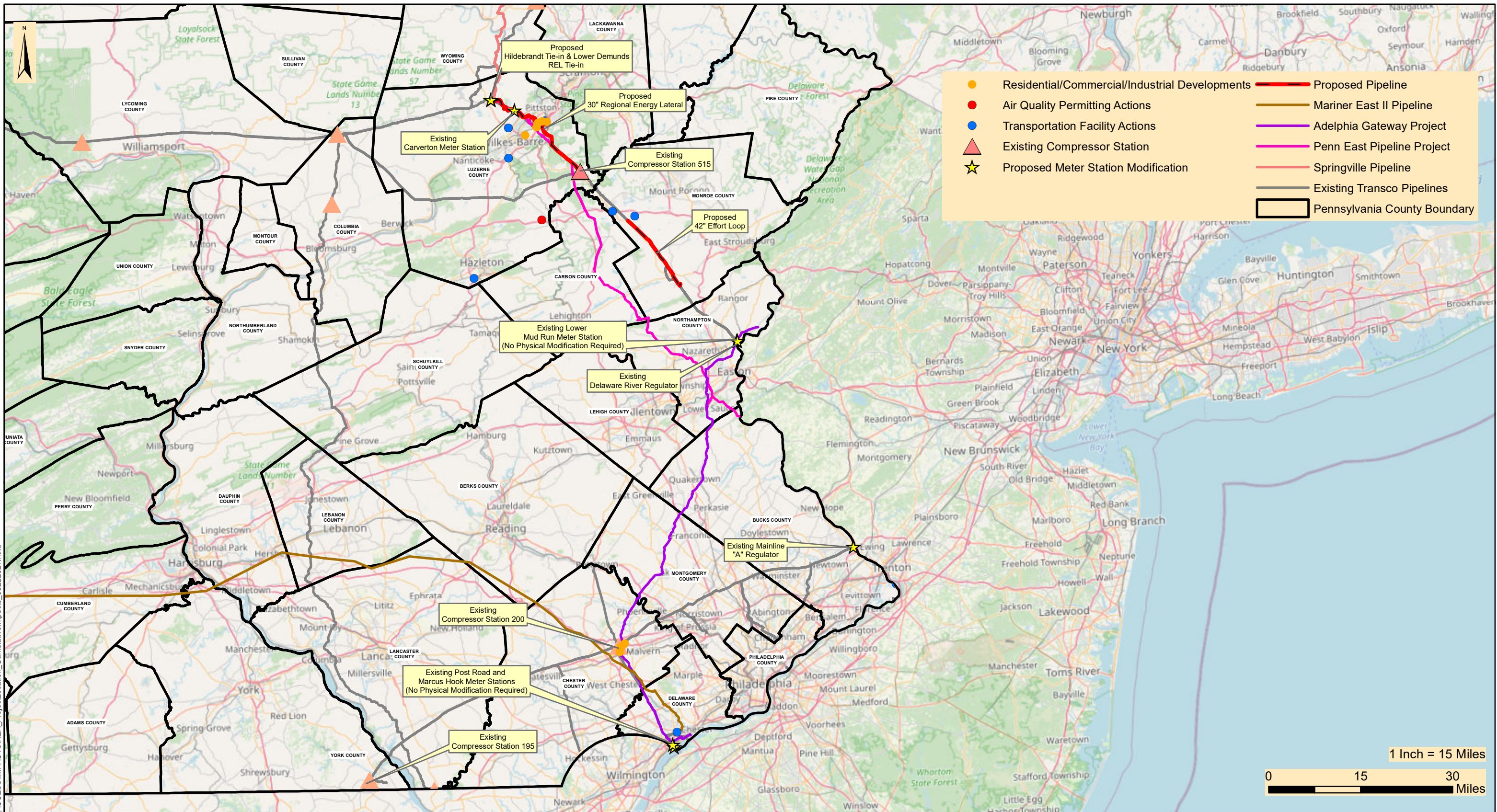
- 9) Hildebrandt Tie-In
- 10) Lower Demunds REL Tie-In
- 11) Carverton Tie-In
- 12) Delaware River Regulator
- 13) Centerville Regulator
- 14) Sta 210 Pooling Point
- 15) Mainline A Regulator
- 16) Mt. Laurel Meter & Regulating Station
- 17) Lawnside Meter & Regulating Station
- 18) Camden Meter & Regulating Station
- 19) Beaver Dam Meter & Regulating Station

PROJECT DELIVERY LOCATIONS NOT REQUIRING MODIFICATIONS

- 20) Lower Mud Run Meter Station
- 21) New Village Meter Station
- 22) Spruce Run Meter Station
- 23) Algonquin - Centerville Meter Station
- 24) Morgan Meter Station
- 25) Ivyland Meter Station
- 26) Chesterfield Meter Station
- 27) Repaupo Meter Station
- 28) Post Road Meter Station
- 29) Marcus Hook Meter Station

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REGIONAL ENERGY ACCESS EXPANSION
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TRANSCONTINENTAL GAS PIPE LINE COMPANY, LLC
REGIONAL ENERGY ACCESS EXPANSION PROJECT
ACTIONS CONSIDERED IN CUMULATIVE IMPACTS ANALYSIS

Date:	3/24/2021
Drawn By:	FTN
Figure Number:	1.1-2

PENNSYLVANIA