Federal Energy Regulatory Commission

Office of
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Texas Eastern Transmission, LP

Docket No. CP19-501-000

Bailey East Mine Panel 11J Project

Environmental Assessment

Washington, DC 20426

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TECHNICAL ACRONYMS AND ABBREVIATIONS

APE	area of potential effects
AQCR	Air Quality Control Region
ATWS	Additional temporary workspace
BMP	Best Management Practices
Certificate	Certificate of Public Convenience and Necessity
CAA	Clean Air Act of 1963
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
CONSOL	CONSOL Energy Inc.
CWA	Clean Water Act of 1948
dB	Decibel
dBA	A-weighted decibel
DOT	U.S. Department of Transportation
E&SCP	Erosion and Sediment Control Plan
EA	environmental assessment
ECD	Erosion Control Devices
EI	environmental inspector
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FDCP	Fugitive Dust Control Plan
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
g	Gravity
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutants
hp	Horsepower
HUC	Hydrologic Unit Code
L_{eq}	equivalent sound level
L_{dn}	day-night sound level
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act of 1918
MOU	Memorandum of Understanding
MP	Milepost
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NGA	Natural Gas Act

NHPA	National Historic Preservation Act
NNSR	Nonattainment New Source Review
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
N_2O	nitrous oxide
NOI	*Notice of Intent to Prepare an Environmental Assessment for the Proposed Bailey East Mine Project and Request for Comments on Environmental Issues*
NRHP	National Register of Historic Places
NSA	noise sensitive area
OEP	Office of Energy Projects
Order	FERC's *Order Issuing Certificate*
PCB	polychlorinated biphenyl
Plan	FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan*
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
Procedures	FERC's *Wetland and Waterbody Construction and Mitigation Procedures*
Project	Bailey East Mine Project
PSD	Prevention of Significant Deterioration
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Officer
SO_2	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasure
Texas Eastern	Texas Eastern Transmission LP
TAR	temporary access road
USGS	U.S. Geological Service
VOC	volatile organic compound
WVDEP	West Virginia Department of Environmental Protection

A. PROPOSED ACTION

1.0 INTRODUCTION

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this environmental assessment (EA) to assess the environmental effects of the natural gas pipeline facilities proposed by Texas Eastern Transmission LP (Texas Eastern) in Marshall County, West Virginia.

We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), Title 40 of the Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]), and with the Commission's implementing regulations under 18 CFR 380.

On August 19, 2019, Texas Eastern filed an application with the Commission in Docket No. CP19-501-000 for the Bailey East Mine Panel 11J Project (Project) under section 7(c) of the Natural Gas Act (NGA) and part 157 of the Commission's regulations. Texas Eastern seeks to excavate, elevate, replace and reinstall certain sections of four pipelines due to the anticipated longwall coal mining activities of CONSOL Energy, Inc. (CONSOL).

2.0 PURPOSE AND NEED

Texas Eastern stated that the Project purpose would be to mitigate safety hazards associated with the longwall mining of coal under Texas Eastern's existing pipeline facilities in Marshall County, West Virginia. Texas Eastern was notified that CONSOL plans to mine beginning January 2021. Longwall mining is a form of underground coal mining where a long wall of coal is mined in a single slice and the roof of the mine is allowed to collapse as mining advances. Texas Eastern has designed the Project to ensure the integrity of Texas Eastern's facilities and to ensure that certificated levels of service are maintained throughout the duration of the mining activities.

Under Section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate of Public Convenience and Necessity (Certificate) to construct and operate them. The Commission bases its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project.

3.0 PROPOSED FACILITIES

Texas Eastern's existing Lines 10, 15, 25, and 30 are all located in Marshall County, West Virginia, with a proposed wareyard located in Greene County, Pennsylvania. Pipeline activities would include:

- excavating and replacing approximately 1,932 feet of 30-inch-diameter Line 10 from milepost (MP) 724.4 to MP 724.8;
- excavating and replacing approximately 1,967 feet of 30-inch-diameter Line 15 from approximately MP 724.9 to MP 725.3;

[1] "We," "us," and "our" refers to environmental staff of the Office of Energy Projects.

- excavating approximately 1,864 feet of 36-inch-diameter Line 25 from MP 44.1 to MP 44.4; and
- excavating approximately 2,022 feet of 36-inch-diameter Line 30 from MP 724.9 to MP 725.3.

All excavated pipelines would be elevated, offset from the backfill trench, and hydrostatically tested before placing it back into service for the duration of mining activities. They would also be monitored for stress and strain levels from potential ground subsidence during mining activities. Following mining activities, all pipeline segments would be reinstalled below ground surface, hydrostatically tested, and placed back into service.

Figure 1 shows the map of the Project area.

4.0 NON-JURISDICTIONAL FACILITIES

There are no non-jurisdictional facilities associated with the Project, however, abandonment activities related to non-jurisdictional facilities would be conducted. Specifically, Texas Eastern proposes to remove portions of Line 1 and Line 2, which have already been abandoned prior to longwall mining activities to ensure the pipelines do not become exposed during mining activities. Texas Eastern would obtain all necessary permits and approvals to complete the proposed non-jurisdictional activities.

5.0 PUBLIC REVIEW AND COMMENT

On October 3, 2019, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Bailey East Mine Project and Request for Comments on Environmental Issues* (NOI). The NOI was mailed to affected landowners, federal, state, and local government representatives and agencies; elected officials; Native American tribes; environmental and public interest groups; and newspapers and libraries in the Project area. The NOI requested written comments from the public on the scope of the analysis for the EA. The public scoping period closed on November 4, 2019. The Commission received a request from the Osage Nation for a cultural resources survey to be conducted and information provided to them; which is further discussed in section B.5.

In preparing this EA, we are fulfilling our obligation under NEPA to consider and disclose the environmental impacts of the Project. This EA addresses the impacts that could occur on a wide range of resources, should the Project be approved and constructed.

6.0 PERMITS, APPROVALS, AND REGULATORY CONSULTATIONS

Texas Eastern would obtain all necessary permits, licenses, clearances, and approvals related to construction and operation of the Project, outlined in table 1.

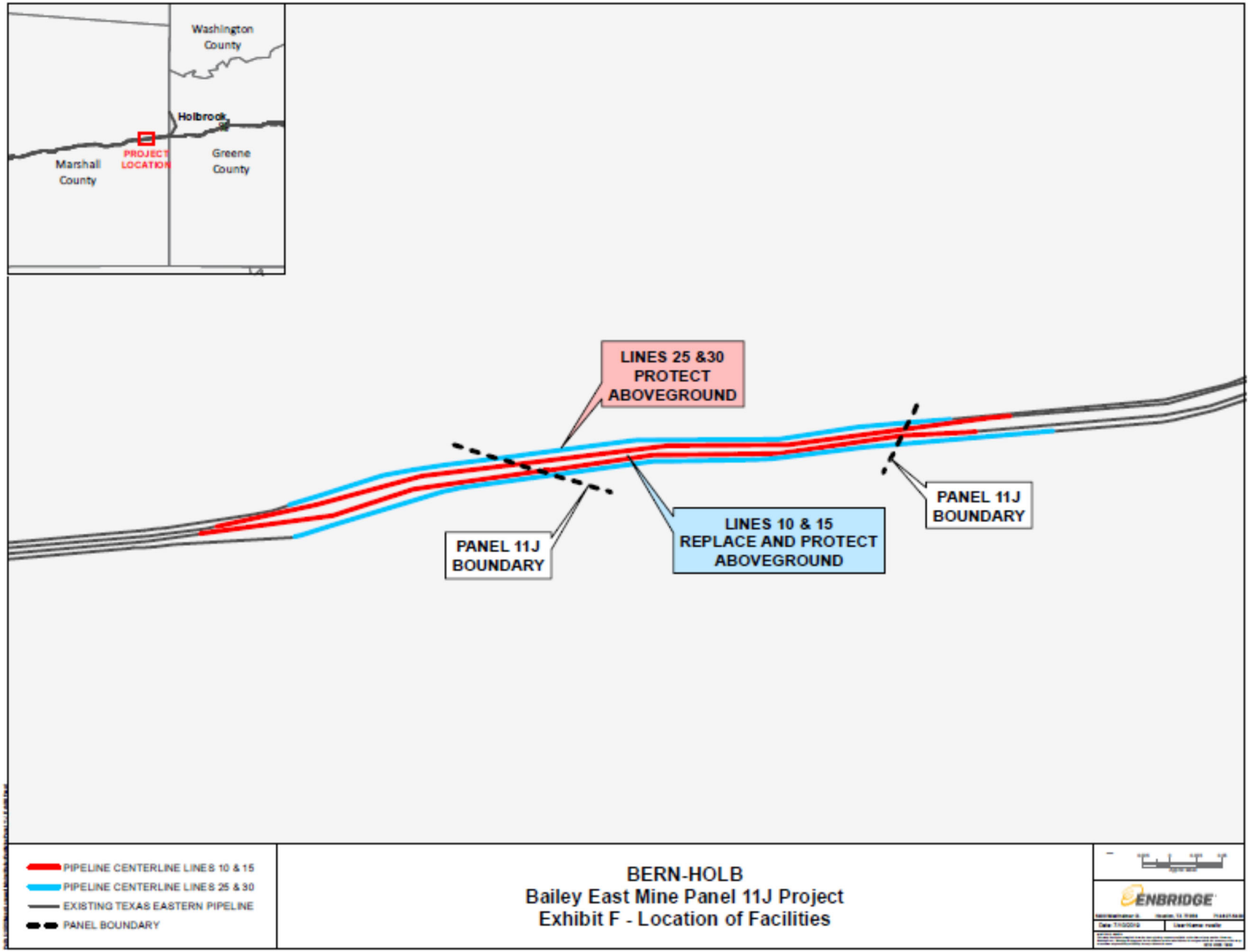

Figure 1
General Location Map

Table 1 Permits and Approvals for the Project			
Agency	**Permit or Approval**	**Submittal Date/*Anticipated Date***	**Approval Date/*Anticipated Date***
Federal			
Federal Energy Regulatory Commission	Section 7(c) of Natural Gas Act, Certificate of Public Convenience and Necessity and Related Authorizations	August 19, 2019	*pending*
U.S. Army Corps of Engineers – Pittsburg District	Clean Water Act Section 404 Permit Nationwide Permit 3	August 2019	August 2019
U.S. Fish and Wildlife Service – West Virginia Field Office	Section 7 Threatened and Endangered Species Consultation and Clearance	July 3, 2019	August 2, 2019
U.S. Fish and Wildlife Service – Pennsylvania Field Office	Section 7 Threatened and Endangered Species Consultation and Clearance	September 6, 2019	September 27, 2019
State – West Virginia			
West Virginia State Historic Preservation Office	Section 106 of the National Historic Preservation Act Clearance	May 2, 2019 August 14, 2019 (supplemental)	June 4, 2019 September 3, 2019 (supplemental)
West Virginia Department of Environmental Protection (WVDEP)	Section 401 Water Quality Certificate	August 2019	August 2019
	General Permit WV0113069 (General Permit Hydrostatic Test Water Discharge)	December 2019	*January 2020*
	General Water Pollution Control Permit, Stormwater Associated with Oil & Gas Construction Activities	October 31, 2019	*January 2020*
West Virginia Division of Natural Resources (WVDNR) - Office of Land and Streams	Stream Activity Permit	October 25, 2019	October 30, 2019

WVDNR - Natural Heritage Program	State Threatened and Endangered Species Consultation and Clearance	July 26, 2019	August 14, 2019
State – Pennsylvania			
Pennsylvania State Historic Preservation Office	Section 106 of the National Historic Preservation Act Clearance	October 16, 2019	October 30, 2019
Pennsylvania Game Commission Pennsylvania Fish and Boat Commission Pennsylvania Department of Conservation and Natural Resources	State Threatened and Endangered Species Consultation and Clearance	Pennsylvania Natural Diversity Index completed July 1, 2019 with no further review required	

7.0 CONSTRUCTION, OPERATION, AND MAINTENANCE

Texas Eastern would construct, operate, and maintain the Project in compliance with all applicable federal and state permit requirements, regulations, and environmental guidelines, including the U.S. Department of Transportation (DOT) under 49 CFR 192 - *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*. During all phases of the Project, Texas Eastern would follow the applicable Occupational Safety and Health Administration Requirements.

Texas Eastern anticipates that construction of the Project would begin in May 2020 and be completed in October 2020 prior to the start of longwall mining activities, which are estimated to occur between January 2021 and March 2021. Texas Eastern's pipelines would be returned to service to operate while aboveground. Reburial of the pipeline segments is planned to begin May 2021, with all pipeline segments being returned to service by October 2021. Construction activities would occur between 7:00AM and 9:00PM Monday through Saturday; with intermittent nighttime and Sunday work when needed for activities such as hydrostatic testing and tie-in activities.

Texas Eastern would construct the Project in accordance with its Erosion and Sedimentation Control Plan (E&SCP) which in consistent with the requirements of FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan), and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) with alternative measures further discussed in the water resources section of this EA. The Plan and Procedures are referred to as Texas Eastern's Plan and Procedures throughout the EA. We have reviewed Texas Eastern's E&SCP and believe it is acceptable for the Project. Additionally, Texas Eastern has developed a Spill Prevention, Control, and Countermeasure (SPCC) Plan to minimize spills of fuel, oil, lubricants, and other construction materials and provide measures for cleanup in the event a spill occurs, and an Unanticipated Discovery Plan for cultural resources.

During construction, Texas Eastern would clear and grade the sites for the pipeline facilities and erosion control devices (ECD) would be installed as needed to prevent erosion and offsite impacts in accordance with Texas Eastern's Plan and Procedures, and applicable state permit requirements. Following pipeline elevation, each pipeline segment would be hydrostatically tested before being placed back into service, the trenches would be backfilled and the area stabilized for the duration of the ground subsidence period. Strain gauges would be attached to the aboveground pipelines during the elevation process and access between the pipelines would be maintained for monitoring and maintenance during the mining and ground subsidence period.

Following completion of CONSOL's longwall mining activities, the pipelines would be re-installed below ground. During re-installation, the sections of Lines 10 and 15 that had been replaced before being elevated aboveground would be placed in the original pipeline alignments, tested and placed into service. The original segments of Lines 25 and 30 would also be placed within their original alignments, tested, and placed into service and the right-of-way would be restored to pre-construction conditions. No blasting would be required for construction of the Project.

During construction and restoration, Texas Eastern would use at least one full-time environmental inspector (EI) during construction of the Project. The EI would be on site during construction activities to ensure compliance with the construction procedures contained in the Plan and Procedures. Texas Eastern would conduct environmental training sessions in advance of construction to ensure that all individuals working on the Project are familiar with the environmental mitigation measures appropriate to their jobs and the EI's authority.

8.0 LAND REQUIREMENTS

Construction of the Project facilities would temporarily impact approximately 31.8 acres of land, and of this, 8.7 acres would be permanently affected by operation of the proposed facilities. The construction work area (CWA) would include the existing pipeline right-of-way as well as a temporary construction right-of-way. Project activities would occur primarily within and adjacent to Texas Eastern's existing pipeline right-of-way. The temporary alignments for the aboveground pipeline segments would be located within the temporary construction right-of-way adjacent to and offset from each of the original belowground alignments. The CWA would also include additional temporary workspace (ATWS) at road crossing and in steeply sloped areas. Temporary access roads (TARs) would be used during construction. Texas Eastern proposes to use the existing Bristoria Wareyard in Greene County, Pennsylvania as a contractor yard for the Project. Land requirements for the Project are presented in table 2. Following re-installation of the pipelines after ground subsidence, the CWA would be restored to its original contours and allowed to return to pre-construction conditions. No new permanent easement would be required.

Table 2
Land Requirements

Facility	County, State	Temporary Workspace (acres)[a]	Permanent Easement (acres)
Pipelines			
Lines 10, 15, 25, and 30	Marshall County, WV	23.2	8.7
Other Facilities			
Temporary access roads	Marshall County, WV	2.5	0
Bristoria Wareyard	Greene County, PA	6.1	0
Totals	–	**31.8**	8.7

[a] Includes the existing permanent easement, temporary workspace outside of the existing permanent easement, and ATWS and staging areas.

Pipeline Facilities

The CWA required for the pipeline facilities is approximately 23.2 acres. Texas Eastern would utilize a construction right-of-way approximately 200 feet wide for activities on all pipelines; of which 125 feet would be existing maintained right-of-way. The remaining width

would extend north 25 feet and south 50 feet along the existing right-of-way as depicted on the alignment sheets provided in appendix A. In addition to the construction right-of-way, Texas Eastern would require ATWS to facilitate construction at road crossings, staging areas, steep slope areas, stream crossings, foreign utility line crossings, and spoil stockpiling.

Although Texas Eastern has identified areas where extra workspace would be required, additional or alternative areas could be identified in the future due to changes in site-specific construction requirements. Texas Eastern would be required to file information on each of those areas for our review and approval prior to use.

Contractor yards

Texas Eastern proposes to use the existing and previously utilized Bristoria Wareyard as a contractor yard for the Project. No permanent land use impacts are anticipated.

Access roads

Texas Eastern has proposed three TARs to facilitate construction activities. All TARs would revert to pre-construction conditions after re-installation of the pipelines.

One construction spread for the Project with approximately 65 personnel would be required during construction of the Project. Once construction and re-installation activities are complete, disturbed areas would be restored to pre-construction conditions.

B. ENVIRONMENTAL ANALYSIS

The following sections discuss the Project's potential direct and indirect impacts on environmental resources. When considering the environmental consequences of the Project, the duration and significance of any potential impacts are described below according to the following four levels: temporary, short-term, long-term, and permanent. Temporary impacts generally occur during construction, with the resources returning to pre-construction conditions almost immediately. Short-term impacts could continue for up to three years following construction. Long-term impacts would require more than three years to recover, but eventually would recover to pre-construction conditions. Permanent impacts could occur because of activities that modify resources to the extent that they may not return to pre-construction conditions during the life of the Project, such as with the construction of an aboveground facility. An impact would be considered significant if it would result in a substantial adverse change in the physical environment.

1.0 GEOLOGY

The Project is in Marshall County, West Virginia, and is situated within the Appalachian Plateau Province. The plateau contains an abundance of minable coal. The Project traverses many steep ridges and valleys that are typical of this area of Marshall County (WVGES, 2017). The underlying bedrock within the affected area is from the Permian or Pennsylvania age (230 to 290 million years ago) and made up of cyclic sequences of sandstone, shale, siltstone, limestone, and coal (WVGES, 2011).

The Project is being proposed because the longwall mining of coal at the Bailey East Mine is planned under Panel 11J situated along Texas Eastern's existing pipeline system in Marshall County, West Virginia. The Project would maintain the integrity of Texas Eastern's pipelines while coal is mined.

No geologic resources would be affected as excavation of the existing pipelines would occur on previously disturbed pipeline rights-of-way.

Two active and fifteen plugged or abandoned wells are located within 0.25 mile of the Project (WVDEP, 2019b). These wells would not be affected because no wells are located directly within the construction workspace of the Project. Texas Eastern is not aware of any existing pipelines that cross its rights-of-way, but if any are discovered during construction Texas Eastern would identify and contact the owner.

The alignments for the reinstallation of the pipelines below ground would be within existing trench lines for the majority of the Project facilities; no blasting is anticipated. If blasting does become necessary, Texas Eastern stated it would adhere to blasting requirements in its E&SCP, and all local, state, and federal regulations applying to controlled blasting and blast vibration limits for structures and underground or aboveground utilities. Texas Eastern would apply to the West Virginia Department of Environmental Protection (WVDEP) for its blasting permits prior to any blasting.

The Project is designed to minimize risks that could result from coal mining activities and potential ground subsidence under Texas Eastern's existing easements. Other geologic hazards

(such as earthquakes, landslides, and soil liquefaction) are not anticipated to be a significant factor for the Project. The Project is not located within a region with a high probability of a serious earthquake, nor does the Project cross faults, and there are no known earthquake epicenters located within Marshall County (Petersen, et al.; 2008, 2014, & 2018). The conditions necessary for soil liquefaction are not present in the areas disturbed by the Project.

The Project is within an area that generally is characterized as susceptible to the potential for landslides (USGS, 2018), but Texas Eastern's proposed use of waterbars to direct excess surface water off the right-of-way on slopes, in accordance with its E&SCP, would minimize the development of landslides.

Because of the mining mitigation proposed by Texas Eastern and use of waterbars to minimize landslide development, we conclude that the impacts on geologic resources would not be significant.

2.0 SOILS

Construction activities have the potential to affect soil characteristics adversely, thereby limiting the restoration potential of areas disturbed by land-clearing activities and the movement of heavy equipment. Potential soil impacts in the Project area include loss of vegetation and subsequent soil erosion, mixing of topsoil and subsoil, and soil compaction. Only a small portion of the disturbed area of the Project is classified as prime farmland or as hydric soils. The soils in the disturbed areas consist mostly of silt loams and have bedrock within 6 feet of the surface. Soils in the Project area range from moderately well drained to well drained. Approximately 47 percent of the soils in the disturbed areas have high water erodibility.

Texas Eastern would backfill pipeline trenches after the pipelines are elevated and would temporarily restore the rights-of-way as part of the mining mitigation procedures. Texas Eastern plans to temporarily stabilize soils by seeding and mulching to reduce potential wind and water erosion. In addition, Texas Eastern would monitor the rights-of-way and the temporary erosion controls during the time the pipelines remain elevated.

Trenches would be backfilled following pipeline elevation, so spoil piles present during the period of potential ground subsidence would be limited to areas where topsoil has been segregated for use during final restoration. Travel lanes would be needed along the rights-of-way for monitoring and maintenance during the period while the pipelines are elevated. Erosion control devices would be installed and maintained as needed until final restoration is completed.

The use of the E&SCP and the temporary restoration measures while the pipelines are excavated and elevated would minimize erosion during both the mining mitigation and final restoration of the Project. Therefore, effects on soils, erosion, and sedimentation would be minor and not significant.

3.0 WATER RESOURCES

3.1 Groundwater

The Project is underlain by the Permian and Pennsylvanian Aquifers of the Appalachian Plateau Province (Chambers, 2008). No sole source aquifers are present within the Project area (USEPA, 2017). The groundwater observation well closest to the Project is located approximately 23 miles to the north, in Brook County, West Virginia. The depth to groundwater at the observation well was measured from 36.5 to 39.5 feet below ground surface (USGS, 2019b). Through completion of a field survey and coordination with landowners, Texas Eastern did not identify any water wells within 150 feet of the Project. Four springs were identified within 150 feet of the Project work areas. However, three of the springs are wet weather springs only. The fourth spring is approximately eight feet away from TAR 724.8 and is used for limited farm use.

The proposed construction activities associated with the Project would involve shallow excavation, typically less than 10 feet and would avoid impact on wells. Proper implementation of the E&SCP would ensure potential effects on groundwater resources would be minimal. However, accidental spills or leaks of hazardous liquids, resulting from refueling of construction vehicles and storage of fuel, oil, and other fluids during construction, could contaminate shallow groundwater and result in impacts on local groundwater. To avoid or minimize potential impacts, Texas Eastern would comply with its SPCC Plan that identifies preventative measures to be used during construction to reduce the potential for a hazardous material spill. We have reviewed the SPCC Plan and find it acceptable. Based on Texas Eastern's proposed methods and minimization measures, we conclude that the Project would not result in significant long-term or permanent impacts on groundwater resources in the Project area.

3.2 Surface Water

The Project is in the Upper Wheeling subwatershed of the Upper Ohio-Wheeling watershed. One perennial stream, one intermittent stream, and five ephemeral streams are located within the construction work area. Waterbodies in the construction work area are unnamed tributaries to Williams Run and are classified by the WVDEP as tier 2 streams. One perennial and one intermittent waterbody would be crossed by the pipeline using the dry-ditch crossing method and five ephemeral waterbodies would be crossed using temporary equipment bridges. The pipe would be placed on equipment bridges one-foot above the water column for the duration of the Project. If the intermittent waterbody to be traversed is dry at the time of crossing, it may be crossed using standard upland construction techniques instead of the dry-ditch crossing method proposed. None of these waterbodies are listed as impaired or sensitive waterbodies. The Project would temporarily affect the streams and stream flow.

The Bristoria Wareyard is in the North Fork Dunkard Fork subwatershed of the Upper Ohio-Wheeling Watershed. Three streams were identified within the Bristoria Wareyard and are unnamed tributaries to a stream located south of the construction work area, North Fork Dunkard Fork. The one perennial, one intermittent, and one ephemeral stream that are located at the contractor yard would be avoided during construction. In accordance with Texas Eastern's E&SCP, sediment barriers (e.g. silt fences, straw bales, sand bags etc.) would be installed along

the edge of the construction area to prevent the flow of sediments and spoil into nearby waterbodies. None of the waterbodies within the Bristoria Wareyard are listed as impaired, and the Project would not affect these waterbodies. Texas Eastern would implement erosion and sediment controls in accordance with its E&SCP and the Procedures (except where site-specific modifications were requested) to minimize impacts on waterbodies.

Texas Eastern's requested site-specific modifications to sections V.B.2 and VI.A.3 of the Procedures which are listed in table 3. Texas Eastern is requesting temporary workspace within 50 feet of a waterbody and a construction workspace of greater than 75 feet within a wetland to accommodate the spatial needs of excavation, replacement and the fixed separation of four pipelines. We have reviewed these modifications and find them acceptable. We conclude that the Project would not have significant or long-term impacts on waterbodies.

Table 3
Requested Construction Exceptions to the Procedures

Location	Affected Feature(s)	Distance from feature (ft)	Requested Exception	Justification for Exception
Line 30 Sta. 38285+67 to 38286+05	W-11J-003	0	Use of workspace more than 75 feet wide at wetland crossing	A temporary workspace greater than 75 feet wide is required for excavating and replacing four existing parallel pipelines. Construction activities, pipeline locations within steep terrain, and a required travel lane constrain workspace options to a degree requiring the exemption.
11J-ATWS-006, 890 feet from the western end of the Project CWA	Stream S-11J-001	0	ATWS requested within 50 feet of a water feature	Additional workspace is required to complete the transition from aboveground pipe to buried pipe and to construct a safe bell-hole tie-in. Topography and site constraints restrict construction to require the exemption. Steep slopes are adjacent to the existing ROW, restricting the siting of additional workspaces.
11J-ATWS-002, 1250 feet from the eastern end of the Project CWA	Stream S-11J-003 (located outside of CWA)	45	ATWS requested within 50 feet of a water feature	Additional workspace is required to complete the transition from aboveground pipe to buried pipe and to construct a safe bell-hole tie-in. Topography and site constraints restrict construction to require the exemption. Steep slopes are adjacent to the existing ROW, restricting the siting of additional workspaces.

ATWS = additional temporary workspace
CWA = construction work area
ROW = right-of-way

Hydrostatic Testing

In total, 300,000 gallons of water would be required for hydrostatic testing of the pipelines. The elevated portions would be tested using 150,000 gallons the first year, and an additional 150,000 gallons would be used to test the pipeline after reburial.

During hydrostatic testing, each pipeline would be filled with water and pressurized to one and a half times the maximum pressure under which the pipeline would be operated. The water would be maintained at the prescribed pressure for a minimum of 8 hours to verify the strength and integrity of the new pipelines. Hydrostatic testing would be conducted in a manner that meets or exceeds 49 CFR Part 192, "Transportation of Natural and Other Gas by Pipeline," "Minimum Federal Safety Standards". Texas Eastern would comply with all the terms and conditions of the hydrostatic testing discharge permit from the WVDEP. The hydrostatic test water would be obtained from a municipal source and discharged at a rate of 1,500 gallons per minute into a well vegetated upland area. No chemicals would be added to the hydrostatic test water. Therefore, we conclude that discharge of hydrostatic water would not significantly impact water resources.

3.3 Wetlands

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of wetland vegetation adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation (Environmental Laboratory, 1987). Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing wildlife habitat, recreational opportunities, flood control, and naturally improving water quality.

One palustrine emergent/scrub-shrub wetland and six palustrine emergent wetlands were identified within the Project area. The Project would temporarily impact 0.2 acre of palustrine emergent/scrub-shrub mixed wetland and palustrine emergent wetland. These impacts are unavoidable because the existing pipelines traverse the wetlands. The majority of wetland disturbance would be limited to two discrete activities: initial construction to elevate the pipelines and reburial of the pipelines following ground subsidence. Texas Eastern would conduct visual inspections of the pipelines within wetlands while they are elevated. Inspection would occur weekly prior to and following the ground subsidence period, and daily during the subsidence period. After initial pipeline elevation and reinstallation of the pipelines below ground, wetland areas would be restored using segregated topsoil and proper seeding techniques. Wetlands would be restored, in accordance with the Procedures, as close as possible to preconstruction conditions after the reinstallation of the pipeline. No wetlands would be impacted at the Bristoria Wareyard. The Project would have minor and temporary impacts on wetlands.

4.0 VEGETATION, WILDLIFE, AND THREATENED AND ENDANGERED SPECIES

This section discusses wildlife habitats and existing vegetation resources at each of the Project sites, and the federally- and state-protected wildlife species that are known to occur or may potentially occur in the Project vicinity.

4.1 Vegetation

Vegetation types in the Project area include secondary growth forest and open land such as old field, pasture, and maintained right-of-way. Construction would impact approximately 3.8 acres of agricultural land, 22.4 acres of open land, 0.9 acre of wetland/waterbody, and 4.9 acres of forest/woodland. All areas would be allowed to revegetate to preconstruction conditions. Impacts on herbaceous vegetation would be minor and short-term due to rapid revegetation characteristic of herbaceous species. The impact on forest/woodland would be a long-term to permanent impact, as it would take more than 20 years for forested vegetation to return to pre-construction conditions. Due to the abundance of surrounding forest habitat, this impact is considered minor.

During field surveys, Texas Eastern identified the following invasive plant species: honeysuckle, garlic mustard, Japanese stiltgrass, multiflora rose, Japanese honeysuckle, poison hemlock, common reed, and narrow-leaved cattail. Texas Eastern has developed an Invasive Plant Species Management Plan to help prevent and control the spread and introduction of invasive species in the Project area. Contractors would be required to ensure that all construction equipment is clean before entering the work area. The spread of invasive plants would be reduced by immediately revegetating disturbed areas and post-construction monitoring of vegetation.

Texas Eastern would revegetate all disturbed land in accordance with the Plan and Procedures. The construction area would be monitored until revegetation is successful. Given that the Project is co-located with existing rights-of-way as much as possible and that Project workspaces would be revegetated and restored to pre-construction conditions, we conclude that the Project would not have a significant impact on vegetation.

4.2 Wildlife

The habitat within the Project area may support a variety of widespread mammals, birds, reptiles, amphibians, and invertebrates. The maintained right-of-way and the secondary forest habitat may support small species such as deer mice, meadow voles, northern-short-tailed shrew, common watersnake, northern brownsnake, northern red-bellied snake, and eastern box turtle. The habitat available for birds within the Project area primarily includes open pasture land, secondary growth forests, and old field vegetation. Red fox, black bears, and raccoons may also utilize the forested habitat.

Clearing and grading of the construction area would result in the loss of vegetative cover and may result in the mortality of less mobile fauna, such as small rodents, reptiles, and invertebrates. Most of the workspace consists of previously disturbed habitat such as maintained right-of-way. Species common to the area are typically mobile and would avoid or leave the construction area during construction. The ability of wildlife to move across the right-of-way may temporarily be hindered while the pipeline is placed above ground. However, there would be no long term or significant impacts on wildlife populations.

Fisheries

No fish were observed in waterbodies during the April and July 2019 surveys. The perennial stream S-11J-002 crossed by the Project could sustain a small population of small fish. The perennial stream located in Bristoria Wareyard similarly could support a small population of small fish. However, the Project would not affect this waterbody. None of the other streams in the Project area have sufficient flow to support fish populations. Table 4 lists fish species that could potentially inhabit these two perennial streams.

Table 4
Fish Species with Potential Habitat within the Project Area

Common Name	Scientific Name	Common Name	Scientific Name
Central Stoneroller	*Campostoma anomalum*	Creek Chub	*Semotilus atromaculatus*
Common Carp	*Cyprinus carpio*	White Sucker	*Catostomus commersoni*
Bigeye Chub	*Hybopsis amblops*	Northern Hog Sucker	*Hypentelium nigricians*
Striped Shiner	*Luxilus chrysocephalus*	Golden Redhorse	*Moxostoma erthrurum*
River Chub	*Nocomis micropogon*	Stonecat	*Notorus flavus*
Silverjaw Minnow	*Notropis buccata*	Northern Studfish	*Fundulus catenatus*
Sand Shiner	*Notropis stramineus*	Green Sunfish	*Lepomis cyanellus*
Rosyface Shiner	*Notropis rubellus*	Longear Sunfish	*Lepomis megalotis*
Suckermouth Minnow	*Phenacobius mirabilis*	Smallmouth Bass	*Micropterus dolomieu*
Bluntnose Minnow	*Pimephales notatus*	Greenside Darter	*Etheostoma blennioides*
Eastern Blacknose Dace	*Rinichthys atratulus*	Rainbow Darter	*Etheostoma caeruleum*
Western Blacknose Dace	*Rhinichthys obtusus*	Logperch	*Percina caprodes*

Trout stocked fisheries are stocked and maintained with trout from February 15 to July 31 and are protected for maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warmwater habitat. None of the waterbodies identified within the construction area are classified as trout habitat (including naturally reproducing trout streams, stocked trout streams, and special regulation areas). The streams at Bristoria Wareyard are tributaries of North Fork Dunkard Fork which is classified as a trout stocked fishery. These streams would be avoided during construction and Texas Eastern would minimize erosion into these streams by adhering to its E&SCP. To reduce the potential for accidental spills of fuel and other hazardous materials Texas Eastern would follow its SPCC Plan. Impacts from construction-related sedimentation and turbidity would be limited to short-term, temporary disturbances. Therefore, we conclude the Project would not result in long-term or significant impacts to fisheries or fish habitat.

Migratory Birds

Migratory birds are protected under the Migratory Bird Treaty Act (16 U.S Code [U.S.C.] 703-711); bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.SC. 668-668d). Executive Order 13186 (66 FR 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the U.S. Fish and Wildlife Service (FWS). On March 30, 2011, FWS and the Commission entered into a Memorandum of Understanding that focuses on avoiding, minimizing, or mitigating adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the FWS.

The FWS Birds of Conservation Concern (BCC) 2008 report identifies migratory and non-migratory bird species that are priorities for conservation actions, beyond those species already designated as federally threatened or endangered. The Project area occurs within the Appalachian Mountains Bird Conservation Region.

Important Bird Areas (IBAs) are sites designate by the National Audubon Society as the most critical regions for conserving bird population diversity and abundance within the state. The Green County Forest Block IBA is 0.6 mile south of Panel 11J and the Bristoria Wareyard is entirely within this IBA. Most of the construction work area would be in the existing right-of-way and the trees cleared would be along the edge of the right-of-way. Potential impacts on migratory birds and BCC would be minor and limited mostly to temporary impacts on food, cover, and water resources in the Project area during construction. Based on reviews of nesting habitat characteristics, only nine BCC have the potential to nest in trees in the Project area, five species have low potential, and four BCC have moderate potential. These BCC and descriptions of their preferred habitat are listed in table 5. Review of the Avian Knowledge Network Phenology tool showed that only the black-capped chickadee, the red-headed woodpecker, and the wood thrush were found in the area during previous nesting season surveys.

Table 5 Birds of Conservation Concern that Could Potentially Nest in the Project Area		
Common Name (*Scientific Name*)	**Preferred Habitat**	**Potential to Nest in Trees in the Project Area**
Northern Saw-whet owl (*Aegolius acadicus)*	Preference for mature forests with deciduous trees for nesting, dense conifers for roosting, and near rivers. Nests are placed in existing cavities in dead snags.	Moderate
Red-headed woodpecker (*Melanerpes erythrocephalus)*	Breed along forest edges, and nests in cavities of dead trees or dead parts of live trees.	Moderate
Yellow-bellied sapsucker (*Sphyrapicus varius)*	Favors young forests and edge habitat; and nests in cavities commonly drilled into aspen, birch, maple, beech and elm.	Moderate
Olive-sided flycatcher (*Contopus cooperi)*	Breeds mostly in coniferous forest, and nests in trees.	Low
Loggerhead shrike (*Lanius ludovicianus)*	Inhabits open country with well- spaced shrubs or low trees. Typically build nests in thorny vegetation.	Low
Black-capped chickadee (*Poecile atricapillus)*	Found in deciduous and mixed forests, and nests in nest boxes, small natural cavities, existing cavities, or their own excavated cavities. Tendency to excavate in dead snags or rotten branches, and often select alder or birch.	Moderate
Bewick's wren (*Thryomanes bewickii)*	Favors brushy areas, scrub and thickets. Typically breeds in areas that contain a mixture of thick, scrubby vegetation and open woodland. Nests in cavities or ledges.	Low
Sedge wren (*Cistothorus platensis)*	Nests in dense tall sedges and grasses in wet meadows, hayfields, and marshes.	None
Wood thrush (*Hylocichla mustelina)*	Prefers mature deciduous and mixed forests; and nests somewhat less successfully in fragmented forests, nests are less common along forest edges.	Low
Prairie warbler (*Dendroica discolor)*	Occurs in various shrubby habitats, including regenerating forests and open fields. Nests in small trees or shrubs.	Low

The tree clearing would occur along the existing right-of-way to reduce habitat fragmentation. Trees along the right-of-way are considered edge habitat which is less desirable habitat for most wildlife. Due to the minimal amount of tree clearing and the reduced habitat fragmentation, we conclude that the Project would not significantly impact migratory bird or BCC populations in the area.

Special Status Species

Federal

In accordance with section 7 of the Endangered Species Act, FERC, as the lead agency, must consult with FWS to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The threatened northern long-eared bat and the endangered Indiana bat are two federally protected species with the potential to occur in the Project area. The Indiana bat and northern long-eared bat may use the Project area for foraging and roosting between April 1 and November 15.

The Indiana bat is a medium sized dull grayish bat that closely resembles the little brown bat. Its underparts are pink, and its hind feet are smaller than the little brown bat. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. In West Virginia, the FWS considers all forested habitat containing trees greater than or equal to 5 inches in diameter at breast height to be potentially suitable as summer roosting and foraging habitat for the Indiana bat.

FWS has determined that small projects more than 10 miles from a known priority 1 or 2 Indiana bat hibernaculum, more than 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, more than 2.5 miles from any known maternity roost, or more than 5 miles from summer detection sites where no roosts were identified, that affect less than 17 acres of forested habitat, and would not affect any potential hibernacula, would have a very small chance of resulting in direct or indirect effects to the Indiana bat, and therefore these effects are considered discountable. The Project would only clear 4.9 acres of forest, is not within any Indiana bat hibernacula or summer use buffers previously described, and would not affect potential caves or mines that could be used as hibernacula. Therefore, we conclude that the Project *may affect, but is not likely to adversely affect* the Indiana bat. West Virginia FWS field office concurred with this determination on August 2, 2019 and the Pennsylvania FWS field office concurred with this determination on September 27, 2019.

The northern long-eared bat is about 3 to 3.7 inches long with a wingspan of 9 to 10 inches, and typically weighs between 0.2 and 0.3 ounce. It is distinguished from other myotis species by its long ears. Northern long-eared bats spend the winter hibernating in caves and abandoned mines. During summer, they roost alone or in small colonies, typically in groups containing less than 100 individuals, with maternity colonies averaging 20 to 30 individuals, underneath bark or in cavities or crevices of both live and dead trees. The species was federally

listed primarily due to the threat of white-nose syndrome, but other threats include wind energy development and habitat destruction. The Project is not located within 0.25 miles of known northern long-eared bat hibernacula or a 150-foot radius around known occupied maternity trees, and would not affect any known northern long-eared bat hibernacula, therefore the FWS states any take of northern long-eared bat associated with the Project would be exempted under the 4(d) rule and no conservation measures are required. We submitted the online northern long-eared bat determination 4(d) determination key on November 12, 2019 and received concurrence with a may affect determination. Therefore, we conclude that the Project *may affect, but is not likely to adversely affect* the northern-long-eared bat. No further consultation with FWS is required under section 7 of the Endangered Species Act.

State

Texas Eastern requested an environmental review from the West Virginia Department of Natural Resources, Natural Heritage Program, on July 26, 2019. On August 14, 2019, the WVDNR stated that there are no known records of rare, threatened, or endangered species or sensitive habitats within the Project area.

On July 1, 2019, Texas Eastern reviewed the Pennsylvania Natural Diversity Inventory Online Search tool and yielded a result of 'no further review required' from the Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, and FWS for the Bristoria Wareyard. Therefore, we conclude that the Project would not impact state-listed threatened or endangered species.

5.0 CULTURAL RESOURCES

In addition to accounting for impacts to cultural resources under NEPA, Section 106 of the National Historic Preservation Act, as amended, requires FERC to consider the effects of its undertakings on historic properties listed, or eligible for listing on the National Register of Historic Places (NRHP),[2] and to afford the Advisory Council on Historic Preservation an opportunity to comment. Texas Eastern, as a non-federal party, is assisting FERC in meeting our obligations under Section 106 and its implementing regulations at 36 CFR 800.

5.1 Area of Potential Effects

The Project area of potential effects (APE) is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16(d)). The Project APE encompasses the entirety of the proposed Project area which includes all areas of potential direct and indirect effects from construction, operations, and maintenance for the proposed Project and totals approximately 40.1 acres. Due to the area's topography and vegetation, which combine to limit

[2] In accordance with 36 CFR 800.16(l)(1), a historic property is any prehistoric or historic district, site, building, structure, object, or property of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization, included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties.

views to and from the Project area, the APE is sufficient to account for all the potential direct and indirect effects to historic properties by the Project.

5.2. Cultural Resources Investigation

In an effort to identify historic properties within the Project APE and to account for any direct or indirect effects to those properties by the proposed Project, Texas Eastern completed a cultural resources investigation which included background research and a Phase I archaeological survey (Hornum 2019a). No historic buildings or structures are located within the APE and only one historic resource was identified within 0.5 mile of the Project APE during the background research. As such, Texas Eastern recommended that the Project would not affect historic architectural properties; therefore, no historic architectural survey was undertaken.

Texas Eastern surveyed the APE by pedestrian transects; supplemented with judgmental shovel testing. No subsurface testing was conducted within the existing pipeline right-of way, as this area was excluded from archeological testing by a categorical exclusion from the West Virginia State Historic Preservation Officer (SHPO). Similarly, no shovel tests were excavated in existing road beds or in areas with slopes exceeding a 20 percent (11.3 degrees) grade. No archeological resources were identified during the Phase I survey. On May 2, 2019, Texas Eastern submitted the results and recommendations of the initial Phase I survey to the West Virginia SHPO for review and concurrence. In a letter dated June 4, 2019, the West Virginia SHPO agreed with Texas Eastern's recommendations that no further archaeological work is necessary for the Project and that the proposed Project will have no effect on archaeological properties. The West Virginia SHPO also indicated that no historic architectural resources will be affected by the Project.

Subsequent to the Phase I cultural resources survey and consultation with the West Virginia SHPO, Texas Eastern modified the Project area by adding an additional access road and expanding the pipeline corridor and workspaces, totaling about 16.3 acres. Texas Eastern conducted a supplemental Phase I archaeological survey via pedestrian transects and judgmental subsurface testing based on the same parameters as the initial archaeological survey (Hornum 2019b). No archaeological resources were identified during the supplemental survey. Texas Eastern submitted the supplemental Phase I archaeological survey report to the West Virginia SHPO on August 22, 2019 for review and concurrence. In a letter date September 3, 2019, the West Virginia concurred with Texas Eastern's recommendation that no further investigations are necessary and that the proposed Project will have no effect on historic properties.

On October 22, 2019, Texas Eastern consulted the Pennsylvania SHPO via letter regarding the Bristoria Wareyard, which was not included in the initial Section 106 consultation for the proposed Project. The Bristoria Wareyard has been previously reviewed by the Pennsylvania SHPO for two other projects. Texas Eastern requested concurrence from the SHPO, that based on data gathered from the previous review, the Project would not impact any historic properties and no further cultural resources investigations are warranted. The Pennsylvania SHPO responded on October 30, 2019, concurring with Texas Eastern's recommendation that the Project will have no effect on historic properties.

5.3 Tribal Consultation

Texas Eastern contacted the following Native American tribes regarding the proposed Project: Absentee-Shawnee Tribe of Oklahoma, Catawba Indian Nation, Cayuga Nation, Cherokee Nation, Delaware Nation of Oklahoma, Delaware Tribe of Indians, Eastern Band of the Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Nation of Wisconsin, Oneida Indian Nation, Onondaga Nation, Seneca-Cayuga Nation, Seneca Nation of Indians, Shawnee Tribe of Oklahoma, St. Regis Mohawk Tribe, Tonawanda Band of Seneca, Tuscarora Nation, and United Keetoowah Band of Cherokee Indians

On April 16, 2019, Texas Eastern sent Project notification letters to the tribes to inform them about the Project and to request information on any concerns they might have about potential impacts to traditional cultural properties and historic properties. The letter to the Shawnee Tribe of Oklahoma was returned by the tribe without explanation. On May 21, 2019, Texas Eastern received an email from the Catawba Indian Nation indicating that the tribe had no immediate concerns with regard to traditional cultural properties, sacred sites, or Native American archaeological properties in the Project area. However, the tribe requested notification if any Native American artifacts or human remains are identified during construction. Texas Eastern followed up with the tribes via an additional letter on October 22, 2019, regarding the Bristoria Wareyard. Texas Eastern has not received any response to the follow-up letters.

Prior to the submission of Texas Eastern's application, the Delaware Tribe of Indians sent an email to FERC on April 29, 2019 requesting copies of any cultural resources or archaeological survey reports that would facilitate their review. On October 3, 2019, FERC sent the Project NOI to these same tribes that Texas Eastern consulted. The Osage Nation sent a letter to FERC on November 14, 2019 requesting that a cultural resources survey be conducted for the Project and that they would be afforded the opportunity to review and comment on the survey report. FERC requested that Texas Eastern provide copies of all cultural resources reports to the Delaware Tribe of Indians and the Osage Nation. Texas Eastern sent copies of the Project cultural resources reports via email on October 23, 2019, and December 5, 2019, to the Delaware Tribe of Indians and the Osage Nation, respectively. Further, in a letter dated December 5, 2019, the United Keetoowah Band of Cherokee Indians indicated that the proposed Project lies outside the tribe's area of interest.

5.4 Unanticipated Discoveries Plan

Texas Eastern developed a Project-specific plan for the unanticipated discovery of cultural resources and/or human remains. The plan outlines the procedures to follow, in accordance with state and federal laws, if unanticipated cultural resources or human remains are discovered during construction of the Project. The plan was submitted to FERC and we requested minor changes to the plan. Texas Eastern provided copies of the revised plan with the requested revisions to FERC and the West Virginia and Pennsylvania SHPOs. We find the plan to be acceptable.

5.5 Compliance with the National Historic Preservation Act

FERC has completed its compliance requirements with Section 106 of the National Historic Preservation Act for the proposed Project.

6.0 LAND USE, RECREATION AND VISUAL RESOURCES

Land use in the Project area would consist of agricultural, forest/woodland, open land, residential, commercial/industrial land, and wetlands/waterbodies. Overall land uses for the Project are presented in table 6.

Table 6
Land Use
(acres)

	Agricultural	Forest/ Woodland	Open Land	Residential	Industrial/ Commercial	Wetland/ Waterbody	Total
Panel 11J Construction Work Area							
Panel 11J TWS	0.05	1.48	11.43	0	0	0.27	**13.23**
Panel 11J ATWS	2.97	1.79	5.26	0	0	0	**10.02**
Panel 11J TARs	0.77	1.17	0.48	0	0	0.03	**2.45**
Bristoria Wareyard							
	0	0.44	5.13	0	0	0.56	**6.13**
Total	**3.79**	**4.89**	**22.37**	**0**	**0**	**0.86**	**31.91**

TWS = temporary workspace which includes existing rights-of-way; ATWS = additional temporary workspace; TARs = temporary access roads

Pipeline Facilities

The Project involve work to Texas Eastern's existing Lines 10, 15, 25, and 30. Segments of Lines 10 and 15 would be excavated and replaced before being placed back into service for the duration of mining activities. Segments of lines 25 and 30 would be excavated and elevated before being placed back into service for the duration of mining activities. Once complete, the pipelines would be returned to their original alignment belowground. A description of the pipeline facilities is presented in table 7. These areas would revert to pre-construction conditions once activities are complete, with no operational land use changes.

Table 7 Description of Pipeline Facilities				
Pipeline Diameter and Type of Activity	**County, State**	**Milepost [a]**		**Approximate Length (feet)**
		Begin	**End**	
Pipeline Replacement [b]				
30-inch-diameter pipeline Line 10	Marshall County, WV	724.4	724.8	1,932
30-inch-diameter pipeline Line 15	Marshall County, WV	724.9	725.3	1,967
Pipeline Maintenance [c]				
36-inch-diameter pipeline Line 25	Marshall County, WV	44.1	44.4	1,864
36-inch-diameter pipeline Line 30	Marshall County, WV	724.9	725.3	2,022

[a] Mileposts are reference points and may not equal the total length due to rounding. Individual pipeline mileposts differ due to the various beginning and ending points associated with each pipeline. All work would occur on parallel pipeline segments within the same right-of-way traversing Panel 11J.

[b] Old pipe to be removed and replaced, new pipe elevated aboveground during subsidence and reinstalled belowground in the same location following subsidence.

[c] Pipe to be elevated aboveground during subsidence and reinstalled belowground in the same location following subsidence.

Contractor yards

Texas Eastern proposes to use the existing and previously certificated[3] Bristoria Wareyard as a contractor yard during construction of the Project for vehicle parking, equipment staging, and material storage. No permanent land use impacts are anticipated.

Access roads

Texas Eastern has proposed three TARs to facilitate construction activities totaling 2.5 acres, and 4,896 feet in length, which are presented in table 8. TAR 725.8 and TAR 725.0 are existing farm roads located off Wolf Run Road and may require improvements such as tree clearing and trimming, gravel placement, or path widening. TAR 725.2 would be off WV Route 891 and would need improvements including gravel placement, path widening, and trimming. TAR 725.0 would also require a temporary bridge crossing at three streams. All TARs would revert to pre-construction conditions after re-installation of the pipelines.

[3] CP17-468-000, CP16-501-000, CP14-545-000, and CP14-4-000.

Table 8 Temporary Access Roads					
Access Road	**Milepost**	**New/ Existing**	**Width (feet)**	**Length (feet)**	**Proposed Improvements**
724.8	724.8	Existing	50	1,100	Tree clearing/trimming, gravel placement, or path widening
725.0	725.0	Existing	50	2,037	Tree clearing/trimming, gravel placement, or path widening
725.2	725.2	Partially Existing	50	1,759	Tree clearing/trimming, gravel placement, or path widening

Recreation

The Project would not cross nor would be located within 0.25 mile of any National Park System Unit, which includes national parks, monuments, preserves, historic sites, historical parks, memorials, battlefields, military parks, cemeteries, recreation areas, trails, and other designations. Based on the location and nature of construction activities, we conclude the Project would have no adverse impact on recreational areas.

Residential Areas

There are no residences located within 50 feet of the construction right-of-way, however, one outbuilding is located adjacent to TAR 724.8, approximately 10 feet north of the existing farm road. There are no residences located within 50 feet of Bristoria Wareyard. Landowners have been notified of the Project, and Texas Eastern would notify affected landowners one week prior to the start of activity on their property. Access to residences would remain open for residents but may be temporarily restricted due to construction and mitigation activities such as spraying water or other dust control agents to roadways. Based on the location and nature of construction activities, we conclude the Project would have no adverse impact on residences.

Visual Resources

There are no visually sensitive areas within the viewshed of construction activities. Visual impacts due to construction would be temporary, therefore we conclude that there would be no impacts on visual resources due to the Project.

Coastal Zone Management Areas

The Project is not within a coastal zone management area.

7.0 AIR QUALITY AND NOISE

7.1 Air Quality

Air quality would be affected by construction and operation of the Project. During construction, short-term emissions would be generated from the usage of equipment, land disturbance, and increased traffic from worker and delivery vehicles for all locations. No operational emissions would be associated with the Project.

Ambient air quality is protected by federal and state regulations. Under the Clean Air Act (CAA) and its amendments, the U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS)[4] for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_x) ozone, particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2). The WVDEP have the authority to implement permit programs under the CAA for the proposed Project facilities.

These standards incorporate short-term (hourly or daily) levels and long-term (annual) levels to address acute and chronic exposures to the pollutants, as appropriate. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations such as children and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, vegetation, animal species, and other concerns not related to human health. Table 9 presents the NAAQS.

Air quality control regions (AQCRs) are areas established by the EPA and local agencies for air quality planning purposes, in which State Implementation Plans describe how the NAAQS would be achieved and maintained. The AQCRs are intra- and interstate regions such as large metropolitan areas where improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or smaller portion within an AQCR (such as a county), is designated, based on compliance with the NAAQS, as attainment, unclassifiable, maintenance, or nonattainment, on a pollutant by-pollutant basis. Areas in compliance or below the NAAQS are designated as attainment, while areas not in compliance or above the NAAQS are designated as nonattainment. Areas previously designated as nonattainment that have since demonstrated compliance with the NAAQS are designated as maintenance for that pollutant. Maintenance areas may be subject to more stringent regulatory requirements to ensure continued attainment of the NAAQS. Areas that lack sufficient data to determine attainment status are designated unclassifiable and treated as attainment areas. The Project is located in the Steubenville-Weirton-Wheeling AQCR. All Project components occur within areas that are designated as attainment for all criteria pollutants.

[4] The current NAAQS are listed on EPA's website at https://www.epa.gov/criteria-air-pollutants/naaqs-table.

Table 9
National Ambient Air Quality Standards

Pollutant	Averaging Period	Standards	
		Primary	Secondary
Sulfur dioxide (SO_2)	1-hour [l,m]	75 ppb 196 µg/m³	
	3-hour [b]	--	0.5 ppm 1300 µg/m³
	Annual [a,m]	0.03 ppm 80 µg/m³	--
	24-hour [b,m]	0.14 ppm 365 µg/m³	--
PM_{10}	24-hour [d]	150 µg/m³	150 µg/m³
$PM_{2.5}$ (2012 Standard)	Annual [e]	12.0 µg/m³	15.0 µg/m³
$PM_{2.5}$ (2006 Standard)	24-hour [f]	35 µg/m³	35 µg/m³
Nitrogen Dioxide (NO_2)	Annual [a]	0.053 ppm (53 ppb) 100 µg/m³	0.053 ppm (53 ppb) 100 µg/m³
	1-hour [c]	100 ppb 188 µg/m³	--
Carbon Monoxide (CO)	8-hour [b]	9 ppm 10,000µg/m³	--
	1-hour [b]	35 ppm 40,000 µg/m³	--
Ozone (2008 Standard)	8-hour [g,h]	0.075 ppm	0.075 ppm
Ozone (2015 Standard)	8-Hour [i]	0.070 ppm	0.070 ppm
Ozone (O3)	1-hour [j,k]	0.12 ppm	0.12 ppm
Lead (Pb)	Rolling 3-month [a]	0.15 µg/m³	0.15 µg/m³

a. Not to be exceeded
b. Not to be exceeded more than once per year
c. Compliance based on 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area
d. Not to be exceeded more than once per year on average over 3 years
e. Compliance based on 3-year average of weighted annual mean $PM_{2.5}$ concentrations at community-oriented monitors
f. Compliance based on 3-year average of 98th percentile of 24-hour concentrations at each population-oriented monitor within an area
g. Compliance based on 3-year average of fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area
h. The 2008 8-hour ozone standard would remain in effect until one year after an area is designated for the 2015 8-hour ozone standard, which corresponds with January 16, 2019 based upon attainment designations for the 2015 ozone standard issued on January 16, 2018
i. Permit applications that have not met EPA's grandfathering criteria would have to demonstrate that the proposed project does not cause or contribute to a violation of any revised ozone standards that are in effect when the permit is issued, including the 2015 revised standards
j. Maximum 1-hour daily average not to be exceeded more than one day per calendar year on average
k. The 1-hour ozone standard has been revoked in all areas in which Project activities would occur
l. Compliance based on 3-year average of 99th percentile of the daily maximum 1-hour average at each monitor within an area
m. The 24-hour and annual average primary standards for SO_2 have been revoked
ppm = parts per million by volume; ppb = parts per billion by volume.
µg/m³ = micrograms per cubic meter.

Permitting/Regulatory Requirements

Prevention of Significant Deterioration and Nonattainment New Source Review

The Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR) air permit programs are designed to protect air quality when air pollutant emissions are increased either through the construction of new major stationary sources or major modifications to existing stationary sources. The WVDEP administer the PSD and NNSR permitting programs in their state. These programs do not apply to the Project.

Title V Permitting

Title V is an operating air permit program run by each state for each facility that is considered a "major source." Emissions associated with the Project would result from construction activities and would not result in any new sources, therefore this program does not apply to the Project.

New Source Performance Standards (NSPS)

The EPA promulgates NSPS to establish emission limits and fuel, monitoring, notification, reporting, and recordkeeping requirements for stationary source types or categories that cause or contribute significantly to air pollution. Emissions associated with the Project are from construction activities and would not result in any new sources, therefore this program does not apply to the Project.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The 1990 CAA Amendments established a list of 189 hazardous air pollutants (HAPs), resulting in the promulgation of NESHAP. The NESHAP regulates HAP emissions from specific source types located at major or area sources of HAPs by setting emission limits, monitoring, testing, record keeping, and notification requirements. Emissions associated with the Project are from construction activities, no new sources of emissions are proposed, and therefore this program does not apply to the Project.

State and Local Regulations

There are no additional regulations that apply to the Project.

General Conformity

The EPA promulgated the General Conformity Rule to implement the conformity provision of Title I, Section 176(c)(1) of CAA. Section 176(c)(1) requires that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to, an approved CAA implementation plan.

The General Conformity Rule is codified in Title 40 CFR Part 51, Subpart W and Part 93, Subpart B, Determining Conformity of General Federal Actions to State or Federal Implementation Plans. A conformity determination must be conducted by the lead federal agency if a federal action's construction and operational activities is likely to result in generating direct

and indirect emissions that would exceed the conformity threshold (*de minimis*) levels of the pollutant(s) for which an air basin is in nonattainment or maintenance. According to the conformity regulations, emissions from sources that are subject to any NNSR or PSD permitting/licensing (major or minor) are exempt and are deemed to have conformed.

The General Conformity Rule was developed to ensure that federal actions in nonattainment and maintenance areas do not impede states' attainment of the NAAQS. The lead federal agency must conduct a conformity determination if a federal action's construction and operational activities is likely to result in generating direct and indirect emissions that would exceed the General Conformity Applicability threshold levels of the pollutant(s) for which an air basin is designated nonattainment or maintenance. Section 176(c)(1) states that a federal agency cannot approve or support any activity that does not conform to an approved State Implementation Plan. Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of the NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

The General Conformity Rule entails both an applicability analysis and a subsequent conformity determination, if deemed necessary. A General Conformity Determination must be completed when the total direct and indirect emissions of a project would equal or exceed the specified pollutant thresholds on a calendar year basis for each nonattainment or maintenance area.

As noted earlier, the Project facilities would be constructed and operated within counties in attainment for all criteria pollutants, therefore, a General Conformity Determination would not be required.

Greenhouse Gases

Greenhouse gases (GHGs) occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs are gases that absorb infrared radiation in the atmosphere, and an increase in emissions of these gasses has been determined by the EPA to endanger public health and welfare by contributing to global climate change. The most common GHGs emitted during fossil fuel combustion and natural gas transportation are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Emissions of GHGs are typically expressed in terms of CO_2 equivalents (CO_2e), where the potential of each gas to increase heating in the atmosphere is expressed as a multiple of the heating potential of CO_2 over a specific timeframe, or its global warming potential (GWP)[5]. The 100-year GWP of CO_2 is 1, CH_4 is 25, and N_2O is 298. During construction and operation of the Project, these GHGs would be emitted from non-electrical construction and operational equipment, as well as from fugitive CH_4 leaks from the pipeline and aboveground facilities.

On November 8, 2010, the EPA signed a rule that finalizes reporting requirements for the petroleum and natural gas industry under 40 CFR 98. Subpart W of 40 CFR 98 requires petroleum

[5] These GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs the EPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

and natural gas facilities that emit 25,000 metric tons or more of CO_2e per year to report annual emissions of specified GHGs from various processes within the facility. Construction emissions are not covered under the GHG Reporting Rule, but those related to the proposed Project are expected to be well below the 25,000 metric tons reporting threshold. Operational emissions from the proposed facilities are likewise not expected to exceed this threshold and be reported to the EPA. The EPA has expanded its regulations to include the emission of GHGs from major stationary sources under the PSD program. The EPA's current rules require that a stationary source that is major for a non-GHG-regulated New Source Review pollutant must also obtain a PSD permit prior to beginning construction of a new or modified major source with mass-based GHG emissions equal to or greater than 100,000 tons per year (tpy) and significant net emission increases in units of CO_2e equal to or greater than 75,000 tpy. There are no NAAQS or other significance thresholds for GHGs.

Construction Emissions

Construction of the Project would result in short-term increases in emissions of some pollutants from the use of fossil fuel-fired equipment and the generation of fugitive dust due to earthmoving activities. Some temporary indirect emissions, attributable to construction workers commuting to and from work sites during construction and from on-road and off-road construction vehicle traffic, could also occur. Large earth-moving equipment and other mobile equipment are sources of combustion-related emissions, including criteria pollutants (i.e., NO_x, CO, VOC, SO_2, and PM_{10}).

Texas Eastern would mitigate exhaust emissions from construction equipment by requiring contractors to meet all air quality regulations and emission standards associated with each piece of equipment, and limit idling of diesel and gasoline powered on-road vehicles and non-road construction equipment operating at, or visiting, the construction site. Texas Eastern filed a Fugitive Dust Control Plan on December 13, 2019, which we have reviewed and find acceptable. Fugitive dust emissions during construction would be mitigated by measures such as spraying water, calcium chloride or other dust control agents on unpaved areas subject to frequent vehicle traffic, clearing roadways of debris, onsite travel restrictions, and maintaining appropriate low vehicle speeds.

Construction of the Project is estimated to occur between May and October 2020, prior to the start of the winter heating season. Once the longwall mining activities are completed, reinstallation would begin, and the pipeline segments would be returned belowground between May and October 2021. These emissions present the combined emissions for each facility, construction equipment combustion, on-road vehicle travel, off-road vehicle travel, and earthmoving fugitives. Construction related emission estimates were based on a typical construction equipment list, hours of operation, and vehicle miles traveled by the construction equipment and supporting vehicles for each area of the Project. These emission-generating activities would include earthmoving, construction equipment exhaust, on-road vehicle traffic, and off-road vehicle traffic. Texas Eastern conservatively utilized emission factors from EPA's NONROAD2008a and MOVES2014 emission modeling software.

Construction of the Project would cause a temporary reduction in local ambient air quality due to fugitive dust and emissions generated by construction equipment. This temporary impact would occur only in the immediate vicinity of the construction activity. Once the construction

activity in an area is completed, the fugitive dust and emissions would subside and revert to pre-construction conditions. Estimates of construction air emissions are shown in table 10.

Given the temporary and intermittent nature of construction, we find that emissions from construction-related activities for the Project would not be expected to cause or significantly contribute to a violation of any applicable ambient air quality standard, or significantly affect local or regional air quality.

Operational Emissions

There are no permanent sources of operational emissions proposed as part of the Project.

Table 10
Estimated Construction Emissions
(tons per year)

Excavation (Calendar Year 2020)

	Criteria and HAP Pollutants (tons)							
	NO_x	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOC**	**CO2e**	**Total HAPs[a]**
Worker Commute Exhaust	0.12	<0.01	1.64	0.03	<0.01	0.03	168	<0.01
Delivery Truck Exhaust	0.14	<0.01	0.08	0.01	<0.01	<0.01	27.8	<0.01
Construction Equipment Exhaust	3.85	0.01	3.19	0.19	0.18	0.34	1,314	0.09
Fugitive Dust from Travel on Unpaved Roads	--	--	--	2.55	0.25	--	--	--
Fugitive Dust from Travel on Paved Roads	--	--	--	0.35	0.09	--	--	--
Fugitive Dust from Construction Activities	--	--	--	3.72	0.55	--	694	0.61
Operational Activities	--	--	--	--	--	<0.01	0.01	--
Total [b]	**4.10**	**0.01**	**4.91**	**6.85**	**1.07**	**0.37**	**2,204**	**0.70**

Reinstallation (Calendar Year 2021)

	Criteria and HAP Pollutants (tons)							
	NO_x	**SO_2**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**VOC**	**CO2e**	**Total HAPs[a]**
Worker Commute Exhaust	0.10	<0.01	1.51	0.03	<0.01	0.02	163	<0.01
Delivery Truck Exhaust	0.12	<0.01	0.07	0.01	<0.01	0.01	27.5	<0.01
Construction Equipment Exhaust	3.49	0.01	3.01	0.16	0.15	0.31	1,314	0.09
Fugitive Dust from Travel on Unpaved Roads	--	--	--	2.55	0.25	--	--	--
Fugitive Dust from Travel on Paved Roads	--	--	--	0.35	0.09	--	--	--
Fugitive Dust from Construction Activities	--	--	--	3.81	0.57	--	694	0.61
Operational Activities	--	--	--	--	--	<0.01	0.45	--
Total	**3.71**	**0.01**	**4.60**	**6.91**	**1.06**	**0.34**	**2,199**	**0.70**

[a] As HAP emissions from construction are expected to be minimal, an estimate of total HAPs was made instead of calculating individual HAPs for each equipment based on the HAPs calculated by MOVES for the on-road equipment.

[b] Totals may vary due to rounding.

7.2 Noise

Construction and operation of the Project would affect the local noise environment in the Project area. The ambient sound level of a region, which is defined by the total noise generated within the specific environment, is usually comprised of sounds emanating from both natural and artificial sources. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of the day and throughout the week, in part due to changing weather conditions and the impacts of seasonal vegetative cover.

The EPA published its Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Two measurements used by some federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level containing the same sound energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The L_{dn} takes into account the duration and time the noise is encountered. Specifically, in the calculation of the L_{dn}, late night to early morning (10:00 p.m. to 7:00 a.m.) noise exposures are penalized +10 decibels (dB), to account for people's greater sensitivity to sound during the nighttime hours. The A-weighted scale (dBA) is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. For an essentially steady sound source that operates continuously over a 24-hour period and controls the environmental sound level, the L_{dn} is approximately 6.4 dB above the measured L_{eq}.

The EPA has indicated that an L_{dn} of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at noise sensitive areas (NSAs), such as residences, schools, or hospitals. Also, in general, a person's threshold of perception for a perceivable change in loudness on the A-weighted sound level is about 3 dBA, whereas a 5 dBA change is clearly noticeable, and a 10 dBA change is perceived as either twice or half as loud.

There are no applicable county, or local noise regulations associated with the Project.

Construction Noise

Construction of the facilities would involve operation of general construction equipment and noise would be generated during the installation of the Project components. The construction activities would cause a temporary increase in the ambient noise in the immediate vicinity of the construction site; however, because of the temporary nature of the construction activities, there would be no significant noise impact from construction. Construction noise would be highly variable because the types of equipment in use at a construction site changes with the construction phase and the types of activities. Noise from construction activities may be noticeable at nearby NSAs. However, construction equipment would be operated on an as-needed basis during the short-term construction period. Texas Eastern would conduct construction activities between 7:00AM and 9:00PM, except when required for activities such as hydrostatic testing, operation of pumps at waterbody crossings, or tie-in activities that require continuous work. FERC staff considers daytime hours to be 7:00 AM to 7:00 PM. If night time construction is required, advanced notice would be provided to the residents informing them of the planned activities and duration as well as a 24-hour

hotline telephone number to residents and abutters that would allow Texas Eastern to work with landowners to resolve concerns.

Measures to mitigate construction noise would include compliance with federal regulations limiting noise from trucks, proper maintenance of equipment, and ensuring that sound muffling devices provided by the manufacturer are kept in good working condition. Temporary relocation or compensation would be available, if necessary, to minimize noise impacts on NSA residents. Additionally, Texas Eastern would work with its construction contractors to employ less impactful types of equipment back-up alarms for large construction equipment.

Construction of the Project would be short-term and mostly limited to daytime hours, therefore, we conclude that construction noise would not have a significant impact on the surrounding environment.

Operation

There are no sources of operational noise associated with the Project.

Based on the duration of construction and lack of operational noise, we conclude that the Project would not result in significant noise impacts on residents and the surrounding communities.

8.0 RELIABILITY AND SAFETY

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The pipelines associated with the project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures.

The DOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. For example, Part 192 of 49 CFR specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment. Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency.

The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials.

Facilities associated with the Bailey East Mine Panel 11J Project must be designed, constructed, operated, and maintained in accordance with DOT standards, including the provisions

for written emergency plans and emergency shutdowns. Texas Eastern would provide the appropriate training to local emergency service personnel before the facilities are placed in service.

The Project is developed to decrease the risk of damage from subsidence. The pipeline would be monitored for damage when placed on the surface and would be tested to ensure compliance with US DOT pipeline standards. We conclude that the Project would not represent an increase in risk to the nearby public.

Polychlorinated Biphenyls

When any existing station piping, or pipeline is cut, the contractor would follow the EPA issued Polychlorinated Biphenyls (PCB) rules and regulations contained in 40 CFR Part 761. Lines 10, 15, 25, and 30 are PCB-regulated as PCB's have historically been detected at concentrations greater than 50 parts per million in pipeline liquids. The removed pipe would be sampled, and, if present, free flowing liquids would be removed and sampled in accordance with 40 CFR Part 761.

9.0 CUMULATIVE IMPACTS

In accordance with NEPA and with FERC policy, we identified other actions in the vicinity of the proposed Project facilities and evaluated the potential for a cumulative impact on the environment. As defined by the Council on Environmental Quality (CEQ), a cumulative effect is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of the agency or party undertaking such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time. The CEQ guidance states that an adequate cumulative effects analysis may be conducted by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.

In this analysis, we consider the impacts of past projects within defined geographic scopes as part of the affected environment (environmental baseline) which were described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered. Our cumulative effects analysis focuses on potential impacts from the proposed project on resource areas or issues where the incremental contribution could result in cumulative impacts when added to the potential impacts of other actions. To avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, an action must first meet the following three criteria to be included in the cumulative analysis:

- affects a resource also potentially affected by the Project;
- causes this impact within all, or part of, the Project area defined by the resource-specific geographic scope; and
- causes this impact within all, or part of, the time span of the Project's estimated impacts.

As described in section B of this EA, constructing and operating the Project would temporarily affect the environment. However, we conclud that most of the Project-related impacts would be contained within or adjacent to the temporary construction workspaces, existing pipeline

and roadway corridors, or utility easements and would not contribute to adverse cumulative impacts. For example, erosion control measures included in FERC's Plan would keep disturbed soils within the work areas and would therefore not contribute to cumulative impacts on soil or geological resources. Land use and visual impacts are negligible as impacts would primarily occur within existing pipeline corridors and once the longwall mining activities are completed, the land would revert to pre-construction conditions. Air quality would not be affected by operation of the Project; once construction activities have finished, there would be no new sources of operational emissions from the Project. Additionally, we determined that there would be no significant noise impacts during construction or operation of the Project due to the length of the construction timeline and localized nature of the activities. Once completed, there would not be a source of operational noise levels. Furthermore, no cultural resources were identified. Because the Project would have no or only minimal, localized, and/or temporary impacts impact on these resources, cumulative impacts have not been assessed further for soils, cultural resources, land use, visual impacts, operational air quality, and operational and construction noise for the Project. In conjunction with the Project, Texas Eastern would remove portions of non-jurisdictional pipelines Line 1 and Line 2, previously abandoned with FERC, prior to the longwall mining activities to ensure safety of the lines. Once completed, land use would revert back to pre-abandonment conditions, with no residual impacts, and thus, is not assessed further.

Resources that could be affected outside the immediate Project area and are subject to our cumulative impacts review include geology, groundwater, surface water, wildlife, wetlands, vegetation, and construction air quality. However, for some resources, the contribution to regional cumulative impacts is lessened by the expected recovery of ecosystem function. Non-forested vegetation communities and wildlife habitats would be cleared, but restoration would proceed immediately following construction.

Based on the impacts of the Project as identified and described in this EA and consistent with CEQ guidance, we have determined that the resource-specific geographic scopes described below are appropriate to assess cumulative impacts:

- impacts on geology were assessed within construction workspaces for the Project;
- impacts on groundwater, surface water, wildlife, vegetation, and wetlands were assessed within the Hydrologic Unit Code (HUC) 12 watershed; and
- impacts on air quality, including fugitive dust, would be largely limited to areas immediately around active construction. We searched for other projects and actions that overlap in time and are located within 0.25 mile of construction activities.

The actions considered in our cumulative impact analysis may vary from the Project in nature, magnitude, and duration. These actions are included based on the likelihood of their impacts coinciding with the Project, meaning the other actions have current or ongoing impacts or are "reasonably foreseeable." The actions we considered are those that could affect similar resources during the same timeframe as the Project. Multiple projects were identified as possible contributors to cumulative impacts in the area, these and are listed in table 11. These projects include CONSOL's longwall mining activities, the adjacent Marshall County Mine Panel project, and a West Virginia Route 2 Widening Project. The anticipated cumulative impacts of the Project and these other actions are discussed below.

Table 11 Projects Considered in Cumulative Impacts Analysis				
Project/County	**Distance/Direction**	**Description**	**Anticipated Impacts**	**Current Status**
Panel 11J CONSOL Energy/ Marshall County	- / Located directly beneath and adjacent to Project	Longwall coal mining	Limited surface impact	Expected to begin 2021
Texas Eastern Marshall County Mine Panel 19E Project/ Marshall County	1.3 miles/ SW	Longwall coal mining subsidence mitigation	Linear footprint	Expected construction - April 2020 Mining - October 2020
WV Route 2 Widening Project/ Marshall County	9 miles/ W	Widening Project and Bridge Replacement	Linear footprint	Expected construction – October 2019

Geology and Groundwater

The longwall mining activities would affect geology by the removal of coal followed by the collapse of the bedrock above the coal seam after mining which could temporarily affect groundwater. The Project would have minimal impact on geology due to mitigation of the surface settling performed by Texas Eastern. It is possible that construction associated from the Project in combination with construction associated with the other projects identified could result in temporary cumulative impacts within the aquifers if construction activities occur concurrently or within several days of one another. If temporary impacts occur, it would likely be limited to short-term turbidity visible in groundwater or reduced infiltration. We also anticipate that Texas Eastern's SPCC Plan would prevent or minimize the opportunity for and necessitate immediate control and clean-up of spills of fuels, lubricants, or other hazardous material, and would therefore minimize the opportunity for cumulative impacts that could result if other projects were to also result in spills. For these reasons, we conclude that any cumulative impact on geology or groundwater from the Project would be negligible.

Surface Water and Wetlands

The Project's temporary impacts on surface waters as a result of in-stream work could increase sedimentation and turbidity downstream, but the impacts would be minor and minimized by adherence to Texas Eastern's E&SCP, and the Procedures. The geographic scope for cumulative impacts on waterbodies and wetlands is defined as the HUC 12 subwatershed. The CONSOL Panel 11J Longwall Mining Project is within the same HUC 12 as the Project and the

Texas Eastern Marshall County Mine Panel 19E Project borders the HUC 12. These projects would be required to implement some erosion control measures or best management practices to reduce runoff into waterbodies. In the case of the Texas Eastern Marshall County Mine Panel 19E Project, the requirements of the Procedures would be followed as it is a FERC-jurisdictional project. Any impacts on water quality would be minor and temporary. Mitigation measures to reduce runoff and sedimentation would also help to reduce the effects on fisheries. Due to the size, duration and mitigation of effects, we conclude that the Project would not have a significant cumulative impact on waterbodies.

The Project only temporarily impacts 0.2 acres of wetland. The Texas Eastern Marshall County Mine Panel 19E Project temporarily impacts 0.5 acres of wetland. The CONSOL Panel 11J Longwall Mining Project has limited surface disturbance so it is not anticipated to have a significant impact on wetlands. The wetlands temporarily impacted by the Project and the Texas Eastern Marshall County Mine Panel 19E Project would be revegetated and restored to preconstruction conditions. Both projects would use Texas Eastern's E&SCP and the Plan and Procedures to minimize impacts to wetlands. Therefore, we conclude that the Project would not have significant cumulative impacts on wetlands.

Vegetation and Wildlife

The geographic scope for cumulative impacts on vegetation and wildlife is defined as the HUC 12 subwatershed. The Project would result in clearing of approximately 32 acres of vegetation, of that 4.9 acres is classified as forest/woodland. Since all areas would be able to revegetate to preconstruction conditions, the only long-term impact would be from forest clearing which would take decades to naturally restore to preconstruction densities. However, the forest clearing would be adjacent to existing rights-of-way which avoids forest fragmentation. As previously mentioned, the CONSOL Panel 11J Longwall Mining Project is within the same HUC 12 as the Project and the Texas Eastern Marshall County Mine Panel 19E Project borders the HUC 12. The Panel 11J Longwall Mining Project would have limited surface impacts as it occurs directly beneath and adjacent to the Project. Texas Eastern Marshall County Mine Panel 19E Project would disturb approximately 34.1 acres of vegetation but would allow all areas to revegetate to preconstruction conditions in accordance with the FERC Plan. It would impact 2.4 acres of forest that would be a long-term impact. Together the Projects would impact 7.3 acres of forest which is a minor proportion of the surrounding forest habitat. Therefore, we conclude that the Project would not have significant cumulative impacts on vegetation.

The Project would result in the loss of vegetative habitat and may result in the mortality of less mobile fauna, such as small rodents, reptiles, and invertebrates. Most species in the Project area would relocate to adjacent habitat. Both the CONSOL Panel 11J Longwall Mining Project and the Texas Eastern Marshall County Mine Panel 19E would have limited habitat destruction and would only cause minor impacts on wildlife. There would be more impacts on forested species than non-forested species due to the long-term impacts of forest clearing. The Project would clear trees along the right-of-way which would not result in increased habitat fragmentation. Only a small portion of available forested habitat would experience long-term impacts. Therefore, we conclude that the Project would not have significant cumulative impacts on wildlife.

Air Quality

The Panel 11J CONSOL Energy longwall mining activities, the West Virginia Route 2 Widening project and the Marshall County Mine Panel project were identified within the vicinity of the Project with the potential contribute to cumulative impacts to air quality during construction. Construction of these projects would involve the use of heavy equipment that would generate emissions of air pollutants and fugitive dust. Fugitive dust emissions would settle quickly, and dust suppression measures would be implemented at the Project site as necessary to ensure the Project-related effects from fugitive dust are intermittent and temporary and would occur within or very near the construction area. The potential cumulative impacts from the Project and recently completed, current, and reasonably foreseeable projects in the vicinity would be temporary and minor. Primary factors associated with the Project that would minimize the contribution to cumulative impacts are that the proposed construction activities have short timelines or are outside the cumulative impact area. In the case of CONSOL Energy's longwall mining activities, construction would not start until the excavation and elevation of the Project pipelines is complete.

Due to the timing of construction, minimization of fugitive dust as a result of the dust suppression measures, and the highly localized nature of construction emissions, there would be no significant cumulative impacts on air quality during construction.

Conclusion

The cumulative impacts review as part of the NEPA process evaluates the incremental effects of a proposed project and multiple similar projects in the same region at the same time, or in a similar timeframe, to determine whether the additive effect of those projects would result in significant impacts to the regional environment. As discussed previously, the Project and other projects in the area would have or have had minimal cumulative impacts because the other projects are predominately outside the cumulative impact area and those projects in the area are likely to occur in areas that are already developed. As a result, no significant cumulative impacts are anticipated when combining the Project with other identified projects.

Additionally, we identified planned activities in the Project area that met the criteria for inclusion in the cumulative impact analysis. Implementation of BMPs and proposed mitigation plans would minimize environmental impacts and when the impacts of the Project are added to the impacts from the other identified projects, the cumulative impacts would be minimal. We conclude that impacts would be temporary in nature and no significant cumulative impacts would be incurred from the Project.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we considered and evaluated alternatives to the proposed action, including the no-action alternative and routing alternatives. These alternatives were evaluated using a specific set of criteria. The evaluation criteria applied to each alternative include a determination whether the alternative:

- meets the objective of the proposed project;
- is technically and economically feasible and practical; and
- offers a significant environmental advantage over the proposed project.

Through environmental comparison and application of our professional judgment, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g., publicly available data, geographic information system data, aerial imagery) and assume the same general workspace requirements. Where appropriate, we also use site-specific information (e.g., field surveys or detailed designs). Our environmental analysis and this evaluation consider quantitative data (e.g., acreage) and uses common comparative factors such as total length, amount of collocation, and land requirements.

The alternatives were reviewed against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether or not it could satisfy the stated purpose of the project. An alternative that cannot achieve the purpose for the project cannot be considered as an acceptable replacement for the project. Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique or experimental construction method may not be technically practical because the required technology is not available or is unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally, we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Alternatives that would not meet the Project's objective or were not feasible were not brought forward to the next level of review (i.e., the third evaluation criterion). Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts and all other relevant considerations. In comparing the impact between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section B, we evaluated each environmental resource potentially affected by the Project and concluded that constructing and operating the Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not

significant) impacts of the Project when considered against the cost of relocating the facilities to a new set of landowners was also factored into our evaluation.

No Action Alternative

The no-action alternative would consist of not constructing the Project and continuing with the facilities as-is. However, public safety and operational integrity could be affected if mining were to occur under the pipelines without the proposed mitigation. Mining could be curtailed if the pipeline mitigation is not implemented, and the coal underneath the pipelines may not be mined. As a result, this alternative would disrupt the coal mining operations. The no-action alternative is not a viable alternative as the objectives of the Project are not met and mining could not safely occur under the pipelines. Therefore, we do not recommend the no-action alternative.

Routing Alternatives

A potential routing alternative would be a pipeline loop to route around the subsidence area. However, a pipeline loop would necessitate the development of permanent, new, greenfield corridor up to 400 feet wide to accommodate all of the existing pipeline facilities. The pipeline loop required to meet the need of the Project would directly affect wooded habitat, residential properties, and agricultural lands and would require continued operation of the loop on a new pipeline easement. These impacts would be significantly greater than the temporary disturbances associated with Project activities, therefore, we do not recommend this loop alternative.

Locations of the proposed facilities were chosen to produce minimum environmental impacts. The modifications are limited to modifications to the existing pipeline facilities, to be constructed within or directly adjacent to the existing easement. Alternatives identified would not fulfill the purpose and need of the project and would result in greater environmental impacts than anticipated by the Project. In summary, we have determined that Texas Eastern's proposed Project, as modified by our recommended mitigation measures, is the preferred alternative that can meet the Project objectives.

D. CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if Texas Eastern constructs and operates the proposed facilities in accordance with its application and supplements, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Commission's Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to any Certificate the Commission may issue.

1. Texas Eastern shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Texas Eastern must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);

    b. justify each modification relative to site-specific conditions;

    c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and

    d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**

2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Project. This authority shall allow:

    a. the modification of conditions of the Order;

    b. stop-work authority; and

    c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.

3. **Prior to any construction**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA, as supplemented by filed Project figures. **As soon as they are available, and before the start of construction**, Texas Eastern shall file with the Secretary any revised detailed survey alignment maps/figures at a scale not smaller than 1:6,000 with station positions for all facilities

approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these Project figures.

Texas Eastern's exercise of eminent domain authority granted under the Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Texas Eastern's right of eminent domain granted under the NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Texas Eastern shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/figures/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

   This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;

   b. implementation of endangered, threatened, or special concern species mitigation measures;

   c. recommendations by state regulatory authorities; and

   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of the Certificate and before construction begins**, Texas Eastern shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Texas Eastern must file revisions to their plan as schedules change. The plan shall identify:

a. how Texas Eastern will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;

b. how Texas Eastern will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;

c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;

d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions Texas Eastern will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change);

f. the company personnel (if known) and specific portion of Texas Eastern's organization having responsibility for compliance;

g. the procedures (including use of contract penalties) Texas Eastern will follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

i. the completion of all required surveys and reports;

ii. the environmental compliance training of onsite personnel;

iii. the start of construction; and

iv. the start and completion of restoration.

7. Texas Eastern shall employ at least one EI for the Project. The EI shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;

b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;

c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;

d. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and

e. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Texas Eastern shall file updated status reports with the Secretary on a **bi-weekly basis during active construction and monthly during the elevation period until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Texas Eastern's efforts to obtain the necessary federal authorizations;

b. the construction status of the Project, work planned for the following reporting period and any scheduled changes for stream crossings or work in other environmentally-sensitive areas;

c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);

d. a description of the corrective actions implemented in response to all instances of noncompliance;

e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Texas Eastern from other federal, state, or local permitting agencies concerning instances of noncompliance, and Texas Eastern's response.

9. Texas Eastern must receive written authorization from the Director of OEP **before commencing construction of any Project facilities**. To obtain such authorization, Texas Eastern must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. **Within 30 days of completing the mining mitigation and final hydrotest**, Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:

a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

b. identifying which of the conditions in the Order Texas Eastern has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

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Appendix A
Project Maps

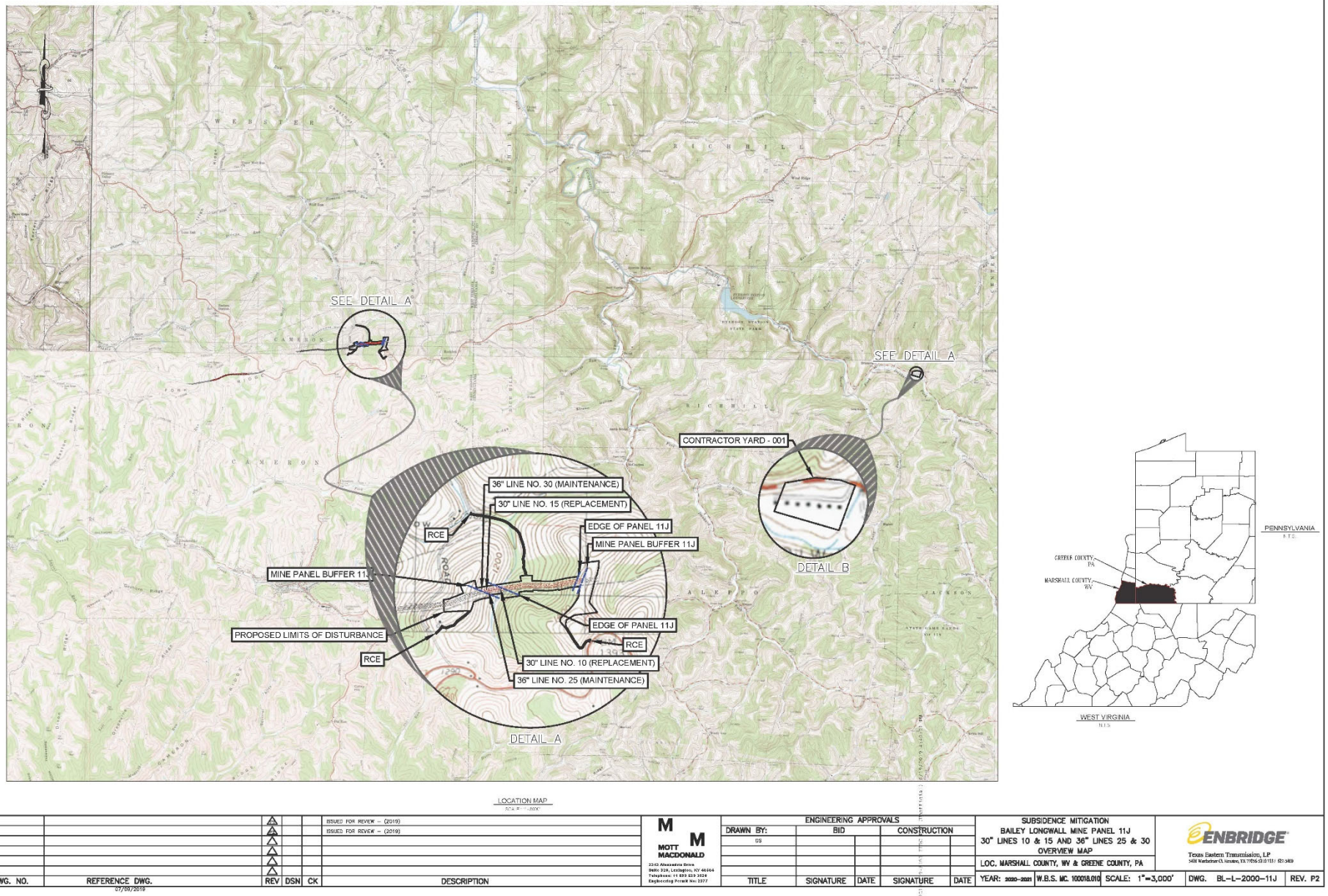

Figure 2
Vicinity Map

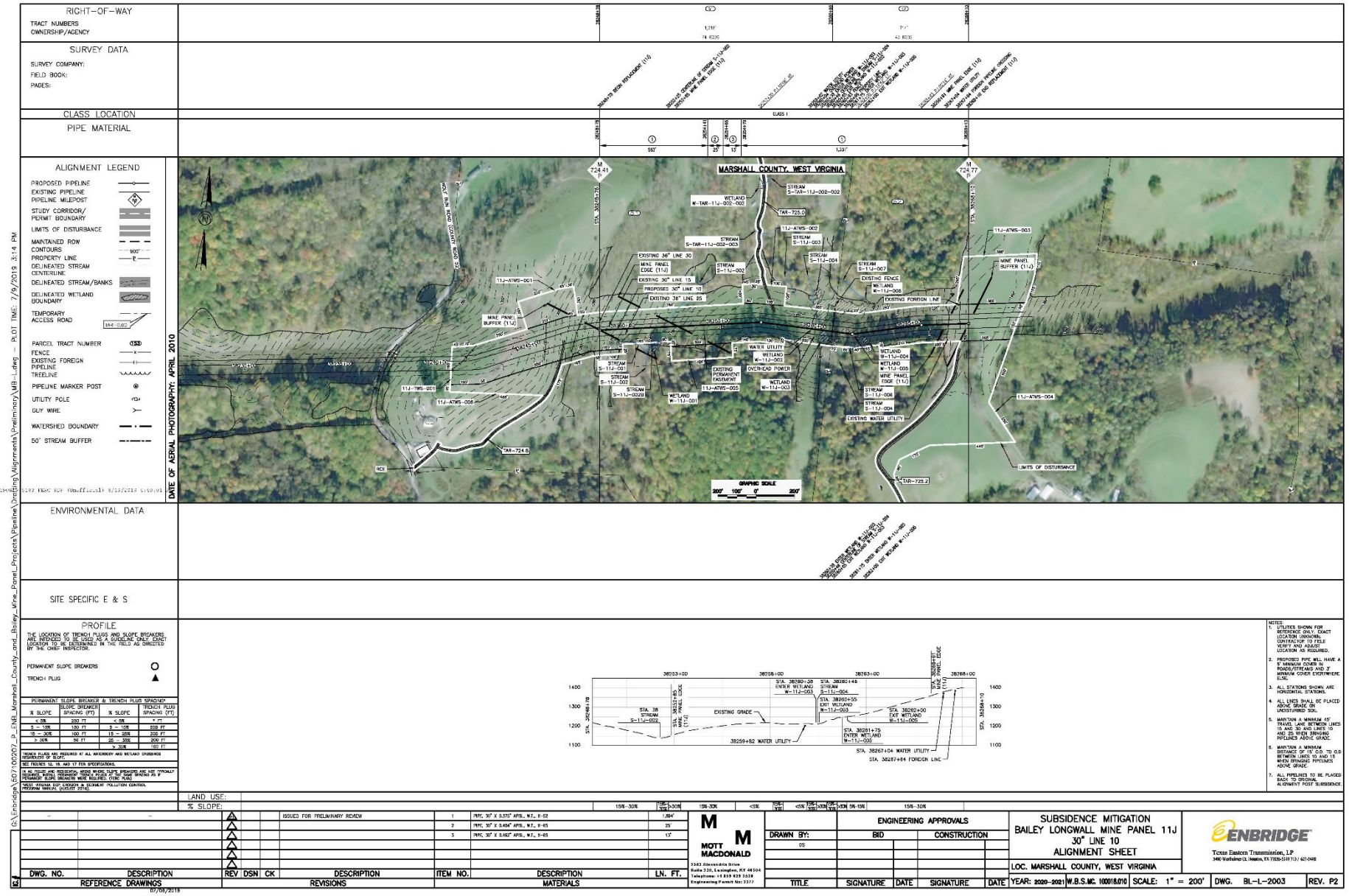

Figure 3
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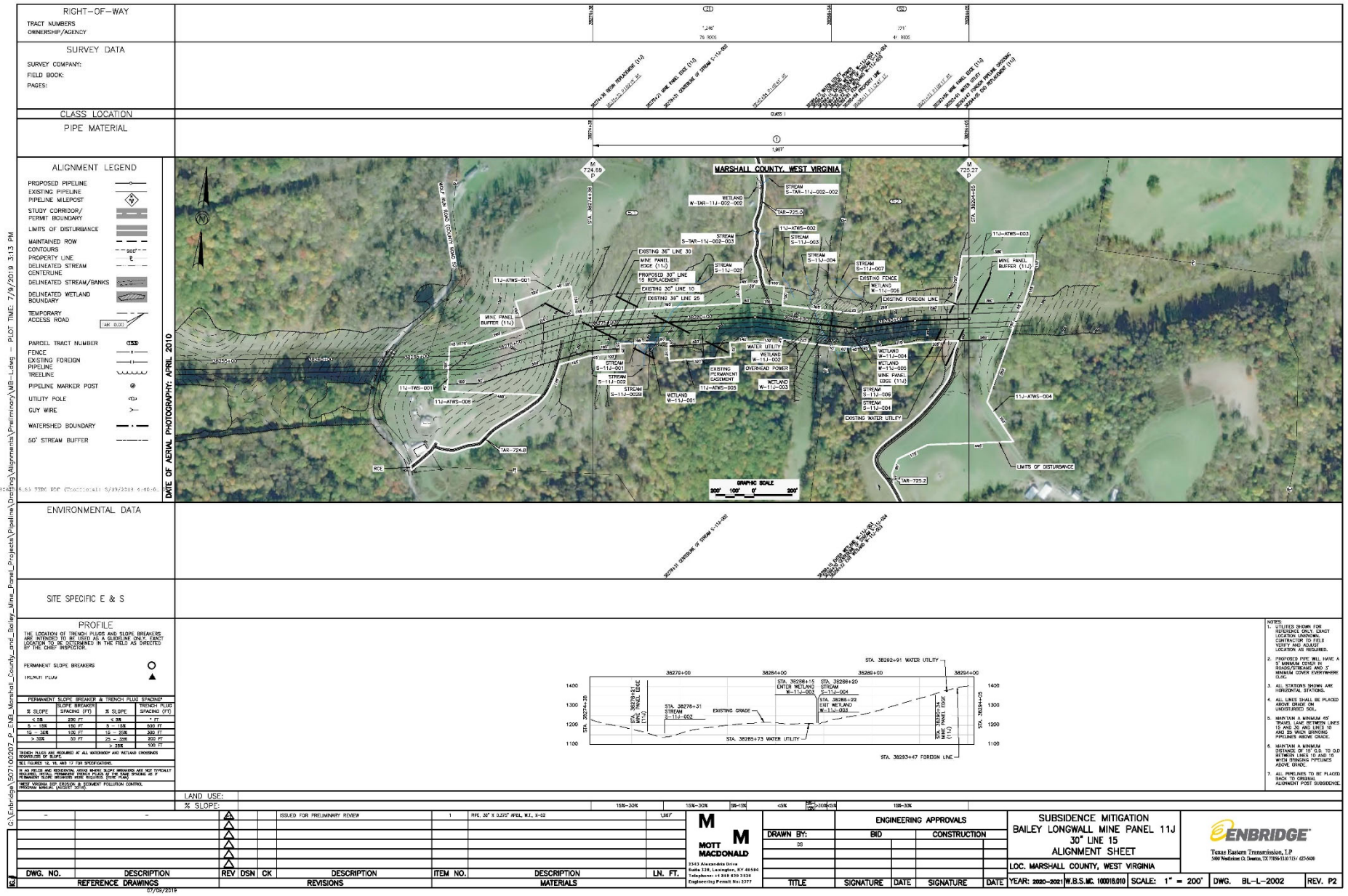

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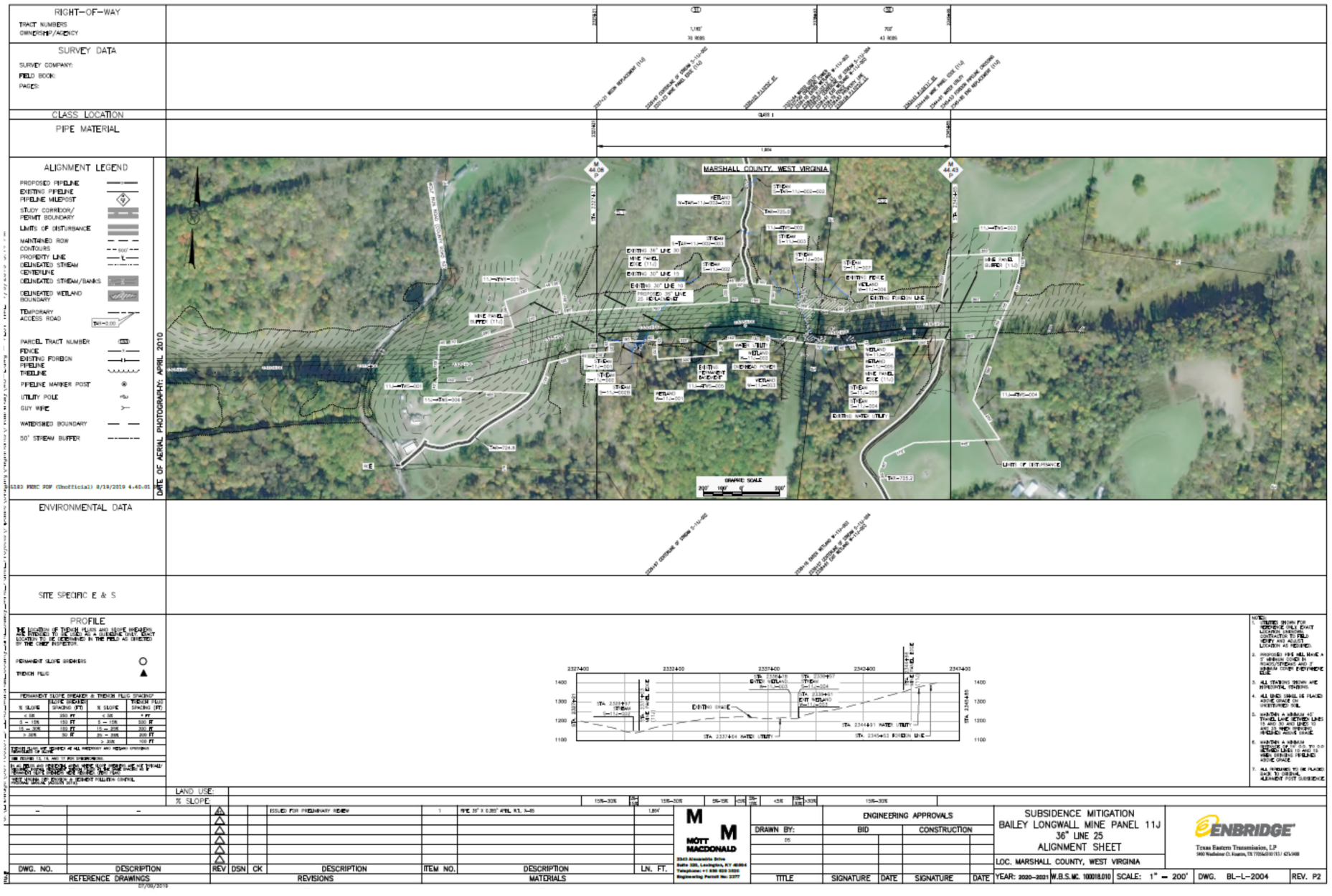

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Alignment

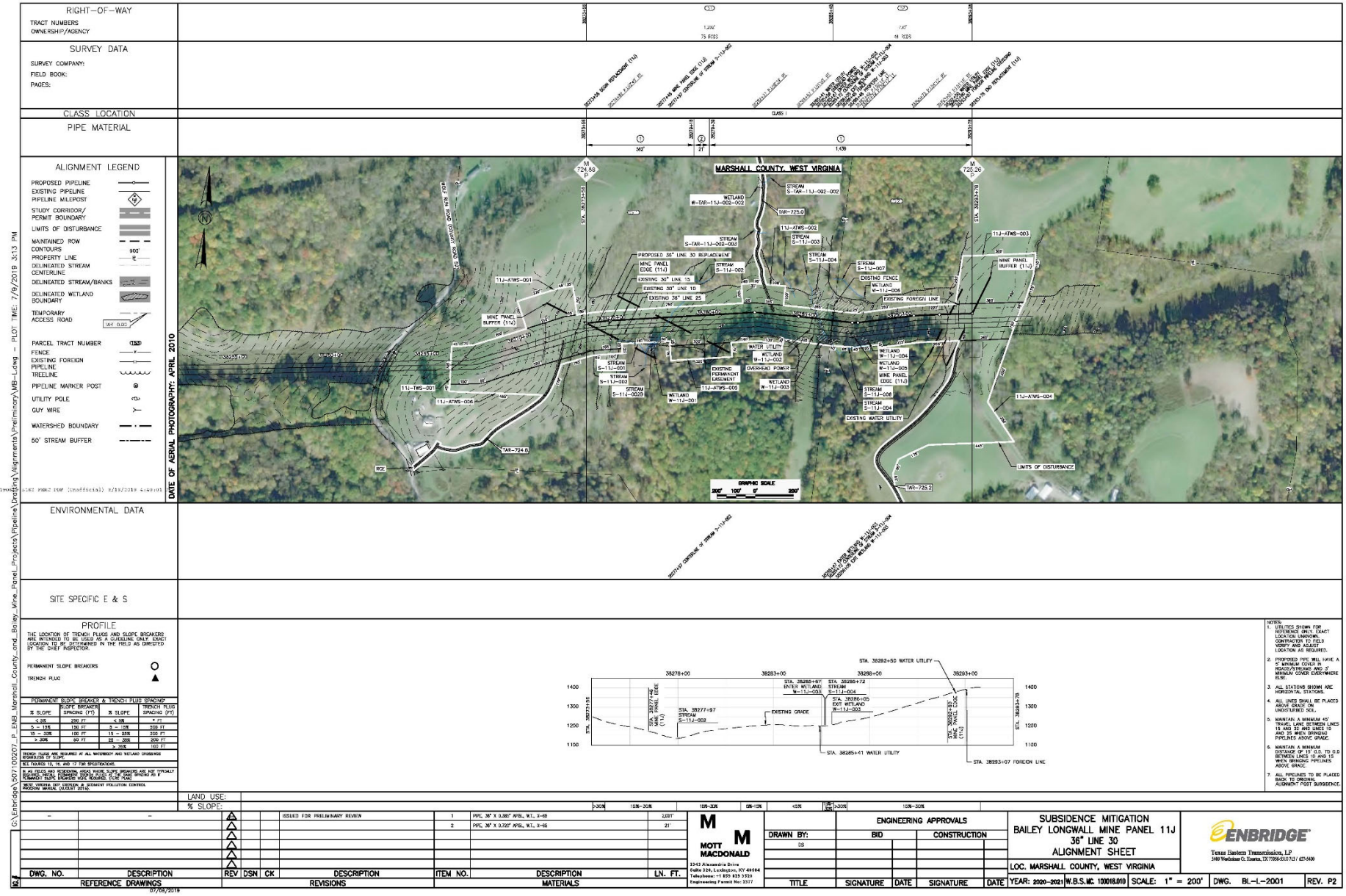

Figure 6
Alignment