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File #: 205233

April 11, 2025

***VIA HAND DELIVERY***

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, Second Floor
Harrisburg, Pennsylvania 17120

**Re: Application Of Mid-Atlantic Interstate Transmission, LLC Filed Pursuant To 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Construction of the Piney-Seward 115 kV Transmission Line Project Located in Piney, Monroe, Limestone, Porter, Redbank, Ringgold, Timblin, West Mahoning, North Mahoning, East Mahoning, Rayne, Green, Pine, Buffington, East Wheatfield, and St. Clair Townships in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties, Pennsylvania**
**Docket No. A-2025-_____**

Dear Secretary Chiavetta:

Enclosed for filing on behalf of Mid-Atlantic Interstate Transmission, LLC ("MAIT"), are the following:

1. The Application and the Exhibits in support of the Application;

2. The Direct Testimony in support of the Application; and

3. The Notice of Filing.

The associated $350.00 filing fee has been paid by Post & Schell, P.C. as of the time of the filing.

Copies of the Application and accompanying Exhibits, and Direct Testimony are being served by certified mail, return receipt requested, upon the parties indicated on the Certificate of Service associated with the Application.

Copies of the Notice of Filing are being served by certified mail, return receipt requested, upon the parties indicated on the Certificate of Service associated with the Notice of Filing.

Subject to the Commission's approval, construction on the Project is scheduled to begin on or about January 10, 2027, to meet an in-service date of July 31, 2029. To support this construction timeline, MAIT respectfully requests that the Commission issue its final ruling by its public meeting on December 18, 2026.

If you have any questions pertaining to the matter, please contact me at the addresses or telephone numbers provided above.

Respectfully submitted,



Garrett P. Lent

GPL/dmc
Enclosures

cc: Deb Becker – Bureau of Technical Utility Services (via email)
Jordan Van Order – Bureau of Technical Utility Services (via email)
Certificates of Service

## CERTIFICATE OF SERVICE

I hereby certify that on this date, the parties listed below that are entitled to receive a copy of the foregoing Application, pursuant to 52 Pa. Code § 57.74(b) were served by certified mail, return receipt requested, a copy of the above-captioned Application.

## VIA CERTIFIED MAIL: RETURN RECEIPT REQUESTED

**Clarion County**

Commissioner Wayne R. Brosius
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Mr. Frank A. Laborde
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Mr. Mike D'Arrigo
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Seward, PA 15954

PA Department of Environmental Protection
ATTN: Office of Chief Counsel
400 Market St., 9th Floor
Harrisburg, PA 17105
CC: Secretary to PADEP Chief Counsel

PA Department of Environmental Protection
ATTN: Bureau of Waterways Engineering and Wetlands
400 Market Street
Harrisburg, PA 17101

**VIA ELECTRONIC MAIL**

Office of Consumer Advocate
555 Walnut Street
5th Floor Forum Place
Harrisburg, PA 17101-1923
Ra-oca@paoca.org

Office of Small Business Advocate
Suite 1102, Commerce Building
300 North Second Street
Harrisburg, PA 17101

Pennsylvania Public Utility Commission
Bureau of Investigation and Enforcement
P.O. Box 3265
Harrisburg, PA 17105-3265

Date: April 11, 2025

By: 

Garrett P. Lent
Counsel for Mid-Atlantic Interstate Transmission, LLC

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | : | **Docket No. A-2025-_____** |

**APPLICATION FOR THE PINEY-SEWARD 115 KV TRANSMISSION LINE REBUILD OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC**

**TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:**

Mid-Atlantic Interstate Transmission, LLC ("MAIT"), a FirstEnergy Company, pursuant to the Pennsylvania Public Utility Commission's ("Commission") regulations at 52 Pa. Code § 57.72 *et seq*. and its Interim Guidelines for the Filing of Electric Transmission Line Siting Applications at 52 Pa. Code § 69.3101 *et seq*. ("Interim Guidelines"), requests the Commission's approval to locate, construct, operate and maintain a high-voltage ("HV") transmission line referred to as the "Piney–Seward 115 Kilovolt ('kV') Transmission Line Rebuild Project" (the "Project"). The Project proposes to rebuild a collection of five 115 kV transmission line segments approximately 66 miles in length, located in Piney, Monroe, Limestone, Porter, Redbank, Ringgold, Timblin, West Mahoning, North Mahoning, East Mahoning, Rayne, Green, Pine,

Buffington, East Wheatfield, and St. Clair Townships in Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties, Pennsylvania. The Project is needed to address known reliability concerns and deteriorating conditions on the transmission line segments that have caused the lines to have a history of unplanned outages.

In addition, MAIT is making this filing available to the public on its website. MAIT has included a link to this website[1] in this Application and in the Notice of Filing. MAIT also intends to provide the URL address to the filing in the newspaper notice it publishes in newspaper(s) of general circulation in the area of the Piney–Seward 115 kV Transmission Line Rebuild.

Subject to the Commission's approval, construction on the Project is scheduled to begin on or about January 10, 2027, to meet an in-service date of July 31, 2029. To support this construction timeline, MAIT respectfully requests that the Commission issue its final ruling by its public meeting on December 18, 2026.

In support of this Application, MAIT states as follows:

## I. INTRODUCTION

1. The name of the Applicant and the address of its principal business office are:

Mid-Atlantic Interstate Transmission, LLC
76 South Main Street
Akron, OH 44308

2. MAIT's attorneys in this matter authorized to receive notices and communications on its behalf are:

Joey T. Chen
Attorney ID #334709
FirstEnergy Services Company
76 South Main Street

[1] https://www.firstenergycorp.com/content/fecorp/about/transmission_projects/pennsylvania/erie-south-piney-seward-trans-projects.html.

Akron, OH 44308
(610) 921-6784
jchen@firstenergycorp.com

David B. MacGregor (ID #28804)
Garrett P. Lent (ID #321566)
Megan Rulli (ID # 331981)
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(717) 731-1970
dmacgregor@postschell.com
glent@postschell.com
mrulli@postschell.com

3. MAIT also requests that a copy of all notices and communications regarding this matter be sent to:

Travis M. Turner
Engineer IV
FirstEnergy Service Company
5001 NASA Blvd.
Fairmont, WV 26554
tturner@firstenergycorp.com

4. MAIT, a subsidiary of FirstEnergy Corp., is a public utility that provides interstate electric transmission services in the Commonwealth subject to the jurisdiction of the Federal Energy Regulatory Commission ("FERC"). MAIT also has been issued a certificate of public convenience as a Pennsylvania public utility pursuant to the Commission's Opinion and Order entered on August 24, 2016, at Docket Nos. A-2015-2488903 et al. Accordingly, this Commission asserts jurisdiction over the siting and construction of transmission lines by MAIT in Pennsylvania pursuant to the Commission's regulations at 52 Pa. Code § 57.71 et seq.

5. In support of this Application, MAIT includes the written, direct testimony of six witnesses, identified as MAIT Statement Nos. 1 through 6, and their supporting exhibits. MAIT also includes with this submission a cross-reference document that lists provisions of the

Commission's regulations and notes where they are referenced in this submission. *See* **Attachment 1**. Additionally, MAIT's witnesses sponsor the following exhibits, which are included with the filing and provide additional detailed information regarding the proposed Project:

- Travis M. Turner (MAIT Statement No. 1) provides an introduction of MAIT's six witnesses, summarizes the Project's regulatory requirements, describes MAIT's outreach to the public, and sponsors MAIT Exhibits 1 and 2:
  - **MAIT Exhibit 1:** Project Fact Sheet; and
  - **MAIT Exhibit 2:** Proof of Publication for Public Meeting.
- Andrew W. Grant (MAIT Statement No. 2) identifies the need for the Project to address reliability concerns and deteriorating conditions on the existing transmission line segments and sponsors MAIT Exhibits 3 through 5:
  - **MAIT Exhibit 3:** Five-Year Outage History;
  - **MAIT Exhibit 4:** 2023 Walkdown and Comprehensive Visual Inspection Reports; and
  - **MAIT Exhibit 5:** Examples of Present-Day and Previous Shield Wire Configurations.
- Lawrence Peterson (MAIT Statement No. 3) describes the principal elements of the siting analysis, explains how the environmental assessment was conducted, discusses the reasons why the proposed route was selected, and sponsors MAIT Exhibits 6 through 7D:
  - **MAIT Exhibit 6:** Environmental Assessment and Alternative Route Analysis;

- **MAIT Exhibit 7:** A list of local, state and federal governmental agencies that have permitting or licensing requirements;
- **MAIT Exhibit 7A:** U.S. Fish and Wildlife Service letter final response;
- **MAIT Exhibit 7B:** Pennsylvania Game Commission letter final response;
- **MAIT Exhibit 7C:** Pennsylvania Fish and Boat Commission letter of concurrence; and
- **MAIT Exhibit 7D:** Pennsylvania Department of Conservation and Recreation letter of concurrence.

- Lisa Marinelli (MAIT Statement No. 4) explains the process by which easements and other land rights were acquired for the rights-of-way ("ROW") for the Project, and sponsors MAIT Exhibits 8 through 10:
  - **MAIT Exhibit 8:** List of Property Owners Crossed by the ROW;
  - **MAIT Exhibit 9:** Letters Provided to Landowners Related to the Project; and
  - **MAIT Exhibit 10:** MAIT Code of Conduct.
- Brett H. Fisher (MAIT Statement No. 5) describes the design and engineering for the Project, how the Project will be constructed, MAIT's plans for operating and maintaining the proposed transmission line after it is constructed, including removing and controlling vegetation, and sponsors MAIT Exhibits 11 through 26:
  - **MAIT Exhibit 11:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Tangent Structure With Reinforced Concrete Drilled Shaft Foundation;
  - **MAIT Exhibit 12:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Tangent Structure With Direct Embed Foundation;

- **MAIT Exhibit 13:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Angle Structure;
- **MAIT Exhibit 14:** Depiction of a Typical l 115 kV Single Circuit 6-Wire Steel Monopole Light Angle Dead-End Structure;
- **MAIT Exhibit 15:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Heavy Angle Dead-End Structure;
- **MAIT Exhibit 16:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Tangent V-String Structure With Reinforced Concrete Drilled Shaft Foundation;
- **MAIT Exhibit 17:** Depiction of a Typical 115 kV Single Circuit 6-Wire Steel Monopole Tangent V-String Structure With Direct Embed Foundation;
- **MAIT Exhibit 18:** Depiction of a Typical 115 kV Single Circuit 6-Wire Strain/Dead-End Steel 3-Pole Structure;
- **MAIT Exhibit 19:** Typical ROW Cross Section With 172'-6" Width;
- **MAIT Exhibit 20:** Typical ROW Cross Section With 180'-6" Width;
- **MAIT Exhibit 21:** Typical ROW Cross Section With 215'-6" Width;
- **MAIT Exhibit 22:** Typical 100' ROW Cross Section on Existing Wood Pole Transmission Line Centerline;
- **MAIT Exhibit 23:** Typical 100' ROW Cross Section on Existing Lattice Tower Transmission Line Centerline;
- **MAIT Exhibit 24:** Typical ROW Cross Section on Existing Lattice Tower Transmission Line Centerline With Expanded ROW;

- **MAIT Exhibit 25:** Depiction of the General Layout of the Existing and Proposed Transmission Centerline Locations; and
- **MAIT Exhibit 26:** Maintaining a Safe and Reliable Transmission System Vegetation Management for New Transmission Construction Projects Brochure.

- Lawrence A. Hozempa (MAIT Statement No. 6) provides an electric description of the Project; describes the need and benefits of the Project, the consequences of not rebuilding the Piney–Seward 115 kV Transmission Line; explains the other alternatives considered; describes the electromagnetic field ("EMF") study for the Project; and sponsors MAIT Exhibits 27 through 30:
  - **MAIT Exhibit 27:** Presents certain transmission facilities serving the five Pennsylvania counties, including the entirety of the Piney–Seward 115 kV Line;
  - **MAIT Exhibit 28:** Contains the relevant portions of PJM's July 20, 2018 Subregional RTEP Committee ("SRRTEP") presentation;
  - **MAIT Exhibit 29:** The electric and magnetic field graphs for the various line sections of the Piney–Seward 115 kV Transmission Line Rebuild Project; and
  - **MAIT Exhibit 30:** The SAIFI, SAIDI, and CAIDI data over a five-year outage history for four transmission segments of the Piney–Seward 115 kV Line and the impact on customer reliability.

6. This Application, inclusive of the accompanying Exhibits and Statements, which are incorporated herein by reference, contains all the information required by 52 Pa. Code §§ 57.72(c), 69.1101, 69.3101-.3107.

## II. APPLICATION FOR SITING APPROVAL

### A. General Description of the Project

7. The Project proposes to rebuild a collection of five 115 kV transmission line segments, approximately 66 miles in total length, located in Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties, Pennsylvania. This Project is needed to address known reliability concerns and deteriorating conditions on the transmission line segments that have caused the lines to have a history of unplanned outages.

8. The collection of five transmission line segments that compose the Project are:

- The Piney–Timblin 115 kV P1 line, which is approximately 21.0 miles and runs between the existing Piney Substation located in Piney Township, Clarion County ("Piney Substation"), and the existing Timblin Substation located in Timblin Borough and Ringgold Township, Jefferson County ("Timblin Substation");
- The Timblin–Trade City 115 kV TTC line, which is approximately 7.6 miles and runs between Timblin Substation and the existing Trade City Substation located in West Mahoning Township, Indiana County ("Trade City Substation");
- The Trade City–Dixonville East 115 kV GTC1 line, which is approximately 11.8 miles and runs between the Trade City Substation and the existing Dixonville East Substation located in Green Township, Indiana County ("Dixonville East Substation");

- The Dixonville East–Glory 115 kV GTC2 line, which is approximately 7.9 miles and runs between the Dixonville East Substation and the existing Glory Substation located in Pine Township, Indiana County ("Glory Substation"); and
- The Glory–Seward 115 kV G1 line, which is approximately 18.2 miles and runs between the Glory Substation and the existing Seward Substation located in East Wheatfield Township, Indiana County ("Seward Substation").

9. The proposed Project contemplates rebuilding the five existing 115 kV line segments to a single circuit, 6-wire 115 kV configuration utilizing steel structures and requires the installation of approximately 336 new structures.

10. The proposed Project will resolve reliability concerns related to asset conditions present on the existing 115 kV line segments. These concerns were identified by walkdown and aerial inspections of the line segments conducted between January and June 2023. These inspections revealed degradation of the lines, including insulator strings that have been flashed, burnt, or degraded by corona; conductor degradation with evidence of burn marks and broken strands; and wood pole defects from cracking, deterioration, animal damage, and rot. These conditions have led to unplanned outages and declining reliability performance recorded over the past five years, as detailed in the testimony of Andrew Grant (MAIT Statement No. 2).

11. MAIT is providing with this Application several maps that either depict or aid in understanding the location and description of the Project. Lawrence A. Hozempa (MAIT Statement No. 6) sponsors **MAIT Exhibit 27,** which is, respectively, a map showing the existing transmission system in the Project Area. This exhibit also reflects the proposed transmission system in the Project Area after completion of the Project to rebuild the existing transmission line. In addition, Lawrence Peterson (MAIT Statement No. 3) sponsors Maps 6 and 7 to **MAIT Exhibit**

**6**, which are, respectively, a topographic and an aerial map of the area encompassing the Project showing the proposed line route in relation to major physical features. Mr. Peterson also provides a narrative description of the proposed route in his direct testimony.

12. The Project will be located in Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties, Pennsylvania. A description of the Proposed Route is provided as required by 52 Pa. Code § 57.72(c)(3) in Appendix A, attached hereto. The Piney–Seward 115 kV Transmission Line is proposed to be constructed within an existing transmission corridor, which is currently occupied by the five existing, single-circuit 115 kV transmission line segments identified above. The proposed route occupies existing ROW on 408 property tracts. Of the 408 tracts, 25 tracts do not need additional ROW, 5 tracts have existing MAIT substations on them, and 5 tracts have been purchased in fee. It was determined that additional or new ROW would need to be obtained on 373 parcels. To date, MAIT has successfully reached agreements with all impacted landowners, except for one parcel owned by PennDot for which additional ROW is needed. MAIT will continue to work with PennDOT and their real estate process to acquire the necessary rights to support the Project. Of the 373 parcels that require new or additional ROW, 347 involved parcels for which MAIT had existing rights, and MAIT secured additional rights or ROW. The other 26 parcels required new easements as a result of the ROW expansion, because MAIT had no previous rights on those 26 properties. The existing and newly acquired ROW agreements with the underlying landowners will allow MAIT to install the proposed structures to support the proposed Project. MAIT does not anticipate any landowners directly impacted by this Project will object to the Project.

13. Brett Fisher (MAIT Statement No. 5) describes the existing transmission line corridor used by the Project, and he sponsors several exhibits depicting the corridor and the typical structures that will support the proposed transmission line.

14. The proposed transmission line is approximately 66 miles in total length and partially occupies an existing transmission line ROW for its entire length. The proposed transmission line will begin by exiting the Seward Substation to the northeast and continue in a relatively straight, approximately 18.2-mile path, to the Glory Substation. The proposed transmission line will exit the Glory Substation to the northwest and continue in a relatively straight, approximately 7.9-mile path to the Dixonville East Substation. The proposed transmission line will exit the Dixonville East Substation to the northwest and continue in a relatively straight, approximately 11.8-mile path to the Trade City Substation. The proposed transmission line will exit the Trade City Substation to the northwest and continue in a relatively straight, approximately 7.6-mile path to the Timblin Substation. The proposed transmission line will exit the Timblin Substation to the northwest and continue in a relatively straight, approximately 21.1-mile path and terminate at the Piney Substation.

15. Map 1 to **MAIT Exhibit 6** provides a general layout for the proposed Project. Pursuant to 52 Pa. Code § 57.72(c)(3), a general description of the proposed route of the Project is attached to this Application as **Appendix A**.

**B. Engineering Description**

16. The Piney–Seward 115 kV Transmission Line Rebuild Project is proposed to be constructed and operated as a single-circuit transmission line extending approximately 66 miles. The proposed transmission line will be supported by multiple structure types as shown in **MAIT Exhibits 11 through 18** and as described more fully in Mr. Fisher's direct testimony (MAIT

Statement No. 5). Based on preliminary engineering, the proposed transmission line will require approximately 336 structures ranging in height from approximately 60 feet to approximately 190 feet above the ground, with an average height of approximately 130 feet. The average span length between structures will be approximately 1,000 feet. The structures are designed as steel monopole structures.

17. The overhead 115 kV single circuit transmission line will utilize conductors that are 1033.5 thousand circular mills ("kcmil") 54/7 aluminum conductor, steel reinforced ("ACSR"). In addition to the transmission conductors, the line will have one standard shield wire and one optical ground wire ("OPGW") that will be located above the transmission conductors to protect the conductors from lightning strikes. The proposed Project will be designed and operated at 115 kV. The transmission maximum design operating temperature is 212 degrees Fahrenheit. The transmission line will meet or exceed all requirements of the current National Electrical Safety Code ("NESC") under all operating conditions.

**C. Right-of-Way Assessment**

18. The proposed Piney–Seward 115 kV Transmission Line Rebuild Project will partially occupy an existing transmission line ROW for its entire length, which is generally a 100-foot-wide corridor. As depicted in **MAIT Exhibits 19 through 24**, the Project will be constructed using several different ROW widths and configurations.

19. Where additional ROW was not needed—and therefore not acquired—the proposed transmission line will be constructed on existing transmission centerline with a ROW width of 100 feet, as depicted in **MAIT Exhibits 22 and 23**. Where new or additional ROW has been acquired, the proposed transmission line will be constructed adjacent and parallel to the existing transmission centerline and will utilize ROW widths ranging from approximately 172 feet,

6 inches to 215 feet, 6 inches, as depicted in **MAIT Exhibits 19, 20, and 21**, respectively. **MAIT Exhibit 25** depicts a general layout of the existing and proposed transmission centerline locations relative to the various ROW widths that will be utilized for the Project. ROW widths and configurations are more fully described in Mr. Fisher's direct testimony (MAIT Statement No. 5).

**D. Property Owners**

20. The names and addresses of known persons, corporations and other entities of record who own property within the proposed transmission line route where the Project is proposed to be located are provided in **MAIT Exhibit 8**. To date, MAIT has reached agreements with all landowners, except for the one parcel owned by PennDOT for which additional ROW is needed.

**E. Statement of Need**

21. Mr. Grant (MAIT Statement No. 2) explains that the need for the Project is based on the deteriorating conditions present on the five existing 115 kV transmission line segments, which have a history of unplanned outages and problematic conditions. Accordingly, this Project is specifically designed to mitigate these known reliability concerns and reduce the risk of unplanned failures. Rebuilding these lines in accordance with present day standards will significantly decrease unplanned outages.

22. Walkdown inspections and aerial inspections were performed along the existing transmission line segments between January and June of 2023. The results of these inspections revealed the following conditions were present on the existing transmission line segments:

- On the Piney–Timblin 115 kV P1 line, which consists of 94 structures and 95 spans, a total of 33 insulator strings have been noted as either flashed, burnt, or degraded by corona, while 28 spans of conductor show evidence of melted strands, breakage, or bird caging.

- On the Timblin–Trade City 115 kV TTC line, which consists of 38 structures and 39 spans, 11 spans of conductor show evidence of burn marks and broken strands. Previous repairs have also remediated 11 flashed insulator strings.
- On the Trade City–Dixonville East 115 kV GTC1 line and Dixonville East–Glory 115kV GTC2 line, which consist of 84 structures and 86 spans, 37 spans of conductor show evidence of burn marks, as well as burnt or broken strands. Additionally, 32 insulator strings show evidence of being flashed, deteriorated, broken, or deteriorated by corona.
- On the Glory–Seward 115 kV G1 line, which consists of 131 structures and 132 spans of conductor, 102 wood pole defects from cracking, deterioration, animal damage, and rot were noted.

23. The primary reliability concerns on these transmission line segments are due to the existing lines' inability to withstand current climatic conditions over time. Weather has induced a total of 31 unplanned outages across the lines in the past five years, 75 insulators have been damaged by either lightning or corona, 72 spans have shown evidence of lightning damage or previous phase-to-ground contact, and 102 structures have shown signs of degradation either from the environment or from animals. These factors indicate that, while these lines remain in service today, their condition is declining, and repair is no longer adequate to sustain their operation.

24. Based upon MAIT's engineering review of the inspection information, these transmission lines are very near end-of-life and require replacement.

**F. Safety Considerations**

25. The proposed Project will not create any unreasonable risk of danger to the public health or safety. The design, construction, and operation of the Project will meet or exceed the

requirements specified in the latest edition of the NESC and all applicable safety standards established by the Occupational Safety and Health Administration ("OSHA"). All work will be performed in accordance with NESC, OSHA and any applicable local, state or federal requirements.

26. The Project is being completed within new and existing transmission line corridors. FirstEnergy's vegetation management practices are described in **MAIT Exhibit 26** and discussed in Mr. Fisher's direct testimony (MAIT Statement No. 5).

27. An EMF study for the proposed transmission line was performed. Results of that study are provided in Table 1 and Table 2 of Mr. Hozempa's direct testimony (MAIT Statement No. 6) in response to Section 69.3107(b) of the Interim Guidelines.

28. No communication towers, pipelines, or other utilities will be affected by the proposed Project.

29. The proposed Project will involve numerous road crossings, including federal, state, and local roads and highways. MAIT will obtain the necessary Pennsylvania Department of Transportation ("PennDOT") Highway Occupancy Permits, or equivalent type permits, for this major road crossing prior to construction.

30. MAIT will coordinate with the Federal Aviation Association ("FAA") and PA Bureau of Aviation, as needed, to assess potential interference with any air navigation facility before construction. Aviation coordination has been initiated through the FAA. MAIT will ensure that the pole locations and heights are properly recorded by the FAA. MAIT will comply with any additional lighting and other visual aids that may be required by these agencies to ensure aviation safety in the region.

**G. Route Analysis**

31. MAIT retained GAI Consultants, Inc. ("GAI"), an Engineering and Environmental consulting firm, to prepare a comprehensive study of alternative routes and the potential impacts from the Project. The results of this study are set forth in the GAI report titled, "Environmental Assessment and Alternative Route Analysis for Mid-Atlantic Interstate Transmission, LLC Piney–Seward 115kV Transmission Line Rebuild Project" ("GAI Report"), which is provided as **MAIT Exhibit 6**. MAIT evaluated three alternative routes, and of these routes, the Central Route Alternative was selected as the Proposed Route. Based on the environmental resource evaluation criteria employed by the GAI Report, the Central Route Alternative is most desirable, considering engineering and land use constraints, and second most favorable when considering environmental and cultural constraints. The basis for the final route selection is set forth in Section 6 of the GAI Report and is also explained in Mr. Peterson's direct testimony (MAIT Statement No. 3). The Route Selection Study and Mr. Peterson's testimony provide additional information regarding the alternative routes considered by MAIT.

**H. Environmental Assessment**

32. GAI conducted a comprehensive review of the environmental constraints located within the Project study area ("Study Area") that identified the environmental setting of the Study Area including wetlands, soils, geology, public lands, designated natural areas or preserves, recreation areas, and historic resources. The environmental constraints and impact assessment are set forth in Sections 2.0 and 6.0 of the Route Selection Study (**MAIT Exhibit 6**). No substantial impacts to these resources are anticipated as a result of constructing the Project.

33. As further explained in Mr. Peterson's direct testimony, from an environmental perspective, the Proposed Route has the least impact to forested wetlands, state and federal land, and forest. The Proposed Route also crosses the fewest parcels; crosses the least amount of

agricultural land; crosses the least amount of Environmental Justice Area; and crosses the least amount of road, railroads, and trails. The selected Proposed Route best avoids or minimizes overall impacts to environmental resources and minimizes unreasonable design criteria, while also considering landowner and public input, *see infra*.

34. MAIT will implement appropriate measures during construction and throughout the subsequent operation of the Project to avoid or minimize impacts to environmental resources. MAIT will obtain all the relevant state and federal permits needed to construct the Project and will adhere to the conditions set forth in those permits. As part of the permitting process, MAIT has conducted detailed ecological surveys of the line route. These surveys included wetland delineations, stream identifications, and threatened and endangered species surveys. MAIT will also implement an erosion and sediment control plan, spill prevention plan and contingency plan for the construction of the Project. MAIT will continue to coordinate with state and federal agencies to minimize the potential ecological impacts.

**I. Social Assessment**

35. The GAI Report considered social resources in or near the Study Area. The entire Study Area was evaluated based on land use, the presence of schools, churches and cemeteries, historic and cultural resources, proximity to residences and commercial buildings, number of parcels crossed, conserved lands and local zoning ordinances and comprehensive plans. In addition, a Virtual Public Open House was held to gather additional comments and opinions from affected landowners and the local community. Comments received from landowners were considered in the selection of the Proposed Route. The social/built environment constraints and impact assessment are set forth in Sections 2.0 and 6.0 of the GAI Report. A summary of the Public Open House is provided in Section 3.4 of the GAI Report.

36. From a social perspective, the Proposed Route crosses near the second least number of cemeteries and has the second lowest length within a half mile of historic districts and previously documented architectural resources. Impacts to future plans and existing land uses should be minimal as the Proposed Route partially utilizes an existing ROW minimizing visual impacts. The installation of the new structures is not anticipated to impact current land use. No substantial impacts to the social/built environment are anticipated as a result of constructing the Project.

**J. Airports and Aircraft Facilities**

37. The Clarion County Airport, the Clarion Hospital helicopter pad, and three landing strips are located within or adjacent to the Study Area. No potential aeronautical effects are anticipated as a result of the Project; however, MAIT will continue its coordination with the FAA and PA Bureau of Aviation, as needed, to assess potential interference with any air navigation facility before construction commences.

**K. Governmental Agency Requirements**

38. A list of local, state and federal governmental agencies that have permitting or licensing requirements in connection with the construction or maintenance of the Project and a list of documents that have been, or are required to be, filed with those agencies in connection with the siting and construction of the Project are set forth in **MAIT Exhibit 7**. As of the date of this filing, MAIT has received four response letters from agencies. **MAIT Exhibit 7A** is a final response letter from the U.S. Fish and Wildlife Service. **MAIT Exhibit 7B** is a final response letter from the Pennsylvania Game Commission. **MAIT Exhibit 7C** is a concurrence letter from the Pennsylvania Fish and Boat Commission. **MAIT Exhibit 7D** is a final response letter from the Pennsylvania Department of Conservation and Recreation. MAIT will inform the Commission in a timely manner of all changes in the status of all permits and licenses required for the Project.

39. To date, no comments have been received from Clarion, Armstrong, Jefferson, Indiana, or Westmoreland County officials, nor has the Company received comments from officials in Piney, Monroe, Limestone, Porter, Redbank, Ringgold, Timblin, West Mahoning, North Mahoning, East Mahoning, Rayne, Green, Pine, Buffington, East Wheatfield, and St. Clair Townships in response to the proposed Project.

**L. Ownership, Cost and Construction Schedule**

40. MAIT will own and construct the Project. The estimated cost to construct the Project is included in the breakdown below. Construction is scheduled to begin on or about January 10, 2027. The proposed in-service date for the Project is July 31, 2029. Estimated Project costs for the Piney–Seward 115 kV Transmission Line Rebuild Project are also provided below.

Transmission Line Costs:

| | |
|---|---|
| Engineering | $14,000,000 |
| Materials | $78,000,000 |
| Construction | $171,000,000 |
| Total Transmission Line Cost | $263,000,000 |
| Substation Cost | $9,000,000 |
| Total Project Cost | $272,000,000 |

**M. Litigation**

41. There is no litigation concluded or in progress concerning the siting and construction of the Project.

**N. Additional Information Required By Commission Guidelines**

42. The Interim Guidelines, 51 Pa. Code §§ 69.3101-.3107, contain guidelines for public notice of transmission line siting applications. A copy of MAIT's Project fact sheet is included as **MAIT Exhibit 1,** along with a copy of the proof of newspaper publication for the

public information meeting included as **MAIT Exhibit 2**. A copy of the MAIT Code of Conduct is included as **MAIT Exhibit 10.**

43. Section 69.3103 of the Interim Guidelines provides that applications for eminent domain authority should be filed separately but may be filed simultaneously with the associated transmission siting application, or as soon as reasonably known. MAIT has acquired all the property rights it needs to complete the Project with the exception of one parcel. MAIT does not anticipate the need to exercise eminent domain in connection with this Project.

44. Section 69.3104 of the Interim Guidelines lists information required for exemption from municipal zoning standards. The proposed transmission line Project does not rely upon any exemption from municipal zoning standards because there are no buildings associated with this Project. A list of municipal permits required for the Project, and their status, is contained in **MAIT Exhibit 7**.

45. Section 69.3105(1) of the Interim Guidelines provides that applications for siting electric transmission lines should utilize a combination of transmission route evaluation procedures, including high-level GIS data, traditional mapping (including U.S. Geological Survey data and compilation), aerial maps, and analysis of physical site-specific constraints raised by affected landowners. This information is included in the GAI Report (**MAIT Exhibit 6**).

46. Section 69.3105(2) of the Interim Guidelines provides that transmission applicants should summarize the status of property acquisitions and provide the current status of property acquisition litigation or settlements. MAIT has existing rights to support the Project. A list of property owners from whom land rights have been obtained is included in **MAIT Exhibit 8**. As previously mentioned, where the Proposed Route does not utilize existing ROW, MAIT has

voluntarily secured the necessary additional easements from those property owners traversed by the transmission line ROW, with the exception of one parcel for which additional ROW is needed.

47. Section 69.3105(3) of the Interim Guidelines states transmission applications should provide information regarding the reasonable alternative routes the utility actively considered in its final phase of the route selection process, and the relative merits of each, including:

i. The environmental, historical, cultural and aesthetic considerations of each route;

ii. The proximity of these alternative routes to residential and non-residential structures;

iii. The applicant's consideration of relevant existing ROWs; and

iv. The comparative construction costs associated with each route.

48. Items (i) through (iii) of Section 69.3105(3) are included as part of **MAIT Exhibit 6**. The comparative estimated construction costs (item iv) for the three alternative transmission line routes evaluated are shown below in Table 1.

*Table 1: Alternative Route Cost Comparison*

| Route Alternative | Approximate Distance (miles) | Approximate Cost ($) |
|---|---|---|
| Proposed Route (Central Route Alternative) | 66 | $272,000,000 |
| East Route Alternative | 80 | $387,000,000 |
| West Route Alternative | 79 | $373,000,000 |

49. Section 69.3106 of the Interim Guidelines provides that siting applications should include a matrix or list showing all expected federal, state and local government regulatory permitting or licensing approvals that may be required for the project at the time the application is filed, the issuing agency, the approximate timeframe for approval and current status. **MAIT Exhibit 7** contains a list of all local, state and federal agencies with requirements for permitting or

licensing approvals. MAIT will inform the Commission in a timely manner of all changes in the status of all permits and licenses required for the Project.

50. Section 69.3107(a) of the Interim Guidelines provides that siting applications should contain a vegetation management plan. **MAIT Exhibit 26** is a copy of the FirstEnergy Maintaining a Safe and Reliable Transmission System Vegetation Management for New Transmission Construction Projects Brochure. **MAIT Exhibit 26** describes MAIT's vegetation plan, vegetation practices, and landowner notification procedures.

51. Section 69.3107(b) of the Interim Guidelines provides that siting applications should contain a description of electric and magnetic field mitigation procedures that the utility proposes to utilize along the transmission line. The Company's typical transmission line route selection process, which was employed for this Project, evaluates a number of factors to identify the appropriate location for the proposed Project. Among other things, this evaluation process identifies and considers residences and locations where large groups of people typically gather, such as schools and places of worship. Although locating the transmission line in close proximity to these types of land uses is not precluded by state or federal rules or guidelines, providing the largest practical distance from residences, schools, places of worship and similar facilities is generally more acceptable to the local community and is an effective way to mitigate potential EMF concerns.

52. As part of MAIT's approach to efficiently construct a transmission line project, the design of all or portions of a transmission line project will typically utilize a compact conductor arrangement. This approach has the added benefit of reducing EMF strengths.

53. As a point of reference, the Company is providing estimates of the EMF strengths for the Project. The estimates have been prepared utilizing the Electric Power Research Institute's

EMF Workstation 2015 software program ("Program"). The Program relies on the law of Biot-Savart, an equation describing the magnetic field generated by a constant electric current. The law relates the magnetic field to the magnitude, direction, length, and proximity of the electric current. The EMF strengths directly beneath the centerline at mid-span of the 115 kV transmission line and at the edges of the ROW for the transmission lines have been calculated. These calculations are provided in the direct testimony of Mr. Hozempa (MAIT Statement No. 6) and **MAIT Exhibit 29**.

**O. Service of Application**

54. Copies of this Application and accompanying exhibits, or the Notice of Filing, have been served upon all interested parties by certified mail, return receipt requested, as required by the Commission's regulation at 52 Pa. Code § 57.74.

## III. CONCLUSION

WHEREFORE, based on the forgoing, Mid-Atlantic Interstate Transmission, LLC requests that the Pennsylvania Public Utility Commission review and approve this application for the location and construction of the Piney–Seward 115 kV Transmission Line Rebuild Project.

Respectfully Submitted,




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Date: April 11, 2025

Attorneys for Mid-Atlantic Interstate Transmission, LLC

## APPENDIX A

**The following description of the Proposed Route is provided as required by 52 Pa. Code § 57.72(c)(3).**

The Project, as shown on **MAIT Exhibit 25** will start at the existing Seward Substation and will extend approximately 66 miles to the existing Piney Substation. The Project will consist of a single-circuit transmission line on new transmission structures partially occupies an existing transmission line right-of-way for its entire length that varies between 100 to 330 feet wide and will require clearing. The Piney–Seward 115 kV Transmission Line Rebuild Project will cross five counties, seventeen townships, and one borough. In Clarion County, the Project crosses the following townships: Piney Township is crossed by approximately one mile of 100-foot-wide ROW that is located on the far eastern side of the township running north to south; Monroe Township is crossed by approximately 5.2 miles of 100- to 250-foot-wide ROW that is located within the northern portion of the township running northwest to southeast; Limestone Township is crossed by approximately 2.7 miles of 180-foot-wide ROW that is located on the southwestern side of the township running northwest to southeast; Porter Township is crossed by approximately 0.3 miles of a 180-foot-wide ROW that is located on the far eastern side of the township running northwest to southeast; and Redbank Township is crossed by approximately 5.8 miles of a 180-foot-wide ROW that transects the township running northwest to southeast. In Armstrong County, the Project crosses Redbank Township by approximately 2.8 miles of a 180-foot-wide ROW that is located on the northeastern side of the township running north to south. In Jefferson County, the Project crosses the following townships and boroughs: Ringgold Township is crossed by approximately 2.8 miles of a 120- to 180-foot-wide ROW that is located on the southwestern side of the township running north to south and is crossed again to the east of Timblin Borough

for less than 0.1 miles of a 120-foot-wide ROW running north to south; Timblin Borough is crossed by approximately 0.5 miles of a 100- to 330-foot-wide ROW that is located on the eastern side of the borough running north to south; and Porter Township is crossed by 4.2 miles of a 180- to 215-foot-wide ROW that transects the township running north to south. In Indiana County, the Project crosses the following townships: West Mahoning Township is crossed by approximately 4.4 miles of a 100- to 180-foot-wide ROW that is located on the eastern side of the township running northwest to southeast; North Mahoning Township is crossed by approximately 1.8 miles of a 180- to 215-foot-wide ROW that is located on the southwestern corner of the township running northwest to southeast; East Mahoning Township is crossed by approximately 7.3 miles of a 180-foot-wide ROW that transects the township running north to south; Rayne Township is crossed by approximately 0.6 miles of a 200-foot-wide ROW that is located on the northeastern corner of the township running north to south; Green Township is crossed by approximately 8.8 miles of a 100- to 215-foot-wide ROW that transects the township running northwest to southeast; Pine Township is crossed by approximately 7 miles of a 100- to 180-foot-wide ROW that transects the township running north to south; Buffington Township is crossed by approximately 6.5 miles of a 180-foot-wide ROW that transects the township running north to south; and East Wheatfield Township is crossed by approximately 3.9 miles of a 100- to 180-foot-wide ROW that transects the township running north to south. In Westmoreland County, the Project crosses St. Clair Township by approximately 0.9 miles of a 100-foot-wide ROW that is located on the northern tip of the township running north to south.

Due to the size of the Project, the following descriptions of the Proposed Route have been divided into substation-to-substation sections.

- The Proposed Route exits the Seward Substation to the northeast and continues in a relatively straight, approximately 18.2-mile path, to the Glory Substation. Between the Seward Substation and Glory Substation, the Proposed Route largely passes adjacent to forest and agricultural land; however, it passes adjacent to the Town of Seward and passes over several residential areas along State Routes 403 and 422 as well. The Proposed Route crosses Yellow Creek, Blacklick Creek, the Conemaugh River, State Route 533, State Route 403, US Route 422, US Route 22, State Route 711, and several local roads in this section.
- The Proposed Route exits the Glory Substation to the northwest and continues in a relatively straight, approximately 7.9-mile path to the Dixonville East Substation. Between the Glory and Dixonville East substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Proposed Route crosses South Branch Two Lick Creek, State Route 286, State Route 580, and several local roads in this section.
- The Proposed Route exits the Dixonville East Substation to the northwest and continues in a relatively straight, approximately 11.8-mile path to the Trade City Substation. Between the Dixonville East and Trade City substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Proposed Route crosses Little Mahoning Creek, State Route 210, US Route 119, and several local roads in this section.

- The Proposed Route exits the Trade City Substation to the northwest and continues in a relatively straight, approximately 7.6-mile path to the Timblin Substation. Between the Trade City and Timblin substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Proposed Route crosses Mahoning Creek, State Route 954, and several local roads in this section.
- The Proposed Route exits the Timblin Substation to the northwest and continues in a relatively straight, approximately 21.1-mile path to the Piney Substation. Between the Timblin and Piney substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Proposed Route passes over Redbank Creek, Piney Creek, State Route 28, State Route 68, State Route 536, State Route 66, and several local roads in this section.

**ATTACHMENT 1**
**PINEY–SEWARD 115 KILOVOLT TRANSMISSION LINE REBUILD PROJECT**
**PUC REGULATION CROSS-REFERENCE MATRIX**

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| 57.72 | Form and content of application | N/A |
| 57.72(a) | Applications shall be in conformity with Section 1.31 (relating to form of documentary filings generally). Supporting exhibits such as maps, photographs and other engineering materials may be on paper not exceeding 28 inches by 40 inches. | Siting Application<br><br>MAIT Exhibits 6, 11-25, 27, 28 |
| 57.72(b) | The application shall be signed by a person having authority with respect thereto and having knowledge of the matters herein set forth and shall be verified under oath. | Siting Application |
| 57.72(c) | An application shall contain: | |
| 57.72(c)(1) | The name of the applicant and the address of its principal business office | Siting Application |
| 57.72(c)(2) | The name, title and business address of the attorney of the applicant and the person authorized to receive notice and communications with respect to the application if other than the attorney of the applicant. | Siting Application |
| 57.72(c)(3) | A general description – not a legal or metes and bounds description – of the proposed route of the HV line, to include the number of route miles, the right-of-way width and the location of the proposed HV line within each city, borough, town and township traversed. | Siting Application<br><br>Siting Application, Appendix A |
| 57.72(c)(4) | The names and addresses of known persons, corporations and other entities of record owning property within the proposed right-of-way, together with an indication of HV line rights-of-way acquired by the applicant. | MAIT St. No. 4<br><br>MAIT Exhibit 8 |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| 57.72(c)(5) | A general statement of the need for the proposed HV line in meeting identified present and future demands for service, of how the proposed HV line will meet that need and of the engineering justifications for the proposed HV line. | Siting Application<br><br>MAIT St. No. 2 and MAIT Exhibits 3-5 |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| | | MAIT St. No. 6 |
| 57.72(c)(6) | A statement of the safety considerations which will be incorporated into the design, construction and maintenance of the proposed HV line. | Siting Application<br><br>MAIT St. No. 5 |
| 57.72(c)(7) | A description of studies which had been made as to the projected environmental impact of the HV line as proposed and of the efforts which have been and which will be made to minimize the impact of the HV line upon the environmental and upon scenic and historic areas, including but not limited to impacts, where applicable, upon land use, soil and sedimentation, plant and wildlife habitats, terrain, hydrology and landscape. | MAIT St. No. 3<br><br>MAIT Exhibit 6 |
| 52.72(c)(8) | A description of the efforts of the applicant to locate and identify archaeologic, geologic, historic, scenic or wilderness areas of significance within 2 miles of the proposed right-of-way and the location and identity of the areas discovered by the applicant. | MAIT St. No. 3<br><br>MAIT Exhibits 6 and 7 |
| 57.72(c)(9) | The location and identity of airports within 2 miles of the nearest limit of the right-of-way of the proposed HV line. | MAIT St. No. 3<br><br>MAIT Exhibit 6 |
| 57.72(c)(10) | A general description of reasonable alternative routes to the proposed HV line, including a description of the corridor planning methodology, a comparison of the merit and detriments of each route, and a statement of the reasons for selecting the proposed HV line route. | MAIT St. No. 3<br><br>MAIT Exhibit 6 |
| 57.72(c)(11) | A list of the local, State and Federal governmental agencies which have requirements which shall be met in connection with the construction or maintenance of the proposed HV line and a list of documents which have been or are required to be filed with those agencies in connection with the siting and construction of the proposed HV line. | MAIT St. No. 3<br><br>MAIT Exhibit 7 |
| 57.72(c)(12) | The estimated cost of construction of the proposed HV line, and the projected date for completion. | Siting Application |
| 57.72(c)(13) | The following exhibits: | N/A |
| 57.72(c)(13)(i) | A depiction of the proposed route on aerial photographs and topographic maps of suitable detail. | MAIT Exhibit 6, Map 6<br><br>MAIT Exhibit 6, Map 7 |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| 57.72(c)(13)(ii) | A description of the proposed HV line, including the length of the line, the design voltage, the size, number and materials of conductors, the design of the supporting structures and their height, configuration and materials of construction, the average distance between supporting structures, the number of supporting structures, the line to structure clearances and the minimum conductor to ground clearances at mid-span under normal load and average weather conditions and under predicted extreme load and weather conditions. | Siting Application<br><br>MAIT St. No. 5<br><br>MAIT Exhibits 11-18 |
| 57.72(c)(13)(iii) | A simple drawing of a cross section of the proposed right-of-way of the HV line and any adjoining rights-of-way showing the placement of the supporting structures at typical locations, with the height and width of the structures, the width of the right-of-way and the lateral distance between the conductors and the edge of the right-of-way indicated | Siting Application<br><br>MAIT St. No. 5<br><br>MAIT Exhibits 19-25 |
| 57.72(c)(13)(iv) | A system map which shows in suitable detail the location and voltage of existing transmission lines and substations of the applicant and the location and voltage of the proposed HV line and associated substations. | MAIT Exhibit 27 |
| 57.72(c)(14) | A statement identifying litigation concluded or in progress which concerns property or matter relating to the proposed HV line, right-of-way route or environmental matters. | Siting Application |
| 57.72(c)(15) | Additional information as the Commission may require. | N/A |
| 57.74(a) | (a) *Filing.* The applicant shall file with the Commission the original and six copies of the application. An affidavit of service showing the identity of those served under subsections (b) and (c) shall accompany the original and the copies of the application filed with the Commission. | Siting Application<br><br>Notice of Filing<br><br>Certificate of Service |
| 57.74(b) | (b) *Copies.* At the time of filing, the applicant shall serve a copy of the application by registered or certified mail, return receipt requested, upon the following:<br>(1) The chief executive officer, the governing body and the body charged with the duty of | Siting Application<br><br>Certificate of Service |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
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| | planning land use in each city, borough, town, township and county in which any portion of the HV line is proposed to be located.<br>(2) The president of the public utility, other than the applicant, in whose service territory any portion of the HV line is proposed to be located.<br>(3) The Department of Environmental Resources, Attention: Bureau of Environmental Planning; Post Office Box 2357, 101 S. Second Street, Harrisburg, Pennsylvania, 17120. (NOTE: now Department of Environmental Protection at different Harrisburg office). | |
| 57.74(c) | (c) *Notice.*<br>(1) At the time of filing, the applicant shall serve a notice of filing and a map of suitable detail showing the proposed route of the proposed facility by registered or certified mail, return receipt requested, upon the following:<br>(i) The Secretary of the Department of Transportation, Room 1200 Transportation and Safety Building, Harrisburg, Pennsylvania 17120.<br>(ii) The Chairman of the Historical and Museum Commission, Post Office Box 1026, Harrisburg, Pennsylvania 17120.<br>(iii) Other local, State or Federal agencies designated in § 57.72 (c)(11)(relating to form and content of application).<br>(iv) The persons, corporations, and other entities designated in § 57.72(c)(4), unless they are served with a copy of the application under § 57.75(i) (relating to hearing and notice). | Siting Application<br><br>Notice of Filing<br><br>Certificate of Service |
| 57.74(c) | (2) The notice of filing shall contain a statement identifying the filing, the date on which the filing was or is to be made, a description of the proposed line, the design voltage, the number of route miles, the right-of-way width and the location of the proposed HV line within each township traversed and a statement that a copy of the application is available for public examination as provided in subsection (d). | Notice of Filing |
| 57.74(d) | (d) *Examination.* On the day of filing of the application, the applicant shall make a copy of the application available for public examination during ordinary business hours at a convenient location | Siting Application<br><br>Notice of Filing |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| | within a county in which any part of the proposed HV will be located. | |
| 57.74(e) | (e) *Additional notice.* The applicant shall provide an additional notice and shall serve such additional copies of the application without cost as the Commission may require. | N/A |
| 69.3102(a) | (a) Applications for electric transmission siting authority should provide the following information with the initial application for siting approval demonstrating its efforts to fully notify landowners who are either owners of land that will be purchased for the transmission project or will be subject to right of way/easement requirements:<br><br>(1) A Code of Conduct/Internal Practices governing the manner in which public utility employees or their agents interact with landowners along proposed rights of way.<br><br>(2) Copies of information provided to landowners by the public utility of any publicly disseminated notices advising landowners to contact the Commission or the Office of Consumer Advocate (OCA) in the event of improper land agent practices.<br><br>(3) Copies of all notices sent under § 57.91 (relating to disclosure of eminent domain power of electric utilities). | MAIT St. No. 4<br><br>MAIT Exhibit 9<br><br>MAIT Exhibit 10 |
| 69.3102(b) | (b) Applicants for transmission siting authority should serve a copy of the Code of Conduct on all landowners along the proposed route whose property is to be purchased, subject to easement rights or borders the transmission corridor. The Code of Conduct should also be available on the applicant's website. | MAIT Exhibit 10 |
| 69.3102(c) | (c) Applicants for transmission siting authority should provide prior notice to the Commission's Office of Communications of informational presentations to community groups by the public utility scheduled after the filing of the transmission siting application so that the Commission, OCA and other interested parties can attend meetings or obtain copies of information being disseminated at the presentations. | N/A |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
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| 69.3103 | Applicants for eminent domain authority should follow the following requirements and provide the following information as part of the application:<br><br>(1) Applicants for transmission siting authority should file applications for all known eminent domain authority as separate filings, but simultaneously with the associated transmission siting applications. Testimonial evidence in support of an eminent domain application should be filed with the application. Subsequent eminent domain authority applications should be filed as soon as reasonably known during the course of the transmission siting application.<br><br>(2) As part of an eminent domain application, the public utility applicant should present, for those properties subject to condemnation at the time the transmission siting application is filed or later in the siting proceeding, the reason for the exercise of condemnation power for each property and the precise location of the affected property. Supporting maps or legal descriptions of the property to be condemned should be supplied to the extent feasible. Submission of information pursuant to this guideline should be consistent with the filing requirements for the exercise of eminent domain powers under 26 Pa.C.S. § 302(b)(5) (relating to declaration of taking).<br>(3) A public utility transmission siting application should include a summary status report for those properties along the proposed transmission route where negotiations for either property acquisition or rights of way/easements may be ongoing. This information should be supplemented as requested by the administrative law judge or the parties during the course of the transmission siting proceeding. | N/A |
| 69.3104 | Applications for exemption from municipal zoning requirements should provide the following information with the application:<br><br>(1) Copies of comprehensive land use plans, zoning ordinances and other documentation relevant to the buildings affected by the exemption request. This | N/A |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| | information may be filed in either hard copy or electronic format.<br><br>(2) Provision of metes and bounds or site maps of building sites.<br><br>(3) A procedure for providing notice to affected municipalities of the request for exemption. | |
| 69.3105(1) | Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements:<br><br>(1) Transmission applicants should utilize a combination of transmission route evaluation procedures including high-level GIS data, traditional mapping (including United States Geological Survey data and compilation), aerial maps and analysis of physical site specific constraints raised by affected landowners. | Siting Application<br><br>MAIT St. No. 3<br><br>MAIT Exhibit 6 |
| 69.3105(2) | Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements:<br><br>(2) Transmission applicants should summarize the status of property acquisitions (including fee simple acquisitions and rights of way/easements) as part of the application. The applicant should provide the current status and continuing updates on property acquisition litigation or settlements during the course of the siting proceeding. | Siting Application<br><br>MAIT St. No. 4 |
| 69.3105(3) | Applications for the siting of electric transmission lines should provide the following information as part of the § 57.72(c) (relating to form and content of application) requirements:<br><br>(3) In providing information regarding the reasonable alternative routes, the utility actively considered in its final phase of the route selection process, and the relative merits of each, in accordance with | Siting Application<br><br>MAIT St. No. 3<br><br>MAIT Exhibit 6 |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| | § 57.72(c)(10), the applicant should include the following information:<br><br>(i) The environmental, historical, cultural and aesthetic considerations of each route.<br><br>(ii) The proximity of these alternative routes to residential and nonresidential structures.<br><br>(iii) The applicant's consideration of relevant existing rights of way.<br><br>(iv) The comparative construction costs associated with each route. | |
| 69.3106 | Applications for siting of electric transmission lines should include as part of the filing requirement under § 57.72(e)(7) the following information: A matrix or list showing all expected Federal, state and local government regulatory permitting or licensing approvals that may be required for the project at the time the application is filed, the issuing agency, approximate timeline for approval and current status. The applicant should provide an update on the status of the regulatory permitting/licensing approvals as the case progresses. | MAIT Exhibit 7 |
| 69.3107(a) | (a) *Interim guidelines for the use of herbicides and pesticides.* Applicants for transmission line siting authority should provide a detailed vegetation management plan that includes the following components:<br><br>(1) A general description of the utility's vegetation management plan.<br><br>(2) Factors that dictate when each method, including aerial spraying, is utilized.<br><br>(3) Vegetation management practices near aquatic and other sensitive locations. | MAIT St. No. 5<br><br>MAIT Exhibit 26 |

| Administrative Code Section or Statute | PUC Regulation Requirement | Location |
|---|---|---|
| | (4) Notice procedures to affected landowners regarding vegetation management practices.<br><br>(5) Provision of a copy of a landowner maintenance agreement that describes the duties and responsibilities of landowners and the utility for vegetation management to the extent utilized. | |
| 69.3107(b) | (b) *Interim guidelines for Electromagnetic Field (EMF) impacts.* Transmission siting applications should include the following: A description of the EMF mitigation procedures that the utility proposes to utilize along the transmission line route. This description should include a statement of policy approach for evaluating design and siting alternatives and a description of the proposed measures for mitigating EMF impacts. | MAIT St. No. 6<br><br>MAIT Exhibit 29 |

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | : | **Docket No. A-2025-_____** |

## VERIFICATION

I, Travis M. Turner, state that I am an Engineer IV at FirstEnergy Service Company; that I am authorized to make this Verification on behalf of Mid-Atlantic Interstate Transmission, LLC and that the facts set forth are true and correct to the best of my knowledge, information and belief. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. §4904 (relating to unsworn falsification to authorities).

April 11, 2025

Travis M. Turner

Travis M. Turner

**MAIT Statement No. 1**

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | : | **Docket No. _____** |

**Direct Testimony**
**of**
**Travis M. Turner**

**List of Topics Addressed**

**Introduction of Witnesses; Overview of Regulatory Requirements; Outreach to Public; and Public Comments**

**Dated: April 11, 2025**

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**Q. Please state your name and business address.**

A. My name is Travis M. Turner, and my business address is 5001 NASA Blvd., Fairmont, West Virginia 26554.

## I. DUTIES AND RESPONSIBILITIES

**Q. By whom are you employed and in what capacity?**

A. I am employed by FirstEnergy Service Company as an Engineer IV, Transmission Siting. In that capacity, my primary responsibility is the siting of transmission facilities for utility subsidiaries of FirstEnergy Corp. ("FirstEnergy") that provide service in Maryland, New Jersey, Ohio, Pennsylvania, Virginia, and West Virginia and obtaining necessary siting and other, related approvals from the utility regulatory authorities in those states for new transmission facilities and the modification of existing transmission facilities.

## II. EDUCATION AND EXPERIENCE

**Q. Please describe your educational background and professional experience**

A. I graduated from Fairmont State College in Fairmont, West Virginia, in 1999 with a Bachelor of Science in Electronic Engineering Technology. I have been employed by FirstEnergy since 2011, when Allegheny Energy, Inc. ("Allegheny Energy") merged with FirstEnergy Corp. (the "Merger"). Prior to the Merger, I was employed by various subsidiaries of Allegheny Energy. I started my career in 2000 as a Lines Engineering Designer with Potomac Edison Company ("Potomac Edison"). At Potomac Edison, I was promoted to Resource Manager in 2004 and to Electric Operation Manager in 2006. In 2010, I transferred to Allegheny Energy Service Corporation, where I was employed as a Right-of-Way Manager. I remained in that position until the Merger was completed.

Following the Merger, I worked in the Transmission Engineering and Siting Group of FirstEnergy as an Advanced Transmission Specialist. I was promoted to Engineer and then to Engineer III in 2012 and 2013, respectively. I was promoted to Engineer IV in 2017.

## III. PURPOSE OF TESTIMONY

**Q. On whose behalf are you providing this testimony?**

A. I am testifying in support of Mid-Atlantic Interstate Transmission, LLC's ("MAIT") Application for approval to locate and construct the Piney–Seward 115 kV Transmission Line Rebuild Project (the "Project").

**Q. What is the purpose of your testimony?**

A. The purpose of my testimony is four-fold. First, I identify the other witnesses who will be providing direct testimony on behalf of MAIT in support of its Application, and I provide a brief summary of the topics they address. Second, I describe my role in the siting process. Third, I provide an overview of the findings that the Pennsylvania Public Utility Commission ("PUC" or the "Commission") is required to make to approve the siting of a high-voltage ("HV") transmission line. Fourth and finally, I describe the public information outreach that MAIT conducted prior to selecting its preferred route for the Project.

## IV. INTRODUCTION OF OTHER WITNESSES

**Q. Please identify the other witness who will be providing direct testimony on behalf of MAIT in this proceeding and the topics they address.**

A. In addition to me, five other witnesses are submitting direct testimony on MAIT's behalf in support of its Application:

**Andrew William Grant (MAIT Statement No. 2)** is an Engineer, Transmission Line Services, for FirstEnergy Service Company. Mr. Grant will describe the need for the Project.

**Lawrence Peterson (MAIT Statement No. 3)** is Senior Environmental Manager at GAI Consultants, Inc. Mr. Peterson is sponsoring **MAIT Exhibit 6**, which is the Environmental Assessment and Line Route Study for the Project and **MAIT Exhibit 7**, which is a list of local, state and federal governmental agencies that have permitting or licensing requirements. Mr. Peterson will describe the principal elements of the siting analysis, explain how the environmental assessment was conducted and discuss the reasons why the preferred route was selected.

**Lisa Marinelli (MAIT Statement No. 4)** is a Senior Real Estate Representative for FirstEnergy Service Company. Mrs. Marinelli will explain the process for acquiring the easements and other land rights needed for the Project.

**Brett H. Fisher (MAIT Statement No. 5)** is a Project Manager at Burns and McDonnell Engineering Company, Inc. Mr. Fisher will describe the design and engineering for the Project and how the Project will be constructed. Mr. Fisher will also describe MAIT's plans for operating and maintaining the proposed transmission line after it is constructed, including removing and controlling vegetation.

**Lawrence A Hozempa (MAIT Statement No. 6)** is a General Manager of Transmission Planning and Protection for FirstEnergy Service Company. Mr. Hozempa will discuss electromagnetic fields ("EMF") created by electric power lines and identify the EMF levels that have been calculated for the Project.

## V. APPLICATION

**Q. What is your role with regard to Project?**

A. I am responsible for coordinating MAIT's efforts to obtain the Commission's approval to locate and construct the Project. In that role, I provided input and overall coordination with regard to the Environmental Assessment and Line Route Study and MAIT's Application. I will also act as MAIT's lead technical representative throughout the regulatory process for obtaining siting approval.

**Q. Do you have final decision-making authority for the Project?**

A. No. Final decision-making authority for the Project lies with MAIT's management. My role is to formulate issues and recommendations for executive review and approval and to implement management's decisions and guidance. As such, I am responsible for identifying issues that require management's prior approval, presenting those issues to management, answering questions from management, and executing management's decisions and directions. In this role, I was the project lead for preparing the instant Application and presenting it for management's authorization. Once MAIT's management approved filing the Application, I became responsible for acting as MAIT's lead representative to the PUC throughout the regulatory process.

**Q. What are the fundamental requirements an applicant must satisfy to obtain siting approval for an HV transmission line in Pennsylvania?**

A. The Commission's regulations at 52 Pa. Code § 57.71 require prior Commission approval to locate and construct an HV (design voltage greater than 100 kV) transmission line. To obtain such approval, an applicant must file an application that contains the information specified in 52 Pa. Code § 57.72, and the applicant must serve the application or provide the requisite notice of its filing as specified in 52 Pa. Code § 57.74. In order to grant approval to locate and construct an HV transmission line, the Commission must make four findings, as set forth in 52 Pa. Code § 57.76(a):

(1) That there is a need for [the line].

(2) That it will not create an unreasonable risk of danger to the health and safety of the public.

(3) That it is in compliance with applicable statutes and regulations providing for the protection of the natural resources of this Commonwealth.

(4) That it will have minimum adverse environmental impact, considering the electric power needs of the public, the state of available technology and the available alternatives.

**Q. Does MAIT's Application and its accompanying exhibits and direct testimony satisfy the requirements imposed by the Commission's siting regulations?**

A. Yes, they do. MAIT's Application and its accompanying exhibits and direct testimony provide the information specified in the Commission's regulations and provide evidence that will support all of the findings required by 52 Pa. Code § 57.76. As explained in the Application, MAIT has satisfied all of the service and notice requirements imposed by the Commission's regulations. In addition, MAIT is a Pennsylvania public utility that was issued a Certificate of Public Convenience pursuant to the Commission's final order entered on August 24, 2016, at Docket Nos. A-2015-2488903 *et al*. Accordingly, the Commission has already found and determined that MAIT has the technical, financial and legal fitness to own and operate transmission facilities and to provide transmission service in Pennsylvania.

## VI. PUBLIC INFORMATION

**Q. Did MAIT hold public information meetings for the Project?**

A. Yes. Due to the COVID-19 pandemic and the restrictions on public meetings, MAIT developed an alternative public engagement program. On October 15, 2022, a virtual

public information webpage[1] for the Project was activated and is still active. The virtual public information webpage has two components. First, MAIT prepared and posted a presentation to the Project's website that explores many elements of the Project. Second, MAIT provided several ways to communicate questions and concerns including, if requested, scheduling an individual conference call with MAIT representatives to discuss the Project. Landowners, public officials, and the general public were invited to visit the Project's virtual public webpage in order to learn about the need for the Project; the transmission line route; MAIT's construction, engineering, tree clearing and maintenance practices; MAIT's approach to negotiating with landowners to obtain necessary rights-of-way; and environmental impacts of the Project. Landowners and the public were given the opportunity to comment on the Project.

**Q. How were landowners informed of the public information meetings?**

A. On October 7, 2022, MAIT mailed letters to the landowners owning properties that would be crossed by the transmission line route studied for the Project. These letters informed the landowners of the virtual public information webpage. In addition, the letters were accompanied by a fact sheet setting forth relevant facts about the Project. A copy of the fact sheet is provided as **MAIT Exhibit 1**.

**Q. How were public officials notified of the public information meetings?**

A. FirstEnergy's External Affairs Managers for Clarion, Armstrong, Jefferson, Indiana, and Westmoreland Counties provided notice by telephone, email, and United States mail to public officials in the counties, townships, and boroughs that are within the Project's study

[1] Available at https://firstenergycorp.com/content/fecorp/about/transmission_projects/pennsylvania/erie-south-piney-seward-trans-projects.html.

area. These public officials were notified of the locations, dates, and times of the public meetings. In addition, the External Affairs Manager provided the public officials with a copies of the fact sheet for the Project.

**Q. How was the general public informed of the public information meeting?**

A. A Notice Of Proposed Utility Facility was published the week of October 12, 2022, in the following publications: the Oil City Derrick and the Franklin News Herald in Clarion County; the Kittanning Leader Times in Armstrong County; the Punxsutawney Spirit in Jefferson County; the Indiana Gazette in Indiana County; and the Tribune Review in Westmoreland County. This Notice informed the general public of the Project and the Project's virtual public information webpage. MAIT will publish any future notices of as may be required by the PUC in the Oil City Derrick, the Franklin News Herald, the Kittanning Leader Times, the Punxsutawney Spirit, the Indiana Gazette, and the Tribune Review, pursuant to the Commission's regulations and on direction from the Commission. In addition, a Notice Of Proposed Utility Facility was posted on FirstEnergy's Facebook and Twitter accounts the week of October 12, 2022. I have provided a copy of the proof of publication for pre-filing public information meeting as **MAIT Exhibit 2**.

**Q. Did MAIT consider the comments received from landowners, public officials and the general public as part of the siting process?**

A. Yes, it did. The comments MAIT received were evaluated and addressed as part of the siting process. Persons who offered comments on the Project were contacted by telephone, letter, email, or in person to discuss their comments, concerns and suggestions.

**Q. Does MAIT plan to hold any additional public information meetings for this project?**

A. MAIT has not planned to host any more virtual public information meetings for this project. On request by any party to this proceeding, however, MAIT will agree to coordinate a public input hearing to take place by a date agreed upon by the parties.

**Q. Does this conclude your direct testimony?**

A. Yes, it does. However, I reserve the right to file such additional testimony or exhibits as may be necessary or appropriate.

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | **:** | **Docket No. A-2024-_____** |

**Direct Testimony**
**of**
**Andrew W. Grant**

**List of Topics Addressed**

**Project Need**

**Dated: April 11, 2025**

**Q. Please state your name and business address.**

A. My name is Andrew William Grant, and my business address is 800 Cabin Hill Drive, Greensburg, Pennsylvania 15601.

## I. RESPONSIBILITIES, EXPERIENCE, AND EDUCATION

**Q. By whom are you employed and in what capacity?**

A. I am employed by FirstEnergy Service Company as an Engineer in the Transmission Line Services group, a subset of the Transmission and Substation Services Department. In this proceeding, I am testifying on behalf of Mid-Atlantic Interstate Transmission, LLC ("MAIT").

**Q. Please describe your professional experience and educational background.**

A. I received a Bachelor of Science Degree in Civil Engineering from The Pennsylvania State University. I have been employed by FirstEnergy for approximately 5 years. I have held a variety of Engineering, Project Management, and Construction Management roles since joining FirstEnergy. As an Engineer for Transmission Line Services, I am responsible for coordinating condition-based assessments, the development of a transmission line asset and work management system, as well as maintenance and repair efforts on transmission line facilities to provide for the safe and reliable delivery of electricity on behalf of FirstEnergy's utility operating companies, including Penelec, MAIT, and others. I am also responsible for sponsoring condition-based capital projects on FirstEnergy transmission lines based upon the results and analyses of assessments performed by Transmission Line Services.

**Q. Have you testified previously before the Pennsylvania Public Utility Commission ("PUC" or the "Commission") or other regulatory agencies?**

A. I have not previously testified before the PUC. I have previously testified before the Maryland Public Service Commission.

## II. PURPOSE OF TESTIMONY

**Q. Please describe the purpose of your testimony.**

A. The purpose of my testimony is to discuss the existing condition of the lines between Seward and Piney substations, and how it relates to the Piney–Seward 115 kilovolt ("kV") Transmission Line Rebuild Project (the "Project"). These lines are referred to herein as "the lines" or by their individual names.

**Q. Please identify and describe the exhibits to your testimony and summarize the contents of those exhibits.**

A. I am sponsoring the following exhibits with my direct testimony:

- **MAIT Exhibit 3**: Five-Year Outage History;
- **MAIT Exhibit 4**: 2023 Walkdown and Comprehensive Visual Inspection Records; and
- **MAIT Exhibit 5**: Examples of Present-Day and Previous Shield Wire Configurations.

**Q. Briefly outline your testimony.**

A. My testimony provides insight regarding the role of Transmission Line Services as well as justification for the capital investment on FirstEnergy transmission lines. I will also discuss drivers for condition-based projects, the types of inspections performed to evaluate

transmission lines, and the existing condition and reliability performance of the five 115 kilovolt ("kV") lines or segments between Seward and Piney substations.

**Q. Please explain the role of the Transmission Line Services group.**

A. Transmission Line Services is responsible for regulatory-required inspections of all FirstEnergy transmission lines. These inspections include aerial patrols and wood pole inspections. In addition, Transmission Line Services coordinates other maintenance and inspection activities, such as structural-steel inspections/repairs, structural-steel coating, and grounding inspections/repairs. Based upon the results of these inspections, Transmission Line Services recommends and sponsors condition-based capital projects designed to increase reliability for customers and reduce the risk of failures. Additional roles of Transmission Line Services include addressing transmission corridor concerns, such as encroachments, streambank erosion, and landslides, and providing technical support to FirstEnergy's operating companies.

**Q. Why is MAIT proposing to construct the Project?**

A. The Project is being proposed to address the poor conditions of the existing transmission facilities, which are negatively impacting the reliability of MAIT's system. Existing transmission facilities were originally installed circa 1940, designed to support two 46 kV circuits. The lattice tower segments were subsequently modified circa 1960, to upgrade them to 115 kV in a six-wire configuration. Wood pole structures were installed thereafter. These facilities were constructed according to best practices at the time of installation. Said practices were a reflection of the understanding of the electric utility industry and associated codes at the time. Between the original installation and present-day, both the

codes and understood best practices have been updated as a result of research and empirical knowledge.

Wood poles are typically considered for replacement beginning around 40 years of age, while lattice towers are typically considered for replacement around 70 years of age. The proposed project will allow for increased clearance between phase wires and between phase and shield wires and will also provide adequate lightning protection. These factors will effectively mitigate the sources of unplanned outages that have been noted on this collection of lines.

**Q. What are the main drivers for condition-based projects?**

A. The main drivers for condition-based projects typically include forms of deterioration impacting structures, structure components, conductors, insulators, and hardware and the occurrence of unplanned outages due to design flaws. Deterioration of any component can negatively impact a transmission line's reliability and pose a risk of failure. Deterioration resulting from climatic conditions, wildlife, and/or environmental factors reduce a given component's ability to withstand its design load, introducing a risk of failure of a given component and those around it. For example, a wood pole may fracture and topple if it incurs a substantial amount of rot or loss of shell thickness. Subsequently, the loads once supported by that wood pole would then be shifted to adjacent structures and components, potentially leading to overstresses and ultimately causing a cascading failure. Unplanned outages occur spontaneously, and for a variety of reasons. Some problematic outage causes include vegetation contacts, phase wires contacting shield wires or other conductors, and lightning strikes. The duration of each outage varies depending on the cause and whether any significant damage was sustained. For example, a lightning strike may cause a

momentary outage if a conductor or insulator is struck, but a separate lightning strike may cause an insulator failure that trips the line and causes a sustained outage. Similar parallels can be drawn to scenarios that involve objects contacting the phase conductors.

**Q. Please discuss the types of inspections used to evaluate the existing condition of transmission lines.**

A. MAIT conducts aerial comprehensive visual inspections ("CVI") of transmission lines on a routine basis and prior to developing a transmission line project. A CVI is a slow, structure-by-structure, span-by-span aerial (helicopter) inspection where an onboard observer will thoroughly examine a structure from top to bottom, observing associated hardware such as clamps, insulators, cotter keys, nuts/bolts, and conductors. The helicopter moves very slowly along the transmission line and will hover near structures to document defects that could result in a reliability concern. MAIT also performs pre-engineering groundline assessments, also referred to as walkdown assessments to document structure defects from the ground. Walkdown assessments are conducted with similar goals as the CVI, either on foot or with motorized vehicles.

**Q. When were the inspections performed for the collection of lines between Seward and Piney Substations?**

A. The walkdown inspections were performed between January 17 and 30, 2023. The aerial CVI inspections were performed between May 19 and 24, 2023 and June 2023.

**Q. Please provide a summary of the existing condition of the collection of transmission lines between Seward and Piney Substations.**

A. The condition of each line segment is summarized below by line name, listed in order of northern-most to southern-most segment, as shown in **MAIT Exhibit 4**. The inspection

findings presented below have been recorded within the last five years. Please note that a span refers to lengths of wire (conductor and shield wire) that stretch between support structures.

- Piney–Timblin 115 kV P1 line. This transmission line consists of 94 structures and 95 spans. Among them, a total of 33 insulator strings have been noted as either flashed, burnt, or degraded by corona, while 28 spans of conductor have shown evidence of melted strands, breakage, or bird caging.
- Timblin–Trade City 115 kV TTC line. This transmission line consists of 38 structures and 39 spans. Of those 39 spans, 11 spans of conductor have shown evidence of burn marks and broken strands. Previous repairs have also remediated 11 flashed insulator strings.
- Trade City–Dixonville East 115 kV GTC1 line and Dixonville East–Glory 115kV GTC2 line. These transmission lines are segmented by the Dixonville East substation, approximately halfway between them. They consist of 84 structures and 86 spans. Of those 86 spans, 37 spans of conductor have shown evidence of burn marks, as well as burnt or broken strands. Additionally, 32 insulator strings have shown evidence of being flashed, deteriorated, broken, or deteriorated by corona.
- Glory–Seward 115 kV G1 line. This transmission line consists of 131 structures and 132 spans of conductor. Of the 131 structures, 102 wood pole defects from cracking, deterioration, animal damage, and rot were noted.

**Q. Please discuss the reliability performance of the collection of line segments between Seward and Piney Substations.**

A. The reliability performance of each transmission line segment is summarized below by line name in order of North to South. The events discussed below have been recorded within the last five years.

- Piney–Timblin 115 kV P1 line. There have been 20 unscheduled outages due to weather conditions, contact between phase conductors, lightning, and insulator failures. The weather conditions mentioned include icing, wind, and lightning.
- Timblin–Trade City 115 kV TTC line. There have been four unscheduled outages due to contact between phase conductors, icing, and insulator failure.
- Trade City–Dixonville East 115 kV GTC1 line and Dixonville East – Glory 115 kV GTC2 line. There have been two unplanned outages due to conductor failures and ten unplanned outages due to weather such as lightning, high winds, and ice buildup.
- Glory–Seward 115 kV G1 line. There have been five unplanned outages due to fall-ins induced by weather.

**Q. Please discuss why burn marks on conductor and flashed insulators are relevant to the proposed Project.**

A. Damages caused by lightning strikes can result in melted/broken conductor strands, flashed/broken insulators, or burnt/damaged structures. While repairs and replacements would remediate these issues, burnt conductors and flashed insulators are indicative of lightning strikes or phase wires contacting other wires, or items at ground potential. While repair and replacement of components damaged by lightning is necessary for continued operation of these transmission lines, neither is a long-term solution. The presence of lightning-induced damage as stated above is indicative of the lines having inadequate lightning protection, which is reflective of the difference in lightning protection standards applicable presently and when the lines were first constructed.

**Q. Please explain what fall-ins are and why they are relevant to the proposed Project.**

A. Fall-ins are instances where the vegetation surrounding a transmission line contacts the conductors, causing either a momentary or sustained outage. Fall-ins can range from tree branches that are displaced by wind contacting conductors, to trees that are uprooted by storms falling onto conductors. Either scenario presents a risk to a transmission line's ability to provide consistent, safe and reliable electric service.

Fall-ins are relevant to the proposed Project because they indicate the existing configuration of the transmission line is insufficient. When vegetation is contacting conductors due to design parameters, a change is necessary to ensure that electricity can be reliably provided in the future.

**Q. Please discuss outages caused by wind, and their impact on the reliability of transmission lines.**

A. Generally speaking, wind-caused outages are precipitated by significant wind gusts that cause conductors to contact other conductors, or shield wires. In either case, the forces applied to them and the resulting displacement can cause physical contact between the wires or create insufficient clearance between them. These instances lead to momentary or sustained outages, which negatively impact the ability to provide a consistent flow of electric power.

**Q. What reliability concerns are there from a transmission line services perspective based upon the results of the inspections performed on the collection of lines between Seward and Piney Substations?**

A. The primary reliability concerns are due to the existing lines' ability to withstand current climatic conditions. As mentioned above, weather has induced a total of 31 unplanned outages across these five transmission lines in the past five years. Additionally, 75 insulators have been damaged by either lightning or corona and 72 spans have shown evidence of lightning damage or previous phase-to-ground contact. Lastly, 102 structures have shown signs of degradation either from the environment or from animals. The aforementioned factors indicate that, while these lines remain in service today, their condition is declining, and repair is no longer adequate to sustain their operation.

**Q. Please discuss the source(s) of the reliability concerns present on these transmission lines.**

A. The source of both reliability concerns present on these transmission lines is attributed to flaws inherent to their design, especially with the lattice towers. Originally, these towers were designed to support two 46 kV circuits which do not require the same shield wire spacing and configuration as 115 kV lines constructed today. Subsequent to the original

design and construction, the towers were upgraded to a single-circuit 115 kV six-wire configuration. Following the upgrade to 115 kV and subsequent trends in outages, a project was conducted to extend the tower tops with the hope of mitigating the potential for future outage events. A visual representation of the position and location of shield wires following the tower top raising project, and those of present-day are presented in **MAIT Exhibit 5**. Each of the effects resulting from the design flaws are discussed immediately below.

First, the existing shield wire configuration cannot sufficiently protect the conductors from lightning strikes. This concern stems from the location of the shield wire above the conductor, vertically and transversally with respect to the wires. Given that the sole shield wire is positioned in the longitudinal center of the tower, and without adequate clearance to the conductor, lightning protection suffers. Lightning protection has evolved over the years, as a product of increased knowledge of the phenomenon as it relates to electric transmission. This increased knowledge has helped to shape present-day design standards, which indicate that dual shield wires, placed above, or nearly above, the conductors, will provide superior lightning protection.

Second, the physical clearance between the conductors and the shield wire is inadequate. As a brief background, the clearances and wire sizes required for 46 kV construction are noticeably smaller than those required for 115 kV construction. The exact sizes and distances have increased since the original design and construction of this line, along with the upgrade to 115 kV. In an effort to mitigate known issues with phase-static wire contact, Penelec had previously extended some of the tower tops to gain additional

clearance. While this effort did improve reliability, the outage data in **MAIT Exhibit 3** shows that these efforts did not sufficiently mitigate the outages.

## III. REMAINING LIFE OF THE EXITING COLLECTION OF LINES BETWEEN SEWARD AND PINEY SUBSTATIONS

**Q. How much remaining life does the collection of line segments between Seward and Piney Substations have before full replacement is needed?**

A. Based upon Transmission Line Services' review of the inspection information, these transmission line segments are very near end-of-life.

**Q. Would continued maintenance efforts extend the life of the collection of transmission lines between Seward and Piney Substations?**

A. No. Given the inspection findings and outage history of these lines, maintenance efforts are necessary to maintain operation of the lines but will not significantly extend their expected life, as they are already approaching end of life.

**Q. Does this conclude your direct testimony?**

A. Yes, it does. However, I would like to reserve the right to file additional testimony or exhibits as may be necessary or appropriate.

**MAIT Statement No. 3**

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | **:** | **Docket No. _____** |

**Direct Testimony**
**of**
**Lawrence Peterson**

**List of Topics Addressed**

**Alternative Route Analysis And Environment Assessment**

**Dated: April 11, 2025**

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## I. INTRODUCTION, EXPERIENCE AND EDUCATION

**Q. Please state your name and business address.**

A. My name is Lawrence Peterson, and my business address is GAI Consultants, Inc., 385 East Waterfront Drive, Homestead, PA 15120.

**Q. By whom are you employed and in what capacity?**

A. I am employed by GAI Consultants, Inc. ("GAI") as Senior Environmental Manager in GAI's Power Delivery-Environmental Business Sector.

**Q. What is your professional experience and educational background?**

A. I have been employed with GAI for 9 years. In my present capacity, I am responsible for the management, direction and preparation of: (a) environmental permitting; (b) ecological, archaeological, and cultural resource studies; (c) project management; and (d) facility-siting studies. In addition, I analyze how regulations and related government procedures are to be interpreted and applied in connection with government permitting required to site, construct or modify industrial facilities. I have completed and managed a number of GAI's electric utility transmission siting projects since 2014. I earned a Bachelor of Arts degree in Physics from Mansfield University in 1993 and a Masters degree in Business Administration from Point Park University in 2022.

**Q. Have you testified previously before this Commission or other regulatory agencies?**

A. No, I have not previously provided testimony to the Pennsylvania Public Utility Commission ("PUC" or the "Commission").

## II. PURPOSE OF TESTIMONY

**Q. What is the purpose of your direct testimony?**

A. I am sponsoring, and will discuss, **MAIT Exhibit 6** to Mid-Atlantic Interstate

Transmission, LLC's ("MAIT") Application for Commission approval to locate and construct the Piney–Seward 115 kilovolt ("kV") Transmission Line Rebuild Project in Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties (the "Project"). **MAIT Exhibit 6** is a report dated September 2023 and titled "Environmental Assessment and Alternative Route Analysis for Mid-Atlantic Interstate Transmission, LLC Piney–Seward 115kV Transmission Line Rebuild Project" and includes various appendices (collectively the "GAI Report"). In connection with my discussion of the GAI Report, I will explain: (1) the methodology used by GAI to identify and evaluate Alternative Routes for the Project; (2) GAI's assessment of potential environmental effects of each of the Alternative Routes and recommendations for mitigating those effects; and (3) how GAI evaluated the Alternative Routes and selected a Proposed Route for the Project. The GAI Report was prepared under my direction and supervision, and I was primarily responsible for its development. In addition, I am sponsoring **MAIT Exhibit 7**, which is a list of local, state and federal governmental agencies that have permitting or licensing requirements, and **Exhibits 7A**, **7B**, **7C**, and **7D**, which are final responses and concurrence letters from the U.S. Fish and Wildlife Service, the Pennsylvania Game Commission, the Pennsylvania Fish and Boat Commission, and the Pennsylvania Department of Conservation and Recreation, respectively.

## III. OVERVIEW OF THE GAI REPORT AND THE PROPOSED ROUTE

**Q. Please briefly explain GAI's role in studying possible routes for the Project.**

A. GAI was retained by MAIT to conduct a siting study for the Project. The Project involves rebuilding existing 115 kV transmission lines between the existing Seward Substation located in East Wheatfield Township, Indiana County; the existing Glory Substation

located in Pine Township, Indiana County; the existing Dixonville East Substation located in Green Township, Indiana County; the existing Trade City Substation located in West Mahoning Township, Indiana County; the existing Timblin Substation located in Timblin Borough and Ringgold Township, Jefferson County; and the existing Piney Substation located in Piney Township, Clarion County. As a central element of this assignment, GAI developed and evaluated three alternative line routes ("Alternative Routes") for their overall suitability and feasibility and with specific reference to their environmental, cultural, engineering, and land use impacts as well as factors that could complicate or impede or increase the cost of construction. This process was supplemented and refined by coordinating the siting process with the public and with relevant government agencies. GAI has identified 32 environmental, engineering, cultural, and land use resource criteria that GAI generally uses to evaluate alternative routes for major transmission line projects and that define the suite of potential environmental, engineering, cultural, and land use impacts for such projects. These criteria are based on the information required by the Commission's regulations at 52 Pa. Code § 57.72(c) and assessment criteria typically used for major transmission projects. However, upon further analysis, it became clear that six of those criteria were not relevant to the Project because they pertained to resources that do not exist on or near any of the three Alternative Routes. Therefore, the remaining 26 resource criteria were used to evaluate the Alternative Routes.

The first step in the evaluation process was to identify a study area encompassing the existing transmission lines and the surrounding areas. Once the Study Area was defined, GAI used recent aerial photography and published data to compile a geographic information system ("GIS")-based constraints map. This map identified sensitive natural,

cultural, and land use resources in the area as well as areas that may present engineering difficulties. GAI then developed preliminary alternative transmission line segments for further analysis, which were designed to avoid major constraints to the extent feasible.

**Q. Please describe the route that GAI recommends.**

A. The Proposed Route is designated as the Central Route Alternative in the GAI Report. The Proposed Route is approximately 66 miles in length and partially occupies an existing transmission line right-of-way ("ROW") for its entire length. Due to the size of the Project, the descriptions of the Proposed Route have been divided into five substation-to-substation sections or segments.

**Q. Please describe the first substation-to-substation segment.**

A. The Proposed Route exits the Seward Substation to the northeast and continues in a relatively straight, approximately 18.2-mile path, to the Glory Substation. Between the Seward Substation and Glory Substation, the Proposed Route largely passes adjacent to forest and agricultural land; however, it passes adjacent to the Town of Seward and passes over several residential areas along State Routes 403 and 422 as well. This section of the Proposed Route crosses Yellow Creek, Blacklick Creek, the Conemaugh River, State Route 533, State Route 403, US Route 422, US Route 22, State Route 711, and several local roads.

**Q. Please describe the second segment.**

A. The Proposed Route exits the Glory Substation to the northwest and continues in a relatively straight, approximately 7.9-mile path to the Dixonville East Substation. Between the Glory and Dixonville East substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to

some of the road crossings. This section of the Proposed Route also crosses South Branch Two Lick Creek, State Route 286, State Route 580, and several local roads.

**Q. Please describe the third segment.**

A. The Proposed Route exits the Dixonville East Substation to the northwest and continues in a relatively straight, approximately 11.8-mile path to the Trade City Substation. Between the Dixonville East and Trade City substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. This section of the Proposed Route crosses Little Mahoning Creek, State Route 210, US Route 119, and several local roads.

**Q. Please describe the fourth segment.**

A. The Proposed Route exits the Trade City Substation to the northwest and continues in a relatively straight, approximately 7.6-mile path to the Timblin Substation. Between the Trade City and Timblin substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. This section of the Proposed Route crosses Mahoning Creek, State Route 954, and several local roads.

**Q. Please describe the fifth, and final, substation-to-substation segment.**

A. The Proposed Route exits the Timblin Substation to the northwest and continues in a relatively straight, approximately 21.1-mile path to the Piney Substation. Between the Timblin and Piney substations, the Proposed Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the

road crossings. The Proposed Route passes over Redbank Creek, Piney Creek, State Route 28, State Route 68, State Route 536, State Route 66, and several local roads in this section.

**Q. What is the approximate total length of the Proposed Route?**

A. The Proposed Route is approximately 66 miles long**.**

**Q. Does the GAI Report assess the potential constraints of the Alternative Routes, explain the process for selecting the proposed route and discuss impacts (and their mitigation) of the Proposed Route?**

A. Yes, it does. Section 5 of the GAI Report sets forth the assessment of the potential constraints associated with each of the three Alternative Routes and explains the process for selecting the Proposed Route. Section 6 discusses potential impacts associated with the Proposed Route and their mitigation.

## IV. ENVIRONMENTAL IMPACTS

**Q. Did GAI assess the potential environmental impacts of constructing the Project on the proposed route?**

A. Yes, 26 resource criteria were used for the environmental assessment that were chosen based on federal and state permitting requirements, their sensitivity to impact by electric transmission lines, and the availability of data. These criteria are further discussed in detail in Section 5 of the GAI Report. The selection process focused on three spatial areas: (1) the Route Corridor on which the Project would be constructed; (2) the areas adjacent to the Route Corridor where there are sensitive resources that potentially could be affected by the Project; and (3) a two-mile-wide corridor centered on the centerline of the Proposed Route. The two-mile corridor was used to evaluate potential impacts on archaeological and historic resources, scenic areas, unique geologic areas, wilderness areas, and airports as

required by applicable government regulations and as more fully explained in Section 5 of the GAI Report.

**Q. How were the data for each alternative compared and assessed?**

A. Raw data were assembled for the routes using database software. Raw data are those measurements compiled for the environmental resource criteria. In order to put resource measurements on a relative scale (acres, feet, etc.) and to obtain an impact score that could be compared across the different alternatives, the raw data were mathematically proportioned to a scale of 0 to 10. In this procedure, the route with the highest score (worst) for individual resources received a 10; and the remaining value (more favorable) received a relative score proportional to the maximum score. Thus, the raw scores were transformed to a scale from 0 to 10 to obtain relative scores for each of the resource evaluation criteria. Using the relative position of a route in comparison to the values for all routes provided an indication of how that route compared overall to the other alternatives. Because not all the criteria are equally important in evaluating the routes, especially as perceived by the public, the criteria were weighted. As the basis for the weighting, GAI's Project Impacts Evaluation Team reviewed the weighting factors established by the Siting Criteria Council ("SCC") for the GPU-DQE 500 kV Transmission Line Project[1] and, as deemed appropriate to the Project, were adopted for the environmental evaluation. The weight assigned to a criterion reflects the relative importance of that criterion (based on its potential environmental, land use, cultural, or engineering impact) in selecting a Proposed Route. The relative scores achieved by each route for each criterion were multiplied by the criteria

[1] The SCC and the work it did to establish weighting factors for transmission line siting analysis are discussed in Section 5.3 of the GAI Report (pp. 32-33).

weighting factors to obtain impact scores. The impact scores were summed to obtain an overall impact score for each alternative route. These scores were then ranked. Higher scores indicate greater overall environmental, land use, cultural, and engineering impact. The potential impacts specific to the Proposed Route are described and discussed further in Section 6 of the GAI Report.

**Q. Did you specifically consider the habitat and type of wildlife, both land and aquatic, that may be in the ROW or adjoining areas and any known effect that the Project may have upon them, including feeding and breeding habits?**

A. Yes. Aquatic habitats including wetlands, streams, rivers, reservoirs, and springs were considered, as detailed in Sections 6.7, 6.8, and 6.9 of the GAI Report. MAIT will complete a wetland and stream field survey for the Project prior to construction. During construction, MAIT will avoid impacts to wetlands, streams, reservoirs, and springs to the extent practicable. Given that the Proposed Route is partially located within the existing ROW of the maintained Piney–Seward 115 kV Transmission Line, impacts to aquatic habitats are anticipated to be minimal.

Natural heritage sites and rare, threatened, and endangered ("RTE") species were considered as detailed in Section 6.16. MAIT will coordinate with the PA Department of Conservation and Natural Resources, PA Game Commission, PA Fish and Boat Commission, and U.S. Fish and Wildlife Service as part of project development, and MAIT will conduct surveys and implement mitigation measures, as appropriate.

Federal, state, and local natural area preserves and conservation lands were considered as detailed in Section 6.17. The Proposed Route crosses Mahoning Creek Lake, federal lands owned by the U.S. Army Corps of Engineers ("USACE"). MAIT will

coordinate with the USACE regarding this crossing. Core Habitat Areas as designated by the PA Natural Heritage Program are crossed by the Proposed Route. The potential for impacts to Core Habitat Areas has been minimized by partially utilizing the existing Piney–Seward 115 kV Transmission Line ROW.

**Q. Please describe the public outreach conducted with respect to the route selection and the public input received.**

A. MAIT conducted a virtual open house that went live in October 2022 to solicit input from local residents and officials, businesses, organizations, and the general public. The virtual open house is discussed in more detail in Section 3.4 of the GAI Report. As noted in the GAI Report, various resources prepared by governmental and non-governmental agencies were consulted for information about the study area, including comprehensive plans, natural heritage inventories and other publications. Regulatory agencies were also contacted concerning the potential presence of RTE species and sensitive natural and recreational resources. The Pennsylvania Historical and Museum Commission's database was consulted for information on previously recorded cultural resources in the study area.

## V. SELECTION OF THE PROPOSED ROUTE

**Q. What alternative routes did GAI examine?**

A. In addition to the proposed route, GAI examined a West Route Alternative and an East Route Alternative. Route Corridors were utilized in order to accommodate offset construction of the Project on either side of the existing Piney–Seward 115 kV Transmission Line centerline and were 260 feet wide, as explained in more detail in Section 4.2 of the GAI report.

**Q. Please describe the West Route Alternative.**

A. The West Route Alternative scored as the least desirable of the three Route Alternatives. This route was developed to provide for a generally western alternative, utilizing largely forested and agricultural land and maximizing avoidance of conservation and agricultural easements. The West Route Alternative scored as the least desirable when considering only engineering constraints. Being the second longest route, this alternative requires the second highest amount of new Route Corridor, has the second highest crossings of both underground and surface mines, has the highest oil and gas wells in proximity, and has the most amount of landslide potential and steep slope. The West Route Alternative scored as the least desirable when considering only land use constraints, as it crosses the highest amount of residences, crosses the second highest number of new parcels, is highest for number of trails crossed, has the highest number of roads/railroads crossed, crosses near the most commercial/industrial buildings, crosses the most recreational areas, crosses the second most agricultural land, crosses the most institutional buildings, and crosses the highest amount of Environmental Justice Area. However, the West Route is tied for the least amount of agricultural easements crossed. The West Route Alternative scored as the most favorable route when considering only environmental constraints, as it has the least amount of acres of forested wetland and non-forested wetlands crossed, and has the least acreage of Species of Concern habitat crossings. However, the West Route has the greatest number of streams crossed, and the highest amount of acres of forest crossed. The West Route Alternative is the most desirable when considering only cultural resource constraints, as it has the least length of historic districts within a half mile of its centerline

and documented architectural resources within a half mile of its centerline. However, the West Route Alternative crosses near the highest number of cemeteries.

**Q. Please describe the Proposed Route (i.e., the Center Route Alternative).**

A. The Proposed Route (Central Route Alternative) scored as the most desirable alternative of the three Alternative Routes. This route was developed to provide for a generally central alternative, partially utilizing the existing transmission line route by building on an offset to the east, west, or building on centerline. The Proposed Route scored as the most desirable when considering only engineering constraints, as it is the shortest in length, requires the least amount of new Route Corridor, has the second least steep slope mileage, has the least amount of underground and surface mining, crosses the least number of oil and gas wells, and has the second least amount of landslide potential areas. The Proposed Route scored as the most desirable when considering only land use constraints, as it has the least crossings of new parcels, has the least crossings of institutional buildings, crosses the least number of trails, crosses the least number of roads and railroads, crosses the least amount of agricultural land, and has the lowest amount of Environmental Justice Area. The Proposed Route scored as the second most favorable route when considering only environmental constraints, as it has the least crossings of forested wetlands, has the second least number of streams crossed, has the least amount of forests, and it has the least crossings of state forests, parks, and game lands. However, the Proposed Route has the highest crossings of non-forested wetlands and Species of Concern habitats. The Proposed Route is the second most desirable when considering only cultural constraints, as it crosses the second least number of cemeteries and has the second lowest length within a half mile of historic districts and within a half mile of previously documented architectural resources.

**Q. Please describe the East Route Alternative.**

A. The East Route Alternative scored as the second most desirable alternative of the three Alternative Routes. This route was developed to provide for a generally eastern alternative utilizing largely forested and agricultural land and minimizing residential area crossings. The East Route Alternative scored as the second least desirable when considering only engineering constraints, as it has the longest route, requires the highest amount of new Route Corridor, has the highest crossings of both underground and surface mines, and has the second highest number of oil and gas wells in proximity to the route. However, the East Route has the least amount of landslide potential and steep slope. The East Route Alternative scored as the second least desirable when considering only land use constraints, as it crosses the second highest number of residences, crosses the highest number of new parcels, is second highest for number of trails crossed, has the second highest number of roads/railroads crossed, crosses the most agricultural land, crosses the second most institutional buildings, and crosses the second highest amount of Environmental Justice Area. However, the East Route crosses the least number of commercial/industrial buildings and recreational areas and is tied for the least amount of agricultural easements crossed. The East Route Alternative scored as the least favorable route when considering only environmental constraints, as it has the highest amount of acreage of forested wetland crossings, has the second highest acreage of non-forested wetlands crossed, has the second highest acreage of forest crossed, and has the second highest acreage of Species of Concern habitat crossings. However, the East Route has the least number of streams crossed. The East Route Alternative is the least desirable when considering only cultural resource constraints, as it has the most length of historic districts within a half mile of its centerline

and documented architectural resources within a half mile of its centerline. However, the East Route crosses by the least number of cemeteries.

**Q. Which route was selected, and why?**

A. Based on the analyses presented in the GAI Report, the Central Route Alternative is the most suitable route and, therefore, was selected as the Proposed Route for the Project. Utilizing the resource evaluation criteria, the ranking analysis indicated the Central Route Alternative scored 8,957.4 or approximately 1,898.8 points better (or lower) than the East Route Alternative, which scored 10,856.2. The Central Route Alternative scored better than the Western Route Alternative, which scored 11,018.9, by 2,061.5 points. A more detailed discussion of the Central Route Alternative scoring and assessment relative to the West and East Route Alternatives is set forth above.

**Q. Based upon your experience and expertise, does the Alternative Route Analysis as set forth in the GAI Report constitute a reasonable, thorough study consistent with current siting methods?**

A. Yes. The study was both reasonable and thorough, and it included the analyses required by Subchapter G, Chapter 57 of Title 52 of the Pennsylvania Code. The study included several steps designed to compile and analyze relevant data to facilitate the selection of a reasonable Proposed Route and to determine the environmental impact of the route. Numerous, recognized sources were also employed to obtain the data. The methodologies employed by GAI are consistent with current practice.

**Q. In your expert opinion, is the route recommended in the GAI Report the appropriate route for the Project?**

A. Yes, it is. Overall, the Central Route Alternative minimizes the cumulative impacts of the route across multiple resource categories.

**Q. Does this conclude your direct testimony?**

A. Yes, it does. However, I reserve the right to file such additional testimony as may be necessary or appropriate.

**MAIT Statement No. 4**

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTIILTY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | **:** | **Docket No. A-2024-_____** |

**Direct Testimony**
**of**
**Lisa Marinelli**

**List of Topics Addressed**

**Real Estate and Property Rights**

**Dated: April 11, 2025**

## I. RESPONSIBILITIES, EXPERIENCE AND EDUCATION

**Q. Please state your name and business address.**

A. My name is Lisa Marinelli, and my business address is 800 Cabin Hill Drive, Greensburg, Pennsylvania 15601.

**Q. By whom are you employed and in what capacity?**

A. I am employed by FirstEnergy Service Company as a Senior Real Estate Representative. My primary responsibility is the acquisition of land rights (easement and fee) necessary for the construction and maintenance of transmission facilities and providing project management oversight for contracted right-of-way ("ROW") acquisition projects. In this proceeding, I am testifying on behalf of Mid-Atlantic Interstate Transmission, LLC ("MAIT").

**Q. Please describe your professional experience and educational background.**

A. I graduated from the University of Pittsburgh in 1990 with a Bachelor of Arts in Finance and Accounting. I graduated from Duquesne University with a Master's degree in Taxation in 2004. I have been employed with FirstEnergy Service Company since 2011, when the merger of FirstEnergy Corp. ("FirstEnergy") and Allegheny Energy, Inc. was completed. Prior to the merger and since 2001, I was employed with Allegheny Energy Service Corporation. I worked within its Audit department from 2001 to 2006, where I was responsible for conducting operational, environmental and financial audits. From 2006 onward, I worked within its Real Estate department, where I was responsible for acquisition and divestiture of company-owned assets, and acquisition of ROW for the construction and maintenance of distribution and transmission facilities.

## II. PURPOSE OF TESTIMONY

**Q. Please describe the purpose of your testimony.**

A. The purpose of my testimony is to:

- Describe the process used by MAIT in acquiring the necessary ROW to permit the construction of the proposed Piney–Seward 115 kV Transmission Line Rebuild Project ("Project"); and
- Identify the potentially affected landowners and properties and describe the Code of Conduct applicable to MAIT's employees, agents, contractors and subcontractors in their respective interactions with impacted property owners.

**Q. What are your responsibilities in connection with the Piney–Seward 115 kV Transmission Line Project?**

A. It is my department's responsibility to identify all property owners along the preferred route for the Piney–Seward 115 kV Transmission Line Project (referred to as the "Proposed Route"). We review and determine the adequacy of easement rights in areas where the company plans to use existing ROW and identify any area(s) that will require new or enhanced rights for the Proposed Route. For the areas where the company may need new or enhanced ROW, we attempt to negotiate with these property owners for the appropriate land rights needed. We also deliver literature concerning the Project to all property owners affected by the Proposed Route, including a project fact sheet, a property owner notice required by the Pennsylvania Public Utility Commission ("Commission"), a Code of Conduct for ROW agents and subcontractor employees, a survey permission form, a brochure titled "Maintaining Safe and Reliable Service" that explains

FirstEnergy's ROW maintenance practices, and other information to help property owners fully understand the Project. The ROW agent provides the property owner with information on how he/she (agent) can be contacted at any time to answer questions or to address issues or concerns. The ROW agent serves as a direct link for the property owner to communicate with MAIT.

**Q. Are you sponsoring any exhibits to accompany your testimony?**

A. Yes. I am sponsoring **MAIT Exhibits 8 through 10**.

## III. REAL ESTATE AND PROPERTY RIGHTS

**Q. How has MAIT addressed ROW procurement and related matters since the Proposed Route for the Piney–Seward 115 kV Transmission Line was selected?**

A. After the siting process was completed and the Proposed Route selected, the process of identifying property owners commenced. The siting contractor, GAI Engineering, identified and MAIT confirmed the property owners along the Proposed Route using publicly available information, such as tax maps and courthouse records. Because this line is proposed to be constructed, in part, within an existing transmission corridor, MAIT reviewed the easement documents to confirm the easement widths and identify any properties where additional ROW may be required for this Project. The Proposed Route occupies existing ROW on 408 tracts. Of the 408 tracts, 25 tracts did not need additional ROW, 5 tracts have existing MAIT substations on them, and 5 tracts were purchased in fee. It was determined that additional or new ROW would need to be obtained on 373 parcels, and a property owner list was developed, which is reflected in **MAIT Exhibit 8.** Based on that list, letters were sent on June 6, 2022, to all of the landowners via certified mail. These letters provided the landowners with information pertaining to the Project

and MAIT's proposed activities relating to their properties. The letters also included a "Fact Sheet" about the project, a Code of Conduct, a vegetation management brochure and pursuant the Commission's rules and regulations, and a Disclosure of Eminent Domain Power of Electric Utilities. An example of this letter package is provided as **MAIT Exhibit 9**.

**Q. Please describe how MAIT intends to interact with property owners.**

A. Throughout the Project, MAIT's ROW agents have worked with affected property owners to acquire the necessary rights to construct the Project. These rights include the transmission line easement, vegetation management rights, access roads, and storage yards, as applicable. The ROW agent is responsible for describing the work to be conducted on the property, as well as negotiating in good faith using fair market offers for the necessary ROW. These offers are based on the properties' current market values, amount and type of ROW needed, and the use of the property.

**Q. What is the current status of ROW negotiations?**

A. To date, MAIT has reached agreements with all affected landowners, except for one parcel for which additional ROW is needed. Of the 373 new agreements, 347 involved parcels for which MAIT already had existing rights but required (and secured) additional rights or ROW. The other 26 parcels required new easements as a result of the ROW expansion, because MAIT had no previous rights on those properties.

**Q. Is there any pending or prior litigation involving MAIT relating to property or ROW matters with respect to the Project?**

A. There is no litigation—prior or pending—involving MAIT or its affiliates with respect to the Project.

**Q. Does MAIT have a form of notice it intends to provide to impacted property owners advising them of the Company's vegetation maintenance plan?**

A. Yes, a brochure titled "Maintaining a Safe and Reliable Transmission System Vegetation Management for New Transmission Construction Projects." This brochure provides the landowner with information regarding ROW clearing during and post construction.

**Q. Please describe MAIT's Code of Conduct related to property rights.**

A. The Code of Conduct outlines MAIT's expectations for its employees, contractors, and subcontractors who interact with property owners and the general public on this and all other projects. This Code of Conduct applies to all MAIT employees, agents, contractors, and subcontractors who have any contact with impacted property owners. This list of "do's and don'ts" clearly communicates to all those involved in interactions with property owners—in any aspect of the siting and construction process—MAIT's expectations of how the process should proceed and, more importantly, how property owners and other members of the public should be treated.

**Q. Was MAIT's Code of Conduct followed relative to this Project?**

A. Yes. In addition to following the Code of Conduct, a copy of the Code of Conduct was provided as part of the package sent on June 6, 2022, to the affected landowners. I am sponsoring a copy of that Code of Conduct as **MAIT 10**.

**Q. Does this conclude your direct testimony?**

A. Yes, it does. However, I reserve the right to file such additional testimony as may be necessary or appropriate.

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | : | **Docket No. A-2024- _____** |

**Direct Testimony**
**of**
**Brett H. Fisher**

**List of Topics Addressed**

**The Design, Engineering, Construction, Operation, and Maintenance of the Proposed Piney–Seward 115 kV Transmission Line Rebuild Project**

**Dated: April 11, 2025**

## I. RESPONSIBILITIES, EXPERIENCE AND EDUCATION

**Q. Please state your name and business address.**

A. My name is Brett Fisher, and my business address is 9400 Ward Parkway, Kansas City, MO 64114.

**Q. By whom are you employed and in what capacity?**

A. I am employed by Burns and McDonnell Engineering Company, Inc. as a Project Manager within the Transmission and Distribution global practice, organized to the Overhead Transmission department.

**Q. Please describe your professional experience and educational background.**

A. I am a graduate of the University of Missouri – Columbia having earned a Bachelor of Science degree in Civil Engineering in May 2008. I began full time employment with Burns and McDonnell in June 2008. My primary responsibilities have included designing new and upgrading existing electric transmission lines from 34.5 kilovolt ("kV") to 500 kV as well as performing engineering project manager responsibilities for transmission line projects. I have been a registered, professional engineer since June 2014 in the state of Missouri. I have been a registered, professional engineer in the state of Pennsylvania since February 2016. Additionally, I am registered as a professional engineer in Ohio, Virginia, New Jersey, Maryland and West Virginia.

## II. PURPOSE OF TESTIMONY

**Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to describe the design and construction methodology of Mid-Atlantic Interstate Transmission, LLC ("MAIT") for the proposed Piney–Seward 115

kV Transmission Line Rebuild Project (the "Project"). I will also provide information on the maintenance of this line.

**Q. Briefly outline your testimony.**

A. My testimony will cover:

- Proposed transmission line configuration;
- Right-of-way ("ROW") details;
- Design criteria;
- Construction activities; and
- Maintenance activities.

**Q. Does your testimony address the filing requirements of 52 Pa. Code §§ 57.71 – 57.77 concerning the siting and construction of high-voltage ("HV") transmission lines?**

A. Yes. My direct testimony, together with the Siting Application for authorization to locate and construct this Project ("Application") filed by MAIT, provides information responsive to the requirements of 52 Pa. Code §§ 57.72(c)(6) (safety considerations to be incorporated into the design, construction and maintenance of the proposed HV line), (c)(13)(ii) (an engineering and design-based description of the proposed line), and (c)(13)(iii) (a simple drawing of a cross section of the rights-of-way ("ROW") of the HV line showing the placement of supporting structures at typical locations, structure sizes, ROW widths, and the lateral distances between the conductors and the edge of the ROW indicated).

## III. EXHIBITS

**Q. Please identify and describe the exhibits you will refer to in your testimony.**

A. I will refer to certain exhibits accompanying MAIT's Application that were prepared under my direction. **MAIT Exhibits 11 through 18** depict the types of structures that will be

used on the Project. **MAIT Exhibits 19 through 24** depict the typical ROW cross sections for the Project. **MAIT Exhibit 25** depicts the proposed route and ROW for the Project. I also sponsor **MAIT Exhibit 26**, which is a copy of MAIT's brochure titled "Maintaining a Safe and Reliable Transmission System Vegetation Management for New Transmission Construction Projects."

## IV. DESIGN AND CONFIGURATION FOR THE PROPOSED LINE

**Q. Has a general description of the Project been provided?**

A. Yes, a description of the proposed Project has been provided in the Application. Additionally, other MAIT witnesses provide a general description of the need for the Project, the proposed route and similar basic information about the Project. My discussion of the engineering and construction of the Project below is consistent with those descriptions.

**Q. Please describe the design configuration for the existing transmission line segments.**

A. The existing Piney–Seward 115 kV transmission line consists of five (5) 115 kV line substation-to-substation segments as summarized in Table 1 below. These line segments are configured primarily with a combination of single circuit 3-wire wood H-frame structures, single circuit 3-wire wood 3-pole structures, and single circuit 6-wire lattice tower structures. Miscellaneous, other structure types appear at select locations along the line segments.

**Table 1: Erie South–Piney–Seward 115 kV Transmission Line Segments**

| Line Segment | Approximate Length (miles) |
|---|---|
| Glory–Seward 115 kV G1 | 18.2 |
| Glory–Trade City 115 kV GTC (Glory–Dixonville East Segment) | 7.9 |
| Glory–Trade City 115 kV GTC (Dixonville East-Trade City Segment) | 11.8 |
| Timblin–Trade City 115 kV TTC | 7.6 |
| Piney–Timblin 115 kV P1 | 21.0 |

**Q. Please describe the general design configuration for the proposed Project.**

A. The Project consists of rebuilding the 5 existing 115 kV line segments to a single circuit, 6-wire 115 kV configuration utilizing steel structures as depicted in **MAIT Exhibits 11 through 18**. The first span outside of each substation will be constructed in a 3-wire configuration, which will tie into a 6-wire configuration at the first structure beyond each substation.

The Project requires the installation of approximately 336 structures ranging from 60 feet to 190 feet above ground level, with an average structure height of approximately 130 feet above ground level. The existing 115 kV lines consist of approximately 347 structures in total, ranging from 45 feet to 130 feet above ground level, with an average structure height of approximately 90 feet above ground level. The proposed average span length is approximately 1,000 feet. **MAIT Exhibits 11 through 18** depict the various structure types that will be used for the Project.

**Q. Please describe the structure types that will be used for the Project.**

A. **MAIT Exhibits 11 and 12** show a typical 115 kV single circuit 6-wire steel monopole tangent structure. A single circuit 6-wire steel monopole tangent structure is used to support the transmission lines where they run in a straight line or where they turn at angles

less than 5 degrees. A combination of reinforced, concrete-drilled shaft foundations (see **MAIT Exhibit 11**) and direct-embed foundations (see **MAIT Exhibit 12**) will be utilized for the Project. Foundation types will be selected based on site-specific location and geotechnical information obtained from subsurface investigations. These structures will utilize a vertical conductor arrangement.

**MAIT Exhibit 13** shows a typical 115 kV single circuit 6-wire steel monopole angle structure. A single circuit 6-wire steel monopole angle structure is used to support the transmission lines where they turn at an angle between 5 and 30 degrees. These structures will be installed on reinforced, concrete-drilled shaft foundations and will utilize a vertical conductor arrangement.

**MAIT Exhibit 14** shows a typical 115 kV single circuit 6-wire steel monopole light angle dead-end structure. A single circuit 6-wire steel monopole light angle dead-end structure is used to support the transmission lines where it is desirable to terminate a section of transmission line wire at locations where it turns at an angle between 0 and 50 degrees. These structures will be installed on reinforced, concrete-drilled shaft foundations and will utilize a vertical conductor arrangement.

**MAIT Exhibit 15** shows a typical 115 kV single circuit 6-wire steel monopole heavy angle dead-end structure. A single circuit 6-wire steel monopole heavy angle dead-end structure is used to support the transmission lines where it is desirable to terminate a section of transmission line wire at locations where it turns at an angle between 50 and 90 degrees. These structures will be installed on reinforced, concrete-drilled shaft foundations and will utilize a vertical conductor arrangement.

**MAIT Exhibits 16 and 17** show a typical 115 kV single circuit 6-wire steel monopole tangent V-string structure. A single circuit 6-wire steel monopole tangent V-string structure is used to support the transmission lines where they run in a straight line or where they turn at angles less than 5 degrees. A combination of reinforced, concrete-drilled shaft foundations (see **MAIT Exhibit 16**) and direct-embed foundations (see **MAIT Exhibit 17**) will be utilized for the Project and will be selected based on site-specific location and geotechnical information obtained from subsurface investigations. These structures will utilize a vertical conductor arrangement.

**MAIT Exhibit 18** shows a typical 115 kV single circuit 6-wire strain/dead-end steel 3-pole structure. A single circuit 6-wire strain/dead-end steel 3-pole structure is used to support the transmission lines where it is desirable to terminate a section of transmission line wire at locations where the line will cross underneath a different overhead transmission line. Additionally, the 3-pole structure may be used at some river crossing locations. These structures will be installed on reinforced, concrete-drilled shaft foundations and will utilize a horizontal conductor arrangement.

**Q. Do you anticipate the need for any other types of structures for the Project?**

A. No. We do not anticipate the need for any types of structures other than those shown in **MAIT Exhibits 11 through 18**. It is possible that detailed design engineering for this Project may reveal the need for other structure types; however, we do not anticipate that any such structures will be substantially different from those depicted in the Application.

**Q. Will the proposed transmission line occupy the existing transmission line ROW?**

A. Where feasible, additional ROW was voluntarily acquired along the existing transmission line corridor to allow for offset construction of the proposed transmission line in a position

adjacent and parallel to the existing transmission line while the existing transmission line remains in service. Once removal of the existing transmission line and construction of the proposed transmission line are complete, the proposed transmission line will utilize a portion of the existing ROW, which is generally 100 feet wide, as well as newly acquired ROW for its operation. The additionally acquired ROW and offset construction will reduce the number and duration of outages required to construct the Project.

In areas where additional ROW was not acquired, the proposed transmission line will occupy existing ROW and will be constructed on the existing transmission line centerline during an outage of the existing transmission line.

**MAIT Exhibits 19 through 23** depict typical cross-sectional details of the proposed transmission line relative to the existing ROW as well as acquired additional ROW, where applicable. In addition, **MAIT Exhibit 24** depicts a general layout of the proposed transmission line centerline relative to the various ROW widths to be utilized for its operation. In all locations, the transmission line will occupy existing ROW or a combination of existing ROW and newly acquired ROW.

**Q. What width of ROW is planned for the project?**

A. As shown in **MAIT Exhibits 19 through 24**, the Project will be constructed using several different ROW widths and configurations.

Where additional ROW was not acquired, the proposed transmission line will be constructed on existing transmission centerline with a ROW width of 100 feet, as depicted in **MAIT Exhibits 22 and 23**.

Where additional ROW was acquired, the proposed transmission line will be constructed adjacent and parallel to the existing transmission centerline and will utilize

ROW widths ranging from approximately 172 feet, 6 inches to 215 feet, 6 inches, as depicted in MAIT **Exhibits 19, 20, and 21**, respectively. **MAIT Exhibits 19 and 20** depict the minimum required ROW widths for offset construction of the proposed transmission line where existing wood pole structures and existing lattice tower structures are currently present, respectively. **MAIT Exhibit 21** depicts the approximate range of possible ROW widths required where special consideration of the potential for wind-induced conductor movement toward the edge of ROW is required. These "blowout" expanded ROW widths are location specific and have a larger total width relative to the minimum required ROW widths depicted in **MAIT Exhibits 19 and 20**.

**MAIT Exhibit 24** shows a unique occurrence where an expanded ROW corridor was acquired for a few spans; however, due to terrain constraints, individual structure locations are to remain on the existing centerline.

**MAIT Exhibit 25** depicts a general layout of the existing and proposed transmission centerline locations relative to the various ROW widths that will be utilized for the Project.

**Q. Where will the proposed electric transmission line centerline fall within the existing MAIT ROW?**

A. As shown in **MAIT Exhibits 19 through 25**, the proposed transmission line centerline will be placed at various distances from existing transmission line centerline and will be offset from the existing centerline where possible. In all cases, the transmission line will fall within the existing ROW or a combination of existing ROW and newly acquired ROW and will be designed to meet or exceed National Electrical Safety Code ("NESC") requirements for clearances to edge of ROW and to existing transmission facilities.

**Q. Will the supporting structures carry any wires other than transmission conductors?**

A. Yes. The line will have one standard shield wire and one optical ground wire ("OPGW") that will be located above the transmission conductors. The purpose of the shield wire is to protect the conductors from lightning strikes. The OPGW also provides a means of communication between substations.

**Q. Does the Project meet FirstEnergy's existing engineering and design specifications?**

A. Yes. The structures and ROW cross sections depicted in **MAIT Exhibits 11 through 24** are designed to meet FirstEnergy's applicable and existing engineering and design criteria for 115 kV transmission lines.

## V. DETAILED ENGINEERING SPECIFICATIONS FOR THE PROPOSED LINE

**Q. Please describe the voltage, temperature and other electrical parameters for which the conductors are designed and how these parameters will conform to the NESC.**

A. The proposed Project will be designed for 115 kV operation. The transmission line maximum design operating temperature is 212 degrees Fahrenheit. The line will meet or exceed all requirements of the current NESC under all operating conditions.

**Q. Please describe in more detail the type and size of wire planned for the conductors and static wire.**

A. The conductors to be installed on the new single circuit 6-wire and single circuit 3-wire structures are 1033.5 thousand circular mills ("kcmil") 54/7 aluminum conductor, steel reinforced ("ACSR"). The 54/7 designation indicates the stranding of the conductor, with the "54" representing the outer 54 aluminum wires and the "7" representing the inner 7 steel wires. The shield wire is 7#8 Alumoweld. The OPGW is SFPOC/SFSJ-J-6641.

**Q. Please describe the relationship of the existing ROW widths to the design and NESC requirements for the Project.**

A. When evaluating transmission design criteria and the location of structures with respect to the edge of the ROW, an array of parameters must be considered. These include structure type, conductor size, stringing tension, conductor motion, line voltage, and NESC defined weather conditions. The proposed transmission line will be designed to ensure all applicable NESC conductor clearances to the edge of the ROW will be met.

## VI. CONSTRUCTION ACTIVITIES

**Q. Please describe the construction process in general terms.**

A. The Project will be constructed following MAIT's standard construction practices to perform all work safely and in compliance with the Occupational Safety and Health Administration ("OSHA") rules and regulations, while keeping environmental impact to a minimum. Project activities will include the installation and maintenance of soil erosion and sedimentation control measures, construction of temporary access roads, ROW clearing, installation of foundations, structures and wire, and rehabilitation of all disturbed areas due to the construction process.

**Q. Will a construction project contractor and/or manager be utilized?**

A. FirstEnergy Service Company ("FESC"), on behalf of MAIT, plans to construct the line with contracted construction labor and supervision, with FESC and consultant oversight.

**Q. How will MAIT oversee and monitor the construction cost and progress of the Project?**

A. FESC, on behalf of MAIT, will assign a project manager to monitor and oversee the project construction activities and cost.

**Q. What is the estimated cost to site and construct the Project?**

A. The cost of the project is currently estimated to be $272,000,000.

**Q. Over what time period will the Project be constructed?**

A. Pending approval of the Project by the Pennsylvania Public Utility Commission ("Commission"), construction is scheduled to commence in January 2027 and run through July 2029.

**Q. What steps are planned for minimizing the effects of construction on areas within and outside of the ROW, including traffic and other local community issues?**

A. No work will begin until the necessary permits for that work have been issued. All work will be conducted in accordance with all state and local permits, property releases, and approved special conditions. At all times, MAIT will work to minimize to the greatest extent practical the impacts of construction activities on local communities.

## VII. ROW CLEARING AND PREPARATION

**Q. What methods will be used to clear and prepare the ROW for construction?**

A. The construction specifications adopted for the project will be designed to keep environmental impact to a minimum. MAIT's efforts to minimize environmental impact during the ROW preparation phase of construction will include the following:

1. A copy of the Soil Erosion and Sedimentation Control Plan, along with the appropriate permit forms, will be submitted to the Pennsylvania Department of Environmental Protection and, as necessary, the County Conservation District for approval.
2. Best management practices for soil erosion measures and sedimentation control will be put in place prior to any earth disturbance.

3. Construction access routes will be installed in accordance with the approved Soil Erosion and Sedimentation Control Plan and, where possible, will utilize existing roads, private farms lanes, private forest roads and similar paths. It is not typical company practice to install any permanent access roads. Where new access routes are needed for construction, the routes will be re-graded to pre-construction contours and re-vegetated with appropriate vegetation upon completion of construction. If requested by the property owner and permits allow, consideration will be given to allowing the access route improvements to remain in place.

4. Disturbed work areas will be re-vegetated in accordance with the approved Soil Erosion and Sediment Control Plan.

5. MAIT will clear the corridor to the edge of the ROW in accordance with the FirstEnergy Initial Clearing of Transmission Lines Specification. Trees located adjacent to the transmission corridor that are dead, dying, diseased, structurally defective, and/or leaning or significantly encroaching—such that the transmission conductor is a potential target and the tree could cause a flashover upon tree failure, or could grow within close proximity of the transmission conductor—will be deemed Priority Trees. These Priority Trees shall be identified and removed. Before removing Priority Trees that are located off the ROW, MAIT will first obtain any necessary rights from the applicable property owners.

When required to comply with all terms of the governing permits applicable to construct the Project, MAIT's specifications will be modified and/or amended for construction of the Project.

**Q. What steps will be taken to upgrade, seed, or otherwise restore disturbed ROW once construction is complete?**

A. After construction is complete, the transmission line ROW will be restored to conditions as good as or better than those that existed prior to construction. Such work includes restoring drainage ditches, fencing, and field drainage tiles. Non-cultivated areas that are disturbed by construction activities will be fertilized, seeded, and mulched. Temporary soil erosion and sedimentation control measures will be removed after vegetative cover has been established.

**Q. Please describe the steps that will be taken to control erosion and the siltation of streams where the ground is disturbed during construction activities along the ROW.**

A. MAIT will follow all applicable guidelines from the Commonwealth of Pennsylvania, Department of Environmental Protection Office of Water Management's Erosion and Sediment Pollution Control Program Manual (Chapter 102).

## VIII. ROW MAINTENANCE

**Q. Please describe the procedures that will be employed to maintain the ROW free of incompatible vegetation following the completion of construction and the commencement of operations.**

A. The approach MAIT employs is the control or removal of all incompatible vegetation that has the potential to interfere with the safe and efficient operation of the transmission system. This is accomplished through either removal by mechanical means or the application of herbicides to promote a plant community of grasses, herbs, and low growing compatible species within the transmission corridor. Also, along the transmission corridor, Priority Trees will be identified and removed. These work activities will be performed

under established cycles considering the relationship between vegetation growth rates, vegetation control methods, and inspection frequency. These cycles have been developed based on consideration of vegetation conditions, species, movement of line conductors under their rated electrical operating conditions, as well as terrain, state regulatory requirements, easement restrictions, and environmental concerns.

MAIT's methods to manage and control vegetation include manual control methods using hand-operated tools and/or mechanical control methods using aerial and equipment-mounted saws, mowers, or other devices. Various herbicide application techniques are also used such as selective basal, stem foliage and cut stubble.

**Q. Under what general parameters will MAIT maintain this project ROW?**

A. MAIT will maintain the Project in accordance with its Transmission Vegetation Management Program. A copy of the brochure "Maintaining a Safe and Reliable Transmission System Vegetation Management for New Transmission Construction Projects" is provided as **MAIT Exhibit 26**.

The objective of the MAIT Transmission Vegetation Management Program is to ensure the continued and safe operation of transmission circuits through the removal and control of all incompatible vegetation that has the potential to interfere with the safe and efficient operation of the transmission system. MAIT's vegetation management practices are designed to prevent vegetation-related outages by creating and sustaining a stable and compatible vegetated community within and along the transmission corridor using various vegetation management techniques, as mentioned previously.

**Q. Will MAIT's vegetation control procedures observe specific legal or regulatory standards?**

A. Yes. The vegetation management procedures described above are designed to ensure that MAIT complies with all required federal, state, and local vegetation management standards.

**Q. Please describe the expected ROW maintenance cycle for this project.**

A. The MAIT's Transmission Vegetation Management program within the FirstEnergy Pennsylvania Electric Company's Penelec Rate District is currently on a four-year maintenance schedule for all transmission voltages.

**Q. Does this conclude your direct testimony?**

A. Yes, it does. However, I would like to reserve the right to file additional testimony or exhibits as may be necessary or appropriate.

**MAIT Statement No. 6**

**BEFORE THE**
**PENNSYLVANIA PUBLIC UTILITY COMMISSION**

| | | |
|---|---|---|
| **APPLICATION OF MID-ATLANTIC INTERSTATE TRANSMISSION, LLC FILED PURSUANT TO 52 PA. CODE CHAPTER 57, SUBCHAPTER G, FOR APPROVAL OF THE SITING AND CONSTRUCTION OF THE PINEY-SEWARD 115 KV TRANSMISSION LINE PROJECT LOCATED IN PINEY, MONROE, LIMESTONE, PORTER, REDBANK, RINGGOLD, TIMBLIN, WEST MAHONING, NORTH MAHONING, EAST MAHONING, RAYNE, GREEN, PINE, BUFFINGTON, EAST WHEATFIELD, AND ST. CLAIR TOWNSHIPS IN WESTMORELAND, INDIANA, JEFFERSON, ARMSTRONG, AND CLARION COUNTIES, PENNSYLVANIA** | **:** | **Docket No. _____** |

**Direct Testimony**
**of**
**Lawrence A. Hozempa**

**List of Topics Addressed**

**Electrical Description of the Project,**
**Project Need and Benefits, Electromagnetic Field Study**

**Dated: April 11, 2025**

**Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

A. My name is Lawrence A. Hozempa. My business address is 1910 West Market St., Akron, OH 44313.

## RESPONSIBILITIES, EXPERIENCE, AND EDUCATION

**Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by FirstEnergy Service Company ("FESC") as the General Manager, Planning in the Transmission Planning and Protection department. In this proceeding I am testifying on behalf of Mid-Atlantic Interstate Transmission LLC ("MAIT" or "Company").

I am responsible for overseeing the transmission and networked facilities planning function for FirstEnergy Corp. ("FirstEnergy"), including its transmission subsidiaries and Operating Companies. My primary responsibility is to oversee the planning activities in FirstEnergy to ensure the transmission system meets the North American Electric Reliability Corporation ("NERC"), PJM Interconnection, LLC ("PJM"), and FirstEnergy reliability standards.

**Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.**

A. I am a 1986 graduate of The Pennsylvania State University with a Bachelor of Science Degree in Electrical Engineering. I am also a Registered Professional Engineer with the Commonwealth of Pennsylvania (PE-055087-E), as well as the Commonwealth of Virginia, and the states of Maryland, New Jersey, and West Virginia.

My experience with the Company and its parent (FirstEnergy and, previously, Allegheny Energy) includes Distribution Planning, Distribution Operations and Maintenance, Transmission Operations, and Transmission Planning. I started with Allegheny Energy in February 1987 as an Engineer, Division Planning (E1) in the Allegheny-Kiski Division of West Penn Power Company. I was transferred in 1988 to the Loyalhanna Division of West Penn Power Company and moved back to the Allegheny-Kiski Division in 1989. During the reorganization in 1996, I was named Engineer, Planning (E3) with responsibilities for several service centers located in the Northern Region of Allegheny Power's West Penn Power territory. I moved into the Transmission Planning Group of Allegheny Power in 2000, where I was responsible for planning the company's electric transmission system for southwestern Pennsylvania. In 2004, I was named Service & Design Manager in the Jeannette Region. In 2005, I returned to the Transmission Planning group as a Senior Engineer with the responsibility for planning the company's extra high voltage system, and while in the group, I was promoted to Consulting Engineer in 2008.

After the merger of Allegheny Energy with FirstEnergy was consummated in 2011, I was named Supervisor, Transmission Planning. In 2015, I was promoted to Manager of Transmission Planning, followed by a promotion to Manager of Transmission Operations in the FirstEnergy South Transmission Operations Control Center in 2016. In 2018, I was promoted to my current role of General Manager, Planning. My education, experience and qualifications are fully set forth in Appendix A to my testimony.

## PURPOSE OF TESTIMONY

**Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY**

A. On behalf of MAIT, I will: (1) describe the Piney–Seward 115 Kilovolt ("kV") Transmission Line from an electrical perspective; (2) explain how the need for the Piney–Seward 115 kV Transmission Line Rebuild Project (the "Project") was determined; (3) describe some of the benefits to rebuilding the Piney–Seward 115 kV Transmission Line; (4) describe the consequences of not rebuilding the Piney–Seward 115 kV Transmission Line in a timely manner; (5) explain what other alternatives were considered and why this solution is the best, and most cost effective, course of action; and (6) describe the electromagnetic field ("EMF") study.

**Q. PLEASE IDENTIFY AND DESCRIBE THE EXHIBITS TO YOUR TESTIMONY AND SUMMARIZE THE CONTENTS OF THOSE EXHIBITS.**

A. I am sponsoring three exhibits with my direct testimony:

- **MAIT Exhibit 27** – Presents certain transmission facilities serving the five Pennsylvania counties, including the entirety of the Piney–Seward 115 kV Line;
- **MAIT Exhibit 28** – Contains the relevant portions of PJM's July 20, 2018 Subregional RTEP Committee ("SRRTEP") presentation;
- **MAIT Exhibit 29** – The electric and magnetic field graphs for the various substation-to-substation line sections of the Project; and

- **MAIT Exhibit 30** – The SAIFI, SAIDI, and CAIDI data of the five-year outage history of four transmission segments of the Piney–Seward 115 kV Line and the impact on customer reliability.

## ELECTRICAL DESCRIPTION OF THE PINEY - SEWARD 115 KV TRANSMISSION LINE

**Q. DESCRIBE THE REGIONAL 115 KV NETWORK THAT INCLUDES THE PINEY - SEWARD 115 KV TRANSMISSION LINE.**

A. The regional 115 kV transmission network is the major component of the bulk electric system that provides energy to wholesale Pennsylvania customers and the FirstEnergy Pennsylvania Electric Company ("FE PA"). The 115 kV transmission network encompasses a large portion of Pennsylvania stretching from Lake Erie to south central Pennsylvania and across the northern part of the Commonwealth. The primary purpose of the 115 kV transmission network is to deliver bulk power to load centers from extra high voltage ("EHV") sources. At or near the load centers, the 115 kV transmission network is connected through transformers to the lower-voltage transmission and distribution systems to deliver electrical energy to the distribution loads and wholesale customers.

The Piney–Seward 115 kV Transmission Line is an approximately 66-mile 115 kV transmission line connecting the five substations and one switching station between Piney and Seward substations in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion counties.

As shown in **MAIT Exhibit 27**, the Piney–Seward 115 kV Transmission Line runs from Seward Substation, which sits in the southeast corner of Indiana

County near the Borough of Seward, and continues 18 miles northeast to Glory Substation in Indiana County before turning northwest for 48 miles, passing through both Jefferson County and Armstrong County into Clarion County, where Piney Substation is located near the corridor of Route 80 just southwest of Clarion Borough. The 115 kV transmission line serves the load in this area through transformation to lower voltages at Seward, Glory, Dixonville East, Punxsutawney, Timblin, and Piney substations. The transformers at these stations today supply over 154 MW of power into the underlying transmission system from the 115 kV system.

**Q. PLEASE PROVIDE AN OVERVIEW OF THE COMPANY'S TRANSMISSION SYSTEM.**

A. MAIT's transmission system is responsible for providing transmission service to the Company's wholesale customers in Pennsylvania for redelivery to their retail customers, and the system also supplies transmission service to FE PA. The Company needs to be able to maintain the overall, long-term reliability of its transmission system as its customers require more power in the future.

MAIT's transmission system is part of the Eastern Interconnection transmission grid, meaning it is interconnected, directly or indirectly, with all of the other transmission systems in the U.S. and Canada between the Rocky Mountains and the Atlantic coast, except Quebec and most of Texas. All of the transmission systems in the Eastern Interconnection are dependent on each other for support in moving bulk power through the transmission system and for reliability.

MAIT is also part of the PJM Regional Transmission Organization ("RTO"), which provides service to a large portion of the mid-Atlantic area of the northeastern United States. PJM is currently responsible for ensuring the reliability and coordinating the movement of electricity through all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. This service area has a population of about 65 million and, on July 21, 2011, set a summer peak demand of 165,492 MW.

MAIT's service to its wholesale customers and to its affiliates is extremely reliant on a robust and reliable regional transmission system. MAIT's transmission system provides service to about 1.2 million retail customers through its transmission connections to wholesale customers and its affiliates.

## ELECTRICAL NEED FOR REBUILDING THE PINEY– SEWARD 115 KV TRANSMISSION LINE

**Q. WHY DOES THE PINEY–SEWARD 115 KV LINE NEED TO BE REBUILT?**

A. As MAIT witness Andrew Grant explains in his direct testimony (MAIT Statement No. 2), the structures on the Piney–Seward 115 kV Transmission Line have deteriorated to a point where the line needs to be rebuilt in the very near future to maintain the reliability of the transmission system, to provide service to its wholesale customers and affiliates, and to comply with mandatory NERC Reliability Standards. The line will be rebuilt to a continuous rating of 273 megavolt-amperes ("MVA") (Summer Normal rating).

As discussed above, the Piney–Seward 115 kV Transmission Line is a transmission line in the electric transmission network that encompasses a large portion of Pennsylvania stretching from Lake Erie to south central Pennsylvania and across the northern part of the Commonwealth. The transmission line provides service to wholesale customers and its affiliates, provides transmission network service to the RTO, and provides operational flexibility when operating the system for adverse system conditions during planned and unplanned events.

The Project construction details are discussed in the direct testimony of MAIT witness Brett H. Fisher (MAIT Statement No. 5).

**Q. DESCRIBE MAIT'S PARTICIPATION IN THE PJM PROCESS THAT RESULTED IN THE RECOMMENDATION TO REBUILD THE PINEY–SEWARD 115 KV TRANSMISSION LINE.**

A. As a Transmission Owner ("TO") in the PJM region, MAIT participates in PJM's transmission planning process. MAIT is obligated under the PJM Operating Agreement to construct, operate and own transmission facilities as designated by PJM in its annual Regional Transmission Expansion Plan ("RTEP").

PJM, in its capacity as the regional Planning Coordinator, Transmission Planner and Transmission Operator, identifies the need and timing for mandatory transmission system upgrades as part of the reliability planning, economic planning, and interconnection planning processes to preserve the reliability of the electricity grid that is under its operational control as the RTO. The PJM planning process is an 18-month cycle starting in September of every calendar year. The process ultimately produces a PJM Board-approved RTEP 18 months later in

February. The RTEP identifies transmission system upgrades and enhancements to provide for the operational, economic, and reliability requirements of PJM. The RTEP consists of system upgrades produced from one or more of four planning processes: reliability planning; economic planning; interconnection planning; and local planning.

Supplemental Projects are upgrades initiated by a TO and are part of the local planning process. In accordance with Attachment M-3 of the PJM Open Access Transmission Tariff ("OATT'), MAIT provides information regarding the criteria used to plan and identify Supplemental Projects at a PJM Assumptions Meeting. The process for developing Supplemental Projects includes identification and review of system needs at a separate Needs Meeting and provides an opportunity for stakeholders to comment. Next, there is a Solutions Meeting where potential solutions are discussed as well as any alternatives identified. Stakeholders may then provide comments on the potential solutions.

MAIT Supplemental Project upgrades are typically: (i) a request for electric service from new or existing customers; and/or (ii) a project identified pursuant to FirstEnergy's Reliability Enhancement methodology. This methodology and any identified projects are presented to PJM and the PJM stakeholders in accordance with the PJM OATT, Attachment M-3. MAIT projects, like the Project in this proceeding, are presented at the PJM Subregional RTEP Committee ("SRRTEP") meetings, which occur monthly. Supplemental Project upgrades that have been reviewed through the Attachment M-3 process are identified with an "s" followed by a four-digit number.

**Q. ARE SUPPLEMENTAL PROJECT UPGRADES MANDATED BY PJM?**

A. Supplemental Project upgrades are not mandated or directed by PJM but are necessary to address planning functions not transferred to PJM (e.g., asset management and customer interconnections). These projects reflect the TO's obligation to reliably serve its local service territory and are grounded in Good Utility Practice, as defined under PJM's Operating Agreement.

**Q. HAS PJM INCLUDED THE PROJECT IN ITS RTEP?**

A. Yes. The need for the Project was presented at the PJM SRRTEP meeting on May 25, 2018, and the solution was subsequently presented at the July 20, 2018 meeting (see **MAIT Exhibit 28**). The Project was assigned the Supplemental Project ID s1672.

**BENEFITS OF THE PINEY–SEWARD 115 KV LINE REBUILD**

**Q. WILL REBUILDING THE PINEY–SEWARD 115 KV TRANSMISSION LINE PROVIDE ANY ADDITIONAL BENEFITS TO THE TRANSMISSION SYSTEM?**

A. Yes. As I stated earlier, the Piney–Seward 115 kV Transmission Line is a transmission line in the electric transmission network that encompasses a large portion of Pennsylvania stretching from Lake Erie to south central Pennsylvania and across the northern part of the Commonwealth. The transmission line provides service to wholesale customers and its affiliates, provides transmission network service to the RTO, and provides operational flexibility when operating the system for adverse system conditions during planned and unplanned events.

The Piney–Seward 115 kV Transmission Line currently has a maximum operating capability of 178 MVA (Summer Normal rating). The proposed Project will increase the line's capability to 273 MVA (Summer Normal rating). The line will not only be more reliable by replacing the facilities that are increasingly prone to failure, but it also will be capable of carrying more power to provide for the future needs of the transmission network and increased load of customers. In addition, rebuilding the 66 miles of the 115 kV line using double circuit, six wire construction will create flexibility for the future expansion to add an additional transmission line by splitting the double circuit, six wire circuit into two independent circuits.

**Q. WHAT IS THE BENEFIT OF REBUILDING THE PINEY–SEWARD 115 KV TRANSMISSION LINE SPECIFICALLY TO PENNSYLVANIA?**

A. The rebuild of the Piney–Seward 115 kV Transmission Line will help assure the future reliability of MAIT's transmission system and provide additional transmission capacity through this area of Pennsylvania. Ultimately, a robust and reliable transmission system is a crucial part of the economy in Pennsylvania because businesses and customers need reliable and readily available energy. Currently, the Piney–Seward 115 kV Transmission Line serves six substations, with over 12,000 customers connected, 53 of those customers are considered critical facilities.

**Q. WHAT ARE THE SPECIFIC RELIABILITY BENEFITS CUSTOMERS WILL EXPERIENCE OF REBUILDING THE PINEY–SEWARD 115 KV TRANSMISSION LINE?**

A. The rebuild of the Piney–Seward 115 kV Transmission Line will improve the reliability performance of the transmission line and, therefore, improve the reliability to the customers served from the transmission line.

As presented in **MAIT Exhibit 30**, the Piney–Seward 115 kV Line is divided for data purposes into four segments: the Piney–Timblin segment, the Timblin–Trade City segment, the Glory–Trade City segment,[1] and the Glory–Seward segment. The information in **MAIT Exhibit 30** is the SAIFI, SAIDI, and CAIDI data of the five-year outage history on each segment of the transmission line. Some of the interruptions on the line segments did not have any impact on the service to customers but five interruptions did. The five interruptions impacted the reliability indices as shown in the table below.

| SAIFI | SAIDI | CAIDI |
|---|---|---|
| +0.006 | +0.117 | +63.25 |

A total of 3,533 customers were interrupted for a total CMI of 58,891.

By rebuilding this line, it is likely that most of these customer interruptions will be eliminated or the durations greatly reduced as the line will have all new equipment, which is less likely to have issues during severe weather conditions.

[1] The Glory–Trade City segment in **MAIT Exhibit 30** includes the Glory–Dixonville East and Dixonville East–Trade City segments described in the Application and as shown in **MAIT Exhibit 27**.

**CONSEQUENCES OF DEFERRING THE PINEY - SEWARD 115 kV REBUILD**

**Q. WHAT ARE SOME OF THE CONSEQUENCES OF NOT REBUILDING THE PINEY–SEWARD 115 KV TRANSMISSION LINE?**

A. Should the Piney–Seward 115 kV Transmission Line Rebuild Project not proceed as planned, the reliability of the transmission system, especially the reliability of the transmission network, will be at risk in this area of Pennsylvania. Delaying the rebuilding of this line increases the risk of infrastructure failures that would compromise the availability and reliability of transmission service for the wholesale customers and MAIT affiliates served from this transmission line. Additional details around the current condition of the transmission line are discussed in MAIT witness Grant's direct testimony (MAIT Statement No. 2).

**ALTERNATIVES TO THE PINEY–SEWARD 115 kV REBUILD**

**Q. PLEASE EXPLAIN ANY ALTERNATIVES TO THE REBUILD PROJECT CONSIDERED BY MAIT.**

A. The only other alternative considered was to maintain the line in its existing condition and replace or repair components as they fail. This alternative increases the risk of a cascading failure of the line.

**Q. PLEASE EXPLAIN WHY THE REBUILD PROJECT IS CONSIDERED THE MOST COST-EFFECTIVE SOLUTION BY MAIT.**

A. The cost to rebuild the Piney–Seward 115 kV Transmission Line is estimated at approximately $272,000,000, which includes the associated substation work. Given the inspection findings and outage history of the Piney-Seward 115 kV Transmission Line, maintenance efforts are necessary to sustain operation of the

line but will not significantly extend its expected life, as the line is approaching end of life. Consequently, MAIT considers the Piney–Seward 115 kV Transmission Line Rebuild Project as the most cost-effective way to address the condition of this line.

## ELECTROMAGNETIC FIELD STUDY

**Q. DOES THE PROJECT UTILIZE SPECIFIC DESIGN FEATURES TO REDUCE EMF STRENGTH?**

A. Yes. As part of MAIT's approach to efficiently construct a transmission line project, the design of all or portions of a transmission line project will typically utilize a compact conductor arrangement. This has the added benefit of reducing electric and magnetic field strengths.

**Q. DID MAIT PREPARE AN EMF STUDY AS A PART OF THIS PROJECT?**

A. As a point of reference, the Company is providing estimates of the electric and magnetic field strengths for the Project. The estimates have been prepared utilizing the Electric Power Research Institute's EMF Workstation 2015 software program ("Program"). The Program relies on the law of Biot-Savart, an equation describing the magnetic field generated by a constant electric current. The law relates the magnetic field to the magnitude, direction, length, and proximity of the electric current. The electric and magnetic field strengths directly beneath the centerline at mid-span of the 115 kV transmission line and at the edges of the ROW for the transmission line have been estimated for the normal maximum load of the transmission line and are provided in **MAIT Exhibit 29**. Typical structures, conductor arrangements, and average span lengths of sections of the transmission

lines that are greater than one mile in length have been modeled to create the graphs of the electric and magnetic fields of the various line sections and ROW widths contained in **MAIT Exhibit 29**.

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does. However, I reserve the right to file such additional testimony or exhibits as may be necessary or appropriate.

# MAIT EXHIBIT 1

Energizing the FUTURE

# Piney-Seward 115 kV Transmission Line Rebuild Project

*Enhancing Service Reliability for Penelec Customers*

Mid-Atlantic Interstate Transmission, LLC ("MAIT") is proposing to rebuild the Piney-Seward 115 kV transmission line in Westmoreland, Indiana, Jefferson, Armstrong and Clarion counties to enhance service reliability and accommodate load growth in the area.




## Project Overview

MAIT has determined that the approximately 66-mile-long Piney-Seward 115-kilovolt ("kV") transmission line must be rebuilt due to its physical condition and current design.

The proposed project consists of replacing the existing transmission structures with new steel monopole structures and stringing new line conductor in a six-wire, single-circuit configuration. The new line will be constructed parallel to the existing line to keep the existing line energized while construction is underway. When construction is complete, the existing line will be removed.

The new line will improve service reliability for customers and accommodate existing and future load growth in the area, ensuring the transmission system can continue to serve customer needs adequately, reliably and safely in the future.

PJM, the regional transmission system operator, and the PJM stakeholders have reviewed the proposed project and have assigned the supplemental upgrade identification number s1672. More information about the project can be found at www.pjm.com.

*Continued on back*

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FirstEnergy

## Line Siting and Approvals

A detailed line route evaluation was completed for this project, and MAIT determined that instead of creating a separate transmission corridor, expanding the existing corridor would lessen the potential impacts to landowners, the community and any sensitive environmental or cultural features.

MAIT will file an application and seek authorization from the Pennsylvania Public Utility Commission ("PaPUC") for this project.

Detailed wetland, stream and other environmental and historical evaluations have been or will be conducted along the existing transmission line corridor in coordination with appropriate governmental agencies. MAIT will obtain all permits required by local, state and federal agencies prior to construction.

## Easements

As proposed, the existing transmission corridor will be expanded to accommodate the project. MAIT will negotiate with property owners to obtain any agreements necessary for additional right-of-way, temporary access roads and vegetation clearing. Company representatives will work closely with local officials and affected landowners to keep them updated on the project.

## Preliminary Project Timeline

Virtual Public Outreach Program ..... July/August 2022

Anticipated Application Submittal Date..... Third Quarter 2023

Anticipated Approval Date ..... First Quarter 2025

Anticipated Construction Start ..... Fourth Quarter 2025

Project Complete & Placed in Service ..... Fourth Quarter 2029

## About Energizing the Future

Through *Energizing the Future*, FirstEnergy is upgrading and strengthening the transmission grid to meet the existing and future needs of our customers and communities. Projects are focused on upgrading or replacing aging equipment to strengthen our transmission infrastructure, reduce outages and cut maintenance costs; enhancing performance by building a smarter, more secure transmission system; and adding flexibility by building in redundancy and allowing system operators to react more swiftly to changing grid conditions.

**For more information, visit firstenergycorp.com/transmission.**

Energizing the FUTURE

FirstEnergy

# MAIT EXHIBIT 2

No.....Term, 20.....

**Proof of Publication in The Derrick**
**UNDER ACT NO. 587, APPROVED MAY 16, 1929**

STATE OF PENNSYLVANIA

ss:

COUNTY OF VENANGO

Tricia N. Baker, of Venango Newspapers, of the County and State aforesaid, being duly sworn, deposes and says that THE DERRICK, newspaper of general circulation published at Oil City, Pa., County and State aforesaid was established in 1871, since which time THE DERRICK has been regularly issued in said county, and that the printed notice or publication attached hereto is exactly the same as printed in the regular edition and issue of the said THE DERRICK on the following dates, viz:

12th of October, 2022

Affiant further deposes that she is authorized by VENANGO NEWSPAPERS, agent for said THE DERRICK to verify the foregoing statement under oath, and affiant is not interested in the subject matter of the aforesaid notice or advertisement, and that all allegations in the foregoing statements as to time, place and character or publication are true.

COPY OF NOTICE OF PUBLICATION

Tricia N Baker

Sworn to and subscribed before me this
12 day of October, 2022

Tabatha A Beveridge

Commonwealth of Pennsylvania - Notary Seal
Tabatha A. Beveridge, Notary Public
Venango County
My commission expires May 26, 2026
Commission number 1418221
Member, Pennsylvania Association of Notaries

STATEMENT OF ADVERTISING COST

First Energy Media
154 E. Aurora Rd #174
Northfield OH 44067

#6076770

The VENANGO NEWSPAPERS, Dr.
Agent for The Derrick

| | |
|---|---|
| For publishing the notice or publication attached hereto on the above dates | 1,274.33 |
| Probating same | 11.00 |
| Total | 1,285.33 |

**Publisher's Receipt for Advertising Costs**

VENANGO NEWSPAPERS, agent for THE DERRICK hereby acknowledges receipt of the aforesaid notice and publication costs, and certifies that the same have been duly paid.

By _____

No.....Term, 20.....

**Proof of Publication of Notice in THE News-Herald**
**UNDER ACT NO. 587, APPROVED MAY 16, 1929**

STATE OF PENNSYLVANIA

ss:

COUNTY OF VENANGO

Tricia N. Baker, of Venango Newspapers, of the County and State aforesaid, being duly sworn, deposes and says that The NEWS-HERALD, newspaper of general circulation publishing at Franklin, Pa., County and State aforesaid, was established in 1878, since which time THE NEWS-HERALD has been regularly issued in the said County, and that the printed notice of publication attached hereto is exactly the same as printed in the regular edition and issue of the said THE NEWS-HERALD on the following dates, viz:

12th of October, 2022

Affiant further deposes that she is authorized by VENANGO NEWSPAPERS, agent for said THE NEWS-HERALD to verify the foregoing statement under oath, and affiant is not interested in the subject matter or the aforesaid notice of advertisement, and that all allegations in the foregoing statements as to time, place and character of publication are true.

COPY OF NOTICE OF PUBLICATION

Tricia N Baker

Sworn to and subscribed before me this
12 day of October 2022

Tabatha A Beveridge

Commonwealth of Pennsylvania - Notary Seal
Tabatha A. Beveridge, Notary Public
Venango County
My commission expires May 26, 2026
Commission number 1418221
Member, Pennsylvania Association of Notaries

STATEMENT OF ADVERTISING COST

First Energy Media #6076770
154 E. Aurora Rd #174
Northfield OH 44067

To VENANGO NEWSPAPERS, Dr.
Agent for The News-Herald
For publishing the notice or publication attached
hereto on the above dates 1,274.32

Probating same 11.00

Total 1,285.32

**Publisher's Receipt for Advertising Costs**

VENANGO NEWSPAPERS, agent for THE NEWS-HERALD hereby acknowledges receipt of the aforesiad notice and publication costs, and certifies that the same have been duly paid.

_____

# Proof of Publication

State of Pennsylvania
County of Indiana ] SS

On this 13TH day of OCTOBER 2022 A.D.
before me, the subscriber, a Notary Public in and for said County and State, personally appeared:

---

who being duly sworn according to laws, deposes and says, that (s)he is the Solicitor of the Indiana Gazette, that the said Indiana Gazette is a daily newspaper of general circulation, published in the borough of Indiana, in the County of Indiana, State of Pennsylvania, by the Indiana Gazette Inc., and was established in said Borough on the second day of July 1890, since which date, said daily newspaper has been regularly issued in said Borough and County, that annexed hereto is a true copy of a notice in the above matter exactly as the same was printed in the regular editions and issues of the said daily newspaper on the following dates, viz:

---

Affiant further deposes and says that (s)he is an employee of the publisher of the said daily newspaper and has been authorized to verify the foregoing statement and the (s)he is not interested in the subject matter of the aforesaid notice or publication and that all allegations in the foregoing statement as to time, place, and character of publication are true.

By:

Jessica Updegraff

Sworn to and subscribed before me the day and year aforesaid.

Commonwealth of Pennsylvania - Notary Seal
DAWN A HAYES - Notary Public
Indiana County
My Commission Expires August 31, 2025
Commission Number 1406600

Signature of notarial officer

Proof of Publication FIRST ENERGY AD

Proof of Intent _____

Total _____ $0.00

Indiana Gazette Inc., publishers of the Indiana Gazette, a daily newspaper, hearby acknowledges receipt of the aforesaid publication costs, and certifies the same have been fully paid.

Indiana Gazette Inc.
P.O. Box 10, 899 Water Street, Indiana, PA 15701

By _____

# Proof of Publication of Notice in Leader Times

Under the Act of July 9, 1976, P.L. 877, No. 160

State of Pennsylvania

County of Armstrong

**Tammy Bish, Publisher** of West Penn Media, a corporation of the Commonwealth of Pennsylvania, publisher of the Leader Times, of the County State aforesaid, being duly sworn, deposes and says that the Leader Times, a newspaper of general circulation published at Kittanning, County and State aforesaid, was established January 10, 1898, since which date the Leader Times has been regularly issued in said county, and that the printed notice or publication attached hereto is exactly the same as printed and published in the regular editions and issues of the said Leader Times on the
following dates.

**the 12th of October, 2022**

Affiant further deposes that she is an officer duly authorized by West Penn Media, publisher of the Leader Times, a newspaper of general circulation to verify the foregoing statement under oath, and affiant is not interested in the subject matter of the foresaid notice or advertisement, and that all allegations in the foregoing statements as to time, place and character of publication are true.

Tammy Bish

Copy of Notice or Publication

, Leader Times

Sworn to and subscribed before me this 13th Oct, 2022

Julia A Jordan

My Commission Expires:

Commonwealth of Pennsylvania - Notary Seal
JULIA A JORDAN - Notary Public
Armstrong County
My Commission Expires Jun 28, 2024
Commission Number 1080564

Statement of Advertising Costs

To Leader Times

For publishing the notice or publication attached $_____

Probating same ..... $_____

Publisher's Receipt for Advertising Costs

Leader Times, a newspaper of general circulation, hereby acknowledges receipt of the aforesaid notice and publication cost and certifies that the same been duly paid.

# NOTICE OF PUBLIC INFORMATION MEETING FOR PROPOSED MAJOR UTILITY FACILITY

Mid-Atlantic Interstate Transmission, LLC (“MAIT”), a FirstEnergy company, is hosting a web-based public engagement program to introduce the proposed Piney-Seward and Erie South-Piney 115-kV Transmission Line Rebuild Project (“Project”). Project information including a virtual meeting, interactive map and other project information will be available for review and comment beginning on October 15, 2022 on MAIT’s website at:

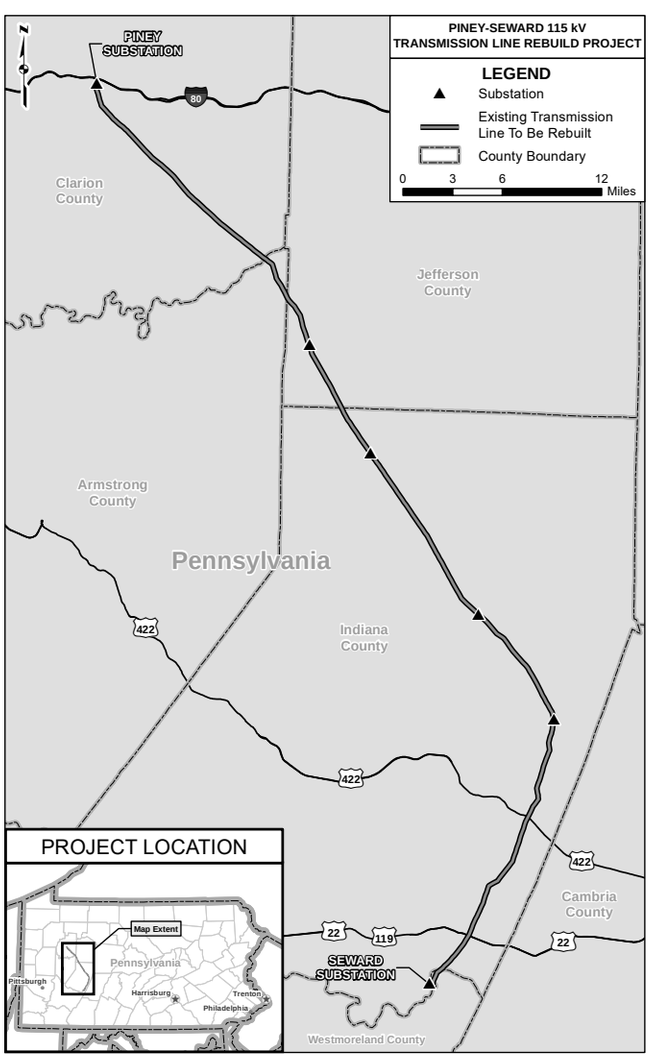
https://firstenergycorp.com/content/fecorp/about/transmission_projects/pennsylvania/erie-south-piney-seward-trans-projects.html

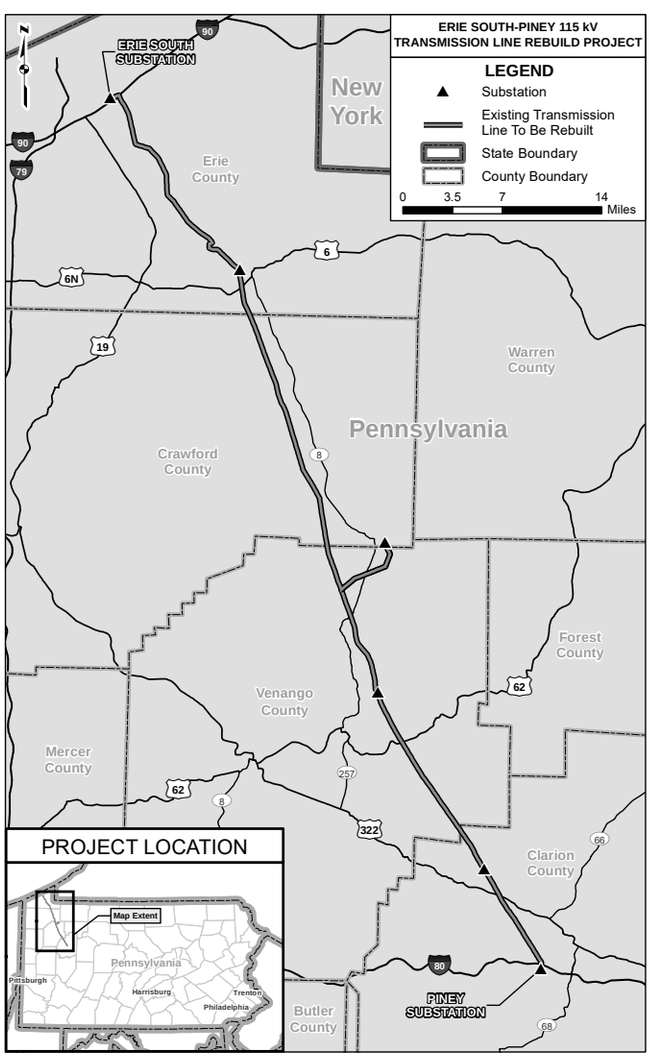
During the next 30 days, MAIT will also hold individual and small group conference calls with interested persons, per request. To request a conference with MAIT or to contact MAIT with any questions about the Project, email MAIT at transmissionprojects@firstenergycorp.com or call 1-888-311-4737. Written comments or questions about the Project will also be accepted and can be addressed as: Attention: **Piney-Seward and Erie South-Piney 115-kV Transmission Line Rebuild Project Team**, 5001 NASA Blvd., Fairmont, WV 26554.

The proposed Piney-Seward and Erie South-Piney 115-kV Transmission Line Project is necessary due to the age and condition of the current structures, which must be replaced to ensure that the transmission line operates safely and reliably. The transmission lines provide electric service to over 14,000 customers in Armstrong, Indiana, Jefferson, Clarion, Crawford, Erie, and Venango counties in addition to supporting the transmission and distribution network in the surrounding areas.

The Piney-Seward and Erie South-Piney 115-kV Transmission Line Project consists of rebuilding approximately 148 miles of the existing transmission lines. MAIT will replace the existing transmission structures with new steel monopole structures and string new transmission line conductor.

MAIT will rebuild the existing Piney-Seward and Erie South-Piney 115-kV Transmission Lines parallel to the existing transmission lines to keep the existing lines energized while construction is underway. When complete, the existing line will be removed. The general alignment of the existing transmission lines route is shown on the maps below.




The rebuild of the Piney-Seward and Erie South-Piney 115-kV Transmission Lines will improve reliability to customers and accommodate existing and future load growth for this area ensuring the transmission system can continue to serve customer needs adequately, reliably, and safely in the future.





# The Punxsutawney Spirit

510 Pine Street, Punxsutawney, PA 15767

Phone: (814) 938-8740

Fax: (814) 938-3446

E-Mail: publisher@punxsutawneyspirit.com


## Affidavit Of Insertion

**Advertiser Name:** First Energy Media/First Energy

**Insertion Order #:** 9863

**Date[s] of Insertion:** Wednesday 10/12/2022

**Ad Size:** 5 column x 13 inch black & white advertisement

**Total Number of Insertions:** 1

**Total cost of insertion:** $689

This form verifies that this ad was inserted per advertisers request and scheduled according to the above specifications.

Rogue Carrasco
*Signature*

10-12-22
*Date Signed*

Rogue Carrasco
*Printed Name*

# AFFIDAVIT OF DISTRIBUTION

Commonwealth of Pennsylvania
County of Westmoreland

Jenna Poorbaugh, in her capacity as Marketing & Advertising Representative on behalf of TRIB TOTAL MEDIA, INC.

Trib Total Media, Inc. is the publisher of the following publications, Tribune Review Newspaper

1. The insert for First Energy Media with Insertion Order No. 259066 was distributed to the Publications' full circulation on October 12, 2022

IN WITNESS WHEREOF, I hereby execute this Affidavit on this 14th day of October 2022.

TRIB TOTAL MEDIA, INC.

By:_____

Sworn to before me this 14th day of October 2022.

JoAnn M. Callahan
Notary Public

Commonwealth of Pennsylvania - Notary Seal
JoAnn M. Callahan, Notary Public
Westmoreland County
My commission expires July 1, 2024
Commission number 1243230
Member, Pennsylvania Association of Notaries

# MAIT EXHIBIT 3

Exhibit AWG-1
5-Year Outage History

| Line / Equipment | Actual Out | Weather | Cause Category | Cause | Fault Information |
|---|---|---|---|---|---|
| GLORY-SEWARD 115KV G1 LINE | 02/24/2019 15:38:03 | High Winds | Weather, excluding lightning | Weather induced fall-in (outside ROW) | Z-Phase to Ground and Y-Phase to Z-Phase to Ground |
| GLORY-SEWARD 115KV G1 LINE | 02/24/2019 15:40:22 | High Winds | Weather, excluding lightning | Weather induced fall-in (outside ROW) | X-Phase to Ground |
| GLORY-SEWARD 115KV G1 LINE | 05/20/2019 14:02:23 | Fair or Normal | Vegetation | Fall-ins (outside ROW) (not due to Nat Dis or Human Error) | Z-Phase to Ground |
| GLORY-SEWARD 115KV G1 LINE | 04/02/2020 17:58:40 | Fair or Normal | Vegetation | Fall-ins (outside ROW) (not due to Nat Dis or Human Error) | Z-Phase to Ground |
| GLORY-SEWARD 115KV G1 LINE | 11/15/2020 15:57:34 | High Winds | Weather, excluding lightning | Weather induced fall-in (outside ROW) | Z-Phase to Ground, then Y-Phase to Z-Phase to ground |
| GLORY-TRADE CITY 115KV GTC LINE | 01/15/2019 13:04:00 | Fair or Normal | Failed AC Circuit Equipment | Jumper Or Tap Failure | Y-Phase Open Circuit |
| GLORY-TRADE CITY 115KV GTC LINE | 01/15/2019 13:20:00 | Fair or Normal | Failed AC Circuit Equipment | Jumper Or Tap Failure | Y-Ghase Open Circuit |
| GLORY-TRADE CITY 115KV GTC LINE | 08/08/2019 13:24:38 | Rain | Lightning | Correlation - unknown magnitude/design criteria | B-Phase to Ground |
| GLORY-TRADE CITY 115KV GTC LINE | 07/12/2020 18:05:05 | Fair or Normal | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| GLORY-TRADE CITY 115KV GTC LINE | 08/23/2020 23:50:59 | Lightning Storm | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| GLORY-TRADE CITY 115KV GTC LINE | 08/28/2020 11:43:25 | Lightning Storm | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| GLORY-TRADE CITY 115KV GTC LINE | 02/16/2021 00:03:44 | Sleet or Ice | Weather, excluding lightning | Ice | Y-Phase to Z-Phase |
| GLORY-TRADE CITY 115KV GTC LINE | 12/15/2022 11:32:12 | Sleet or Ice | Weather, excluding lightning | Ice | Y-Phase to Z-Phase |
| GLORY-TRADE CITY 115KV GTC LINE | 04/01/2023 14:13:51 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Ground |
| GLORY-TRADE CITY 115KV GTC LINE | 07/01/2023 08:37:08 | Rain | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| GLORY-TRADE CITY 115KV GTC LINE | 09/07/2023 12:35:03 | Fair or Normal | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| GLORY-TRADE CITY 115KV GTC LINE | 09/09/2023 07:33:50 | Fair or Normal | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| PINEY-TIMBLIN 115KV P1 LINE | 01/01/2019 00:40:32 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 02/24/2019 19:09:14 | High Winds | Weather, excluding lightning | Phase Conductors Contacting | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 05/28/2019 15:39:11 | Lightning Storm | Weather, excluding lightning | Wind | B-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 01/12/2020 03:49:29 | Fair or Normal | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 01/12/2020 04:39:24 | Fair or Normal | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 06/10/2020 22:55:00 | Rain | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 07/19/2020 20:23:13 | Fair or Normal | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| PINEY-TIMBLIN 115KV P1 LINE | 09/14/2020 06:55:58 | Fair or Normal | Failed AC Circuit Equipment | Insulator Failure | B-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 11/15/2020 15:24:13 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 03/26/2021 08:23:52 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 07/07/2021 17:00:44 | Lightning Storm | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 07/13/2021 17:04:58 | Lightning Storm | Unknown | Unknown After Exhaustive Patrol or Investigation | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 08/28/2021 16:14:23 | Rain | Lightning | Correlation - unknown magnitude/design criteria | B-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 10/16/2021 07:49:53 | Rain | Unknown | Unknown After Exhaustive Patrol or Investigation | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 10/13/2022 09:44:44 | Rain | Weather, excluding lightning | Wind | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 11/30/2022 11:01:11 | Rain | Failed AC Circuit Equipment | Insulator Failure | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 12/15/2022 12:19:50 | Sleet or Ice | Weather, excluding lightning | Ice | X-Phase to Z-Phase |
| PINEY-TIMBLIN 115KV P1 LINE | 01/19/2023 20:55:45 | Lightning Storm | Failed AC Circuit Equipment | Insulator Failure | B-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 03/25/2023 18:19:17 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Ground |

Exhibit AWG-1
5-Year Outage History

| Line / Equipment | Actual Out | Weather | Cause Category | Cause | Fault Information |
|---|---|---|---|---|---|
| PINEY-TIMBLIN 115KV P1 LINE | 03/31/2023 23:47:04 | Fair or Normal | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| PINEY-TIMBLIN 115KV P1 LINE | 04/01/2023 14:04:23 | High Winds | Failed AC Circuit Equipment | Insulator Failure | Y-Phase to Ground |
| PINEY-TIMBLIN 115KV P1 LINE | 07/26/2023 22:20:48 | Lightning Storm | Lightning | Correlation - unknown magnitude/design criteria | N/A |
| TIMBLIN-TRADE CITY 115KV LINE | 01/20/2019 13:36:48 | High Winds | Weather, excluding lightning | Ice | A-Phase to B-Phase and A-Phase to C-Phase |
| TIMBLIN-TRADE CITY 115KV LINE | 06/19/2020 15:13:28 | Fair or Normal | Failed AC Circuit Equipment | Insulator Failure | Y-Phase to Ground |
| TIMBLIN-TRADE CITY 115KV LINE | 06/22/2020 14:36:01 | Rain | Failed AC Circuit Equipment | Insulator Failure | B-Phase to Ground |
| TIMBLIN-TRADE CITY 115KV LINE | 04/01/2023 14:09:15 | High Winds | Weather, excluding lightning | Wind | Y-Phase to Z-Phase |

# MAIT EXHIBIT 4

AWG-1: 2023 Walkdown and Comprehensive Visual Inspection Results - Summary

| | | Piney - Timblin 115kV P1 Line | Timblin - Trade City 115kV TTC Line | Glory - Trade City 115kV G1 Line | Glory - Seward 115kV G1 Line |
|---|---|---|---|---|---|
| Inspection Problem Category | Brace | 0 | 1 | 0 | 3 |
| | Conductor | 28 | 11 | 37 | 0 |
| | Crossarm | 0 | 0 | 0 | 9 |
| | Guy Wire | 0 | 0 | 0 | 0 |
| | Insulator String | 33 | 3 | 32 | 13 |
| | Static Bond | 0 | 1 | 10 | 0 |
| | Static Wire | 1 | 0 | 1 | 0 |
| | Insulator Attachment | 1 | 0 | 2 | 0 |
| | Wood Pole | 0 | 2 | 2 | 102 |
| | Sound | 0 | 0 | 0 | 17 |
| | Cracking | 1 | 0 | 0 | 16 |
| | Decay | 0 | 1 | 0 | 0 |
| | Reinforced | 0 | 0 | 0 | 0 |
| | WP Holes | 0 | 0 | 2 | 8 |
| | Insulator | 0 | 0 | 0 | 0 |
| | Total | 64 | 19 | 86 | 168 |

2023 Walkdown and Comprehensive Visual Inspection Results -
Walkdown Results

| Line Name | Inspection Date | Pass/Fail | Field Structure No | Structure Type | Structure Defect Note |
|---|---|---|---|---|---|
| **GLORY - SEWARD 115 KV G1 LINE** | 01/23/2023 | Fail | g-8 | Wood Pole | age, woodpecker holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/27/2023 | Fail | G-1-119 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/26/2023 | Fail | G-1-11 | 2-Pole Wood H-Frame | CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/30/2023 | Fail | 25 | 2-Pole Wood H-Frame | CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/26/2023 | Fail | G-1-13 | 2-Pole Wood H-Frame | CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/20/2023 | Fail | G 1 129 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/22/2023 | Fail | 28 | 2-Pole Wood H-Frame | WP HOLE |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/22/2023 | Fail | 35 | 2-Pole Wood H-Frame | SOUND, CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/22/2023 | Fail | 32 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/30/2023 | Fail | G 1 27 | 3-Pole Wood H-Frame | CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/22/2023 | Fail | 30 | 2-Pole Wood H-Frame | CRACKING, SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/20/2023 | Fail | G1 19 | 2-Pole Wood H-Frame | CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/26/2023 | Fail | G-1-21 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/22/2023 | Fail | 34 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/30/2023 | Fail | G-1-54 | 3-Pole Wood H-Frame | WP HOLES |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/26/2023 | Fail | G-1-57 | 2-Pole Wood H-Frame | CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/21/2023 | Fail | 70 | 2-Pole Wood H-Frame | CRACKING, WP HOLES |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/25/2023 | Fail | HT-73 | 2-Pole Wood H-Frame | SOUND, CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/26/2023 | Fail | G-1-58 | 2-Pole Wood H-Frame | SOUND, CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/24/2023 | Fail | G-1-83 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/21/2023 | Fail | 69 | 2-Pole Wood H-Frame | CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/25/2023 | Fail | G-1-71 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 03/21/2023 | Fail | 68 | 2-Pole Wood H-Frame | CRACKING, WP HOLES |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/25/2023 | Fail | G-1-74 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/19/2023 | Fail | G 1 77 | 2-Pole Wood H-Frame | CRACK IN POLE |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/24/2023 | Fail | G-1-75 | 2-Pole Wood H-Frame | SOUND, WOODPECKER HOLE, CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/24/2023 | Fail | G-1-89 | 2-Pole Wood H-Frame | SOUND |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/19/2023 | Fail | G 1 111 | 3-Pole Wood H-Frame | REPAIRED WP HOLES |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/19/2023 | Fail | G 1 108 | 2-Pole Wood H-Frame | BIG CRACK |
| **GLORY - SEWARD 115 KV G1 LINE** | 02/20/2023 | Fail | g-1-102 | 2-Pole Wood H-Frame | CRACKING |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/27/2023 | Fail | G-1-118 | 2-Pole Wood H-Frame | SOUND, WOODPECKER HOLE |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/20/2023 | Fail | G 1 127A | 2-Pole Wood H-Frame | FAILED SOUND TEST |
| **GLORY - SEWARD 115 KV G1 LINE** | 01/20/2023 | Fail | G 1 129A | 2-Pole Wood H-Frame | SOUND |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 02/01/2023 | Fail | 172-1 | 2-Pole Wood H-Frame | WOODPECKER HOLES |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 01/30/2023 | Fail | P-204A | 3-Pole Wood | WOODPECKER HOLES, AGE |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 02/08/2023 | Fail | 57-1 | 2-Pole Wood H-Frame | CRACKING |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 01/31/2023 | Fail | 113 | Tower | no pole tag present,only two danger signs,CONCRETE FOUNDATION STARTING TO DECAY. |

2023 Walkdown and Comprehensive Visual Inspection Results -
Comprehensive Visual Inspection

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | | 61-62 | Conductor | Broken Strands |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | | 52-53 | Conductor | Broken Strands |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | | 4-5 | Conductor | Broken Strands |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 4 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 73 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 53 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 53 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 38 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 36 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 36 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 26 | | Insulator String | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 24 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 22 | | Insulator String | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 86 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 81 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 78 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 75 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 74 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 72 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 71 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | | 65-66 | Conductor | Loose/Slack |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 63 | | Insulator String | Cracked |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | | 61-62 | Static Wire | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 59-1 | | Insulator Attachment | Missing |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 58 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 54 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 54 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 53 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 53 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 53 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 52 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 52 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 52 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 51 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 50 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 49 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 48 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 46 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 45 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/24/2023 | 42 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 36 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 34 | | Insulator String | Cracked |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 32 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 31 | | Insulator String | Corona Damage |

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 29 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 28 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 28 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 26 | | Insulator String | Flashed |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 24 | | Insulator String | Corona Damage |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 22 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 21 | | Insulator String | Corona Damage |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 20 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 14 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 14 | | Insulator String | Broken |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 10 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 10 | | Insulator String | Corona Damage |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 8 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 8 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 8 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 8 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 7 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 4 | | Conductor | Burnt |
| **PINEY - TIMBLIN 115 KV P1 LINE** | 5/25/2023 | 2 | | Insulator String | Cracked |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 116 | | Insulator String | Flashed |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 102 | | Static Bond | Broken |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 89-E | | Conductor | Broken Strands |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 120 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 118 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 118 | | Insulator String | Flashed |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 116 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 113 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 108 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 105 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 101 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 99 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 95 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 93 | | Conductor | Burnt |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 93 | | Insulator String | Flashed |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 89-D | | Wood Pole | Rotten |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 89-C | | Wood Pole | Rotten |
| **TIMBLIN - TRADE CITY 115 KV TTC LINE** | 5/23/2023 | 89-C | | Brace | Cracked |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 196 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 176 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 166 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 166 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 166 | | Static Bond | Missing |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 164 | | Insulator String | Flashed |

2023 Walkdown and Comprehensive Visual Inspection Results -
Comprehensive Visual Inspection

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 164 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 163 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 161 | | Insulator Attachment | Moved |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 161 | | Static Bond | Missing |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 159 | | Insulator Attachment | Moved |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 153 | | Static Bond | Missing |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 151 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 151 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 140 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 138 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 136 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 135 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 132 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 131 | | Static Bond | Broken |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 129 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 124 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 202 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 200 | | Insulator String | Broken Bells |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 199 | | Conductor | Broken Strands |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 198 | | Insulator String | Deteriorated |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 196 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 194 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 193 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 192 | | Insulator String | Foreign Object |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 192 | | Insulator String | Deteriorated |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 190 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 190 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 190 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 187 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 184 | | Insulator String | Broken Bells |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 183 | | Insulator String | Deteriorated |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 183 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 183 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/21/2023 | 183 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 182 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 181 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | | 178-179 | Conductor | Broken Strands |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 178 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 177 | | Conductor | Broken Strands |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 177 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 175 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 174 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 171-1 | | Wood Pole | Woodpecker Holes |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 171-1 | | Wood Pole | Rotten |

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 169 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 169 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 169 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 168 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 168 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | | 167-168 | Conductor | Broken Strands |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 165 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 163 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 161 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 156 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 156 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 156 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 155 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 150 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 150 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 149 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 147 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 147 | | Static Wire | Moved |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 146 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 146 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 139 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 139 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 139 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 139 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 139 | | Insulator String | Broken Bells |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/22/2023 | 138 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 133 | | Insulator String | Flashed |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 132 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 131 | | Insulator String | Corona Damage |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 131 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 131 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 130 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 130 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 128 | | Insulator String | Cracked |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 124 | | Conductor | Burnt |
| **GLORY - TRADE CITY 115 KV GTC LINE** | 5/23/2023 | 123 | | Insulator String | Moved |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 122 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 120 | | Crossarm | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 113 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 112 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 104 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 98 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 70 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 69 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 56 | | Wood Pole | Woodpecker Holes |

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 49 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 13 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 11 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 10 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 129 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 127 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 126 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 125 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 124 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 123 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 121 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 120 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 120 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 119 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 118 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 116 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 116 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 111 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 111 | | Crossarm | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 111 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 106 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 106 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 106 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 105 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 102 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 100 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 99 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 97 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 96 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 95 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 92 | | Crossarm | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 91 | | Crossarm | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 90 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 88 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 88 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 86 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 84 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 83 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 82 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/18/2023 | 80 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 79 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 77 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 77 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 76 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 75 | | Wood Pole | Cracked |

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 75 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 74 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 73 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 72 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 72 | | Crossarm | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 71 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 68 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 67 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 67 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 63 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 63 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 62 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 58 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 57 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 56 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 53 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 53 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 52 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 49 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 49 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 48 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 47 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 47 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 46 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 45 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 44 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 44 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 43 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 43 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 42 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 42 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 42 | | Crossarm | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 41 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 40 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 40 | | Crossarm | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 39 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 38 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 37 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 37 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 36 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 36 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 35 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 35 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 35 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 34 | | Insulator String | Foreign Object |

| Line Name | Insp Date | Structure No | Span No | Affected Component | Problem Category |
|---|---|---|---|---|---|
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 34 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 33 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 32 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 32 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 30 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 28 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 27 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 25 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 25 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 24 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 23 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 22 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 22 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 22 | | Insulator String | Foreign Object |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 22 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 21 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 19 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 18 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 17 | | Brace | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 15 | | Wood Pole | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 13 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 13 | | Crossarm | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 13 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 12 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 9 | | Brace | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 8 | | Wood Pole | Woodpecker Holes |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 4 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 3 | | Wood Pole | Rotten |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 1 | | Wood Pole | Cracked |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 1 | | Brace | Deteriorated |
| **GLORY - SEWARD 115 KV G1 LINE** | 5/19/2023 | 1 | | Crossarm | Cracked |

# MAIT EXHIBIT 5

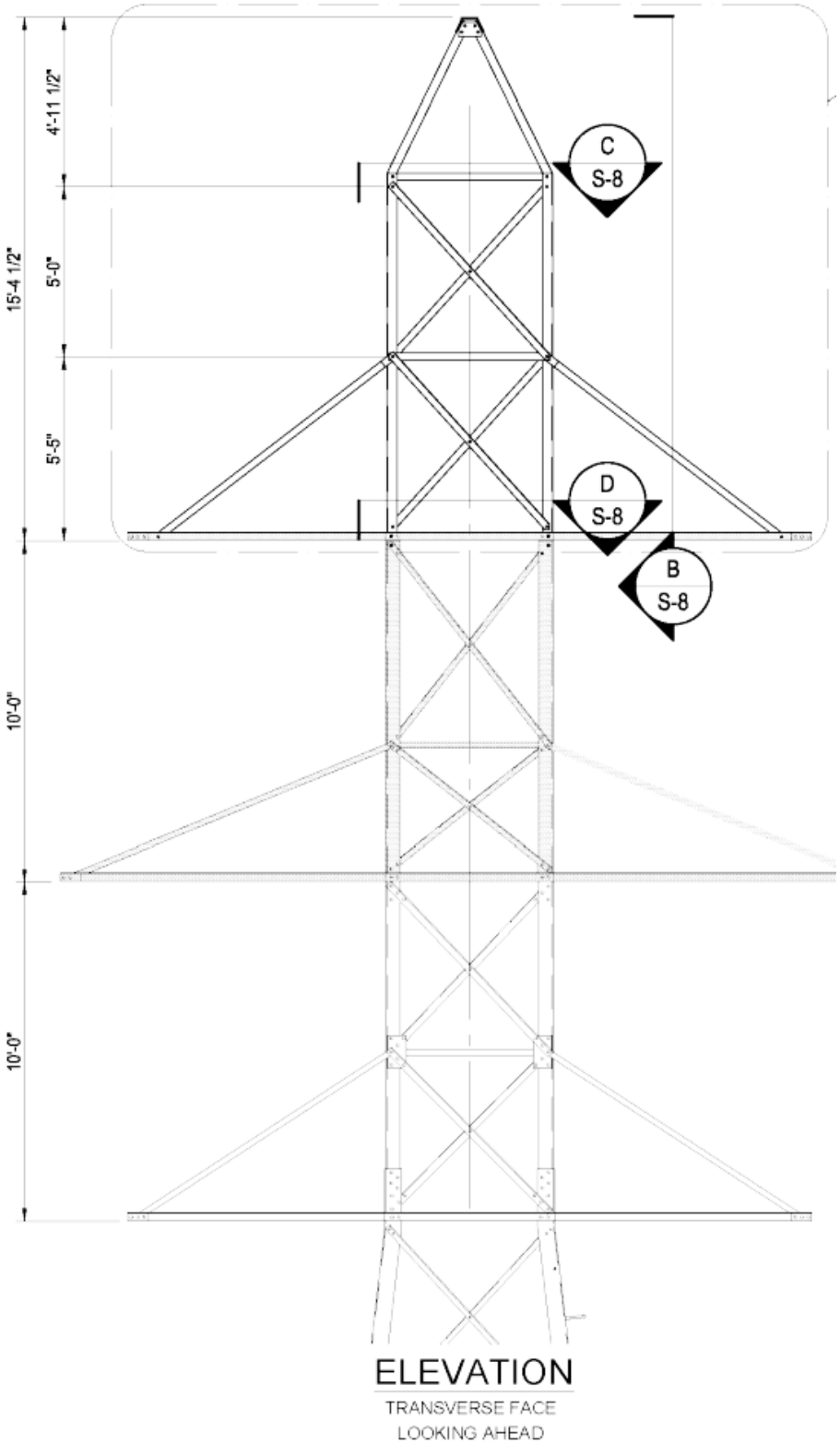



**Figure 1.** Example of shield wire position and configuration with raised tower top from previous project.

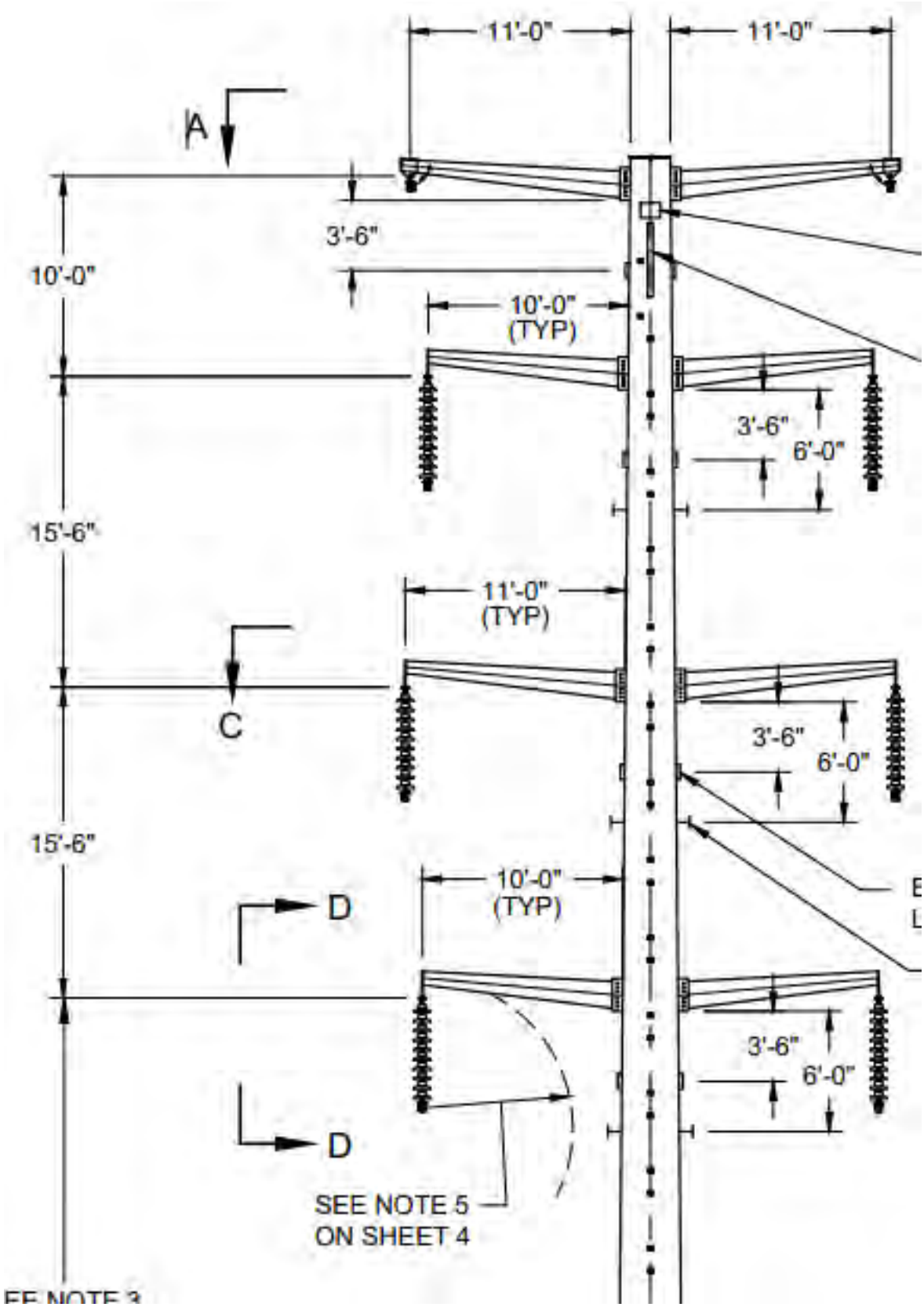



**Figure 2.** Example of present-day shield wire configuration and location

# MAIT EXHIBIT 6

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# Environmental Assessment and Alternative Route Analysis

## Mid-Atlantic Interstate Transmission, LLC (a FirstEnergy Company) Piney-Seward 115kV Transmission Line Rebuild Project

## Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties, Pennsylvania

GAI Project Number: C180186.00, Task 001 Sub Task 004

September 2023

MAIT™

Mid-Atlantic Interstate Transmission, LLC

A FirstEnergy Company

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Prepared for: Mid-Atlantic Interstate Transmission, LLC
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## Indiana, Westmoreland, Armstrong, Jefferson, and Clarion Counties, Pennsylvania

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September 2023

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## APPENDICES

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# 1.0 Introduction

## 1.1 Project Description

Mid-Atlantic Interstate Transmission, LLC (MAIT) proposes building the Piney-Seward 115 kV Transmission Line Rebuild Project (Project) in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties, Pennsylvania (PA). The Project will rebuild an existing 115 kV transmission line between the existing Seward Substation located in East Wheatfield Township, Indiana County to the existing Piney Substation located in Piney Township, Clarion County while connecting the following substations along its length:

- The existing Seward Substation to the existing Glory Substation located in Pine Township, Indiana County;
- The existing Glory Substation to the existing Dixonville East Substation located in Green Township, Indiana County;
- The existing Dixonville East Substation to the existing Trade City Substation located in West Mahoning Township, Indiana County;
- The existing Trade City Substation to the existing Timblin Substation located in Timblin Borough and Ringgold Township, Jefferson County; and
- The existing Timblin Substation to the existing Piney Substation located in Piney Township, Clarion County.

The Project consists of the construction of approximately 66 miles of rebuilt electric transmission line between the above-mentioned substations (see Map 1). The proposed Project is necessary to mitigate reliability risks associated with aging existing structure conditions. The Project will also improve service reliability for over 14,000 customers and accommodate existing and future demand in the Project area. Existing structures are double pole wood and steel lattice frames. Proposed structures are single pole steel. The existing right-of-way (ROW) width varies between 75 and 100 feet while the proposed ROW width will be 125 feet and partially occupy the existing ROW. The Project has an in-service data of Summer 2029.

## 1.2 Project Timeline and Overview of Regulatory Approvals

MAIT initiated the transmission line siting process in 2020 and three initial potential routes (Alternative Routes) were developed. A virtual public open house was held in August 2022, to present the three Alternative Routes to the public and encourage public comments. Based on this siting process a Proposed Route was selected. Construction of the Project is scheduled to begin first quarter 2026 with an in-service date of summer 2034.

The PA Public Utility Commission (PAPUC) has jurisdiction over high voltage electric transmission lines and must approve the siting of the proposed Project (52 Pa. code Chapter 57). Chapter 57, Subchapter G identifies the PAPUC requirements for documenting the siting and environmental studies which must be conducted to determine potential Project impacts. This Environmental Assessment and Alternative Route Analysis is being provided in compliance with section 57.72 (c) (7 through 10) of the PAPUC regulations. Specifically, this report includes a description of the route development, review, evaluation, and selection methodology and discusses the reasonable alternatives that were investigated for the selection of the Proposed Route as required by the PAPUC regulations.

## 1.3 Alternative Route Analysis

An Alternative Route Analysis was conducted to select the most suitable Proposed Route between the existing Seward Substation and existing Piney Substation, that passes through the substations listed in Section 1.1. The Alternative Route Analysis looks to identify alternative routes for evaluation that are

environmentally sound, feasible from an engineering and economic perspective, and compliant with applicable regulations. Environmental soundness includes minimizing environmental impacts while maximizing siting opportunities, for example paralleling an existing ROW where feasible. Engineering and economic feasibility includes minimizing engineering constraints, cost, and distance of the route. The analysis also sought to minimize Alternative Route overlap to adhere to the PAPUC regulations (52 PA Code 57.1) that define an Alternative Route as "a reasonable ROW which includes not more than 25 percent of the ROW of the applicant's proposed route."

During the Alternative Route Analysis, the Project Study Area was examined for constraints and opportunities to develop Alternative Routes, analyze impacts associated with the alternatives, and select a Proposed Route. The Proposed Route is the route that, when considering all the constraints and opportunities, best minimizes the overall impacts of the Project. This report describes the alternative route identification, analysis, and selection process for the Proposed Route.

# 2.0 Environmental Assessment of the Project Study Area

The initial step in route development was to define a Study Area which includes the Project end points (the existing Seward and Piney Substations), the intervening existing substations listed in Section 1.1, and an appropriately sized area to develop alternatives between these locations. The northern limits of the Study Area extend approximately two miles north of the Piney Substation, and the southern limits of the Study Area extend approximately two miles south of the Seward Substation. The eastern and western limits of the Study Area were defined at approximately four miles from the sequence of substations that the alternatives need to pass through. The resulting Study Area is approximately eight miles wide by approximately 70 miles long. The Study Area, as shown on Map 1, incorporates approximately 460 square miles in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties, PA. This section of the report provides an in-depth review of engineering, environmental, cultural, and land use features in the Study Area.

GAI collected published data and mapping of environmental resources within the Study Area to identify environmental resources that could pose as constraints for transmission line siting. These included wetlands, soils, geology, public lands, designated natural areas or preserves, recreation areas, and historic resources. Other data such as property boundaries and ownership data were collected from PA Spatial Data Access and/or county Geographic Information Systems (GIS) departments. GAI also reviewed information concerning land uses as presented by aerial base map photography. In addition, GAI reviewed information concerning existing and future land uses, recreational areas, and scenic resources as presented in each county's comprehensive plan, greenways plan, and other local governmental resources that were publicly available.

These resources were used to assist in the data analysis as appropriate. As a part of this effort, GAI reviewed recent aerial photography to update and refine feature locations identified by the literature review.

## 2.1 Socioeconomics

### *Westmoreland County*

Westmoreland County is part of the Greater Pittsburgh Region with interlinked transportation to the City of Pittsburgh, creating opportunities for a commuter population (Sperling's Best Places, 2021). Westmoreland County is a nationally medium-density county with an average of 347 people per square mile, and a median population age over the national average (Sperling's Best Places, 2021). Westmoreland County has a highly stable and growing population (Westmoreland County, 2021) while also having a lower poverty and unemployment rate than the state average. However, the median income is below the state average (Westmoreland County Community Profile, 2012). According to the Westmoreland County Comprehensive plan (2018) the predominant industries are healthcare, education, manufacturing, and retail. However, 80% of the landscape of Westmoreland County is forest

and farmland. Additionally, extensive trail systems, parks, and state lands contribute to its tourism industry and appeal for residency for Pittsburgh commuters (Westmoreland County 2021).

### *Indiana County*

Indiana County is a nationally low-density county with an average of 105 people per square mile, and a median population age at roughly the national average (Sperling's Best Places, 2021). According to the Indiana County Center for Economic Operations (2015) Indiana County has a history of coal and natural gas extraction industries playing the dominant role in the economy, but these industries have dwindled over the past 40 years. Agriculture also plays an important role in the landscape, culture, and economy with much of the county containing prime agricultural land that supports productive farming, and the establishment of small farms has been increasing throughout the county in recent years. Manufacturing had been intricately connected with the mining industry, and as mining declined so has manufacturing, but manufacturing still accounts for approximately 28% of employment. In 2019, the tourism industry generated $179 million annually. Healthcare and education are also substantial industries in Indiana County and the median income is below state average (Indiana County Center for Economic Operations 2015).

### *Jefferson County*

Jefferson County is a nationally low-density county with an average of 68 people per square mile, and a median population age over the national average (Sperling's Best Places, 2021). Jefferson County has industries revolving around coal, natural gas, metal manufacturing, and timber reserves (Jefferson County, 2021). Unemployment rates are lower than the state average, but the median income is also below state average (PA Department of Labor and Industry, 2021). Jefferson County is struggling from a decline in employment opportunities (Jefferson County Comprehensive Plan, 2018) with the dominant employers in the county being manufacturing, retail, and healthcare and social services. Nature-tourism has long been an important component of the Jefferson County economy according to the County Comprehensive Plan (2018), with extensive trail systems, parks, and state lands contributing.

### *Armstrong County*

Armstrong County is also part of the Greater Pittsburgh Region with interlinked transportation to the city creating opportunities for a commuter population (Sperling's Best Places, 2021). Armstrong County is rural in nature with approximately 74% of the county either forested or agricultural. Armstrong County is a nationally low-density county with an average of 102 people per square mile, and a median population age over the national average (Sperling's Best Places, 2021). It is situated in the heart of the Eastern Marcellus Shale field, and the county has experienced a boom in natural gas production. However, according to the county's Comprehensive Plan (2005) the mining and manufacturing industries, that traditionally employed many Armstrong County residents, have experienced substantial job losses. According to the 2010 U.S. Census, approximately 22% of the Armstrong County labor force is employed in the manufacturing industry; 20% in the education, health, and social services industry with trade and construction also noted as substantial employers (Armstrong County Industrial Development Council, 2021). Unemployment rates are higher than the state average, and the median income is below state average (PA Department of Labor and Industry, 2021).

### *Clarion County*

Clarion County is a nationally low-density county with an average of 64 people per square mile and a median population age over the national average (Sperling's Best Places, 2021). Unemployment rates are lower than the state average, but the median income is also below state average (PA Department of Labor and Industry, 2021). Clarion County is known for its scenic beauty and smalltown/rural atmosphere. Much of the rural communities' livelihood is based upon land-based wealth (family-farms, private stewardship forestry, etc.) (Clarion County Comprehensive Plan, 2004). However, the

predominate employers are healthcare and social assistance, education, retail, and manufacturing industries (Sperling's Best Places, 2021).

### *Environmental Justice Areas*

As stated by the PA Department of Environmental Protection (PADEP), environmental justice embodies the principles that communities and populations should not be disproportionally exposed to adverse environmental impacts. Historically, minority and low-income Pennsylvanians have often experienced a disproportionate share of adverse environmental impacts. Environmental Justice Areas have been defined to facilitate consideration that those that have typically been disenfranchised are meaningfully involved in the decisions that affect their environment and that all communities are not unjustly and/or disproportionally burdened with adverse environmental impacts. The PADEP defines an Environmental Justice Area as any census tract where 20% or more of individuals live at or below the federal poverty line, and/or 30% or more of the population identifies as a non-white minority.

In the Study Area, Environmental Justice Areas are located around Clarion, and Marion Center (PADEP, 2022d).

## 2.2 Existing Utilities

Numerous existing transmission lines are located in the Study Area including Penelec's existing Piney-Seward 115kV transmission line which is proposed to be replaced. Additionally, transmission lines and distribution lines radiate from the 6 FirstEnergy substations located in the Study Area. Transmission lines greater than 110 kV include FirstEnergy's:

- Armstrong-Brookville 138kV NBB Transmission Line;
- Armstrong-Burma 138 kV Transmission Line;
- Blairsville East-Seward 115kV Transmission Line;
- Armstrong-Burma-Karns City 138 kV Transmission Line;
- Burma-Piney 115 kV Transmission Line;
- Burma-Ridgway 138 kV Transmission Line;
- Colver Power (Glory) 115 kV GCP Transmission Line;
- Conemaugh-Juniata 500 kV 5005 Transmission Line;
- Conemaugh-Keystone 500 kV 5003 Transmission Line;
- Conemaugh-Seward 230 kV Transmission Line;
- Conemaugh-Seward 115 kV CON Transmission Line;
- Conemaugh-Vinco 500 kV Transmission Line;
- Cooper-Seward 115 kV HT1 Transmission Line;
- East Pike-Glory 115 kV GEP Transmission Line;
- Eclipse-Piney 115kV PM Transmission Line;
- Erie South-Piney 115kV Transmission Line;
- Garman-Glory 115 kV G1 Transmission Line;
- Homer City-Seward 230 kV HCS Transmission Line;
- Homer City-Hooversville 230 kV HCH Transmission Line;
- Homer City-Johnstown 230 kV HCJ Transmission Line;

- Jackson Road-Seward 115 kV T1 Transmission Line;
- Johnstown-Seward 230 kV SJ Transmission Line;
- Piney-Piney Creek 115 kV PPC Transmission Line; and
- Seward-Tower 51 115 kV ST Transmission Line;

Transmission lines in the Study Area not owned by FirstEnergy include:

- Homer City-Stolle Road 345 kV 37 Transmission Line;
- Homer City-Mainesburg 345 kV Transmission Line; and
- Juniata -Keystone 500 kV 5004 Transmission Line;

Numerous lower voltage transmission and distribution lines operated by FirstEnergy and other utilities are located throughout the Study Area as well (Google Earth, 2021, imagery dated October 9, 2019).

Based on the US Department of Transportation National Pipeline Mapping System (2021) the following pipelines cross the Study Area in each county.

- Clarion County: two National Fuel natural gas pipelines, an Alliance Petroleum Corporation natural gas pipeline, an Eastern Gas Transmission natural gas pipeline, a Columbia Gas Transmission natural gas pipeline, two Equitrans Midstream Corporation natural gas pipelines, and a Peoples natural gas pipeline.
- Armstrong County: an Eastern Gas Transmission natural gas pipeline.
- Jefferson County: two Columbia Gas Transmission natural gas pipelines.
- Indiana County: an Eastern Gas Transmission natural gas pipeline, Peoples Gas Company natural gas pipeline, an Enterprise Products Operation liquid petroleum pipeline, a Columbia Gas Transmission natural gas pipeline, a Texas Eastern Transmission natural gas pipeline, a Sunoco Pipelines liquid petroleum pipeline, and a Buckeye Partners liquid petroleum pipeline.

In addition, numerous newer natural gas collection pipelines traverse the Study Area, whose cleared rights-of-way are visible on aerial photography (Google Earth photographic imagery 2021, imagery dated October 9, 2019).

There are public water services within the Study Area, but the majority of the Study Area is not covered by a public water service. A table detailing the service providers and their locations is provided in Section 2.12.

## 2.3 Existing Land Use

Each county's comprehensive plan, greenways plan, and parks and recreation plans, along with criteria in *A Land Use and Land Cover Classification System for Use with Remote Sensor Data* (Anderson et al., 1976) were used to define existing land use in the Study Area. Land use patterns were evaluated by examining maps and data presented in each county's comprehensive plan, aerial photographs (Esri World Imagery, 2021 and Landsat/Copernicus, 2021), USGS topographic mapping, and from field observations.

Using aerial photography cited above, it was determined the Study Area consists of mainly rural, agricultural, and forested land; with concentrations of development surrounding towns and villages. These communities are listed in the Table 2.3-1 below.

**Table 2.3-1**
**Towns and Villages**

| County | Community Name |
|---|---|
| Indiana County | Cramer, Armaugh, Dilltown, Strongstown, Heilwood, Mentcle, Alverda, Starford, Commodore, Dixonville, Rochester Mills, Marchand, Smicksburg, and Northpoint |
| Jefferson County | Porter, Timblin, Hamilton, and Ringgold |
| Armstrong County | Oak Ridge |
| Clarion County | Mayport, Limestone, and Marianne |

The Study Area also contains several larger cities and boroughs, as described below.

- Seward Borough is located in the far southern section of the Study Area. Seward is largely residential with forested areas and the Conemaugh River on its border. The Seward Power Plant is located adjacent to the town, across the Conemaugh River into Indiana County. State Routes 711 and 56 are the major roadways that pass through the borough and whose intersection is at the center of the community.
- Marion Center Borough is located in the southern portion of the Study Area, northwest of the Dixonville Substation. This small community consists of school facilities serving the area as well as residential, and industrial areas. U.S. Route 119 is located just to the west of the borough.
- Hawthorn Borough is located in the middle portion of the Study Area, northwest of the Timblin Substation. Similar in size to Marion Center Borough, it mostly consists of a residential area with small commercial/industrial areas. The Redbank Valley Trail and State Route 28 pass through the borough.
- Clarion Borough is located in the middle portion of the Study Area. It consists mainly of residential areas with a downtown business district on Main Street. Clarion is home to Pennsylvania Western University. State Route 68 connects Interstate-80 to the town of Clarion, approximately two miles away. A commercial/industrial area is located adjacent to the Interstate-80 exit, south of the town of Clarion. Knox Borough is located in the middle portion of the Study Area, south of Haynie Substation. The borough consists of a commercial downtown surrounded by residential areas and light industry.

According to Google Earth Places (2021), the major institutional facilities in the Study Area include schools and hospitals. Schools in the Study Area include:

- Pennsylvania Western University (PennWest Clarion – Clarion, PA);
- Indiana Wesleyan Private School (Dixonville, PA);
- Marion Center Area Elementary School (Marion Center Area School District – Marion Center, PA);
- Marion Center Area High School (Marion Center Area School District – Marion Center, PA);
- Penns Manor High School (Penns Manor Area School District – Clymer, PA);
- Purchase Line South Elementary School (Purchase Line School District – Commodore, PA);
- Purchase Line High School (Purchase Line School District – Commodore, PA);
- United Elementary School (United School District – Armagh, PA);

- United Junior/Senior High School (United School District – Armagh, PA);

There are three hospitals within the Study Area all in Clarion County. They are Keeling Health Center, Clarion Psychiatric Center, and Clarion Hospital.

The following sections provide a description of the existing land use of each county according to each counties' comprehensive plans.

### *Westmoreland County*

*The Westmoreland County Comprehensive Plan* (Westmoreland County, 2018); *Westmoreland Parks, Trails, and Greenways Plan/Parks Horizon Plans* (Westmoreland County, 2008); and *Westmoreland County-wide Parks, Trails, and Greenways Master Plan Map* (Westmoreland County, 2016) were used to define existing land use in the Study Area. According to the *Westmoreland County Comprehensive Plan* (Westmoreland County, 2018) the majority of the Study Area in the county is in state game land or park land, with much of the rest being forested, with minimal agricultural and residential land. The Town of Seward is also located in the Study Area which includes residential and a small commercial area. Several multiuse trails, single track and off-road trails are located in the Study Area, which are described in more detail below in Section 2.21 Recreation. Seward Borough also has three local parks, Seward Memorial Park, Seward Community Center, and Seward Ballfields, within the Study Area (PA Department of Conservation and Natural Resources (PADCNR), 2019).

### *Indiana County*

*The Indiana County Comprehensive Plan* (Indiana County, 2012); *Kiski-Conemaugh River Conservation Plan* (PADCNR, 1999); and *Indiana County Open Space, Greenways, and Trails Plan* (Indiana County, 2010) were used to define existing land use in the Study Area. *The Indiana County Comprehensive Plan* includes a "Current Land Use Map" that indicates the Study Area in Indiana is mostly agricultural and forest, with some rangeland, public land, water and wetlands, and residential land. The portion of the Study Area that parallels the Cambria County boundary is mostly forested, while the portion of the Study Area near the community of Heilwood, northwest to Northpoint near the Jefferson County border, is mostly agricultural. On the *Protected and/or Preserved Farmlands Map* located in the Comprehensive Plan, there is a heavy distribution of Agricultural Security Areas (ASA) in the northwest portion of the county, which falls within the Study Area. Also, according to the Comprehensive Plan, the entire Study Area in Indiana County is eligible for ASA designation. There are also some large waterways including: Yellow Creek, Mahoning Creek, and Little Mahoning Creek and the Seward Generation power plant is located at the southern end of the Study Area. Oil and gas exploration is very prominent in the county with over 7,000 oil or gas permits located in the Study Area within Indiana County (PADEP, 2022). Three major roadways pass through the Indiana County portion of the Study Area; U.S. Routes 119, 22 and 422, and there are two PA Major Greenways; The Kiski-Conemaugh River Water Trail and the Baker Trail (Indiana County, 2012). There are a variety of recreational areas and trails in the Study Area within Indiana County, which are detailed in Section 2.21 Recreation. This portion of the Study Area also has several existing utilities ROWs traversing it (Indiana County, 2012).

### *Jefferson County*

*The Jefferson County Comprehensive Plan* (Jefferson County, 2018) states that 71% of the existing land use is forested, 22% is agricultural and 4% is considered developed. Over 81% of the county is privately owned with the remainder being used as parks, game lands, or conservation areas. However, agricultural land use is more prevalent in the Study Area than the county statistics. The Redbank Valley Trail traverses through the Study Area in Jefferson County, more information on this trail is detailed below in Section 2.21 Recreation.

### *Armstrong County*

*The Armstrong County Comprehensive Plan* (2005) and *Armstrong County Comprehensive Recreation, Park, Open Space, and Greenways Plan* (2009) were used to define existing land use in the Study Area. *The Armstrong County Comprehensive Plan* indicates the portion of Armstrong County that lies within the Study Area is rural, according to the Existing Land Use Map. Residences are dispersed throughout this region, and it is considered by the Armstrong County Planning Commission as the second most rural of its planning districts. Redbank Township is the only municipality that lies within the Study Area in Armstrong County. There are no major roadways in the Armstrong County portion of the Study Area. In the *Armstrong County Comprehensive Recreation, Park, Open Space & Greenway Plan* (2009) the *Natural Infrastructure Inventory Map* shows that the area in the Study Area has, "Interior Forest Patches," and a very small amount of "Biological Diversity Areas," as designated by the PA Natural Heritage Program.

### *Clarion County*

*The Clarion County Comprehensive Plan Volume 2* (Clarion County, 2000); *Clarion County Comprehensive Plan Volume 3* (Clarion County, 2004); and the *Clarion County Greenways Plan-A Component of the Northwest Pennsylvanian Greenways Plan* (Northwest Regional Planning and Development Commission, 2010) were used to define existing land use in the Study Area. *The Clarion County Comprehensive Plan Volume 2* (Clarion County, 2000) includes an *Existing Land Use Map* from 1969. This *Existing Land Use Map* indicates that the area within the Study Area is mostly open land with equal amounts residential and public-semi-public, and a small amount of commercial area. Through reviews of modern aerial imagery, the general land use appears to have largely remained the same. There has been some expansion of the Borough of Clarion and more commercial businesses near the Interstate-80 Interchange. The *Natural Resources Map*, 1999, highlights that much of the Study Area in Clarion County has either been previously mined for coal or as of 1999 is currently being used for coal, oil, and/or gas extraction. The PADEP publicly available oil and gas data confirms that there are thousands of active oil or gas wells in the Study Area in Clarion County (PADEP, 2021a). There are several existing trails within the Study Area (Clarion County Greenways Plan, 2010) that are detailed below in Section 2.21 Recreation. Additionally, the Clarion County Park is located off State Route 66 and Interstate-80 (Clarion County, 2000). There is also a state game land in this portion of the Study Area (Clarion County Greenways Plan, 2010). The Clarion County airport is located just north of the Study Area (Clarion County, 2000) and the Clarion River is designated by the PA Fish and Boat Commission as a water trail (Clarion County Greenways Plan, 2010).

## 2.4 Future Land Use

### *Westmoreland County*

According to the *Westmoreland County Comprehensive Plan* (Westmoreland County, 2018) there are no development ready areas or transportation priority corridors located in the Study Area. Additionally, there are no zoning or development ordinances in the Study Area. The area in the Study Area south of the Town of Seward and adjacent to the state game lands is designated as high priority for preservation of open spaces and natural areas. *The County-wide Parks, Trails and Greenways Master Plan* (Westmoreland County, 2016) shows that a potential heritage corridor/scenic byway is proposed for the State Route 711 Scenic Byway. There are two greenway project corridors that are proposed in the Study Area (Westmoreland County, 2008), the Pittsburgh to Harrisburg Mainline Canal Greenway (primary priority) and the Laurel Hill Greenway (secondary priority).

### *Indiana County*

The future land use of the Study Area within Indiana County, according to the Indiana County *Comprehensive Plan Future Land Use Map*, consists mostly of "Rural Resource Areas." There are several small "mixed development" areas in the Study Area, along with "future growth areas." The Comprehensive Plan defines "mixed development" as "lands that have been classified as Commercial

Services, Industrial, and Commercial Complexes, and Mixed Urban or Built-Up lands." The Comprehensive Plan defines "future growth areas" as "large tracts of undeveloped land adjacent to Designated Growth Areas that are most able to support development." The "future growth areas" are surrounding Marion Center, Clymer, Smicksburg, Commodore, Armagh and Cherryhill areas. A summary of the goals of Indiana County for their overall future land use vision is: "Goal #1- Redevelop first, Goal #2- Provide efficient infrastructure, Goal #3- Concentrate development and Goal #4 Plan regionally and implement locally." Overall, the plan for Indiana County is to "promote compact development while enhancing preservation of the County's unique natural, agriculture, open space, historic, and cultural resources". There are several proposed conservation greenways in the Study Area that either follow a trail or waterway, according to the *Indiana County Comprehensive Plan and The Indiana County Open Space, Greenways and Trails Plan* (Indiana County, 2010 and 2012). In addition to the proposed greenways, *The Indiana County Open Space, Greenways, and Trails Plan* also proposes multiple trails for recreational use through the Study Area (2010).

### *Jefferson County*

Jefferson County is part of the Lumber Heritage Region of Pennsylvania, which oversees the management, interpretation, marketing, and tourism efforts associated with the heritage region, with the goal of capitalizing on the history of the lumber industry to preserve the area's resources and sense of place. Jefferson County is also located in the PADCNR's Pennsylvania Wilds Conservation Landscape Initiative that provides support to local governments, community leaders, funders, businesses, non-profits, and individuals, to help communities protect their sense of place and the natural assets that make them unique (Jefferson County, 2018). According to the *Jefferson County Comprehensive Plan* (2018) Community Infrastructure Strategy, there are no recommended development growth areas in the Study Area.

### *Armstrong County*

*The Armstrong County Comprehensive Plan* (Armstrong County, 2005) shows on its *Future Land Use Map* that the Study Area lies within areas planned to remain rural. The Comprehensive Plan emphasizes that the future land use of Armstrong County "must reflect the vision of the county residents regarding their desires and hopes of their communities and neighborhoods." It indicates that Armstrong County residents would like to preserve the rural character of the county.

### *Clarion County*

Future land use mapping for Clarion County, as indicated in the above-referenced *Clarion County Comprehensive Plan* (Clarion County, 2004), contains mostly "Rural Resource Areas," and some "Key Conservation Areas" within the Study Area. A "Key Commercial and Industrial Area" is located around an existing industrial and commercial area near Exit 9 of Interstate-80. The planned development areas are focused around the Borough of Clarion, Interstate-80, and other areas that have existing public infrastructure. The Comprehensive Plan indicates residents would like development to match the character of the area. Largely, future land use in the Study Area consists of the protection and conservation of the low density residential, agricultural, and rural areas. *The Clarion County Greenways Plan* (Clarion County, 2010) proposes several trail connections and improvements and also, "marketing, promoting, and developing" trail towns in Clarion County, including the Borough of Clarion. The Greenways Plan has identified the Clarion River as a priority "Greenway Corridor" in the Study Area. The Greenways Plan proposes to protect the land surrounding the Clarion River by purchasing land; making conservation, forest and agricultural easements; the transfer/purchase of development rights; or utilizing the Clean and Green preferential tax assessment program.

### *Conservation Groups*

The Western Pennsylvania Conservancy (WPC) operates throughout the Study Area. The WPC manages many conservation programs including watershed conservation programs, land stewardship and conservation programs, unique habitat conservation programs, tree planting programs, river trail programs, and community greenspace and garden programs (WPC, 2021).

There are several chapters of Trout Unlimited in the Study Area. They are a watershed association that aims to protect cold, clean water resources for wild trout habitat and operates throughout the Study Area (PASDA, 2021).

The Laurel Highlands Conservation Landscape is a program of the PA Environmental Council (PEC) (PEC, 2021), which is located in the very southern portion of the Study Area near Seward and the Laurel Ridge State Park in the Laurel Highlands. The Laurel Highlands Conservation Landscape also partners with the PADCNR and other state agencies to "develop, conserve, improve, and promote the trails, parks, natural, and cultural or historical assets in these areas" (PEC, 2021). The information and example projects provided on their website did not highlight any specific areas within the Study Area (accessed September 2021).

Based on the WeConservePA database, local conservation groups operate within the Study Area as listed in Table 2.4-1 below (PASDA, 2021b).

**Table 2.4-1**
**Local Conservation Groups**

| Group Name | Conservation Group Type | Objective | Study Area Counties of Operation |
|---|---|---|---|
| Armstrong Conservancy | Land Trust | Protect land through purchase or easement | Armstrong, Clarion |
| Armstrong Rails to Trails Association | Trail Group | Convert railroad corridors into trails for public use | Armstrong, Clarion |
| Armstrong Trails | Land Trust and Trail Group | Convert railroad corridors into trails for public use | Armstrong, Clarion |
| Audubon Society of Western PA | Land Trust | Protect land through purchase or easement | Armstrong, Westmoreland |
| Conemaugh Valley Conservancy | Land Trust, Trail Group, and Watershed Association | Conservation and preservation of natural, cultural and historic resources and encouraging prudent land practices in the Kiski Conemaugh area. There is an initiative noted in the Strategic Plan to implement a boat launch in the Conemaugh River in Seward, (Conemaugh Valley Conservancy, 2018). | Armstrong, Westmoreland |
| Crooked Creek Watershed Association | Watershed Association | Improve the water quality in Crooked Creek and its tributaries, preserve and enhance natural resources and habitats, and increase public awareness and education. | Armstrong, Indiana |
| Kiski Watershed Association | Watershed Association | Nonprofit organization dedicated to conservation and rehabilitation of natural and historical resources, environmental education, and recreation | Armstrong, Indiana, Westmoreland |
| Redbank Valley Trail | Trail Group | Promote the conversion, maintenance, and management of the railroad right-of-way into the Redbank Valley Trail for recreation | Armstrong, Jefferson |

| Group Name | Conservation Group Type | Objective | Study Area Counties of Operation |
|---|---|---|---|
| Trans Allegheny Trails | Trail Group | To connect as many trails as possible into a continuous system | Armstrong, Indiana, Jefferson |
| Allegheny Valley Trails Association | Trail Group | Acquisition of abandoned railways in the Allegheny River watershed and their rehabilitation into multipurpose, non-motorized recreational trails | Clarion |
| Clarion County Trails Association | Trail Group | Developing, maintaining, and promoting public recreational trails in and around Clarion County. | Clarion |
| North Country Trail Association | Trail Group | Develop, maintain, protect and promote the North Country National Scenic Trail. | Clarion |
| Rail 66 Country Trail | Trail Group | Promoting the development, preservation, and enjoyment of diverse, high-quality hiking and biking trails. | Clarion |
| Tri County Rails to Trails Association | Trail Group | Promote the conversion of abandoned railroad rights-of-way located in Clearfield, Jefferson, and Elk Counties into non-motorized, public-use trails. | Jefferson |
| Mid-Atlantic Karst Conservancy | Land Trust | Study, conserve, and preserve caves and karst resources. | Westmoreland, Indiana |
| Regional Trail Corporation | Trail Group | Acquire, develop, manage and maintain appropriate trail and water corridors within southwestern PA. | Westmoreland |
| Westmoreland Conservancy | Land Trust | Preserve natural, rural, and historic landscapes. | Westmoreland |
| Westmoreland Land Trust | Land Trust | Conserve land of special ecological, historic, scenic, or recreational value. | Westmoreland |
| Blacklick Creek Watershed Association | Watershed Association | Improve the quality of the Blacklick Creek Watershed. | Indiana |
| Evergreen Conservancy | Land Trust | Preserve local areas. | Indiana |

## 2.5 Land Cover

The Study Area is comprised mostly of rural/agricultural and undeveloped lands. Larger urban areas are found surrounding Seward and Clarion. Smaller residential and urban areas are found in the many isolated boroughs throughout the Study Area.

## 2.6 Soils and Farmland

According to the *Penn State Agronomy Guide* (Penn State, 2003), the Study Area is located within two soil regions, the Pittsburgh Plateau, and Allegheny Mountain soil regions.

The portion of the Study Area located in Clarion County, all the Study Area located in Jefferson County, and the northern most part in Indiana County are located in the Pittsburgh Plateau soil region. According to the *Penn State Agronomy Guide* (Penn State, 2003), “the soils developed in acid clay shales and interbedded shales and sandstones. The surface texture of these soils is predominantly silt loam and usually well drained. The landscape of this region has rather steep slopes, and erosion is a major concern. Many of these soils also contain substantial amounts of rock fragments.”

The majority of the Study Area in Indiana County and all of the Study Area in Westmoreland County is located in the Allegheny Mountain soil region. According to the *Penn State Agronomy Guide* (Penn State, 2003), “the soils dominantly developed in sandstone and the texture is mostly sandy loam to loamy sand with good drainage. The landscape is often steeply sloping, and erosion potential is high. Rock fragments are common.”

According to the USDA Web Soil Survey, approximately 96% of the soil units in the Study Area are classified as not hydric or predominantly non hydric and the remaining approximately 4% are classified as hydric (USDA, 2021). Hydric soils throughout the Study Area are generally found along streams.

Approximately 19% of the soil units in the Study Area are classified as prime farmland soil, and approximately 31% of the soil units in the Study Area are classified as farmland soil of statewide importance (USDA, 2021). These soils are spread throughout the Study Area.

In the Study Area, there are four Farmland Preservation Easements: three held by Indiana County and one by Armstrong County. Clarion, Jefferson, and Westmoreland Counties do not have any Farmland Preservation Easements in the Study Area. (PASDA, 2021b). Clarion County does not have a Farmland Preservation Program (PAFPA, 2021). There are approximately 748 acres of Agricultural Security Areas (ASA) within the Study Area in Clarion County and 7,311 acres in Indiana County (PASDA, 1996).

## 2.7 Wetlands

Initial siting efforts utilized data from the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (2021) data. These data were used to help identify potential locations of wetlands within the Study Area. The NWI wetlands are shown on Maps 2 and 3. Numerous Palustrine Forested Wetlands (PFO), Palustrine Scrub Shrub (PSS), Palustrine Unconsolidated Bottom (PUB), and Palustrine Emergent (PEM) wetlands are located throughout the Study Area. These wetlands are largely located near or along stream channels, however, many smaller wetlands are also present, and several large wetlands are also located in the Study Area. Table 2.7-1 details the locations of the most concentrated locations of NWI wetlands within each County.

**Table 2.7-1**
**Concentrations of NWI Wetlands in Study Area**

| County | Type of Wetland | Major streams with NWI features adjacent | Density of NWI wetlands compared to other counties |
|---|---|---|---|
| Westmoreland | Isolated freshwater ponds and wetlands adjacent to streams | Conemaugh River | Low |
| Indiana | Isolated freshwater ponds and small wetlands adjacent to streams | Conemaugh River Mahoning Creek, Little Mahoning Creek, Yellow Creek, Little Yellow Creek, Findley Run, Two Lick Creek, Blacklick Creek, Sugarcamp Run, Steer Run, and Bakers Run | Low |
| Jefferson | Isolated freshwater ponds and small wetlands adjacent to streams | Patton Run, Cherry Run, Ferguson Run, Pine Run, Caylor Run, Foundry Run, Mahoning Creek, and Perryville Run | Low |
| Armstrong | Isolated freshwater ponds and small wetlands adjacent to streams | Mudlick Creek and Sugarcamp Run | Medium |
| Clarion | Isolated freshwater ponds and small wetlands adjacent to streams | Leisure Run, Leatherwood Creek, Piney Creek, Pine Creek, Town Run, Brush Run, Clarion River, and Deer Creek | Medium |

## 2.8 Streams, Rivers, and Reservoirs

The Study Area is located within the following watersheds listed from south to north:

- Conemaugh Watershed (HUC 8 – 05010007);
- Upper West Branch Susquehanna Watershed (HUC 8- 02050201);
- Middle Allegheny-Redbank Watershed (05010006);
- Clarion Watershed (HUC 8 - 05010005);

USGS 7.5-minute topographic maps (USGS,1972a-c, 1973a-i, 1974,1975a-h, 1976a-f, 1979a-b, 1982a-n, and 1983) indicate that there are several hundred named perennial streams within the Study Area. In addition, USGS mapping shows numerous unnamed intermittent streams within the Study Area tributary to the named streams (USGS). These named watercourses and their Title 25 PA Code Chapter 93 (The Pennsylvania Code, 2021b) designated use are summarized below by HUC-8 Watershed.

### *Conemaugh Watershed (HUC 8 – 05010007)*

The Conemaugh Watershed (HUC 8 – 05010007) is located in Westmoreland and Indiana Counties. Per PA Code Chapter 93, the designated use classifications for streams within the Study Area in this watershed include 252 Cold Water Fish (CWF) streams, 86 High Quality (HQ)-CWF streams, two Trout Stocking Streams (TSF), and one Warm Water Fish (WWF) stream (The Pennsylvania Code, 2021b).

The primary streams of the watershed in the Study Area are Conemaugh River (WWF) located directly east of Seward Substation, Blacklick Creek (TSF) located north of Seward Substation, Little Yellow Creek (HQ-CWF) located south of Glory Substation, Yellow Creek (CWF) located south of Glory Substation, South Branch Two Lick Creek (HQ-CWF) located north of Glory Substation, Two Lick Creek (TSF) located west of Glory Substation, North Branch Two Lick Creek (CWF) located southeast of Dixonville East Substation, and Dixon Run (CWF) located west of Dixonville East Substation (The Pennsylvania Code, 2021b).

Stocked trout streams include Laurel Run, Little Yellow Creek, South Branch Two Lick Creek, Brush Creek, and Yellow Creek (PFBC, 2021). There are 22 Naturally Reproducing Trout Streams in the Study Area (PFBC, 2021).

USGS mapping shows that many medium to small lakes, ponds, and reservoirs are located in the Study Area. The named lakes and reservoirs include Laurel Run Lake, High Ridge Reservoir, Big Spring Reservoir, Findley Run Reservoir, Hedges Lake, Yellow Creek Lake and Holiday Lake.

### *Upper West Branch Susquehanna (HUC 8- 02050201)*

The Upper West Branch Susquehanna Watershed (HUC 8- 02050201) is located in Indiana County. The Study Area in this watershed contains six Chapter 93 designated use HQ-CWF streams and one Chapter 93 designated use CWF stream (The Pennsylvania Code, 2021b).

The primary stream of the watershed in the Study Area is Crush Cushion Creek (HQ-CWF) located east of Dixonville East Substation (The Pennsylvania Code, 2021b).

There is one Naturally Reproducing Trout Stream in the Study Area (PFBC, 2021).

USGS mapping shows that many small lakes and ponds are located in the Study Area. However, none of these lakes or ponds are named.

### *Middle Allegheny-Redbank Watershed (05010006)*

The Middle Allegheny-Redbank Watershed (05010006) is located in Indiana, Jefferson, Armstrong, and Clarion Counties. The Study Area in this watershed contains 344 Chapter 93 designated use CWF

streams, 192 Chapter 93 designated use HQ-CWF streams, one Chapter 93 designated use TSF stream, and one Chapter 93 designated use WWF stream (The Pennsylvania Code, 2021b).

The primary streams of the watershed in the Study Area are Little Mahoning Creek (HQ) located northwest of Dixonville East Substation, Mahoning Creek (CWF and WWF) located north of Trade City Substation, Pine Run (CWF) located directly south of Timblin Substation, Mudlick Creek (CWF) located northwest of Timblin Substation, and Redbank Creek (TSF) located northwest of Timblin Substation (The Pennsylvania Code, 2021b).

Stocked trout streams include Little Mahoning Creek, Little Sandy Creek, Leatherwood Creek, Mudlick Run, and Redbank Creek (PFBC, 2021). There are two Naturally Reproducing Trout Streams in the Study Area (PFBC, 2021).

USGS mapping shows that many medium to small lakes, ponds, and reservoirs are located in the Study Area. There is one named lake, Mahoning Creek Lake.

#### *Clarion Watershed (HUC 8 - 05010005)*

The Clarion Watershed (HUC 8 - 05010005) is located in Clarion County. The Study Area in this watershed contains 199 Chapter 93 designated use CWF streams, four Chapter 93 designated use HQ-CWF streams, and one Chapter 93 designated use WWF stream (The Pennsylvania Code, 2021b).

The primary streams of the watershed in the Study Area are Clarion River (WWF) located directly north of Piney Substation, Piney Creek (CWF) located southwest of Piney Substation, Little Piney Creek (CWF) located southeast of Piney Substation, Deer Creek (CWF) located northeast of Piney Substation, and Brush Run (CWF) located southeast of Piney Substation (The Pennsylvania Code, 2021b).

Stocked trout streams include Piney Creek (PFBC, 2021). There is one Naturally Reproducing Trout Streams in the Study Area, Boyd Run (PFBC, 2021).

USGS mapping shows that many medium to small lakes, ponds, and reservoirs are located in the Study Area. There is one named lake, Marie-Eileen Lake.

## 2.9 Springs

According to the *Ground Water Atlas of the United States Publication HA 730-L* (Trapp, Jr., and Horn, 1997), in the Appalachian Plateaus physiographic province the location of springs is determined by geologic structure and topography. Springs generally mark the intersection of the water table with a valley wall. Certain rocks with limited permeability (shale, siltstone, or ironstone layers) slow down the vertical movement of the water. The water is then forced to move laterally into the permeable strata located on top of low-permeability rocks until it discharges as a spring. The majority of the water discharging from springs is discharged from the aquifers under unconfined conditions, and flows into surface streams (Trapp, Jr., and Horn, 1997). According to the *Pennsylvania Gazetteer*, major named springs in the Study Area include Granny Coon Spring near the borough of Northpoint in Indiana County (HTL, 2021). There are likely numerous unmapped springs also within the Study Area.

## 2.10 Air Quality

The nearest Air Quality Index (AQI) report information for Study Area is recorded in Indiana County. The PADEP's AQI report in general indicates an overall "good" AQI, posing no substantial health risks for September 29, 2021 (PADEP,2021b). The AQI is a general index used to evaluate the overall quality, or cleanliness, of the air in a geographic area. The AQI is calculated from measured concentrations of five major pollutants regulated by the Clean Air Act: ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide.

## 2.11 Geology and Groundwater

### *Physiographic Provinces*

The Study Area is located within both the Appalachian Plateaus and Central Lowlands Physiographic Provinces. Physiographic Sections within the Appalachian Plateaus Physiographic Province consists of the Pittsburgh Low Plateau, Allegheny Mountain, High Plateau, and Northwestern Glaciated Plateau Sections. Physiographic Sections within the Central Lowlands Physiographic Province consist of the Eastern Lake Section. The following describes the Physiographic Sections of the Study Area (PADCNR, 2018):

- Allegheny Mountain Section (Westmoreland and Indiana Counties) – The topography consists of wide ridges separated by broad valleys with ridge elevations decreasing to the north. The geological processes that formed the landscape were fluvial erosion and some periglacial mass wasting. The local topographic relief is considered moderate to high. This section encounters sandstone, siltstone, shale, conglomerates, some limestone, and coal. The bedrock structure consists of large amplitude open folds.
- Pittsburgh Low Plateau Section (Indiana, Jefferson, Armstrong, and Clarion Counties) – The topography consists of a smooth to irregular undulating surface; narrow, relatively shallow valleys which have been formed by fluvial erosion, periglacial mass wasting, and strip mining and reclaimed land. The local topographic relief is considered low to moderate. The rock types consist of shale, siltstone, sandstone, limestone, and coal. The bedrock structure consists of folds that have moderate to low amplitude and are open.

### *Bedrock*

Bedrock across the Study Area generally consists of Pennsylvanian, Mississippian, and Devonian aged sedimentary rock (PADCNR, 2022). There are several gentle to moderate anticlines and synclines in the project area that developed in the late Pennsylvanian to early Permian (Skema et al, 2008). The following is a list of near surface rock units that may be encountered within the Study Area (Socolow, 1980):

- Conemaugh Group (Pennsylvanian) – Westmoreland, Indiana, Jefferson, Armstrong, Clarion, and Counties - The group consists of the Casselman Formation and the Glenshaw Formation. Both formations consist of cyclic sequences of shale, siltstone, sandstone, claystone, thin limestone, and thin coals.
- Allegheny Group (Pennsylvanian) – Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties - Cyclic sequences of sandstone, shale, limestone, clay, and coal.
- Pottsville Group (Pennsylvanian) - Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties - Gray conglomerate and sandstone with thin beds of shale, siltstone, claystone, limestone, and minable coals.
- Mauch Chunk Formation (Mississippian) – Indiana and Westmoreland Counties - Grayish red shale, siltstone, sandstone, and some conglomerates.
- Burgoon Sandstone (Mississippian) – Westmoreland, Jefferson, Armstrong, and Clarion, Counties - Medium-grained cross bedded sandstone with some areas containing conglomerates.
- Shenango Formation (Mississippian) – Clarion County - Light gray sandstone and some medium gray shale and siltstone.

### *Groundwater*

The geology and landscape that groundwater encounters can affect groundwater quality and movement. According to the Penn State Extension, there is one type of aquifer in the Study Area. The aquifers consist of sandstone and shale: fractured sandstone and shale with a depth of 80-200 feet and a common range of 5-60 gallon/min of flow. The water quality is generally soft within the sandstone and hard within the shale (Penn State, 2016).

Since underground mining is prevalent in the Study Area, the groundwater flow is most likely disturbed. It is common that artificial drains are constructed during mining which increases the permeability. The flow direction may be altered near mines since the water table may be lowered, generally flowing toward the mines.

## 2.12 Public Drinking Water Sources

Due to the rural nature of much of the Study Area, it is anticipated that the majority of residential structures in the vicinity are serviced by private groundwater wells.

According to the Groundwater Information System (PAGWIS) Search (PADCNR, 2021) there are numerous groundwater wells in the Study Area. They appear to either be private or industrial/commercial owned and not available for public consumption.

According to the PADEP's eMapPa (PADEP, 2021a), water service areas listed in Table 2.12-1 are located in the Study Area.

**Table 2.12-1**
**Public Water Service Areas in the Study Area**

| County | Municipality | Supplier |
|---|---|---|
| Westmoreland | Saint Clair Township | Highridge Water Authority |
| Indiana | East Wheatfield Township and Buffington Township | Highridge Water Authority |
| | Portions of Pine Township and East Mahoning Township | Indiana County Municipal Service Authority |
| | Green Township | Green Township Municipal Authority |
| Jefferson | None | None |
| Armstrong | Portions of Redbank township | Hawthorn Redbank Municipal Authority |
| Clarion | Portions of Hawthorn Borough | Hawthorn Redbank Municipal Authority |
| | Clarion Borough | Pennsylvanian American Water Company-Clarion District |
| | Portions of Clarion Township, Monroe Township, Limestone Township, Paint Township, Elk Township, Beaver Township, and Piney Township | Pennsylvanian American Water Company-Clarion District |

## 2.13 Mineral Resources

Oil and gas wells are numerous within the Study Area with approximately 6,000 active wells and 1,000 inactive wells densely distributed over the entirety of the Study Area (PADEP, 2022a).

There are 35 active surface mines and 33 reclaimed or treated surface mines in the Study Area (PADEP, 2022b). Of the active surface mines seven are industrial mineral mining operations and 28 are coal mining operations. Clarion, and Armstrong have roughly equivalent numbers of industrial mineral mining operations and coal mining operations. Coal mining operations are dominant in Jefferson and Indiana County.

Underground mining areas are located in the Study Area in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties (PADEP, 2022b). Several large underground mines underlie substantial portions of the Study Area near the Glory Substation, Seward Substation, Dixonville Substation, and Trade City Substation with smaller mines located throughout the Study Area. There are currently 12 active and two pending permitted underground coal mines in the Study Area located in Indiana and Jefferson Counties (PASDA, 2022). All actively permitted mines are using the room and pillar method, which leaves coal pillars behind to support the overburden material.

## 2.14 Geohazards

Geohazards are geological environments that can cause engineering risk. Some major geological conditions that can create hazards in Pennsylvania include karst, mining, and landslides.

### *Karst*

In Pennsylvania karst features occur in areas underlain by carbonate bedrock, which includes limestone, dolostone, and marble. Karst topography commonly includes sinkholes, caves, underground drainage systems from dissolution of bedrock, pinnacles, uneven bedrock surface, swallets, and large springs (PADEP, 2022c). Karst topography is not located within the Study Area (Kochanov, 2015). An additional review of the PADCNR Data Explorer showed no presence of karst topographic formations within the Study Area. In general, most karst features are found in central and eastern PA (PADCNR, 2022b).

### *Surface Mining*

Surface mining methods include strip mining, open-pits, auger mining, and highwall mining (PADEP, 2022b; Edmunds, 2002). Strip mining involves removal of exposed coal seams. This often occurs as contour mining which involves removal of the overburden soil and rock in order to remove the coal along a select elevation. Surface mining may also include open-pit mining where overlying rocks are blasted in order to expose the underlying coal (Edmunds, 2002). Auger mining, which occurs when augers drill horizontally into a coal seam, may be used to excavate coal at the base of open-pit mines. Surface mining usually occurs in areas where the overburden is less than 50 to 100 feet thick and in areas where there are multiple coal seams. Surface mined areas are often backfilled during the reclamation process with the soil and rock that once covered the coal. Historically mined areas may have improperly placed backfill that could result in poor ground conditions for engineered structures along with slope instability.

Surface mining occurred in eight principal seams of coal within the Study Area in Westmoreland, Indiana, Armstrong, Jefferson, and Clarion Counties. These coal seams include, in ascending order from oldest to youngest, the Brookville (also known as Lower Clarion), Upper Clarion, Lower Kittanning, Middle Kittanning, Upper Kittanning, Lower Freeport, Upper Freeport, and Duquesne coal (Bragonier and Glover, 1996; Glover, 1987). Active surface mines within the Study Area are further discussed in Section 2.13 (Mineral Resources).

### *Underground Mining*

Mine subsidence is the movement of the ground surface as a result of the collapse or failure of an abandoned underground mine. According to the PADEP (2022b), the two main methods of underground mining for Pennsylvania are room-and-pillar and longwall mining. Room-and-pillar is the more traditional and commonly used method which leaves coal pillars behind to support the overburden material. Surface subsidence can occur in shallower mines where a collapse occurs within the room void. The longwall method is a newer mining method that involves a mechanized coal shearer and conveyors to remove all the coal within the longwall mining area, no pillars or rooms are left. After the coal is removed it allows the mine roof to collapse into the created void space which may lead to surface subsidence features. Underground mining with a potential for mine subsidence occurs where underground mining is less than 200 feet below the ground surface. Within the Study Area,

underground mining with a potential for mine subsidence occurs in Westmoreland, Indiana, Armstrong, Jefferson, and Clarion Counties. Historically, five coal seams have been deep mined within the Study Area that include the Lower Clarion, Lower Kittanning, Upper Kittanning, Lower Freeport, and Upper Freeport. Active Underground mines within the Study Area are further discussed in Section 2.13 (Mineral Resources).

### *Earthquakes*

Earthquakes typically form as a result of a sudden release of stored energy along a fault which results in shaking of the ground surface. In Pennsylvania, seismic activity is uncommon and has resulted in minimal to no damage. Historically minor seismic activity has been recorded in Northwestern Pennsylvania. However, no recorded earthquakes have originated within the Study Area (Scharnberger, 2003; PADCNR, 2022b).

### *Landslides*

Landslides are slope failures causing downslope movement of soil and rock material. The movement of a landslide can range from slow to fast and can encompass small to large areas. Some common triggers for landslides include undercutting of slopes, loading material upslope, earthquakes, differential weathering, or increased rainfall or snowmelt leading to saturated slopes. Southwestern Pennsylvania has the highest landslide susceptibility in the state due to the abundance of high clay content rock and soil. In Pennsylvania, landslide hazards cause damage to areas including, but not limited to, utilities, structures, and roadways. Landslide hazards can be controlled by limiting development in highly susceptible landslide areas and adding construction requirements that can help mitigate potential triggers from causing a landslide.

Published landslide mapping is available for the Study Area in Westmoreland, Indiana, Armstrong, Jefferson, and Clarion Counties. According to Pomeroy (1979), the landslide features found within the Study Area include the following:

- Active or Recently Active Landslides – Complex landslides composed of earthflows, debris slides, or earth and rock slumps. Typically, the ground is extremely unstable with sliding accelerated by excavation, loading, and change in drainage conditions.
- Old Landslides – Areas of hummocky topography from earthflows or earth and rock slumps with no recent activity. Typically, the ground is relatively stable but can be reactivated by excavations, loading, and changes to the ground and surface water.
- Areas Susceptible to Rockfall – Steep to vertical, natural, or man-made slopes and cliffs fifteen feet or higher.
- Soil and Rock Susceptible to Landslides – Areas of soil and rock similar to known locations of landslides elsewhere in the mapping area, typically underlain by claystone, mudstone, and shales. This area also includes topographic coves containing thick layers of clayey soils susceptible to sliding.
- Manmade Features – This includes areas of strip mines, coal refuse banks, quarries, gravel pits, and slides and rockfalls located in man-made features that are susceptible to landslides. Many of the strip-mined areas contain highwalls that are susceptible to rockfalls.

## 2.15 Solid and Hazardous Waste Sites

There are no United States Environmental Protection Agency (USEPA) Superfund Program National Priority or Proposed National Priority Sites located within the Study Area (USEPA, 2021).

According to emapPA (2021a) several municipal and residual waste operations are located throughout the Study Area. These facilities are listed below in Table 2.15-1 by county from south to north.

**Table 2.15-1**
**Municipal and Residual Waste Operations**

| Facility | Facility Type | Facility Status | Township | County |
|---|---|---|---|---|
| Seward Generating Station Residual Waste Operation | Landfill | Active | St. Clair | Westmoreland |
| Seward Generating Station Captive Hazardous Waste Operation | Generator | Active | St. Clair | Westmoreland |
| Chuck's Body Shop | Generator | Active | Seward | Westmoreland |
| Conemaugh Station Residual Waste Operation | Generator/ Landfill | Active | West Wheatfield | Indiana |
| Armagh Compressor Station Captive Hazardous Waste Operation | Generator | Active | West Wheatfield | Indiana |
| Heeter & Swatman Disposal Site | Landfill | Inactive/Abandoned | East Wheatfield | Indiana |
| Richard's Marion Center Landfill | Landfill | Inactive/Abandoned | Marion Center | Indiana |
| DC Ambler Properties LLC Parcel E | Processing Facility | Active | Grant | Indiana |
| Vasbinder Farm Sludge Site | Land Application | Inactive | Perry | Jefferson |
| Liberty Travel Plaza | Generator | Inactive | Porte | Jefferson |
| J C Enterprises | Land Application | Inactive | Ringgold | Jefferson |
| Seed Sanitary Landfill | Landfill | Inactive/Abandoned | Redbank | Armstrong |
| Case Water Treatment and Recycling Facility | Processing Facility | Active | Piney | Clarion |
| Pathological Incinerator | Incinerator | Active | Monroe | Clarion |

## 2.16 Natural Heritage, Threatened and Endangered Species, and Important Habitats

### *Threatened and Endangered Species*

The Study Area encompasses several "Species of Special Protection" areas as shown on the PA Natural Heritage Program (PNHP) Conservation Explorer map. These areas are referred to as "buffers." These buffers have the potential to contain the species of interest. Below is each county that the Study Area crosses listing the "species of special protection," per state agency.

State Agency Review

- Westmoreland County
  - PA Game Commission (PGC): In Westmoreland County, the Study Area crosses one PGC buffer for Great Blue Heron (*Ardea herodias*) in Saint Clair Township.
  - PFBC: The PFBC do not identify any buffers of species of special protection under their jurisdiction within the Study Area in Westmoreland County.
  - PADCNR: The Study Area crosses one PADCNR buffer for "sensitive species."

- Indiana County
  - PGC: In Indiana County, the Study Area crosses four PGC buffers, three for "sensitive species," and one for the great blue heron (*Ardea Herodias*).
  - PFBC: In Indiana County the Study Area crosses 13 PFBC buffers; four for Rainbow Mussel (*Villosa iris*); one for Wavy-rayed Lampmussel (*Lampsilis fasciola*) and Round Pigtoe (*Pleurobema sintoxia*) surrounding the Mahoning River and its unnamed tributaries; two for Wavy-rayed Lampmussel (*Lampsilis fasciola*) and Round Pigtoe (*Pleurobema sintoxia*) surrounding the Little Mahoning River and its unnamed tributaries; one for Least Brook Lamprey (*Lampetra aephyptera*) surrounding South Branch Two Lick Creek, Sides Run, and their unnamed tributaries; one for Least Brook Lamprey (*Lampetra aephyptera*) surrounding Laurel Run and its unnamed tributaries; one for Least Brook Lamprey (*Lampetra aephyptera*) surrounding Little Yellow Creek and its unnamed tributaries; and three buffers for "sensitive species."
  - PADCNR: The Study Area crosses seven PADCNR buffers including; five "sensitive species" buffers, one West Virginia White (Pieris virginiensis) buffer; and one Shining Ladies'-tresses (Spiranthes lucida) buffer.
- Jefferson County
  - PGC and PFBC: The PGC and PFBC do not identify any buffers of species of special protection under their jurisdiction within the Study Area in Jefferson County.
  - PADCNR: In Jefferson County, the Study Area crosses one PADCNR buffer for Drooping Bluegrass (Poa languida) in Ringgold Township.
- Armstrong County
  - PGC, PFBC, and PADCNR: The PGC, PFBC, and PADCNR do not identify any buffers of species of special protection under their jurisdiction within the Study Area in Armstrong County.
- Clarion County
  - PGC: In Clarion County the Study Area crosses one PGC buffer for "sensitive species."
  - PFBC: The PFBC does not identify any buffers of species of special protection under its jurisdiction within the Study Area in Clarion County.
  - PADCNR: In Clarion County the Study Area crosses two PADCNR buffers including for "sensitive species."

USFWS Review

According to the USFWS Environmental Conservation Online System, five federally threatened species and five endangered species may occur within the Project Study Area. Although not a listed species, the Bald Eagle (Haliaeetus leucocphalus) is known to occur in the entire Study Area and is protected by the Bald and Golden Eagle Protection Act.

Threatened

The Northern long-eared bat (Myotia septentrionalis) is known to be found in the entire Study Area. The Small Whorled Pogonia (Isotria medeoloides) is known to be found in Clarion County.

Endangered

The federally endangered Indiana bat (Myotis sodalis) is known to occur in every county the project crosses but Clarion County (USFWS, 2021b). The Clubshell mussel (Pleurobema clava), Northern Riffleshell mussel (Epioblasma torulosa rangiana), Rayed Bean mussel (Vllosa fabalis), Sheepnose Mussel (Plethobasus cyphyus), and Snuffbox Mussel (Epioblasma triquetra) are known to be found in the Study Area, but the location was not provided (USFWS, 2021b).

### *Core Habitats*

According to the PNHP, Core Habitat areas delineate essential habitat that cannot absorb significant levels of activity without substantial impact to the elements of concern. The PNHP's interactive mapping (PNHP, 2021), indicated there are Core Habitats located within the Study Area. These resources are identified for planning purposes and do not represent areas owned or operated by federal, state, local, or nonprofit agencies for conservation purposes. Additionally, the PNHP has identified Supporting Landscape areas which are areas surrounding one or more Core Habitat areas which contain secondary habitat for the specie(s) of concern but can accommodate certain types of activities without causing detrimental loss of habitat to the specie(s) of concern. The Core Habitats within the Study Area are as follows in each county:

- Westmoreland and Indiana Counties (1 Core Habitat):
  - The Conemaugh Gorge in St. Clair and East Wheatfield Township contains two species of concern.
- Indiana County (15 Core Habitats):
  - Three areas make up the site named Robindale, in East and West Wheatfield Townships, which may contain two species of concern that require a wet forest habitat to survive.
  - Buttermilk Falls Natural Area located in West Wheatfield Township, which contains a 45-foot waterfall, a plant community, and historical remains from an original settlement. The Supporting Landscape surrounding the Buttermilk Falls Natural Area extends to Holiday Lake.
  - The Blacklick Valley and Natural Area Core Habitat is located in East Wheatfield Township and may be habitat for numerous diverse plants, amphibians, and reptiles' species due to its floodplain and swamp environment, along with the upland forest supporting rich flora.
  - Brush Creek at Brush Creek Road Core Habitat located in Brush Valley Township may support two dragonfly species of concern whose habitat is cold and clear water with shade.
  - The Little Yellow Creek Core Habitat located in Brush Valley, Buffington, and Pine, Townships may support a dragonfly species of concern along with three species of concern whose habitat is clean, clear, and cold streams with healthy populations of aquatic macroinvertebrates.
  - The Yellow Creek State Park- Woods and Field Core Habitat is located in Brush Valley and Cherryhill Townships and may contain a butterfly species of concern that host their eggs on species of plants that may exist in this area. The Yellow Creek Core Habitat contains the lake and the forest and wetlands surrounding it which provide habitat for several species of concern. This site is considered to have global significance.
  - The Yellow Creek Core Habitat is located in Cherryhill Township and provides a habitat for a species of concern.
  - The South Branch Two Lick Creek Core Habitat located in Cherryhill, Green and Pine Townships may contain four species of concern that exist in healthy riparian corridors with streams with good water quality.
  - The Core Habitat in State Game Land #185, located in Green Township, may contain a vulnerable hemlock forest.
  - The Little Mahoning Creek at Nashville located in Grant Township may contain two dragonfly species of concern.
  - Rochester Mills Core Habitat located in Canoe Township contains an old growth hemlock forest.
  - The Little Mahoning Creek-Upper Core Habitat located in West, North, and East Mahoning Townships may provide habitat for a diverse type of aquatic species due to its high-water

quality and low historical impacts to the stream. There are five species of special concern that may exist in this core habitat.

- The Little Mahoning Creek-Lower Core Habitat is located in West Mahoning and East and Mahoning Townships. It encompasses the Mahoning Creek Lake and hosts many species of concern.
- The Mahoning Creek Core Habitat is located in West Mahoning and Perry Townships and may support a habitat for eight species of special concern. The Core Habitat for Mahoning Creek may be ideal for many diverse species due to the undisturbed floodplain, good water quality, and little to no historical impacts to the aquatic species. This is one of the only isolated sites in the state that may contain a great number of aquatic species of concern.
- Mudlick Run Core Habitat located in North Mahoning Township supports one species of special concern.

- Jefferson County (1 Core Habitat):
  - Saint James Core Habitat may contain one species of concern which has been documented for 50 years. It is located in Ringgold Township and this species is categorized as globally vulnerable.
- Armstrong and Clarion Counties (1 Core Habitat):
  - The Redbank Creek at Mayport Core Habitat is located in both Redbank Townships in both counties. It may be a suitable habitat for one species of concern due to the dense forest surrounding Redbank Creek in addition to healthy vegetation along the creek which allows the creek to maintain high water quality potentially creating a suitable environment for the species of concern.
- Clarion County (5 Core Habitats):
  - The Piney Tract Grasslands Core Habitat is located in Piney Township and may contain four grassland species of concern. This area consists of an old strip mine with grasslands.
  - Little East Sandy Creek Beaver Pond is a floodplain on a beaver pond that is habitat for a species of concern.
  - Clarion River Below Deer Creek in Beaver Township has a population of species of concern on the bank of the river.

### *Important Bird Areas*

There are five Important Bird Areas in the Study Area (PNHP, 2021). Laurel Ridge Forest Block is located in St Clair Township, Westmoreland County. No information is provided for the types of species and environment for the Laurel Ridge Forest Block. Yellow Creek State Park is located in Cherryhill and Brush Valley Townships, Indiana County. The Yellow Creek State Park has many areas which are suitable for several types of birds. The Todd Bird Club has recorded over 243 species of birds in the Yellow Creek State Park (Audubon, 2021). Mount Zion (Piney Tract) is located in Piney and Licking Townships, Clarion County. The Mount Zion (Piney Tract) consists of many grassland fields which are suitable for a number of grassland birds. It is PA's largest Henslow's sparrow breeding ground, and the only "regular and reliable" breeding site in PA for the Short-eared Owl.

## 2.17 Federal, State, or Local Natural Areas, Preserves and Conservation Lands

### *Federal Lands*

Mahoning Creek Lake in Indiana County and Jefferson counties is within the Study Area and is owned by the US Army Corps of Engineers (USACE).

### *State Lands*

Approximately 1,057 acres of Gallitzin State Forest in East Wheatfield Township, Indiana County is located in the Study Area. A portion of the Gallitzin State Forest includes the Charles F. Lewis Natural Area, which is crossed by the Study Area. Approximately 1,941 acres of the Laurel Ridge State Park in St. Clair Township, Westmoreland County and Approximately 127 acres of Yellow Creek State Park in Cherryhill and Brush Valley Township, Indiana County are also located in the Study Area.

There are 6 PA State Game Lands located in the Study Area, totaling 7,000 acres. The State Game Lands in the Study Area are included in Table 2.17-1.

**Table 2.17-1**
**State Game Lands in the Study**

| State Game Land Number | Municipality | County | Size (acres) |
|---|---|---|---|
| 42 | St Clair Township | Westmoreland | 1,477 |
| 63 | Beaver, Paint and Elk Townships | Clarion | 3,527 |
| 79 | Buffington and East Wheatfield Townships | Indiana | 924 |
| 185 | Green Township | Indiana | 400 |
| 320 | Porter Township | Jefferson | 476 |
| 330 | Piney Township | Clarion | 196 |

### *Conservation and Agricultural Easements*

There are two Farmland Preservation Easements located within the Study Area (PASDA, 2021d). They are located in Green Township Indiana County and Redbank Township, Armstrong County.

The Study Area contains 38 Agricultural Security Areas (PASDA, 1996). Within the Study Area, there are six in Clarion County, and 32 in Indiana County. Westmoreland, Armstrong, and Jefferson do not have any Agricultural Security Areas within the Study Area.

The Regulatory In-lieu Fee and Bank Information Tracking System was reviewed for banks or sites in the Study Area (USACE, 2021a). Based on the tracking system banks and sites are not located in the Study Area.

## 2.18 Archaeological and Historic Resources

Background research was conducted to identify previously recorded cultural resources mapped within the Study Area. Information was collected through a review of the PA State Historic Preservation Office's (PA SHPO) online PA State Historic and Archaeological Resource Exchange (PA-SHARE) system. Background research consisted of an examination of data available on previously recorded archaeological sites, architectural and historical resources, and historic districts.

Based on the results of this review, a total of 213 archaeological sites, 705 architectural and historical resources, and 17 historic districts have been previously recorded within the Study Area. Table 2.18-1 presents a summary of these resource types in terms of their evaluated status for listing in the National Register of Historic Places (NRHP). A total of seven previously recorded resources have been listed in the NRHP. Twenty-three resources have been evaluated as NRHP eligible by the PA SHPO. The bulk of the remaining resources have not been evaluated for NRHP listing by the PA SHPO (i.e., "Undetermined"). An additional 87 resources have been determined not eligible for NRHP listing by the PA SHPO, while 16 resources have been demolished, and one architectural/historical resource lacks data on NRHP eligibility.

**Table 2.18-1**
**Summary of Previously Recorded Cultural Resources by NRHP Evaluation within Study Area**

| Resource Type | SHPO NRHP Evaluation | | | | | | | Total Resources |
|---|---|---|---|---|---|---|---|---|
| | National Historic Landmark | Listed | Eligible | Undetermined | Not Eligible | Demolished | No Data | |
| Archaeological Sites | 0 | 0 | 2 | 206 | 2 | 3 | 0 | **213** |
| Architectural / Historical Resources | 0 | 6 | 17 | 586 | 82 | 13 | 1 | **705** |
| Historic Districts | 0 | 1 | 4 | 9 | 3 | 0 | 0 | **17** |
| **Total** | **0** | **7** | **23** | **801** | **87** | **16** | **1** | **935** |

A summary of previously recorded cultural resources, focused on NRHP-listed and -eligible resources, is provided below for each of the five counties within the Study Area (organized from south to north). Table 2.18-2 presents totals of previously recorded cultural resources by resource type for each county within the Study Area. Because some resources are located and listed within multiple counties, the resource totals by county in Table 2.18-2 are higher than the total resource counts for the Study Area shown in Table 2.18-1. Appendix A-Table 2.18-3 provides a summary of the total previously recorded archaeological sites by county; Appendix A-Table 2.18-4 contains information on National Historic Landmark (NHL) and NRHP-listed and -eligible previously recorded architectural and historical resources within each county; and Appendix A-Table 2.18-5 summarizes the total previously recorded historic districts by county.

**Table 2.18-2**
**Previously Recorded Cultural Resource Totals by County within Study Area**

| County | Archaeological Sites | Architectural / Historical Resources | Historic Districts | Total Resources by County* |
|---|---|---|---|---|
| Westmoreland | 2 | 37 | 1 | **40** |
| Indiana | 99 | 292 | 8 | **399** |
| Jefferson | 34 | 20 | 5 | **59** |
| Armstrong | 23 | 5 | 2 | **30** |
| Clarion | 55 | 359 | 4 | **418** |

*Resource totals by county exceed Study Area totals due to inclusion of resources located and listed in multiple counties.

### *Westmoreland County*

The small portion of the Study Area within Westmoreland County includes 40 previously recorded cultural resources, consisting of two archaeological sites, 37 architectural and historical resources, and one historic district (see Table 2.18-2).

The two archaeological sites both represent prehistoric components. Neither of these sites has been evaluated for NRHP listing by the PA SHPO (see Appendix A-Table 2.18-3).

Of the 37 architectural and historical resources, one resource, the Western Division of the Pennsylvania Canal (#1979RE00825), is listed in the NRHP, while one resource, the Laurel Hill Inclined Plane (#1992RE00865), has been evaluated as NRHP eligible (see Appendix A-Table 2.18-4). These two transportation-related resources are both located in the vicinity of Seward. The remaining 35 architectural and historical resources, consisting largely of residential buildings, commercial buildings, and bridges, include 31 resources that have been determined not eligible for listing in the

NRHP by the PA SHPO, three resources that are unevaluated for NRHP eligibility, and one resource that has been demolished.

The single historic district mapped within the Study Area in Westmoreland County is the Pennsylvania Railroad Main Line (Harrisburg to Pittsburgh) (#1993RE00391). This linear, transportation-related resource, which passes through the center of Seward, has been evaluated by the PA SHPO as eligible for listing in the NRHP (see Appendix A-Table 2.18-5).

### *Indiana County*

The Study Area within Indiana County contains 399 previously recorded cultural resources, including 99 archaeological sites, 292 architectural and historical resources, and eight historic districts (see Table 2.18-2).

Eighty three of the 99 archaeological sites represent prehistoric-period occupations, with only seven sites dating to the historic period and nine sites consisting of both prehistoric and historic-period components (see Appendix A-Table 2.18-3). None of these sites are NRHP listed or eligible. Two sites have been evaluated as not eligible for listing in the NRHP, one site has been demolished, and the remaining 96 sites have not been evaluated for NRHP eligibility by the PA SHPO.

The 292 previously recorded architectural and historical resources in Indiana County include residences, commercial buildings, and farmsteads, along with bridges, company towns, former industrial sites, and Native American paths. Three of these resources are listed in the NRHP and six resources have been evaluated as NRHP eligible by the PA SHPO (see Appendix A-Table 2.18-4). The NRHP-listed resources consist of the Western Division of the Pennsylvania Canal (#1979RE00825), and two residences—the John B. McCormick House (#1974RE00081), and the George Diehl Homestead (#1985RE00108). The six NRHP-eligible resources include three residences—the Robert McIsaac House (#1990RE00599), the William W. Weaver Property No. 2 (#1995RE46669), and the Clark R. Laughard House (#1995RE48629); along with one farmstead, the Blose-Behm Farm (#2013RE00284); one industrial building, the Christian Keller Mill (#1991RE00850); and one bridge (#2004RE08400). In terms of NRHP evaluations, 44 of the remaining architectural and historical resources have been evaluated as not eligible for listing in the NRHP, five resources have been demolished, and 234 have not been evaluated for NRHP eligibility by the PA SHPO.

The eight previously recorded historic districts include four domestic/commercial districts, three railway-related corridor districts, and one religious-related structure. One of these districts is listed in the NRHP and two districts have been evaluated as eligible for NRHP listing by the PA SHPO (see Appendix A-Table 2.18-5). The NRHP-listed Commodore Historic District (#1998RE00104) represents the former model coal company Town of Commodore, established by the Clearfield Bituminous Coal Corporation. PA-SHARE also records this company town as a second historic district — the Clearfield Bituminous Coal Corporation Commodore Company Town [#1995RE34420] which is mapped with a more generalized circular boundary and has not been evaluated for NRHP listing). The two NRHP-eligible districts — the Buffalo, Rochester & Pittsburg Railway (#2011RE00067) and the Buffalo, Rochester & Pittsburg Railroad (Cloe to Homer City and Ridge Branch Junction to Clarksburg) (#1992RE00252) — both consist of linear, railway-related resources which extend across the Study Area within Indiana County. One of the historic districts (Wandin Historic District/#1995RE52033) has been determined not eligible for NRHP listing by the PA SHPO. The remaining four districts have not been evaluated for NRHP eligibility: Heilwood Historic District (#1989RE00401); Maple Grove Church of God (#1995RE33076); Clearfield Bituminous Coal Corporation Commodore Company Town (#1995RE34420) (also noted above); and Cherry Tree & Dixonville Railroad: The Loop (#1995RE34497).

### *Jefferson County*

A total of 59 previously recorded cultural resources, consisting of 34 archaeological sites, 20 architectural and historical resources, and five historic districts, are located within the Study Area in Jefferson County (see Table 2.18-2).

The archaeological sites consist of 32 prehistoric sites, one site containing both prehistoric and historic-period components, and one site dating from the historic period (see Appendix A-Table 2.18-3). None of the 34 previously recorded archaeological sites are NRHP listed or eligible. One site has been demolished and the remainder have not been evaluated for NRHP eligibility by the PA SHPO.

The 20 previously recorded architectural and historical resources include one residence (Coleman House/#1993RE01101) that has been evaluated by the PA SHPO as eligible for listing in the NRHP (see Appendix A-Table 2.18-4). The remaining resources consist of 10 bridges, as well as residences, industrial properties, and four Native American paths. Eight of the bridges have been evaluated by the PA SHPO as not eligible for listing in the NRHP, while two of the bridges have been demolished. The other nine resources (including all four Native American paths) have not been evaluated for NRHP eligibility by the PA SHPO.

The five previously recorded historic districts include three linear railway districts and two largely residential/commercial districts (see Appendix A-Table 2.18-5). Two of the railway districts — the Pittsburgh & Shawmut Railroad (#2010RE00204) and the Buffalo, Rochester & Pittsburgh Railway (#2011RE00067) — have been evaluated by the PA SHPO as eligible for listing in the NRHP. The remaining three districts — the Village of Hamilton (#1995RE38390), the Village of Ringgold (#1995RE38407), and the Allegheny Valley Railway (#2010RE03886) — have not been evaluated for NRHP eligibility.

### *Armstrong County*

The 30 previously recorded cultural resources mapped within the small portion of Armstrong County within the Study Area consist of 23 archaeological sites, five architectural and historical resources, and two historic districts (see Table 2.18-2).

The 23 previously recorded archaeological sites include 11 prehistoric-period sites, seven historic-period sites, and five sites with both prehistoric and historic components (see Appendix A-Table 2.18-3). These sites are located almost exclusively along Redbank Creek, at the northern boundary of the county. One site, Fishbasket Village (36AR0134), representing prehistoric and historic-period components, has been evaluated as eligible for listing in the NRHP by the PA SHPO. The remaining 22 sites have not been evaluated for NRHP eligibility.

The five architectural and historic resources consist of three Native American paths, one cemetery, and one industrial facility (see Appendix A-Table 2.18-4). None of these resources are NRHP listed or eligible. The industrial facility has been evaluated as not eligible for listing in the NRHP, the three Native American paths have not been evaluated for NRHP eligibility, and the PA-SHARE system provides no data on NRHP eligibility for the cemetery.

The two previously recorded historic districts located within the Study Area in Armstrong County include the Pittsburgh & Shawmut Railroad (#2010RE00204) and the Oak Ridge Historic District (#2013RE00598) (see Appendix A-Table 2.18-5). The Pittsburg & Shawmut Railroad, a linear railway district which extends east-west through the Study Area, has been evaluated as NRHP eligible, while the Oak Ridge Historic District, comprising primarily residential and commercial buildings in the community of Oak Ridge, has not been evaluated for NRHP eligibility by the PA SHPO.

### *Clarion County*

The Study Area in Clarion County contains 418 previously recorded cultural resources, including 55 archaeological sites, 359 architectural and historical resources, and four historic districts (see Table 2.18-2).

The 55 archaeological sites consist of 36 prehistoric sites, 17 historic-period sites, and two sites with both prehistoric and historic-period components (see Appendix A-Table 2.18-3). The majority of sites are concentrated along Redbank Creek, at the southern edge of the county. Scattered sites are also located along the Clarion River, as well as in isolated areas throughout the county. One of these sites, Fishbasket North (36CL0093), a prehistoric period site situated along Redbank Creek, has been evaluated as eligible for listing in the NRHP. The remaining 54 sites have not been evaluated for NRHP eligibility by the PA SHPO.

Approximately two-thirds of the 359 previously recorded architectural and historical resources are concentrated in the City of Clarion and represent residences and commercial buildings, as well as buildings associated with Clarion University. Additional architectural and historical resources, including numerous residences and commercial buildings, 20 bridges, and three Native American paths, are also scattered across the county. Of the 359 total architectural and historical resources, two are listed in the NRHP and nine have been evaluated as eligible for listing in the NRHP (see Appendix A-Table 2.18-4). The two NRHP-listed resources consist of the Clarion County Courthouse & Jail (#1979RE00564) and the Sutton-Ditz House (#2001RE01636). The nine NRHP-eligible resource include: three Clarion University buildings — Navarre Hall (#1981RE00045), the Science Hall (#1994RE00566), and Harvey Hall (#1995RE47321); as well as Ross Memorial Library (#1985RE00737); Clarion U.S. Post Office (#1987RE00201); Ditz Hardware (#1987RE00202); White Pillars (#1990RE00428); the Pittsburg & Shawmut Railroad Tunnel (#1997RE02049); and the Piney Station Hydroelectric Plant (#2000RE00873). All but two of the NRHP-listed and eligible resources — the Pittsburg & Shawmut Railroad Tunnel and Piney Station Hydroelectric Plant — are located in the City of Clarion.

The four previously-recorded historic districts in the Study Area within Clarion County include Clarion University of Pennsylvania (#2013RE00736), located in the City of Clarion, and three linear railway districts — the Pittsburg & Shawmut Railroad (Coder to Piney, MP 00 to 23.8) (#1997RE01446), the Knox and Kane Railroad (#2009RE00265), and the Allegheny Valley Railway (#2010RE03886) (see Appendix A-Table 2.18.5). None of these districts is NRHP listed or eligible. Clarion University of Pennsylvania and the Pittsburg & Shawmut Railroad have been determined not eligible for listing in the NRHP, while the other two railway districts have not been evaluated for NRHP eligibility.

## 2.19 Scenic Resources

Approximately 2.5 miles of the Laurel Highlands Scenic Byway, a PA state scenic byway, follows State Route 711 from the southwest into the Study Area, terminating in Seward. It offers scenic views of rural PA including hills, water features, and farmlands (Scenic America, 2021).

In the southeast portion of the Study Area, Conemaugh Gorge, an Outstanding Geologic Feature of PA, is located approximately 1.5 miles east of the Seward Substation. The Conemaugh Gorge is approximately four miles in length consisting of a deep cut through Laurel Hill with a topographic relief of approximately 1,130 feet from the ridge to the Conemaugh River. It was likely formed from erosion of the flat-lying sandstones, siltstones, and shales at the crest of the upside (PADCNR, 1979). Sun Cliff is a geological feature in Indiana County, which consists of 100-to-200-foot cliffs along Little Yellow Creek (PADCNR, 2021b).

Approximately 10 miles of the North Country Scenic Trail (N.C.T.) crosses through the Study Area in Clarion County, near the Piney Substation. The N.C.T. is designated a National Scenic Trail by the National Park Service. The trail extends from North Dakota to Vermont and the section of the N.C.T. in the Study Area is located between SGL #063 and the Borough of Clarion. The N.C.T. is used mainly by

foot traffic for long backpacking trips or day trips. The N.C.T. showcases PA's steep topography and diverse landscapes (USNPS, 2021).

Approximately two miles of the Laurel Highlands Hiking Trail, which is part of the Potomac Heritage National Scenic Trail, crosses through the Study Area in Westmoreland County, near the Seward Substation. The trail spans from Ohiopyle to Seward. The section of the trail that traverses the Study Area is located in Laurel Ridge State Park. The Trail is used mainly by foot traffic for day trips or by cross country skiing and snow shoeing in the winter and has moderate terrain (USNPS, 2021).

There are no state scenic rivers (PADCNR, 2021c) in the Study Area.

## 2.20 National Wild and Scenic Rivers, Parkways, and National Landmarks

There are no National Wild and Scenic River within the Study Area (National Wild and Scenic Rivers System, 2021).

There are no National Natural Landmarks within the Study Area (USNPS, 2021).

There are no federal scenic parkways within the Study Area. (FHA, 2021).

## 2.21 Floodplains

Review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping indicates that 100-year floodplains are associated with several hundred named streams within the Study Area. The FEMA floodplain surrounding the associated named watercourses are summarized below by HUC-8 Watershed. There are numerous smaller, unnamed streams within the Study Area (FEMA, 2021).

### *Clarion Watershed (HUC 8 - 05010005)*

The FEMA 100-year floodplain in the Clarion Watershed (HUC 8 - 05010005), located in Clarion County, surrounds Clarion River, located directly north of Piney Substation; Piney Creek, located southwest of Piney Substation; Little Piney Creek, located southwest of Piney Substation; Deer Creek, located northeast of Piney Substation; and Brush Run, located southeast of Piney Substation.

### *Conemaugh Watershed (HUC 8 – 05010007)*

The FEMA 100-year floodplain in the Conemaugh Watershed (HUC 8 – 05010007), located in Westmoreland and Indiana Counties, surrounds Conemaugh River, located directly east of Seward Substation; Blacklick Creek, located north of Seward Substation; Little Yellow Creek, located south of Glory Substation; Yellow Creek, located south of Glory Substation; South Branch Two Lick Creek, located north of Glory Substation; Two Lick Creek, located west of Glory Substation; North Branch Two Lick Creek, located southeast of Dixonville East Substation; and Dixon Run, located west of Dixonville East Substation.

### *Middle Allegheny-Redbank Watershed (05010006)*

The FEMA 100-year floodplain in Middle Allegheny-Redbank Watershed (05010006), located in Indiana, Jefferson, Armstrong, and Clarion Counties, surrounds Little Mahoning Creek, located northwest of Dixonville East Substation; Mahoning Creek, located north of Trade City Substation; Pine Run, located directly south of Timblin Substation; Mudlick Creek, located northwest of Timblin Substation; and Redbank Creek, located northwest of Timblin Substation.

### *Upper West Branch Susquehanna (HUC 8- 02050201)*

The FEMA 100-year floodplain in Upper West Branch Susquehanna (HUC 8- 02050201), located in Indiana County, surrounds Crush Cushion Creek, located west of Dixonville East Substation.

## 2.22 Recreation

### *Westmoreland County*

Recreation areas within the Study Area in Westmoreland County consist of public lands and local parks. Laurel Ridge State Park is a 13,625-acre park in which the Laurel Highlands Hiking Trail, a 70-mile hiking trail, runs through (PADCNR, 2021d/2021e). State Game Land #42 is directly adjacent to Laurel Ridge State Parks which provides the public a space for hunting and trapping (PADCNR, 2021d). In the borough of Seward, there are three local parks, the Seward Memorial Park, Seward Community Center, and Seward Ballfield (PADCNR, 2021e and Google Earth, 2021). On the border of Westmoreland and Indiana Counties, the Conemaugh River is designated as the Kiski-Conemaugh River Water Trail. It is an 86-mile water trail from Freeport to Johnstown and is suitable for kayaks, canoes, and small motorized watercraft (PADCNR, 2021e).

### *Indiana County*

Indiana County contains a variety of recreational opportunities within the Study Area. The Gallitzin State Forest and Natural Area, a 24,183-acre area, are in East Wheatfield Township, and offer approximately 60 miles of trails, hunting areas, camping sites, fishing, and snow mobile trails (PADCNR, 2021f). Indiana County owned Buttermilk Falls Natural Area has an approximately half-mile loop trail to view the 45-foot waterfall located in West Wheatfield Township (Indiana County Parks and Trails, 2021). The Indiana County owned Blacklick Valley Natural Area is an 820-acre tract of land that offers hiking and cross-country skiing trails in East Wheatfield and Buffington Townships (Indiana County Parks and Trails, 2021). Indiana County owned Old Smicksburg County Park consists of 27 acres in Smicksburg Borough. It contains hiking, picnicking and boating opportunities (Indiana County Parks and Trails, 2021). A portion of Yellow Creek State Park is located in the Study Area in Cherryhill and Brush Valley Township. Yellow Creek State Park is 2,981 acres and includes a 720-acre lake. The park contains multi use trails, water recreation, hunting, and camping (PADCNR, 2021e).

There are two State Game Lands in Indiana County which provide public hunting opportunities (PGC, 2021). State Game Land 79 consists of four separate tracts in the Study Area which are located in Brush Valley, Bluffington, and East Wheatfield Townships. State Game Land 185 is located in Green Township.

Many local parks and private recreational facilities are located in the Study Area (PASDA, 2021e and Google Earth, 2019). There are three athletic field parks and a municipal park in and around the town of Seward. The Clyde Volunteer Fire Company playground is located in Clyde while the Pleasure Valley Raceway and Pleasure Valley Golf Course are located in East Wheatfield Township. A community park is located in Buffington Township and a neighborhood park, Dog Hollow Speedway, and Heilwood Sportsmen's Club are located in Pine Township. Two ball parks are located in Green Township and a township park and Marion Center Speedway are located in East Mahoning Township.

There are two campgrounds in Indiana County run by private owners; the Willow Farm located in East Mahoning Township and Rocky Top Campground located in West Mahoning Township (Willow Farm, 2021 and Rocky Top, 2021).

The USACE's Mahoning Creek Lake Recreation area is located in West Mahoning Township, North Mahoning Township and Smicksburg Borough. The recreation management area is in association with a flood control project and runs along Mahoning Creek and Little Mahoning Creek. Recreation opportunities include boating, fishing, hiking, camping, and picnicking (USACE, 2021b).

The Ghost Town Trail (GTT) traverses through the Study Area from northeast to west in East Wheatfield, Buffington, and Brush Valley Townships. The GTT is 46 miles in length and goes from Avonmore to Ebensburg. It is a rail to trails facility that passes through many former coal mining communities (Indiana County Parks and Trails, 2021). It is designated as a National Recreation Trail by the U.S. Department of the Interior.

### *Jefferson County*

Jefferson County has five recreational areas within the Study Area. A local park is located in Ringgold Township (PASDA, 2021b) while State Game Land 320 is located in Porter Township (PGC, 2021). The Redbank Valley Trail also crosses through the Study Area in Beaver Township, which is a 58-mile rails to trail that is located along Redbank Creek (VisitPA, 2021). The Baker Trail also traverses through the Study Area in Ringgold and Beaver Townships. The hiking and backpacking trail crosses multiple counties and totals 134 miles of forest paths, old jeep trails, paved roads, and dirt roads (Rachel Carson Trails Conservancy, 2021). The USACE Mahoning Creek Lake Recreation Area, which was described in the Indiana County section above, extends into Perry Township in Jefferson County (USACE 2021b).

### *Armstrong County*

The Baker Trail traverses through Redbank Township in the Study Area in Armstrong County, as well as Jefferson County. The hiking and backpacking trail crosses multiple counties and totals 134 miles of forest paths, old jeep trails, paved roads, and dirt roads (Rachel Carson Trails Conservancy, 2021).

### *Clarion County*

Many local parks and private recreational facilities are located in the Study Area (PASDA, 2021b and Google Earth, 2019) in Clarion County. A local park is located in Redbank Township, along with one in Hawthorn Borough. A township park and two campgrounds; Penn Wood Airstream Park, and Old Mill Park, are located in Limestone Township. The Clarion Oaks Golf Course is located in Clarion Township while a municipal park is located in Clarion Borough. Clarion County Park is located in Paint Township and has received funding from the Land and Water Conservation Fund Coalition (LWCF, 2023).

Within the Study Area in Clarion County there are several major trail systems, a water trail, and a Bicycle Route. Starting at the dam near the Piney Substation and going upstream, the Clarion River is a designated Water Trail by the PFBC. The water trail is suitable for kayaks, canoes, and small motorized watercraft (PFBC, 2021b). The Redbank Valley Trail crosses through Redbank Township and Hawthorn Borough, from Jefferson County, and is a 58-mile rails to trail that is located along Redbank Creek (VisitPA, 2021). The North Country National Scenic Trail traverses the Study Area through Clarion Borough, Monroe Township and Piney Townships (USNPS, 2021). A description of the North Country National Scenic Trail is provided in Section 2.19 since this it is also categorized as a scenic resource. The Clarion Highlands Trail goes through Piney, Beaver, Elk, and Ashland Townships. It is a 20-mile rail to trail that is one of the highest elevation trails in the Commonwealth (PADCNR, 2021e). The Clarion Highlands and North Country Scenic Trails share the same path through the majority of the Study Area. The Rail 66 Country Trail is a hiking and biking trail that starts just inside the Study Area in Marianne and heads to the northeast (Rail 66, 2023). The BicyclePA Route V which shares the road with US-322 is in the Study Area within Clarion Borough and Paint Township (PADCNR, 2021e).

There is one State Game Land in the Clarion County Study Area which provide public hunting opportunities (PGC, 2021). State Game Land 63 is located in Paint Township.

## 2.23 Transportation/Aviation

### *Roadways*

Major roadways within the Study Area include State Route 56 and 711 in Westmoreland County while U.S. Routes 22, 119, and 422 and State Highways, 56, 210, 240, 259, 286, 403, 553, 580, 711, and 954 are located in Indiana County. State Highway 536 is located in Jefferson County and State Highways 536 and 839 are located in Armstrong County. Interstate-80, U.S. Route 322, and State Highways 28, 66, and 68, traverse the Study Area in Clarion County.

The publicly available information for the Pennsylvania Department of Transportation's (PennDOT) upcoming road projects were reviewed in the Study Area by evaluating *PennDOT's 12-Year Program, Transportation Improvement Program*, and *PennDOT One Map* (PennDOT, 2021a/b/c). Road projects with the potential to expand the road right-of-way have been included below. In Indiana County approximately 2.8 miles of PA Route-22 bypassing Armagh is planned to be reconstructed. In Clarion County approximately 1.9 miles of PA Route 68/Dolby Street between Interstate-80 and Clarion Borough is planned to be widened. Additionally, in Clarion County an approximately 10-mile section of Interstate-80 to the east of the Clarion exit is being reconstructed and was scheduled to be completed in December 2022.

#### *Railroads*

There are a total of eight active railroad lines in the Study Area (PENNDOT, 2020b).

In Westmoreland County, there is a Norfolk Southern Railway Company (NS) rail line that extends from the southeast corner of the Study Area in St. Clair Township, north to Seward and back south to New Florence.

In Indiana County, there is an NS line on the north side of the Conemaugh River through East Wheatfield Township that parallels the Conemaugh River. There is also an R.J. Corman Railroad Co. (RJCP) rail line that traverses the Study Area through Green and Cherryhill Townships and a CSX Transportation Inc (CSXT) railroad traverses the Study Area through Canoe, East Mahoning, and Rayne Townships. A Buffalo & Pittsburgh Railroad Inc. (BPRR) line travels through the Study Area from west to east, through Perry, North Mahoning, and West Mahoning for the Main Line Subdivision near the Trade City Substation.

In Jefferson County, a BPRR rail line traverses through Ringgold Township and Timblin Borough and a second line is located in Beaver Township.

In Armstrong County, a BPRR rail line traverses through Redbank Township near Timblin Substation.

There are no active railroads that traverse Clarion County in the Study Area.

#### *Airports*

The Clarion County Airport, the Clarion Hospital helicopter pad, and three landing strips are located within or adjacent to the Study Area (PENNDOT, 2020a; FAA, 2021; and Google Earth, 2019).

The Clarion County Airport is located just north of the Study Area in Clarion County (Clarion County Airport, 2021). This airport is part of a municipal authorities, has an approximately 5,000-foot runway, and support the business and recreational needs of the area. No indication of Airport expansion plans were identified for the airport (Clarion County Airport, 2021).

Three landing strips are located in Indiana County (AirNav, 2021). Rocky Hollow Field is a private landing strip consisting of two paved surfaces in Pine Township while Downes Airport is a private landing strip in Cherryhill Township consisting of a grass strip. Marion Center Speedway Airport is a private landing strip in East Mahoning Township consisting of a grass strip.

There is a helicopter pad associated with the Clarion Hospital located in Monroe Township, Clarion County within the Study Area (FAA, 2021).

# 3.0 Route Development and Siting Process

## 3.1 Route Development Process Summary/Methodology

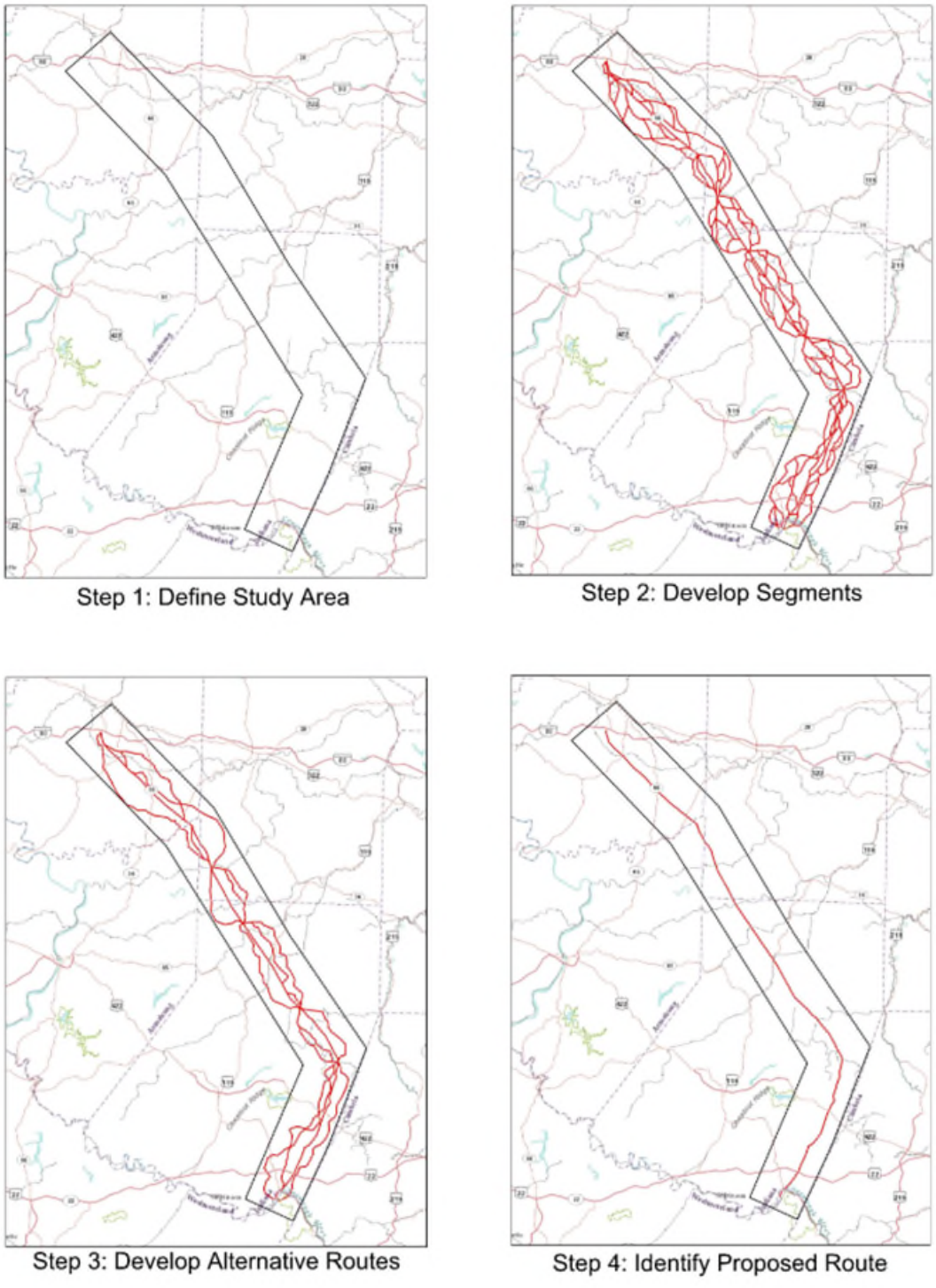
The routing team identified a Proposed Route for the Project through a route development process involving four primary steps.

- **Define Study Area**. The Study Area was defined as discussed in Section 2.

- **Develop Segments**. After defining the Study Area and identifying high level constraints and opportunities, the routing team developed Segments within the Study Area to be used to develop routes between the six existing substations. The routing team then collected detailed information to review the Segments for viability; to modify, eliminate, or combine the Segments as appropriate to form suitable potential Sub-Routes between each of the six existing substations.
- **Develop Alternative Routes**. Three Sub-Routes were then identified between each of the existing substations to include the eastern and western portions of the Study Area and along the existing transmission line. The eastern, western, and existing Sub-Routes between each of the substations were then combined to form the three Alternative Routes.
- **Identify Proposed Route**. The potential impacts of the Alternative Routes to land use, environmental resources, cultural resources, and engineering concerns were then evaluated and compared. The Proposed Route selected is the Alternative Route that best avoids or minimizes overall impacts to environmental and human/built resources and minimizes unreasonable design criteria, while considering landowner and public input.

The steps utilized for the siting process are illustrated on Figure 3.1-1.

Figure 3.1-1 - Routing Steps



## 3.2 Data Collection

### 3.2.1 Geographic Information System Data Collection

The route development and siting process relies heavily on publicly available GIS data from federal, state, and local government agencies. GIS information is an effective way to develop and inventory environmental information and characterize landscape level constraints and opportunities that can then be used to evaluate and compare the routes. A list of the GIS sources used in the route development and siting process is provided in Table 3.2-1 below.

**Table 3.2-1**
**GIS Data Sources**

| Category | Data Source |
|---|---|
| **Aerial Imagery** | |
| Aerial Imagery | Imagery was utilized from the following sources ESRI World Imagery, Clarity, (2021), and Google Earth Accessed 01/2022. |
| **Hydrology** | |
| Rivers and Lakes | The National Hydrography Dataset (NHD) is a comprehensive set of digital spatial data prepared by the USGS and USEPA that contains information about surface water features such as lakes, ponds, streams, and rivers (2020). |
| Water Quality Designations | PA Code 25, Chapter 93 Designated Use, PADEP, Penn State Institutes of The Environment, Research Triangle Institute, 2021. This information was used to evaluate water quality designations for waterbodies. (The Pennsylvania Code, 2021b) |
| Wetlands | NWI, USFWS, 2021. The NWI produces information on the characteristics, and extent of the Nation's wetlands and deep-water habitats, this information is used to review general wetland distributions. |
| 100 Year Floodplain | Data was obtained from National Flood Hazard Layer, Federal Emergency Management Agency, PA, 2021. |
| **Conservation and Recreational Lands** | |
| Recreational Areas | Data was digitized from ESRI Aerial Imagery, Google Earth Imagery, township and county comprehensive plans, Google Maps, and PASDA, 2021b/e. Land and Water Conservation Fund Coalition, 2023. |
| State Parks, Forests, and Game Lands | Data for State parks and state forests were obtained from PADCNR, 2021 and data for state game land was obtained from PA Game Commission (PGC), 2021. |
| Federal Lands | Data was obtained from USACE, 2021a |
| Scenic Resources, Unique Geological Resources, Wilderness Areas, and Natural Landmarks | Data Obtained from National Wild and Scenic Rivers System 2021, National Park Service 2021, PADCNR 1979, PADCNR 2017, and PADCNR 2021. |
| Hiking and Biking Trails | Data was obtained from, Explore PA Trails, PADCNR, 2021. |
| Conservation Easements | Data was obtained from National Conservation Easement Database, USDA/Natural Resource Conservation Service, 2021, and PASDA, 2021e. Regulatory In-lieu Fee and Bank Information Tracking System (USACE, 2021a) |
| Agricultural Easement | Data was obtained from PASDA, 2021d. |

| Category | Data Source |
|---|---|
| **Human Environment** | |
| Institutional Structures | Hospitals, Schools, and Churches were obtained from ESRI and Tomtom©, Obtained Through ESRI ARCGIS Online, Accessed 01/2022. |
| Residential and Commercial Buildings | Data was digitized from aerial imagery and field observations. |
| Parcel Boundaries and Ownership | Obtained from PASDA, 2021a. |
| Cemeteries | Data was digitized from aerial imagery and field observations. |
| Airfields and Heliports | Airport Part 77 Surface Area, PennDOT 2013. |
| Transportation | Obtained from World Transportation, ESRI, Delorme, Here, Mapmyindia, Tomtom© Openstreetmap Contributors, and The GIS User Community, Obtained Through ESRI ARC GIS Online, Accessed 01/2022. |
| Existing Transmission Lines and Substations | Existing Transmission Line and Substation information provided by Mid-Atlantic Interstate Transmission, LLC and digitized based on aerial imagery. |
| Existing Oil and Gas Wells | Data was obtained from PA Department of Environmental Protection, 2022. |
| **Cultural Resources** | |
| Architectural, Historical, and Archeological Sites and Districts | Obtained from the CRGIS map-based inventory of the historic and archaeological sites and surveys stored in the files of the PA SHPO, Accessed 09/2021. |
| **Land Use** | |
| Land Use and Cover | Data was digitized from aerial imagery and field observations. |
| **Sensitive Species** | |
| Rare, Threatened, and Endangered Habitat | Digitized from The PA Natural Heritage Program, Conservation Explorer Web Map, Accessed 2022 |
| **Geology** | |
| Steep Slope | Steep slope was calculated in GIS using Digital Elevation Modeling downloaded from PA State Data Access 2022. |
| Surface Mining | Data was obtained from PA Department of Environmental Protection, 2021. |
| Underground mining | Data was obtained from PA Department of Environmental Protection, 2021. |
| Landslide Potential | Digitized from USGS Landslide Inventory Maps downloaded from PADCNR (various years). |

### 3.2.2 Field Reviews

Routing team members conducted field reconnaissance in March 2023 to update data for resources near each of the Alternative Routes. Field reconnaissance was limited to publicly accessible areas such as road crossings and public lands. Once the Proposed Route was selected, a detailed field review was initiated. Field reviews are anticipated to include, among others; stream and wetland delineations; cultural resources studies; constructability reviews; rare threatened and endangered species reviews; and coordination with property owners.

### 3.2.3 Federal, State, and Local Government Coordination

The routing team contacted various federal, state, and local agencies to inform them of the Project and request information to be used during the route development and siting process.

The PA SHPO Cultural CRGIS database was reviewed for previously recorded cultural resources, including NRHP-listed historic properties, previously recorded archaeological sites, and previously recorded architectural and historical resources mapped within the Study Area. Once the Proposed Route was selected SHPO was contacted and asked to review the Proposed Route for impacts to historic and/or archeological resources.

The Online PA Natural Diversity Inventory Online Map Explorer was used to review the USFWS, PADCNR, PGC, and PFBC databases for potential impacts to species of concern. Once the Proposed Route was selected consultation was sent to USFWS, PADCNR, PGC, and PFBC for review of the Proposed Route.

Also, as part of this coordination, MAIT reached out to local government officials to inform them of the Project and gather additional information that may be beneficial for route development and siting process.

## 3.3 Siting Guidelines

Route siting guidelines were developed to identify potential alternative transmission line routes through the Study Area. These guidelines were employed to avoid or minimize potential land use conflicts; impacts upon human, natural, visual, and cultural resources; regulatory conflicts; construction, operation, and maintenance challenges; and Project schedule delays. Siting guidelines were developed based on PAPUC regulations, public input, resource agency permitting requirements, engineering requirements and economic feasibility.

The route siting guidelines include both siting opportunities and siting constraints. Siting opportunities are locations representing land use and environmental resources, which are compatible with the safe, economical, and reliable construction and operation of a 115 kV transmission line. Constraint areas represent locations where a 115 kV transmission line might have a potential adverse impact on sensitive resources or locations where conditions might affect reliable and safe operation or economical construction of the line. The siting guidelines are presented in Table 3.3-1. The siting guidelines are reflected in the resource criteria used to compare Alternative Routes, which are described in more detail in Section 5.

**Table 3.3-1**
**Siting Opportunities and Constraints**

| Siting Opportunities | Siting Constraints |
|---|---|
| ▪ Parallels existing electric transmission line ROW<br>▪ Parallels existing pipeline ROW<br>▪ Open, uninhabited privately-owned terrain, including farmland<br>▪ Short, direct routes<br>▪ Occupies existing transmission Line ROW | ▪ High density population areas, including commercial, residential, and institutional areas<br>▪ Recreational lands including: State Parks, Local Recreational Areas, and Hiking and Biking Trails<br>▪ Conservation Areas including: State Forest, State Game Land, National Natural Landmarks, Designated Natural Areas, Wilderness Areas, Rare, Threatened, and Endangered (RTE) Habitats, Land Trust Protected Areas, Agricultural Easements, and Unique Geological Resources<br>▪ Sensitive Natural Areas including: Designated Scenic Areas, National Wild and Scenic Rivers, Exceptional Value Stream, State Scenic Rivers, Streams, and Wetlands<br>▪ Cultural Resources including: Historic Districts, Historic Sites, Cemeteries, and Archaeological Sites<br>▪ Engineering constraints including: Highway, Railroad, and Road crossings; Mined Areas, Landslide Potential Areas, and Steep Terrain<br>▪ Airports<br>▪ Forest land |

## 3.4 Public Involvement in Siting Process

A virtual public open house was held to present the Alternative Routes to the public and encourage public comments. The open house was advertised in the Oil City Derrick, the Franklin News Herald, the Kittanning Leader Times, the Punxsutawney Spirit, the Indiana Gazette, the Tribune Review, and a letter, containing the Project fact sheet, was mailed to the property owners within 500 feet of the Alternative Routes and to local government officials of communities where the Project is located. The virtual open house website included the following:

- A Project overview which included a large-scale map of the Project location;
- A description of the needs and benefits of the Project, which included the Project's objectives and the improvements it will bring to the region;
- Images of the proposed structure types, including the tangent and dead-end structures;
- A description of the typical real estate negotiation process;
- A list of the regulatory agencies involved in the permitting process of the Project;
- The proposed Project schedule; and
- Contact Information with multiple ways to reach the siting team.

Additionally, the website offered an interactive map where property owners were invited to enter their parcel id number (provided in the notification letter) to view how the Project may affect their property. An opportunity to comment was associated with each parcel, where property owners could enter their comments or request to be contacted by the siting team.

The virtual open house website went live to the public October 3, 2022, and the interactive map was viewed approximately 450 times as of June 2023. Three comments were received through the interactive map. Comments regarded property value, disruptions during construction, impacts from construction to local roads, and pole locations in agricultural fields. Additional two comments were emailed directly to MAIT. These comments included a preference to utilize existing ROW to minimize the need for tree clearing; and questions about ROW expansion directions, and easement acquisition prosses.

MAIT will work with individual property owners impacted by the Project to accommodate the property owners' requests to the extent practical.

# 4.0 Alternatives Identification

## 4.1 Segment Development

In order to develop segments, the Study Area was divided into sections between each two consecutive substations that the alternative routes would need to connect. Within these areas, potential line segments were developed that can be variously combined to achieve suitable alternative Sub-Routes. In general, segments were developed to avoid major environmental and socioeconomic impacts, while taking into consideration construction feasibility concerning the topography, and the development of a non-circuitous route. The constraints in the Study Area and the segments are shown on Maps 2 and 3.

### *Seward Substation-Glory Substation*

This section of the Study Area generally consists of forested land and agricultural land intermixed. Several towns and small communities are located throughout. The town of Seward is located in the southern extent of this section and has a concentrated development in the town with residential areas extending along State Route-56. Armagh and Dilltown are smaller communities located near US-22. Strongtown has development that extends along US-422 and State Route-403. The community of Heilwood is located in the northern portion of the section adjacent to State Route-403. Segments were

generally identified to utilize forested areas and agricultural land in a way that avoided the communities and developed areas mentioned above while promoting the southwest to northeast progression of a route between the Seward Substation and Glory Substation.

Forty-one segments totaling approximately 61 miles were developed for consideration in forming alternative routes in this section (Map 2 and 3).

### *Glory Substation-Dixonville East Substation*

This section of the Study Area generally consists of larger patches of forested land agricultural land. The communities of Starford and Commodore are located in the northern portion of this section and are adjacent to State Route-286. Other residential areas are sparsely located within this section. Segments were generally identified to utilize forested areas and agricultural land in a way that avoided the residential areas while promoting the southeast to northwest progression of a route between the Glory Substation and Dixonville East Substation.

Twenty-one segments totaling approximately 27.5 miles were developed for consideration in forming alternative routes in this section (Map 2 and 3).

### *Dixonville East Substation-Trade City Substation*

This section of the Study Area generally consists of agricultural land with some large continuous areas of forested land. Marion Center is centrally located in this section and is adjacent to US-19 and has development that extends along State Route-403. Other residential areas are sparsely located within this section. Segments were generally identified to utilize forested areas and agricultural land in a way that avoided the residential areas while promoting the southeast to northwest progression of a route between the Dixonville East Substation and Trade City Substation.

Twenty-four segments totaling approximately 40.3 miles were developed for consideration in forming alternative routes in this section (Map 2 and 3).

### *Trade City Substation-Timblin Substation*

This section of the Study Area generally consists of large continuous areas of forested land with some agricultural land. Residential areas are sparsely located within this section. This section bisects the USACE Mahoning Creek Lake Recreation Area, and a state game land is located in the northern portion. Segments were generally identified to avoid the residential areas while promoting the southeast to northwest progression of a route between the Trade City Substation and Timblin Substation. Furthermore, segments were developed to minimize or avoid impact to the state game lands and USACE recreational lands.

Twenty-one segments totaling approximately 26.8 miles were developed for consideration in forming alternative routes in this section (Map 2 and 3).

### *Timblin Substation-Piney Substation*

This section of the Study Area generally consists of forested land and agricultural land intermixed. Three small communities are located in this section. Ringgold is located in the southern portion along State Route-536. Mayport is located just north of Redbank Creek along State Route-536. Limestone is located in the northern portion adjacent to State Route-66. Other residential areas are sparsely located within this section. Segments were generally identified to avoid the residential areas while promoting the southeast to northwest progression of a route between the Timblin Substation and Piney Substation.

Thirty-two segments totaling approximately 69.4 miles were developed for consideration in forming alternative routes in this section (Map 2 and 3).

## 4.2 Segment Assessment

Each segment was reviewed for the presence of constraints that would preclude its use or would make its use infeasible due to environmental, socioeconomic, or aesthetic impacts.

Each segment was assessed for constraints within a 260-foot-wide Route Corridor.

This Route Corridor was utilized in order to accommodate offset construction of the Project on either side of the existing Piney-Seward 115kV Transmission Line centerline. In order to facilitate an accurate comparison, all of the alternative routes utilized this corridor width. Where relevant, some constraints within the existing ROW of the Piney-Seward 115kV Transmission Line were excluded from the Route Corridor assessment, since there is an existing impact from the existing transmission line in these areas. For example, agricultural areas within the existing ROW portion of the Route Corridors were not included since they were already within an existing ROW.

In addition to the Route Corridor, a 500-foot-wide study corridor and a 1,000-foot-wide study corridor centered on the segments were studied for all segments. Results of these studies are provided in Appendix B Table 4.1-1. In addition, an area within two miles from the centerline was examined for the presence of airports and private landing strips.

Segments were examined for potential negative factors and overall suitability. As a result of this initial analysis, some segments were eliminated from further consideration due to constraints that could cause substantial permitting concerns, land use incompatibility, or constraints that could cause difficulties in ROW acquisition. As a result, several segments no longer could be connected to form a continuous route and were eliminated as well.

In the Seward-Glory section, of the initial 108 segments, one segment (9-071) was eliminated due to permitting concerns.

In the Glory-Dixonville section, of the initial 110 segments, two segments (8-030 and 8-034) were eliminated due to permitting concerns.

In the Dixonville-Trade City section, of the initial 34 segments, one segment (7-023) was eliminated due to permitting concerns and one segment (7-029) was eliminated due to land use incompatibility.

In the Trade City-Timblin section, of the initial 71 segments, one segment (6-013) was eliminated due to permitting concerns and one segment (6-008) due to ROW acquisition concerns.

In the Timblin-Piney section, of the initial 41 segments, one segment (5-016) was eliminated due to land use incompatibility.

The remaining segments were then compared regarding resource impacts to develop the most suitable alternative Sub-Routes to connect the substations. The intent of this process was to select segment combinations that minimize total impacts while providing for several reasonable alternative routes that support the most direct progression between substations.

## 4.3 Sub-Route and Route Development

Due to the nature of the Project, all Alternative Routes for the Project are required to connect to each of the existing substations. Therefore, the Project Area was divided into five substation-to-substation sections. PA Public Utility Commission regulations (52 PA Code 57.1) state that an alternative route consists of “a reasonable ROW which includes not more than 25 percent of the ROW of the applicant’s proposed route.” To minimize route overlap in each substation-to-substation section eastern and western Sub-Routes were developed as well as a central Sub-Route, which utilized the existing Piney-Seward 115kV Transmission Line corridor. The Sub-Routes were developed to minimize total impacts while providing reasonable routes between each of the existing substations. Segments compiling each Sub-Route are listed in Table 4.2-1, and the Sub-Routes are described below.

**Table 4.2-1**
**Segments in Sub-Routes**

| Section | Western Sub-Route Segment Numbers | Central Sub-Route Segment Numbers | Eastern Sub-Route Segment Numbers |
|---|---|---|---|
| Seward Substation-Glory Substation | 9-001, 9-003, 9-011, 9-025, 9-028, 9-035, 9-041, 9-047, 9-050, 9-059, 9-068, 9-069 | 9-001, 9-004, 9-012, 9-020, 9-026, 9-029, 9-036, 9-038, 9-042, 9-049, 9-051, 9-064, 9-065, 9-069, 9-070, 9-074 | 9-002, 9-008, 9-015, 9-023, 9-031, 9-032, 9-040, 9-045, 9-046, 9-055, 9-057,9-072, 9-073, 9-074 |
| Glory Substation-Dixonville East Substation | 8-001, 8-007, 8-022, 8-029, 8-037 | 8-001, 8-007, 8-016, 8-023, 8-030, 8-035, 8-037 | 8-003, 8-009, 8-018, 8-027, 8-033, 8-038 |
| Dixonville East Substation-Trade City Substation | 7-001, 7-004, 7-016, 7-017, 7-021, 7-028, 7-030, 7-041, 7-044 | 7-003, 7-007, 7-010, 7-013, 7-024, 7-033, 7-035, 7-036, 7-043, 7-045 | 7-003, 7-008, 7-012, 7-025, 7-034, 7-038, 7-045 |
| Trade City Substation-Timblin Substation | 6-001, 6-012, 6-014, 6-029, 6-031, 6-033, 6-035 | 6-003, 6-006, 6-009, 6-018, 6-025, 6-028, 6-034, 6-035 | 6-003, 6-007, 6-019, 6-026, 6-028, 6-034, 6-035 |
| Timblin Substation-Piney Substation | 5-001, 5-007, 5-010, 5-020, 5-031, 5-036, 5-043, 5-047, 5-059, 5-060, 5-062, 5-065, 5-064 | 5-003, 5-004, 5-013, 5-014, 5-017, 5-023, 5-025, 5-026, 5-030, 5-040, 5-042, 5-045, 5-048, 5-059, 5-060, 5-062, 5-063, 5-064 | 5-003, 5-004, 5-013, 5-015, 5-029, 5-041, 5-052, 5-061, 5-063, 5-064 |

### *Seward Substation-Glory Substation*

The western Sub-Route exits the Seward Substation to the northwest and travels approximately 1.4 miles adjacent to a transmission line ROW. The Sub-Route then turns to the north for approximately 5.3 miles, passing through largely forested areas and some agricultural areas, and crossing State Route 22, State Route 56, and Blacklick Creek. The Sub-Route then turns in a general northeastern direction for approximately 7.8 miles, passing through largely forested areas and some agricultural areas, and crossing several local roads. The Sub-Route then turns roughly north for 7.3 miles to terminate at the Glory Substation, passing through largely forested areas and some agricultural areas, skirting the community of Heilwood to the north, and crossing State Route 553, State Route 403, State Route 422, several local roads, and Yellow Creek.

The central Sub-Route exits the Seward Substation to the northeast and continues in a relatively straight, approximately 18.2-mile path to the Glory Substation. The Sub-Route partially occupies an existing transmission line ROW for its entire length. The Sub-Route largely passes adjacent to forest land and agricultural land. However, the Sub-Route passes adjacent to the town of Seward and passes over several residential areas along State Route 403 and 422. The Sub-Route crosses Yellow Creek, Blacklick Creek, the Conemaugh River, State Route 533, State Route 403, State Route 422, State Route 22, State Route 711, and several local roads.

The eastern Sub-Route exits the Seward Substation to the east adjacent to a transmission line ROW for 0.6-mile, crossing the Conemaugh River. The Sub-Route then takes a roughly north to northeast trajectory for the remaining approximately 20.2 miles to the Glory Substation. The Sub-Route starts adjacent to transmission line ROW and then passes through forested land and agricultural land, crosses Yellow Creek, Blacklick Creek, the Conemaugh River, State Route 533, State Route 403,

State Route 422, State Route 22, State Route 711, State Route 56, and several local roads. A few residential areas are crossed adjacent to some of the road crossings.

### *Glory Substation-Dixonville East Substation*

The western Sub-Route exits the Glory Substation heading west for approximately 1.4 miles following an existing transmission line ROW through forest land and agricultural land. The Sub-Route then takes a roughly north to northwest trajectory for approximately 6.1 miles passing through agricultural and forested land. The route then turns to the northeast for the remaining approximately 2.7 miles to the Dixonville East Substation passing through agricultural and forested land. The Sub-Route crosses Two Lick Creek, State Route 286, State Route 1012, State Route 580, and several local roads. A few residential areas are crossed adjacent to road crossings.

The central Sub-Route exits the Glory Substation to the northwest and continues in a relatively straight approximately 7.9-mile path to the Dixonville East Substation. The Sub-Route partially occupies an existing transmission line ROW for its entire length. The Sub-Route largely passes adjacent to forest land and agricultural land, however, a few residential areas are crossed adjacent to some of the road crossings. The Sub-Route crosses South Branch Two Lick Creek, State Route 286, State Route 580, and several local roads.

The eastern Sub-Route exits the Glory Substation to the northeast adjacent to an existing transmission line ROW and adjacent to forested areas for approximately 1.3 miles. The Sub-Route then turns to the north for approximately 1.2 miles passing through forested areas. The Sub-Route then turns to the northwest for 4.9 miles passing through a mixture of forested and agricultural land. The Sub-Route then turns to the west for the remaining approximately 2.8 miles into the Dixonville East Substation passing through a mixture of forested and agricultural land. The Sub-Route crosses South Branch Two Lick Creek, State Route 286, State Route 240, State Route 580, and several local roads. A few residential areas are crossed adjacent to road crossings.

### *Dixonville East Substation-Trade City Substation*

The western Sub-Route exits the Dixonville East Substation to the west for 1.1 miles through mainly forested areas. The Sub-Route then takes a roughly north to northwest trajectory for the next approximately 12.3 miles crossing through mostly forested and agricultural land. The Sub-Route then turns east for the final 0.5-mile into the Trade City Substation. The Route crosses Little Mahoning Creek, State Route 210, State Route 119, State Route 1021, State Route 403, and several local roads. A few residential areas are crossed adjacent to road crossings.

The central Sub-Route exits the Dixonville East Substation to the northwest and continues in a relatively straight approximately 11.8-mile path to the Trade City Substation. The Sub-Route partially occupies an existing transmission line ROW for its entire length. The Sub-Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Sub-Route crosses Little Mahoning Creek, State Route 210, State Route 119, and several local roads.

The eastern Sub-Route exits the Dixonville East Substation to the northeast for approximately 1.8 miles passing through predominantly agricultural land. The Sub-Route then turns to a roughly north to northwest trajectory for the next approximately 8.9 miles crossing through mostly forested and agricultural land. The Sub-Route then turns west for the final, approximately 3.9 miles into the Trade City substation passing predominantly forested and agricultural land. The Sub-Route crosses Little Mahoning Creek, State Route 210, State Route 119, State Route 1038, and several local roads. A few residential areas are crossed adjacent to road crossings.

### *Trade City Substation-Timblin Substation*

The western Sub-Route exits the Trade City Substation to the west for approximately 3.5 miles through predominately agricultural and forested land. The Sub-Route then turns to the north for the remaining

approximately 6.4 miles to the Timblin Substation passing through mostly agricultural and forested land. The Sub-Route crosses Mahoning Creek, State Route 954, and several local roads. A few residential areas are crossed adjacent to road crossings.

The central Sub-Route exits the Trade City Substation to the northwest and continues in a relatively straight approximately 7.6-mile path to the Timblin Substation. The Sub-Route partially occupies an existing transmission line ROW for its entire length. The Sub-Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Sub-Route crosses Mahoning Creek, State Route 954, and several local roads.

The Eastern Sub-Route exits the Trade City Substation to the northeast for approximately 3.6 miles through predominately agricultural and forested land. The Sub-Route then turns to the northwest for the remaining approximately 5.8 miles to the Timblin Substation passing through mostly agricultural and forested land. The Sub-Route crosses Mahoning Creek, State Route 954, and several local roads. A few residential areas are crossed adjacent to road crossings.

### *Timblin Substation-Piney Substation*

The western Sub-Route exits the Timblin Substation to the north following an existing transmission line ROW for approximately 0.7-mile. The Sub-Route then turns to the northwest for approximately 3.2 miles and then north for approximately 1.6 miles passing through agricultural and forested land. The Sub-Route then proceeds in a general northwest direction for approximately 12.9 miles, passing between the towns of Hawthorn and Mayport, but largely crossing agricultural and forested lands with a few residential areas adjacent to roads. The Sub-Route then turns to the north and proceeds the remaining approximately 4.6 miles to the Piney Substation passing through forested and agricultural areas, with an adjacent transmission line for part of this leg. The Sub-Route passes over Redbank Creek, Piney Creek, State Route 28, State Route 68, State Route 66, and several local roads.

The central Sub-Route exits the Timblin Substation to the northwest and continues in a relatively straight approximately 21.1-mile path to the Piney Substation. The Sub-Route partially occupies an existing transmission line ROW for its entire length. The Sub-Route largely passes adjacent to forest land and agricultural land; however, a few residential areas are crossed adjacent to some of the road crossings. The Sub-Route passes over Redbank Creek, Piney Creek, State Route 28, State Route 68, State Route 536, State Route 66, and several local roads.

The eastern Sub-Route exits the Timblin Substation to the northeast for approximately 4.7 miles, passing through mostly agricultural land. The Sub-Route then turns to the northwest for the remaining approximately 20.3 miles passing through agricultural and forested land. The Sub-Route passes adjacent to the town of Limestone and the town of Ringgold. The Sub-Route passes over Redbank Creek, Piney Creek, State Route 28, State Route 68, State Route 536, State Route 66, and several local roads. A few residential areas are crossed adjacent to road crossings.

### *Alternative Route Development*

All the western Sub-Routes were combined to form the West Route Alternative, totaling approximately 79 miles. All the central Sub-Routes were combined to form the Central Route Alternative, totaling approximately 66 miles. All the eastern Sub-Routes were combined to form the East Route Alternative, totaling approximately 80 miles. The three Alternative Routes adhere to the PAPUC regulations (52 PA Code 57.1) that define an alternative route as “a reasonable ROW which includes not more than 25 percent of the ROW of the applicant’s proposed route.” These Alternative Routes are shown on Map 4 and 5.

# 5.0 Alternatives Route Comparison

## 5.1 Constraints

A list of primary resource evaluation constraints was developed to compare the suitability of the alternatives. This list includes 32 resource constraints. The constraints were chosen for evaluation of potential transmission line routes based on federal and state permitting requirements, their sensitivity to impact by electric transmission lines, and sources of data available.

The resource categories were evaluated at multiple distances from the Alternative Route centerlines depending on the level of sensitivity (Table 5.1-1). Evaluations include the Route Corridor; the area adjacent to the Route Corridor (including sensitive resources that are in view); and a four-mile-wide corridor centered on each alternative. The four-mile corridor was used to review potential impacts on historic resources, scenic areas, unique geologic areas, wilderness areas, and airports.

The constraints used in the evaluation to select the Proposed Route are briefly described as follows:

### 5.1.1 Engineering Constraints

Length of Route - this includes the entire length of the route including areas that are utilizing existing electric transmission line ROW.

Non-Existing Route Corridor - these include areas required for transmission line construction and operation that is not in an existing electrical transmission line ROW.

Steep Terrain - defined as slopes greater than 20 percent, as calculated from Digital Elevation Model mapping, and is particularly susceptible to erosion.

Airports - the relevant safety zone depends upon terrain and runway configuration and the Federal Aviation Administration (FAA) has developed the Part 77 Conical Surface to regulate structures near airports.

Underground Mine Subsidence Areas - is the movement of the ground surface as a result of the collapse or failure of an abandoned underground mine. Data were obtained from PADEP.

Surface Mining - consists of active or reclaimed mines and includes both mineral extraction and coal mining operations. Data were obtained from PADEP.

Oil and Gas Wells - Data were obtained from PADEP.

Landslide Prone Areas - consists of active or recently active landslides, old landslides, areas susceptible to rockfall, soil and Rock susceptible to landslides, and man-made features such as coal refuse banks or quarries. Data were obtained from published landslide mapping.

### 5.1.2 Land Use Constraints

Parcels Crossed - data was obtained from Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties.

Residential Areas - Houses and apartments identified from aerial photography and field observations.

Environmental Justice Areas- defined by the PADEP as any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority.

Commercial/Industrial Buildings - commercial and industrial buildings were identified from aerial photography and field observations.

Institutional Complexes - include schools, churches, nursing homes, and hospitals.

Hiking and Biking Trails - these areas were identified through review of PADCNR and other nonprofit organization databases.

County, Local or Private Recreational Areas - these areas include county and local parks, as well as golf courses, shooting ranges, or other recreational facilities.

Highway, Railroad, and Road Crossings - these were identified from highway, local, and USGS maps and aerial photography.

Agricultural Land - identified from aerial photography and field observations.

Agricultural Easements - state or county owned easement that protects the farmland from non-agricultural developments.

Conservation Easements- consist of land trusts and easements that limit the uses of the land to protect its conservation value.

### 5.1.3 Environmental Constraints

Forested Wetlands Crossed - as identified on the NWI mapping as forested and may result in a permanent wetland conversion loss for a transmission line ROW.

Non-Forested Wetlands Crossed - as identified on the NWI mapping as Palustrine Emergent or Scrub Shrub and could result in a temporary impact during construction of a transmission line ROW.

Perennial Streams - identified in the National Hydrologic Dataset.

Forested - this represents areas that are presently tree covered that will be cleared for construction and maintained as open ROW.

RTE Buffers - these areas indicate sensitive species or resources regulated by the USFWS, PADCNR, PGC, or PFBC. Species of concern include those species listed as endangered, threatened, or candidate.

Scenic Resources or Unique Geologic Resources - these areas are identified by the state or county as being areas with scenic value.

Wilderness/Natural Area - these areas are designated by the state or federal government as areas protected against development that are to remain in an undisturbed state. These areas were identified in publications of the PADCNR.

National Natural Landmarks - these areas are listed by the National Park Service and represent outstanding natural areas or geologic features.

State and Federal Land- consists of State Forests, State Parks, State Game Lands, or USACE properties.

### 5.1.4 Cultural Resources Constraints

Cemeteries - identified from aerial photography, field observations, and ESRI database.

Architectural Resources - these resources include sites listed on the NRHP or previously determined as eligible for the NRHP as identified from the PA Historical and Museum Commission’s (PHMC) CRGIS database.

Archaeological Sites - these areas include previously recorded sites identified through review of the PHMC CRGIS database.

Historic Districts- a grouping of structures determined as eligible for the NRHP as identified from the PHMC’s CRGIS database.

The parameters used during the measurement of the constraints are shown in Table 5.1-1.

**Table 5.1-1**

**Constraints Analyzed**

| Constraint | Unit of Measurement | Area of Analysis | |
|---|---|---|---|
| | | Within ROW | Within Approximately 250 Feet and 500 Feet of Centerline |
| **Engineering** | | | |
| Length of Route | Miles | X | |
| Non-existing Route Corridor | Acres | X | |
| Steep Terrain | Miles | X | |
| Airports[1] | Miles | X | X |
| Underground Mine Subsidence | Miles | X | |
| Surface Mining | Acres | X | |
| Oil and Gas Wells | Count | X | X |
| Landslide Prone Areas | Acres | X | |
| **Land Use** | | | |
| Parcels | Number | X | |
| Residences (Houses and Apartments) | Number | X | X |
| Environmental Justice Area | Acres | X | |
| Commercial/Industrial Structures and Gas Wells | Number | X | X |
| Institutional Complexes (schools, churches, hospitals, etc.) | Number | X | X |
| Hiking and Bike Trails | Number | X | |
| County, Local, and Private Recreational Areas | Number | X | X |
| Highway, Railroad, and Road | Number | X | |
| Agricultural Land | Acres | X | |
| Agricultural Easements | Acres | X | |
| Conservation Easements | Acres | X | |
| **Environmental** | | | |
| Wetlands (Forested) | Acres | X | |
| Wetlands (Non-Forested) | Acres | X | |
| Perennial Streams | Count | X | |
| Forest | Acres | X | |
| RTE Buffers | Acres | X | |
| Scenic Resources/ Unique Geological Areas[2] | Miles | X | X |
| Wilderness/Natural Areas[2] | Miles | X | X |
| National Natural Landmarks[2] | Miles | X | X |
| State and Federal Land | Acres | X | |
| **Cultural Resources** | | | |
| Cemeteries | Count | | |
| Architectural Resources[2] | Miles | X | X |
| Archaeological Resources[2] | Count | X | X |
| Historic Districts[2] | Miles | X | X |

Notes:

1 Miles within the FAA regulated conical surface.
2 Length of Route within 0.5 miles of resource

Following data acquisition, it was determined that development of the three Alternative Routes had been able to avoid six of the constraints to be used for comparing the alternatives or that the constraints did not exist within the Study Area. These constraints were:

- Airports;
- Conservation Easements;
- Scenic Resources/ Unique Geological Areas;
- Wilderness/Natural Areas;
- National Natural Landmarks; and
- Archaeological Resources.

As a result, 26 of the 32 constraints were used to compare the alternatives.

The three Alternative Routes, along with the constraints were mapped and are shown on Maps 5 and 6.

## 5.2 Alternative Route Impacts and Constraints

The following sections describe the engineering, land use, environmental, and cultural features that could be impacted by each route alternative corridor or could be a constraint to the construction or operation of a transmission line along each route. Table 5.2-1 provides a summary of the impacts and constraints for each route. As noted in Section 4.1 above, a 260-foot-wide corridor was used to evaluate potential impacts related to the Project. Therefore, potential impacts noted below refer to corridor impacts, and not actual ROW impacts. Given the constructed ROW of the Project will be 125 feet, actual ROW impacts will be less than corridor impacts and will be minimized to the extent practicable.

### 5.2.1 Engineering

The West Route Alternative is approximately 79.0 miles in length and would require the acquisition of approximately 2481 acres of new Route Corridor. This route crosses 17.7 miles of steep slope greater than 20 percent. The West Route Alternative is not located in air navigation areas. The West Route Alternative crosses 7.1 miles of land with underground mining subsidence potential and occupies 7.7 acres of surface mining land. Along this route corridor, 68 oil and gas wells would be crossed. The West Route Alternative also contains 297.6 acres of landslide potential in the Route Corridor.

The Central Route Alternative is 66.4 miles in length and would require the acquisition of approximately 1297.8 acres of new Route Corridor. This route crosses 12.9 miles of steep slope greater than 20 percent. The Central Route Alternative is not located in air navigation areas. Central Route Alternative crosses 5.8 miles of land with underground mining subsidence potential and occupies 2.2 acres of surface mining land. Along this Route Corridor, 28 oil and gas wells would be crossed. The Central Route Alternative contains 206.4 acres of landslide potential in the Route Corridor.

The East Route Alternative is 79.7 miles in length and would require the acquisition of approximately 2495.0 acres of new Route Corridor. This route crosses 11.9 miles of steep slope greater than 20 percent. The East Route Alternative is not located in air navigation areas. The East Route crosses 9.3 miles of land with underground mining subsidence potential and occupies 12.9 acres of surface mining land. Within the Route Corridor of this route, 51 oil and gas wells would be crossed. The East Route Alternative contains 163.3 acres of landslide potential in the Route Corridor.

### 5.2.2 Land Use

Along the West Route Alternative, a total of 11 residences and two commercial/industrial buildings would be crossed as well as 398 new parcels or parcels not already within the existing ROW. A total of six trails would be crossed, along with one recreational area. A total of 121 highways/railroads/roadways would be crossed by this route and it would cross 782.4 acres of agricultural land. This route crosses 15.9 acres of Environmental Justice Area. No apartment buildings, churches/schools, conservation easements, or agricultural easements would be affected by this route.

Along the Central Route Alternative, a total of 45 residences and six commercial/industrial buildings would be crossed along with 69 new parcels. A total of two recreational areas would be crossed. A total of 103 highways/railroads/roadways would be crossed by this route and it would cross 438.6 acres of agricultural land. A total of 2.0 acres of agricultural easements would be crossed by this route as well. This route crosses 13.4 acres of Environmental Justice Area. No apartment buildings or churches/schools would be impacted by this route. No new impacts to trails, or conservation easements would be required for this route, as the entirety of this route is sited along an existing transmission line and impacts from the proposed transmission line are comparable to the existing transmission line that will be removed.

Along the East Route Alternative, a total of 19 residences and one commercial/industrial building and 464 new parcels would be crossed. A total of 5 trails would be crossed, along with one recreational area. A total of 114 highways/railroads/roadways would be crossed by this route as well. The East Route Alternative Route Corridor would cross approximately 831.1 acres of agricultural land and one church (Cookport Lutheran Church). This route crosses 14.4 acres of Environmental Justice Area. No apartment buildings, schools, conservation easement, or agricultural easements would be crossed by this route.

### 5.2.3 Environmental

The West Route Alternative would likely cross 3.1 acres of forested/shrub wetlands and 0.3-acre of non-forested wetlands in the Route Corridor. This route crosses a total of 92 streams. The West Route Alternative would likely impact about 1312.8 acres of forested land and cross 29.9 acres of Species of Concern Habitat. The West Route Alternative occupies 5.9 acres of State Forest, Parks, Game Lands, and/or Federal Lands.

The Central Route Alternative would likely cross 1.9 acres of forested/shrub wetlands and 0.7-acre of non-forested wetlands in the Route Corridor. This route crosses a total of 84 streams. The Central Route Alternative would likely impact 757.4 acres of forested land and cross 94.2 acres of Species of Concern Habitat. The Central Route Alternative occupies 4.0 acres of State Forest, Parks, Game Lands, and/or Federal Lands.

The East Route Alternative would likely cross 9.6 acres of forested/shrub wetlands and 0.3-acre of non-forested wetlands in the Route Corridor. This route crosses a total of 71 streams. The East Route Alternative would likely impact 1262.0 acres of forested land and cross 44.3 acres of Species of Concern Habitat. The East Route Alternative occupies 51.7 acres of State Forest, Parks, Game Lands, and/or Federal Lands.

None of the routes cross Scenic Resources, Unique Geological Resources, Wilderness Areas, or Natural Landmarks.

### 5.2.4 Cultural Resources

The West Route Alternative contains 4.1 miles of line within 0.5-mile of listed/eligible historic districts. The West Route Alternative also has 2.2 miles of line within 0.5-mile of previously documented architectural resources. The West Route Corridor does not cross any cemeteries or previously documented archaeological resources.

The Central Route Alternative would likely cross one cemetery (Hice Pershing Cemetery in Seward) within the Route Corridor. This route contains 6.0 miles of line within 0.5-mile of listed/eligible historic districts. The Central Route Alternative also has 2.4 miles of line within 0.5-mile of previously documented architectural resources. The Central Route Corridor does not cross any previously documented archaeological resources.

The East Route Alternative contains 7.9 miles of line within 0.5-mile of listed/eligible historic districts. This route also has 5.0 miles of line within 0.5-mile of previously documented architectural resources. The East Route Alternative does not cross any cemeteries or previously documented archaeological resources.

**Table 5.2-1**

**Alternative Route Resource Summary**

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Route | Length (Miles) | Non-Existing Route Corridor/ Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor/ (Acres) | Surface Mining in Route Corridor/(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells crossed [1] | Airport Impact-Length of Route Corridor/Within FAA Regulated Conical Surface (Miles) | Newly crossed Parcels (Count) | Residences Crossed[1] | Residential Area in New Route Corridor/(Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed by New Route Corridor/(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor/(Acres) | Conservation Easements in New Route Corridor/(Acres) | Agricultural Easements in New Route Corridor/(Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor/(Acres) | Non-Forested Wetlands in New Route Corridor/(Acres) | Streams Crossed (Count) | Forest in New Route Corridor/ (Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural LandmarksCrossed by New Route Corridor/ (Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor/(Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5 Miles of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5 Miles of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor/(Count) |
| West Route Alternative | 78.99 | 2480.89 | 17.71 | 297.61 | 7.74 | 7.14 | 68/112/197 | 0 | 398 | 11/48/161 | 11.56 | 0/0/0 | 2/8/23 | 0/0/2 | 6 | 1/1/2 | 121 | 782.35 | 0 | 0 | 15.9 | 3.07 | 0.25 | 92 | 1312.81 | 29.92 | 0 | 5.88 | 0/0/5 | 4.12 | 2/2/2 | 2.16 | 0 |
| Central Route Alternative | 66.44 | 1297.77 | 12.91 | 206.35 | 2.16 | 5.83 | 28/84/171 | 0 | 69 | 45/95/245 | 21.36 | 0/0/2 | 6/10/17 | 0/0/0 | 0 | 2/2/2 | 103 | 438.58 | 0 | 1.97 | 13.41 | 1.91 | 0.73 | 84 | 757.39 | 94.15 | 0 | 4.04 | 1/1/4 | 5.96 | 2/2/2 | 2.37 | 0 |
| East Route Alternative | 79.71 | 2495.02 | 11.92 | 163.33 | 12.86 | 9.27 | 51/90/184 | 0 | 464 | 19/83/210 | 20.32 | 0/0/0 | 1/6/14 | 1/1/1 | 5 | 1/1/1 | 114 | 831.05 | 0 | 0 | 14.38 | 9.63 | 0.33 | 71 | 1262 | 44.25 | 0 | 51.68 | 0/1/1 | 7.89 | 2/2/3 | 4.96 | 0 |

Note:

[1] #/#/# Indicates number in Route Corridor/number in 500-foot corridor (within 250 feet of centerline)/number in 1,000-foot corridor (within 500 feet of centerline), where appropriate.

## 5.3 Alternative Route Analysis Methodology

This section describes the methods used in the Proposed Route selection process. For the purposes of alternative selection, engineering, cultural, environmental, and land use resource constraints were identified that may be impacted by the construction of an electric transmission line or may affect its operation. The occurrence of these constraints is the key factor that determined the selection of the Proposed Route. To quantitatively analyze the three Alternative Routes, the resource constraints discussed in Section 5.1 were converted to a relative scale, weighted and combined to produce a final impact score of each route. The calculations of the Alternative Route Analysis are provided in Appendix C.

### 5.3.1 Relative Scaling of Constrains

To compare resource measurements (acres, numbers, miles) on a relative scale and to obtain a score that could be compared across the different alternatives, the data were mathematically proportioned to a relative scale of zero to 10. In this procedure the alternative with the highest value (less favorable result) for an individual resource constraint received a relative score of 10; and the remaining value (more favorable result) receives a relative score that was proportional to the maximum score. (Note: If all alternatives have an impact value of zero for a specific resource constraint, then the relative score is set to zero).

The formula used for normalizing the data to achieve a relative scale is as follows, as based on a methodology suggested by EPRI-GTC (2006) and Gaige, et al. (1991):

Normalized score value = (x/maximum value) * 10, where x = actual constraint value.

### 5.3.2 Weighting of Constraints

In order to determine the most suitable alternative, the relative scores for each criterion for each alternative are totaled. However, not all criteria are equally important in selecting between the alternatives. Importance may vary depending upon the sensitivity of a resource, the range of impacts within each constraint, regulatory requirements, constructability and safety issues, and aesthetic considerations, among other issues. Therefore, criteria weights were employed to provide a framework for assessing the relative importance of the various resource criteria. The criteria weights previously established by the Siting Criteria Council (SCC) convened for the GPU DQE 500 kV Transmission Line Project were utilized for the current analysis, with several modifications. The GPU DQE 500 kV Transmission Line Project was a cross-PA siting effort that solicited extensive public and agency input for the identification and weighting of resources of concern. The Nominal Group Technique (NGT - a structured decision-making technique), was used by the SCC to develop each criterion weight. While a range of zero to 100 is theoretically possible, on an individual basis, the SCC's average weight ranged from 25.0 to 83.1.

SCC weights were used for 18 of the 32 resource criteria. GAI further augmented these with an additional 14 resource criteria (Cemeteries, Commercial/Industrial Structures, Environmental Justice Areas, Agricultural Easements, Conservation Easements, Forest Land Cleared, Non-Forested Wetlands, Non-existing Route Corridor, Route Length, Underground Mines, Surface Mines, Oil and Gas Wells, Landslide Areas, and Parcels Crossed) to reflect items of local significance and current regulatory concerns. Weights for these six constraints were assigned by a group of environmental, planning and engineering professionals at GAI that have extensive experience siting and evaluating the impacts of projects in similar areas. The weights were determined by considering the relative importance of these constraints and the weights assigned to related constraints by the SCC.

For example, forest clearing was not a parameter weighted by the SCC. The weight for forested land cleared should be similar to the SCC assigned weight for crossings of state

forests (43.4), as the impact to an environmental resource would be the same. However, crossing state forests would have a greater effect to the Project as they are publicly owned and may require additional effort to acquire ROW, therefore the weight given to state forest should be slightly higher. Thus, a slightly lower weight of 40.0 was assigned for forest land cleared.

After reviewing the range of impacts within each resource category and the potential significance of those impacts, one of the weights assigned by the SCC was lowered by the GAI siting team. The weight for the Core RTE Habitat was reduced due to the potential habitat affected being confined to aquatic features that would be aerially spanned by the Project with no direct impact. The weights used for the evaluation of the alternatives are shown in Table 5.3-1.

**Table 5.3-1**

**Resource Evaluation Constraints and Weights Assigned**

| Resource Evaluation Constraint | Weights |
|---|---|
| Institutional Complexes (schools, churches, hospitals, etc.) within 500 feet | 83.1 |
| National Natural Landmarks | 78.0 |
| Residential & Apartments within 500 feet | 76.9 |
| Cemeteries within 500 feet[1] | 76.8 |
| Architectural Resources (previously documented) | 76.8 |
| Parcels[1] | 75.0 |
| Commercial & Industrial Structures within 500 feet[1] | 75.0 |
| Wilderness/Natural Areas | 73.2 |
| RTE Core habitat[2] | 71.9 |
| Scenic Resources | 71.3 |
| Non-Existing Route Corridor Required[1] | 70.0 |
| County, Local, or Private Recreational Areas | 67.3 |
| Wetlands Forested | 66.2 |
| Wetlands Non-Forested[1] | 60.0 |
| Length of Route[1] | 60.0 |
| Length of Line Within 0.5 Miles of Listed/Eligible Historic District | 56.0 |
| Steep Terrain | 55.0 |
| Conservation Easements[1] | 55.0 |
| Archaeological Resources (previously documented) | 54.0 |
| Landslide-Prone Areas[1] | 53.7 |
| Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface | 52.5 |
| Agricultural Conservation Easements[1] | 45.0 |
| Agricultural Land | 44.0 |
| State and Federal Land | 43.4 |
| Perennial Streams | 43.0 |
| Hiking and Biking Trails | 42.8 |
| Environmental Justice Area[1] | 42.0 |
| Forest[1] | 40.0 |
| Underground Mining Subsidence[1] | 35.0 |
| Surface Mining[1] | 35.0 |
| Highway, Railroad, and Road Crossings | 33.1 |
| Oil and Gas Wells[1] | 25.0 |

Notes:

1 Constraint not identified by the SCC but relevant to the region, regulatory agencies, or project construction.

2 Weight of constraint modified by GAI Siting Team.

## 5.4 Alternative Analysis Results.

Table 5.4-1 presents the results of the ranking analysis of each alternative's impact scores. The analysis compares the constraints among alternatives to determine the Proposed Route.

**Table 5.4-1**

**Ranking Analysis Scores**

| | West Route Alternative | Central Route Alternative | East Route Alternative |
|---|---|---|---|
| Engineering Score | 3107.8 | 2019.3 | 2852.4 |
| Engineering Rank | 3 | 1 | 2 |
| Land Use Score | 4991.8 | 3426.1 | 4100.7 |
| Land Use Rank | 3 | 1 | 2 |
| Environmental Score | 1524.4 | 2107.6 | 2421.5 |
| Environmental Rank | 1 | 2 | 3 |
| Cultural Score | 1394.9 | 1404.4 | 1481.6 |
| Cultural Rank | 1 | 2 | 3 |
| **Total Score** | **11018.9** | **8957.4** | **10856.2** |
| **Final Rank** | **3** | **1** | **2** |

In addition to the ranking evaluation of the three Alternative Routes, public feedback was solicited for consideration in the selection of the Proposed Route. A virtual open house was held with approximately 450 views of the interactive map, as detailed in Section 3.4.

The Results of the alternative analysis are discussed below.

**No Action or Postponed Action Alternative** - The No-Action Alternative would not entail the construction of new facilities or modifications to existing facilities. While this alternative would eliminate impacts to the environment by Project activities, it would not meet the Project's objective, as described in Section 1.1.

**West Route Alternative** – The West Route Alternative scored as the least desirable of the three Route Alternatives. This route was developed to provide for a generally western alternative, utilizing largely forested and agricultural land and maximizing avoidance of conservation and agricultural easements. The West Route Alternative scored as the least desirable when considering only engineering constraints; as it is the second longest route, it requires the second highest amount of new Route Corridor, has the second highest crossings of both underground and surface mines, has the highest oil and gas wells in proximity, and has the most amount of landslide potential and steep slope.

The West Route Alternative scored as the least desirable when considering only land use constraints, as it crosses the highest amount of residences, crosses the second highest number of new parcels, is highest for number of trails crossed, has the highest number of roads/railroads crossed, crosses near the most commercial/industrial buildings, crosses the most recreational areas, crosses the second most agricultural land, crosses the most institutional buildings, and crosses the highest amount of Environmental Justice Area. However, the West Route is tied for the least amount of agricultural easements crossed.

The West Route Alternative scored as the most favorable route when considering only environmental constraints, as it has the least amount of acres for forested wetland and non-forested wetlands crossed, and has the least acreage of Species of Concern habitat crossings. However, the West Route has the greatest number of streams crossed, and the highest acres of forest crossed.

The West Route Alternative is the most desirable when considering only cultural resource constraints, as it has the least length of historic districts within 0.5 miles of its centerline and documented architectural resources within a half mile of its centerline. However, the West Route crosses near the most number of cemeteries.

**Central Route Alternative** – The Central Route Alternative scored as the most desirable alternative of the three Alternative Routes. This route was also developed to provide for a generally central alternative, utilizing the existing transmission line route. The Central Route Alternative scored as the most desirable when considering only engineering constraints, as it is the shortest in length, requires the least amount of new Route Corridor, it has the second least steep slope mileage, has the least amount of underground and surface mining, crosses the least number of oil and gas wells, and has the second least amount for landslide potential areas.

The Central Route Alternative scored as the most desirable when considering only land use constraints, as it has the least crossings of new parcels, has the least crossings of institutional buildings, crosses the least amount of trails, crosses the least number of roads and railroads, crosses the least amount of agricultural land, and has the lowest amount of Environmental Justice Area.

The Central Route Alternative scored as the second most favorable route when considering only environmental constraints, as it has the least crossings of forested wetlands, has the second least amount of streams crossed, has the least amount of forests, and it has the least crossings of State Forests/Parks/Game Lands. However, the Central Route has the highest crossings of non-forested wetlands and Species of Concern habitats.

The Central Route Alternative is the second most desirable when considering only cultural constraints, as it crosses the second least cemeteries, has the second lowest length within a half mile of historic districts and within a half mile of previously documented architectural resources.

**East Route Alternative** – The East Route Alternative scored as the second most desirable alternative of the three Alternative Routes. This route was developed to provide for a generally eastern alternative utilizing largely forested and agricultural land and minimizing the residential area crossings. The East Route Alternative scored as the second least desirable when considering only engineering constraints; as it is the longest route, it requires the highest amount of new Route Corridor, has the highest crossings of both underground and surface mines, and has the second highest oil and gas wells in proximity. However, the East Route has the least amount of landslide potential and steep slope.

The East Route Alternative scored as the second least desirable when considering only land use constraints, as it crosses the second highest amount of residences, crosses the highest number of new parcels, is second highest for number of trails crossed, has the second highest number of roads/railroads crossed, crosses the most agricultural land, crosses the second most institutional buildings, and crosses the second highest amount of Environmental Justice Area. However, the East Route crosses the least number of commercial/industrial buildings and recreational areas and is tied for the least amount of agricultural easements crossed.

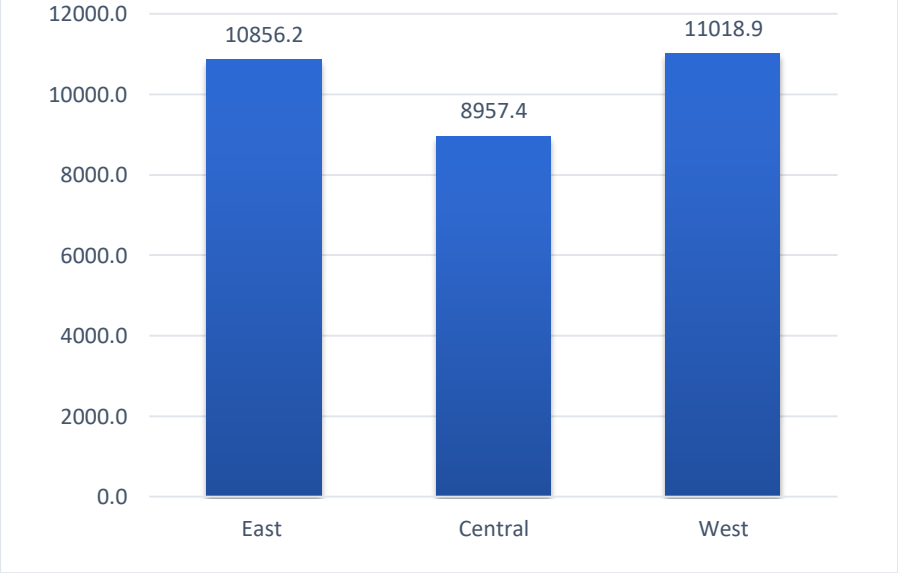
The East Route Alternative scored as the least favorable route when considering only environmental constraints, as it has the highest amount of acreage of forested wetland crossings, has the second highest acreage of non-forested wetlands crossed, has the second highest acreage of forest crossed, and has the second highest acreage of Species of Concern habitat crossings. However, the East Route has the least number of streams crossed.

The East Route Alternative is the least desirable when considering only cultural resource constraints, as it has the most length of historic districts within 0.5-mile of its centerline and

documented architectural resources within a half mile of its centerline. However, the East Route crosses by the least number of cemeteries.

**Summation** - Based on the above analysis, it appears the Central Route Alternative is best suited for selection as the Proposed Route. Utilizing the resource evaluation criteria as a gauge in selecting the Proposed Route (Figure 5.4-1), the ranking analysis indicated that Central Route Alternative scored 8,957.4 which is 1,899 points better than East Route Alternative, which scored 10,856.2. MAIT has identified the Central Route Alternative as the Proposed Route, based on its overall minimization of impacts to engineering, land use, environmental, and cultural constraints. As discussed previously, the Central Route Alternative scored well because of its generally low to medium impacts in relation to most resource evaluation criteria used in the ranking analysis. The Central Route Alternative also requires the least new Route Corridor and partially occupies existing ROW for most of its length. Public response from the virtual open house was minimal, but there was a preference to use the Central Route Alternative along the existing transmission line. The Proposed Route is shown on Map 6 and 7.

**Figure 5.4-1**
**Ranking Analysis Scores**




# 6.0 Proposed Route

The following discusses resource impacts associated with the Central Route Alternative which was selected as the Proposed Route. The following term is also used: "Proposed Route Corridor" means the 260-foot-wide Route Corridor, as defined in section 4.1, of the Proposed Route. As noted in Section 5.2 above, potential impacts noted below refer to Proposed Route Corridor impacts, and not actual ROW impacts.

## 6.1 Socioeconomics

The proposed Project is necessary to reinforce the regional transmission network, maintain service reliability for MAIT customers, and boost the electric capacity of the local transmission system. Negative long-term socioeconomic impacts are not expected from the Proposed Route. Some businesses may experience minor disruptions during the construction; however, MAIT will work with the businesses to minimize the disruption to the extent practical.

The Proposed Route passes through Environmental Justice Areas surrounding Marion Center. The location of the Project in the Environmental Justice Areas was unavoidable as the Dixonville East Substation, that the Project must pass through, is also located in the Environmental Justice Area. Furthermore, the Proposed Route is not anticipated to cause a substantial impact to these areas as it partially utilizes an existing transmission line ROW.

## 6.2 Existing Utilities

The entire Proposed Route is located in or directly adjacent to the existing Piney-Seward 115 kV Transmission Line ROW. Sections of the Piney-Seward 115 kV Transmission Line will be taken out of service as needed during construction, however offset construction will aide in minimizing the need for outages. MAIT will coordinate outages to ensure grid reliability in the region. No impacts to other major utility infrastructure or services are anticipated during the construction of the Proposed Route.

## 6.3 Existing Land Use

Land uses in the areas traversed by the Proposed Route are rural consisting of low-density residential areas, agricultural areas, and wooded areas. The Proposed Route crosses several previously mined lands, many of which have been reclaimed, and the Proposed Route Corridor crosses 28 oil and gas wells. The Proposed Route does not pass through any population centers or developed communities. Terrain in the area that the Proposed Route traverses is mostly rolling hills with some steeper valleys associated with the Clarion River, Piney Creek, Redbank Creek, Mahoning Creek, Blacklick Creek, and the Conemaugh River.

There are approximately 268 major structures within 500 feet of the Proposed Route centerline, including 247 residences, 17 commercial/industrial buildings, 4 cemeteries. There are 52 major structures within the Proposed Route Corridor. Of these structures 45 are residential, six are commercial/industrial and one is a cemetery. However, these structures are located in the Proposed Route's Corridor, the ROW will be engineered to reduce impacts to structures to the extent feasible. Therefore, the Proposed Route is not anticipated to have substantial impacts to existing land use.

## 6.4 Future Land Use

### *County Plans*

Planned Land Use along the Proposed Route can be considered for each county the Proposed Route crosses:

Westmoreland County's future land use plans that may be impacted by the Proposed Route, as stated in its Comprehensive Plan (Westmoreland County 2005), include:

- Focus economic development in the "development triangle," in the central and western parts of the county, not crossed by the Proposed Route; and
- Preserve the low-density character outside of the development triangle.

Impacts to future plans should be minimal as the Proposed Route partially utilizes an existing ROW minimizing impacts to the county's rural feel. Furthermore, the Project would support future growth in the county, where desired.

Indiana County's future land use plans that may be impacted by the Proposed Route, as stated in its Comprehensive Plan (Indiana County 2012), include:

- Promote compact development while enhancing preservation of the County's unique natural, agriculture, open space, historic, and cultural resources;
- Preserve the rural nature of the county; and
- Designate future growth areas throughout the county.

Impacts to future plans should be minimal as the Proposed Route partially utilizes an existing ROW minimizing impacts to the rural feel. Furthermore, the Project would support future growth in the county, where desired.

Jefferson County's future land use plans that may be impacted by the Proposed Route, as stated in its Comprehensive Plan (Jefferson County 1992), include:

- Preserve agricultural lands for the economy; and
- Preserve the rural nature of the county.

Impacts to future plans should be minimal as the Proposed Route partially utilizes an existing ROW minimizing impacts to the rural character of the county.

Armstrong County's future land use plans that may be impacted by the Proposed Route, as stated in its Comprehensive Plan's (Armstrong County 2005), include:

- Preserve the rural nature of the county; and
- Impacts to future plans should be minimal as the Proposed Route partially utilizes an existing ROW minimizing impacts to the rural nature of the county.

Clarion County's future land use plans that may be impacted by the Proposed Route, as stated in its Comprehensive Plan (Clarion County 2004) and the Clarion County Greenways Plan, include:

- The protection and conservation of the low density residential, agricultural, and rural areas;
- Focusing development around Clarion Borough and the Interstate-80 exit 62 area and other areas that have adequate public infrastructure;
- Protecting the land surrounding the Clarion River and the other priority greenway corridors by purchasing land; making conservation, forest, and agricultural easements; transfer/purchase of development rights; or utilizing the Clean and Green Program; and
- The marketing, promoting, and developing of trail towns.

Impacts to future plans should be minimal as the Proposed Route partially utilizes an existing ROW minimizing impacts to the county's rural character and conservation plans. Furthermore, the Project would support future growth in the county, where desired.

### *Trail Plans*

In total, there are three proposed trails that cross the Proposed Route.

- In Indiana County, there are three known proposed trails that cross the Proposed Route; one in Pine Township, one in Green Township, and one in West Mahoning (Indiana County Open Space, Greenways, and Trails Plan, 2010).

Impacts to future trail plans have been minimized as the Proposed Route partially utilizes an existing ROW minimizing visual impacts.

### *Conservation Plans*

The Clarion County Greenways Plan has identified the Clarion River as a priority "Greenway Corridor." The Greenways Plan proposes to protect the land surrounding the Clarion River by purchasing land; making conservation, forest and agricultural easements; transferring/purchasing of development rights; or utilizing the Clean and Green Program. The Proposed Route is adjacent to the Clarion River at the Piney Substation.

In Westmoreland County, there is one project greenway corridor proposed that crosses the Proposed Route (New Horizons, 2008), the Pittsburgh to Harrisburg Mainline Canal Greenway.

In Indiana County, there are several proposed greenways for conservation that cross the Proposed Route that either follow a trail or waterway, according to the *Indiana County Comprehensive Plan and the Indiana County Open Space, Greenways and Trails Plan* (2010).

There are several conservation organizations that support the conservation plans for areas crossed by the Proposed Route which are described in more detail in Section 2.4. These include the Conemaugh Valley Conservancy, the Western Pennsylvania Conservancy, several chapters of Trout Unlimited, the Laurel Highlands Conservation Landscape program.

The Proposed Route crosses these areas mostly within an existing ROW, thereby minimizing potential impacts to the proposed greenways and conservation areas. Impacts to future land use as defined by the counties and conservation organizations will be minimized to the extent practicable.

## 6.5 Land Cover

Land cover crossed by the Proposed Route is mostly undeveloped wooded areas and agricultural uses, with some rural residential, commercial, and scrub-shrub habitat crossed. Larger urban areas are found surrounding Seward, and Clarion; however, the Proposed Route does not directly intersect with these towns. Agricultural lands are concentrated between Glory Substation and Trade City Substation and between Timblin Substation and Piney Substation. Given the Proposed Route is partially located within an existing ROW, impacts to land cover are expected to be minimal.

## 6.6 Soils and Farmland

According to the USDA-National Resources Conservation Service (NRCS) soil mapping, approximately 96% of the soil units crossed by the Proposed Route are classified as not hydric or predominantly non hydric and the remaining 4% are classified as partially or all hydric (USDA, 2023). Hydric soils are spread across the Proposed Route. In addition, approximately 21% of the soil units crossed by the Proposed Route are classified as prime farmland soil, while approximately 36% of the soil in the Study Area is classified as farmland soil of statewide importance (USDA, 2023). Farmland soils occur along the length of the Proposed Route.

One Farmland Preservation Easement is crossed by the Proposed Route just south of the Trade City Substation in Indiana County. However, the easement area is currently crossed by the existing Piney-Seward 115 kV Transmission Line ROW and given the Proposed Route partially occupies this existing ROW, no impacts to agricultural activities are anticipated.

## 6.7 Wetlands

Utilizing data from USFWS' NWI (2021a) data, the Proposed Route crosses several wetland complexes and has a total of approximately three acres of NWI wetlands located within the Proposed Route Corridor. Given the Proposed Route is partially located within the existing ROW of the existing, maintained Piney-Seward 115 kV Transmission Line, impacts to wetlands will be minimized to the extent practicable.

MAIT will complete a wetland and stream field survey for the Project. During construction, MAIT will avoid impacts to wetlands to the extent practicable and secure permits for unavoidable temporary and permanent impacts from the PADEP and USACE, as appropriate. Permanent conversion of wetland vegetative types will be minimized to the extent practicable.

## 6.8 Streams, Rivers, and Reservoirs

Data from USGS NHD (2021) indicates that the Proposed Route crosses a total of 84 stream segments. NHD data showed no ponds or reservoirs are crossed by the Proposed Route.

The Proposed Route directly crosses two Stocked Trout Waters including South Branch Two Lick Creek, and Little Mahoning Creek. The Proposed Route crosses an additional six streams classified as

Stocked Trout Waters either upstream or downstream of the stocking limits, including Little Yellow Creek, Yellow Creek, Redbank Creek, and Piney Creek (PFBC, 2023).

In addition to the Stocked Trout Waters, the Proposed Route also crosses one stream listed as Class A Wild Trout Waters, North Branch Two Lick Creek, as well as three stream segments that support Wild Trout Reproduction (PFBC, 2023).

All categories of Chapter 93 existing or Designated Use are crossed by the Proposed Route. The following is a list of HQ and EV watersheds crossed (The Pennsylvania Code, 2021b).

- Little Mahoning Creek;
- Little Yellow Creek; and
- South Branch Two Lick Creek.

MAIT will complete a wetland and stream field survey for the Project. During construction, MAIT will avoid impacts to streams to the extent practicable and secure permits for unavoidable temporary or permanents impacts from the PADEP and USACE, as appropriate.

## 6.9 Springs

A Review of the PAGWIS showed that no major springs were recorded within the Proposed Route. If a major spring is identified during further Project development the following general mitigation measures may be employed: minimize ground surface disturbance, provide vegetative buffers, avoid alteration of drainage patterns in headwater areas, and employ erosion and sediment control measures to protect drainage ways and streams.

## 6.10 Air Quality

MAIT will not burn debris from ROW clearing or other construction related activities, therefore, no impacts to air quality are anticipated.

## 6.11 Geology and Groundwater

### *Physiographic Provinces*

The Proposed Route crosses through both the Appalachian Plateaus and Central Lowlands Physiographic Province. Physiographic Sections within the Appalachian Plateaus Physiographic Province consists of the Pittsburgh Low Plateau, Allegheny Mountain, High Plateau and Northwestern Glaciated Plateau Sections. Physiographic Sections within the Central Lowlands Physiographic Province consist of the Eastern Lake Section. The Physiographic Sections crossed by the Proposed Route are described in detail in Section 2.11.

### *Bedrock*

Bedrock crossed by the Proposed Route consists of Pennsylvanian, Mississippian, and Devonian aged sedimentary rock (PADCNR, 2022b). There are several gentle to moderate anticlines and synclines crossed by the Proposed Route (Skema et al, 2008).

The Proposed Route crosses Pennsylvanian bedrock in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties. Pennsylvanian bedrock consists of layers of shale, siltstone, sandstone, claystone, limestone, and coal. The Proposed Route also crosses Mississippian bedrock in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties. Mississippian Bedrock consists of a mix of shale, siltstone, sandstone, and conglomerates. A more detailed description of these rock formations crossed by the Proposed Route can be found in Section 2.11. Mineable coals will typically be located within the Pennsylvanian-aged Conemaugh Group, Allegheny Group, and Pottsville Formation. Red beds and claystone that commonly cause slope failures are particularly common within the Conemaugh Group.

### *Groundwater*

As described in detail in Section 2.11, there is one types of aquifers crossed by the Proposed Route. In Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties the aquifers consist of sandstone and shale aquifers with soft to hard water (Penn State, 2016).

Mining in the region of the Proposed Route may alter the flows of groundwater.

## 6.12 Public Drinking Water Sources

The Proposed Route crosses the service areas of several public drinking water suppliers including:

- Highridge Water Authority that extends into St. Clair Township of Westmoreland County and East Wheatfield and Buffington Townships of Indiana County;
- Indiana County Municipal Service Authority in Pine Township;
- Green Township Municipal Authority in Green Township in Indiana County;
- Pennsylvanian American Water Company-Clarion District which extends to parts of Monroe and Piney Townships in Clarion County;

MAIT will employ appropriate environmental controls during construction, therefore, no impacts to water quality or supply within these watersheds are anticipated.

There are no known groundwater withdrawals located within the Proposed Route Corridor (PADEP, 2021a). Due to the rural nature of much of the Proposed Route it is anticipated most residential structures in the vicinity are serviced by private groundwater wells. MAIT will employ appropriate environmental controls during construction, therefore, no impacts to these wells' water quality are anticipated.

## 6.13 Mineral Resources

Oil and gas wells are numerous across the region with 28 active or inactive wells crossed by the Proposed Route Corridor (PADEP, 2022a).

The Proposed Route Corridor crosses approximately 2.2 acres of surface mined areas, between two mining operations. Both are industrial mineral mining operations located in Clarion County.

Approximately six miles of the Proposed Route crosses underground mining areas. The Underground mining areas are largely located in Westmoreland County with some crossed in Jefferson and Clarion Counties (PADEP, 2022b). There are currently one active and two pending underground permitted coal mines crossed by the Proposed Route in Indiana County (PASDA, 2022b). All actively permitted mines are using room and pillar method, which leaves coal pillars behind to support the overburden material. MAIT will employ appropriate engineering practices in former and existing mined areas.

## 6.14 Geohazards

Geohazards are geological environments that can cause engineering risk for an area.

### *Karst*

There are no karst topographic formations crossed by the Proposed Route (PADCNR, 2022b).

### *Surface Mining*

The Proposed Route Corridor crosses approximately 2.2 acres of active surface mined areas, between two mining operations in Clarion County. Surface mined areas are often backfilled during the reclamation process with the soil and rock that once covered the coal. Mined areas may have improperly placed backfill that could result in poor ground conditions for engineered structures along with slope instability. Historic surface mining occurred within the Proposed Route Corridor in Indiana, Armstrong, Jefferson, and Clarion Counties. MAIT will employ appropriate engineering practices in

former and existing mined areas to avoid and minimize potential issues associated with structure placement and stability.

### *Underground Mining*

Approximately six miles of the Proposed Route crosses underground mining areas, largely in Indiana County with some crossed in Jefferson and Clarion Counties. These areas have the potential for mine subsidence which is the movement of the ground surface as a result of the collapse or failure of an abandoned underground mine. MAIT will employ appropriate engineering practices in former and existing mined areas to avoid and minimize potential issues associated with subsidence.

### *Earthquakes*

No recorded earthquakes have originated in areas crossed by the Proposed Route (Scharnberger, 2003; PADCNR, 2022b).

### *Landslides*

The Proposed Route Corridor crosses approximately 206 acres of landslide prone area. Concentrations of landslide prone areas along the Proposed Route are greatest in Indiana, Jefferson, and Clarion Counties but occur along its length. Landslides are slope failures causing downslope movement of soil and rock material. Landslide hazards can be controlled by limiting development in highly susceptible landslide areas and adding construction requirements that can help mitigate potential triggers from causing a landslide. MAIT will employ appropriate engineering practices in landslide prone areas.

## 6.15 Solid and Hazardous Waste Sites

There are no sites within the Proposed Route Corridor listed in the USEPA Superfund Program. Additionally, a search of the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) showed that there are no CERCLIS sites located within the Proposed Route Corridor (USEPA, 2021).

## 6.16 Natural Heritage, Threatened and Endangered Species

The Proposed Route Corridor crosses several “Species of Special Protection” areas as shown on the PNHP Conservation Explorer map. These areas are referred to as “buffers.” These buffers have the potential to contain the indicated species. Below is each "species of special protection” that the Preferred Route Corridor crosses, per agency.

**Table 6.16-1**
**Species of Concern Crossed by the Proposed Route**

| Agency | Species of Concern | Number of Buffers Crossed by Proposed Route Corridor |
|---|---|---|
| PA Fish and Boat Commission | Least Brook Lamprey (Lampetra aepyptera) | 3 |
| | Wavyrayed Lampmussel (Lampsilis fasciola) | 2 |
| | Round Pigtoe (Pleurobema sintoxia) | 2 |
| | Rainbow (Villosa iris) | 1 |
| PA Game Commission | Great Blue Heron (Ardea Herodias) | 1 |
| PA Department of Conservation and Natural Resources | Sensitive Species | 2 |

According to the USFWS’ Environmental Conservation Online System, two federally threatened species; Northern long-eared bat (*Myotia septentrionalis*), and Small Whorled Pogonia (*Isotria medeoloides*) as well as six federally endangered species; Indiana bat (*Myotis sodalis*), Clubshell

Mussel (*Pleurobema clava*), Northern Riffleshell (*Epioblasma torulosa rangiana*), Rayed Bean (*Villosa fabalis*), Sheepnose Mussel (*Plethobasus cyphyus*), and Snuffbox Mussel (*Epioblasma triquetra*) are known to occur in the project vicinity (USFWS, 2021b). Although not a listed species, the Bald Eagle (*Haliaeetus leucocephalus*) is known to occur in all counties crossed by the Proposed Route and is protected by the Bald and Golden Eagle Protection Act.

MAIT will coordinate with the PADCNR, PGC, PFBC, and USFWS as part of Project development and conduct surveys and implement mitigation measures, as appropriate.

## 6.17 Federal, State or Local Natural Areas, Preserves and Conservation Lands

The Proposed Route crosses Mahoning Creek Lake, federal lands owned by the USACE (PNHP, 2021). The potential for impacts to this area has been minimized by utilizing the existing transmission Line ROW. MAIT will coordinate with the USACE regarding these crossings.

The Proposed Route does not cross any State Game Lands, or State Wild and Natural Areas (PADNCR, 2021).

The Core Habitat Areas that are crossed by the Preferred Route Corridor are: Conemaugh River at Powerplant Road, Cramer Pike, Little Yellow Creek, South Branch Two Lick Creek, Little Mahoning Creek-Upper, Mahoning Creek, and Redbank Creek at Mayport (PNHP, 2021). See Section 2.16 for a more in-depth description of each Core Habitat. The potential for impacts to these resources has been minimized by partially utilizing the existing Piney-Seward 115 kV Transmission Line ROW.

One agricultural conservation easement is crossed by the Proposed Route Corridor in Indiana County (PNHP, 2021). This easement area is currently being crossed by the existing Piney-Seward kV Transmission Line ROW and given the Proposed Route partially occupies this existing ROW, no substantial impacts to this conservation area is anticipated.

## 6.18 Archaeological and Historic Resources

Background research was conducted through a review of PA-SHARE to collect information on previously recorded cultural resources, including NRHP-listed historic properties, previously recorded archaeological sites, and previously recorded architectural and historical resources mapped within 0.5-mile from the Proposed Route centerline. This review identified 82 previously recorded architectural resources, one historic district, six railroad corridor districts, seven Native American paths, 24 archaeological sites, and 22 previous archaeological surveys.

Of the previously recorded cultural resources within 0.5-mile of the Proposed Route, two are listed in the NRHP, five have been previously determined as eligible for the NRHP, 13 have been previously determined as not eligible, 97 resources have not had a formal NRHP determination, and three are indicated as demolished. Of these resources, 17 previously recorded above ground resources are crossed by the Proposed Route Corridor including: five architectural resources, five railroad corridor districts, and seven Native American paths. A list of the NHL, NRHP-listed, and NRHP-eligible above ground resources is provided in Table 6.18-1.

**Table 6.18-1**
**Previously Recorded NHL, NRHP-Listed, and NRHP-Eligible Above Ground Cultural Resources within 0.5-Miles of the Proposed Route**

| ID # | Name / Location | Date | SHPO Evaluation | Crossed by Proposed Route Corridor |
|---|---|---|---|---|
| 1979RE00825 (NRHP: 74001817) | Western Division of Pennsylvania Canal | 1861 | Listed | Yes |
| 1988RE00104 (NRHP: 94001057) | Commodore Historic District | 1919-1949 | Listed | No |
| 1992RE00252 | Buffalo, Rochester & Pittsburgh Railway (Cloe to Homer City and Ridge Branch Junction to Clarksburg) | n/a | Eligible | Yes |
| 2011RE00067 | Buffalo, Rochester & Pittsburgh Railway | n/a | Eligible | Yes |
| 1993RE00391 | Pennsylvania Railroad: Main Line (Harrisburg to Pittsburgh) | n/a | Eligible | No |
| 2000RE00873 | Piney Station Hydroelectric Plant | 1924 | Eligible | Yes |
| 2007RE00188 | Petroleum Center Road Bridge | 1884 | Eligible | No |
| 2010RE00204 | Pittsburg & Shawmut Railroad | 1900-1920 | Eligible | Yes |

Previously recorded archaeological resources within 0.5 miles of the Proposed Route are comprised of 17 precontact sites, two historic period sites, and five multicomponent precontact and historic period sites. Of these 24 sites, one was previously determined not eligible for the NRHP, 21 have not had a formal NRHP determination, and two are indicated as demolished. The Proposed Route Corridor crosses three archaeological sites, each of which has no NRHP evaluation. A list of the previously recorded archaeological resources crossed by the Proposed Route Corridor is provided in Table 6.18-2.

**Table 6.18-2**
**Previously Recorded Archaeological Resources Crossed by the Proposed Route Corridor**

| Trinomial | ID # | Name / Location | Period | SHPO Evaluation |
|---|---|---|---|---|
| 36CL0197 | 2013RE01289 | Porter | Historic | Undetermined |
| 36IN0089 | 1980RE01290 | Coleman #2 | Both Pre-Contact and Historic | Undetermined |
| 36IN0397 | 2000RE01455 | Christmas Tree Site | Pre-Contact | Undetermined |

MAIT will coordinate with the PA SHPO regarding the Proposed Route and conduct surveys and implement mitigation measures, as appropriate.

## 6.19 Scenic Resources

The Scenic Resources located close to the Proposed Route include the following:

- Laurel Highlands Scenic Byway;
- Conemaugh Gorge;

- Sun Cliff;
- North Country Scenic Trail (N.C.T.); and
- Laurel Highlands Hiking Trail (part of Potomac Heritage National Scenic Trail).

The Proposed Route does not directly cross the Laurel Highlands Scenic Byway, Conemaugh Gorge, Sun Cliff, or the Laurel Highlands National Scenic Trail. As the Proposed Route is partially utilizing an existing ROW, visual impacts to these resources are not anticipated.

The N.C.T. is crossed by the Proposed Route, west of Williamsburg along Piney Dam Road. A transmission line ROW is already located along the Proposed Route in this location; therefore, visual impacts are expected to be minimal.

There are no state scenic rivers near the Proposed Route.

## 6.20 National Wild and Scenic Rivers, Parkways, and Natural Landmarks

There are no National Wild and Scenic River crossed by the Proposed Route.

There are no National Natural Landmarks or Federal Scenic Parkways crossed by the Proposed Route.

There are no state scenic rivers near the Proposed Route.

## 6.21 Floodplains

Review of FEMA's 100-year floodplain data shows that numerous mapped floodplains (Table 6.21-1) are located along the Proposed Route. Floodplains crossed by the Proposed Route are listed below by county.

**Table 6.21-1**
**Floodplains Crossed by Proposed Route**

| County | Waterbody Associated with the Floodplain |
|---|---|
| Westmoreland County | Conemaugh River |
| Indiana County | Conemaugh River, Blacklick Creek, Clarke Run, Yellow Creek, Little Yellow Creek, Sides Run, Pompey Run, North Branch Two Lick Creek, UNTs to North Branch Two Lick Creek (2), South Branch Two Lick Creek, Dixon Run, UNTs to Pickering Run (2), Mahoning Creek, Little Mahoning Creek, Carr Run, UNT to Carr Run |
| Jefferson County | Hamilton Run, Pine Run |
| Armstrong County | Redbank Creek |
| Clarion County: | Redbank Creek, Pine Creek, Town Run, UNTs to Town Run (2), Sloan Run, Parsons Run, Piney Creek, Brush Run |

MAIT will consider the location of floodplains during later design phases. The identified floodplains are relatively narrow given the topographic relief and impacts to floodplains are anticipated to be minimal.

## 6.22 Recreation

The following recreational areas (Table 6.22-1) are crossed or bordered by the Proposed Route. These recreational areas are further described in in Section 2.22.

**Table 6.2**
**Recreational Areas Crossed or Bordered by the Proposed Route**

| County | Recreational Area |
|---|---|
| Westmoreland County | • Kiski-Conemaugh River Water Trail |
| Indiana County | • Little League Fields<br>• Black Lick Valley Natural Area<br>• Ghost Town Trail (GTT)<br>• Mahoning Creek Lake Recreation Area |
| Jefferson County | • Mahoning Creek Lake Recreation Area<br>• Baker Trail |
| Armstrong County | • Baker Trail |
| Clarion County | • North County National Scenic Trail<br>• Redbank Valley Trail<br>• Clarion River Water Trail |

Given the Proposed Route lies partially within the existing transmission ROW, minimal impacts are anticipated to these recreational areas. MAIT will coordinate with the owner and other relevant jurisdictional authorities prior to and during construction regarding these areas and will implement measures to provide for public safety.

## 6.23 Transportation/Aviation

### *Roadways*

Using online Google Earth Imagery (accessed 2021) roadway and aerial photography mapping to identify public roadways, it was determined the Proposed Route crosses 100 public roadways. These include U.S. Routes 22, 119, and 422; State Routes 28, 66, 68, 210, 286, 403, 536, 553, 580, 711, and 954; and various other local roadways. The roadways are currently spanned by the existing 115 kV Transmission Line and will be spanned by the Proposed Route's conductors as well; therefore, no additional permanent impacts are anticipated. MAIT will coordinate and obtain permits from PennDOT for these crossings, as appropriate.

### *Railroads*

The Proposed Route spans the following railroads.

**Table 6.23-1**
**Railroads Crossed by the Proposed Route**

| County | Railroad |
|---|---|
| Indiana County | • Buffalo & Pittsburgh Railroad Inc (twice),<br>• R.J. Corman Railroad Co.<br>• Norfolk Southern Railway Company/National RR Passenger Corp |

No permanent impacts to the railroads are anticipated as they are currently spanned by the existing 115 kV Transmission Line. MAIT will coordinate and obtain permits from the railroads for these crossings, as appropriate.

### *Airports*

The Proposed Route is not located within 0.5 miles of any airports, landing strips, or helipads. Nor does the Proposed Route crosse Federal Aviation Regulation Part 77 horizontal and conical surfaces. MAIT will coordinate with the FAA as appropriate.

# 7.0 Summary

MAIT is proposing the construction of approximately 66 miles of electric transmission line rebuild in Westmoreland, Indiana, Jefferson, Armstrong, and Clarion Counties. This rebuild will pass thru the following existing substations:

- the Seward Substation located in East Wheatfield Township, Indiana County;
- the Glory Substation located in Pine Township, Indiana County;
- the Dixonville East Substation located in Green Township, Indiana County;
- the Trade City Substation located in West Mahoning Township, Indiana County;
- the Timblin Substation located in Timblin Borough and Ringgold Township, Jefferson County; and
- the Piney Substation located in Piney Township, Clarion County.

Structures are proposed to be single pole steel while the proposed ROW width will be 125 feet and partially occupy the existing Piney-Seward 115kV Transmission Line ROW. The Project is necessary to mitigate reliability risks associated with aging existing structure conditions and improve service reliability for over 14,000 customers and accommodate existing and future demand in the area.

MAIT retained GAI to develop alternative transmission line routes between the existing Seward Substation and Piney Substation to connect the other four existing substations. These were evaluated for overall engineering, environmental, land use, and cultural compatibility, suitability, and feasibility. The results are presented in this Alternative Routes Analysis. GAI developed three Alternative Routes; the West Route, the Central Route, and the East Route. Following analysis, it was determined that the Central Route scored best for engineering and land use considerations and second best for environmental and cultural considerations. Cumulatively, the Central Route scored the most favorable alternative and, in conjunction with consideration of public input and engineering feasibility, was selected as the Proposed Route.

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# MAPS

# APPENDIX A
## Archaeological and Historic Resources Tables

**Table 2.18-3**
**Previously Recorded Archaeological Sites by County within Study Area**

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| **Westmoreland County (*n*=2)** | | | | |
| 36WM0525 | Westmoreland | Robb #1 | Prehistoric | Undetermined |
| 36WM0526 | Westmoreland | Robb #2 | Prehistoric | Undetermined |
| **Indiana County (*n*=99)** | | | | |
| 36IN/029 | Indiana | Isolated Find | Historic | Undetermined |
| 36IN0010 | Indiana | Mr. Hill | Prehistoric | Undetermined |
| 36IN0011 | Indiana | Robert Wagner Farm 1 | Prehistoric | Undetermined |
| 36IN0015 | Indiana | Buffington | Prehistoric; Historic | Undetermined |
| 36IN0016 | Indiana | Bracken | Prehistoric | Undetermined |
| 36IN0017 | Indiana | Brehm | Prehistoric; Historic | Undetermined |
| 36IN0031 | Indiana | Big Mahoning Creek | Prehistoric | Undetermined |
| 36IN0032 | Indiana | Little Mahoning Creek | Prehistoric | Undetermined |
| 36IN0036 | Indiana | | Prehistoric | Undetermined |
| 36IN0037 | Indiana | | Prehistoric | Undetermined |
| 36IN0038 | Indiana | Byron Anthony Farm | Prehistoric | Undetermined |
| 36IN0039 | Indiana | West Mahoning 1 | Prehistoric | Undetermined |
| 36IN0040 | Indiana | Weaver Farm | Prehistoric | Undetermined |
| 36IN0041 | Indiana | Mahoning Creek | Prehistoric; Historic | Undetermined |
| 36IN0042 | Indiana | W.A. McCormick 1 | Prehistoric | Undetermined |
| 36IN0043 | Indiana | W.A. McCormick 2 | Prehistoric | Undetermined |
| 36IN0044 | Indiana | W.A. McCormick 3 | Prehistoric | Undetermined |
| 36IN0045 | Indiana | Coon Farm 2 | Prehistoric | Undetermined |
| 36IN0046 | Indiana | McConnaughey | Prehistoric | Undetermined |
| 36IN0047 | Indiana | Stiteler Farm 1 | Prehistoric | Undetermined |
| 36IN0048 | Indiana | Hazlett Farm 1 | Prehistoric | Undetermined |
| 36IN0049 | Indiana | Hazlett Farm 2 | Prehistoric | Undetermined |
| 36IN0050 | Indiana | Stiteler Farm 2 | Prehistoric | Undetermined |
| 36IN0051 | Indiana | Anniter Farm | Prehistoric | Undetermined |
| 36IN0052 | Indiana | Knapp Farm | Prehistoric | Undetermined |
| 36IN0053 | Indiana | West Mahoning 4 | Prehistoric | Undetermined |
| 36IN0054 | Indiana | Mark Anthony Farm | Prehistoric | Undetermined |
| 36IN0056 | Indiana | Oberlin | Prehistoric | Undetermined |
| 36IN0066 | Indiana | Buena Vista Furnace | Historic | Undetermined |
| 36IN0071 | Indiana | Mauk | Prehistoric; Historic | Undetermined |
| 36IN0074 | Indiana | Minnie Brothers | Prehistoric | Undetermined |
| 36IN0075 | Indiana | McConnaughey 2 | Prehistoric | Undetermined |

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| 36IN0076 | Indiana | Stiteler Barn | Prehistoric | Undetermined |
| 36IN0077 | Indiana | Stiteler Hotsport I | Prehistoric | Undetermined |
| 36IN0078 | Indiana | Stiteler Hotsport II | Prehistoric | Undetermined |
| 36IN0081 | Indiana | Anthony's At No Point 3 | Prehistoric | Undetermined |
| 36IN0082 | Indiana | Anthony's At No Point 4 | Prehistoric | Undetermined |
| 36IN0083 | Indiana | Anthonys N Point #5 | Prehistoric | Undetermined |
| 36IN0084 | Indiana | North Point Historic Cemetery | Historic | Undetermined |
| 36IN0085 | Indiana | Knapps Barn Pond | Prehistoric | Undetermined |
| 36IN0089 | Indiana | Coleman #2 | Prehistoric; Historic | Undetermined |
| 36IN0090 | Indiana | Coleman #1 | Prehistoric | Undetermined |
| 36IN0092 | Indiana | Rhyolite/Near Chris Kuhns | Prehistoric | Undetermined |
| 36IN0093 | Indiana | Bob Johnston/Fluted Pt S | Prehistoric | Undetermined |
| 36IN0094 | Indiana | Fishing Access | Prehistoric | Undetermined |
| 36IN0140 | Indiana | Bash #1 | Prehistoric | Undetermined |
| 36IN0141 | Indiana | Bash #2 | Prehistoric | Undetermined |
| 36IN0144 | Indiana | Buterbaugh | Prehistoric | Undetermined |
| 36IN0189 | Indiana | Yeackley | Prehistoric | Demolished |
| 36IN0190 | Indiana | Dieltown | Prehistoric | Undetermined |
| 36IN0193 | Indiana | Dilltown | Prehistoric | Undetermined |
| 36IN0194 | Indiana | Blacklick Church | Prehistoric; Historic | Undetermined |
| 36IN0197 | Indiana | Lanachy #2 | Prehistoric | Undetermined |
| 36IN0198 | Indiana | Zanachy #3 | Prehistoric | Undetermined |
| 36IN0199 | Indiana | Kuhns #1 | Prehistoric | Undetermined |
| 36IN0200 | Indiana | Kuhns #2 | Prehistoric | Undetermined |
| 36IN0203 | Indiana | J M Kazer #1 | Prehistoric | Undetermined |
| 36IN0204 | Indiana | J M Kazer #2 | Prehistoric | Undetermined |
| 36IN0205 | Indiana | Lewis | Prehistoric | Undetermined |
| 36IN0206 | Indiana | William Barrett | Prehistoric | Undetermined |
| 36IN0207 | Indiana | Little Mahoning Cutoff | Prehistoric | Undetermined |
| 36IN0208 | Indiana | Hazel Stiteler | Prehistoric | Undetermined |
| 36IN0253 | Indiana | Hick | Prehistoric; Historic | Undetermined |
| 36IN0278 | Indiana | Green #1 | Prehistoric | Undetermined |
| 36IN0279 | Indiana | Green #2 | Prehistoric | Undetermined |
| 36IN0294 | Indiana | Ruth Fulton | Prehistoric | Undetermined |
| 36IN0298 | Indiana | Lemmon | Prehistoric | Undetermined |
| 36IN0325 | Indiana | Marusa I | Prehistoric | Undetermined |
| 36IN0326 | Indiana | Marusa II | Prehistoric | Undetermined |
| 36IN0327 | Indiana | Kunkle | Historic | Undetermined |

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| 36IN0328 | Indiana | Stonebraker | Historic | Undetermined |
| 36IN0350 | Indiana | Clark Run | Prehistoric; Historic | Undetermined |
| 36IN0351 | Indiana | Highlands Rockshelter | Prehistoric | Undetermined |
| 36IN0355 | Indiana | Blacklick Site | Prehistoric | Undetermined |
| 36IN0397 | Indiana | Christmas Tree Site | Prehistoric | Undetermined |
| 36IN0402 | Indiana | Ferringer #1 | Prehistoric | Undetermined |
| 36IN0403 | Indiana | Miller Farm Site | Prehistoric | Undetermined |
| 36IN0404 | Indiana | Knapp Spring Site | Prehistoric | Undetermined |
| 36IN0405 | Indiana | Iron Bridge Site | Prehistoric | Undetermined |
| 36IN0407 | Indiana | Miller Farm #2 | Prehistoric | Undetermined |
| 36IN0408 | Indiana | Miller Farm #3 | Prehistoric | Undetermined |
| 36IN0409 | Indiana | Knapp Flats #1 | Prehistoric | Undetermined |
| 36IN0410 | Indiana | Knapp Flats #2 | Prehistoric | Undetermined |
| 36IN0411 | Indiana | Sommers Farm #2 | Prehistoric | Undetermined |
| 36IN0412 | Indiana | Sommers Farm #3 | Prehistoric | Undetermined |
| 36IN0413 | Indiana | Sommers Farm #4 | Prehistoric | Undetermined |
| 36IN0414 | Indiana | Troyer Farm #1 | Prehistoric | Undetermined |
| 36IN0415 | Indiana | Troyer Farm #2 | Prehistoric | Undetermined |
| 36IN0418 | Indiana | Kuhn Flats #1 | Prehistoric | Undetermined |
| 36IN0419 | Indiana | Kuhn Flats #2 | Prehistoric | Undetermined |
| 36IN0420 | Indiana | Twin Springs Site | Prehistoric | Undetermined |
| 36IN0421 | Indiana | Pig Farm #1 | Prehistoric | Undetermined |
| 36IN0422 | Indiana | Pig Farm #2 | Prehistoric | Undetermined |
| 36IN0423 | Indiana | Conrad Farm #1 | Prehistoric | Undetermined |
| 36IN0449 | Indiana | Huczko | Prehistoric | Not Eligible |
| 36IN0454 | Indiana | Buckshaw | Historic | Undetermined |
| 36IN0475 | Indiana | Boychuck | Prehistoric; Historic | Undetermined |
| 36IN0476 | Indiana | Bracken Upland | Prehistoric | Undetermined |
| 36SO0390 | Indiana | St. John the Baptist Catholic Church | Historic | Not Eligible |
| **Jefferson County (*n*=34)** | | | | |
| 36BL/002 | Jefferson | Isolated Find - Walter 1 | Prehistoric | Undetermined |
| 36FR/013 | Jefferson | Isolated Find - Isolate 4-1 | Prehistoric | Undetermined |
| 36IN0040 | Jefferson | Weaver Farm | Prehistoric | Undetermined |
| 36JE0002 | Jefferson | Little Sandy Fard | Prehistoric | Undetermined |
| 36JE0005 | Jefferson | Langville Comp | Prehistoric | Undetermined |
| 36JE0009 | Jefferson | Montgomery Farms | Prehistoric | Undetermined |
| 36JE0010 | Jefferson | Little Sandy Creek Bridge | Prehistoric | Undetermined |
| 36JE0012 | Jefferson | County Line Rock Shelter | Prehistoric | Undetermined |

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| 36JE0021 | Jefferson | | Prehistoric | Undetermined |
| 36JE0033 | Jefferson | Hamilton #1 | Prehistoric | Undetermined |
| 36JE0034 | Jefferson | Hamilton #2 | Prehistoric | Undetermined |
| 36JE0039 | Jefferson | Ringgold #1 | Prehistoric | Undetermined |
| 36JE0040 | Jefferson | Montgomery Farm #2 | Prehistoric | Undetermined |
| 36JE0041 | Jefferson | Montgomery Farm #3 | Prehistoric | Undetermined |
| 36JE0042 | Jefferson | Ames #1 | Prehistoric | Undetermined |
| 36JE0043 | Jefferson | Ames #2 | Prehistoric | Undetermined |
| 36JE0044 | Jefferson | Ames #4 | Prehistoric | Undetermined |
| 36JE0045 | Jefferson | Ames #5 | Prehistoric | Undetermined |
| 36JE0046 | Jefferson | Ames #6 | Prehistoric | Undetermined |
| 36JE0065 | Jefferson | Nilsat Hamilton | Prehistoric | Undetermined |
| 36JE0066 | Jefferson | Shieslury At Hamilton | Prehistoric | Undetermined |
| 36JE0069 | Jefferson | North Freedom Rockshelter | Prehistoric | Undetermined |
| 36JE0070 | Jefferson | | Prehistoric | Undetermined |
| 36JE0076 | Jefferson | Langville Rockshelter | Prehistoric | Undetermined |
| 36JE0077 | Jefferson | Bills Bridge | Prehistoric | Undetermined |
| 36JE0093 | Jefferson | T. Smith | Prehistoric; Historic | Undetermined |
| 36JE0094 | Jefferson | Mary Todd House | Historic | Undetermined |
| 36JE0095 | Jefferson | Pine Run | Prehistoric | Undetermined |
| 36JE0108 | Jefferson | Whistling Bridge | Prehistoric | Undetermined |
| 36JE0111 | Jefferson | Leaning Tree Bottom | Prehistoric | Undetermined |
| 36JE0118 | Jefferson | Painter Run Cache | Prehistoric | Demolished |
| 36JE0155 | Jefferson | Sandy Knoll Site | Prehistoric | Undetermined |
| 36JE0158 | Jefferson | Sandy Bend Site | Prehistoric | Undetermined |
| 36JE0172 | Jefferson | Tarkiln | Prehistoric | Undetermined |
| **Armstrong County (*n*=23)** | | | | |
| 36AR/022 | Armstrong | Isolated Find - Phase IB Archaeological Survey, Project Construction Phase B | Historic | Undetermined |
| 36AR0115 | Armstrong | Mouth Of Little Sandy Creek | Prehistoric | Undetermined |
| 36AR0116 | Armstrong | Nolf Run | Prehistoric | Undetermined |
| 36AR0117 | Armstrong | Fish Basket Village 2 Flats | Prehistoric; Historic | Undetermined |
| 36AR0134 | Armstrong | Fishbasket Village | Prehistoric; Historic | **Eligible** |
| 36AR0190 | Armstrong | CRMP's Smv-1 | Prehistoric | Demolished |
| 36AR0196 | Armstrong | CRMP's NBM-5 | Prehistoric | Undetermined |
| 36AR0240 | Armstrong | Hawthorne | Prehistoric | Undetermined |
| 36AR0435 | Armstrong | First Street | Prehistoric | Undetermined |
| 36AR0436 | Armstrong | Brocious | Prehistoric | Undetermined |

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| 36AR0437 | Armstrong | Pope | Prehistoric | Undetermined |
| 36AR0440 | Armstrong | Mayport Rockshelter | Prehistoric | Undetermined |
| 36AR0472 | Armstrong | Byrd #1 | Prehistoric | Undetermined |
| 36AR0473 | Armstrong | Byrd #2 | Prehistoric | Undetermined |
| 36AR0541 | Armstrong | Domire | Historic | Undetermined |
| 36AR0543 | Armstrong | Oak Ridge 1 | Historic | Undetermined |
| 36AR0544 | Armstrong | Oak Ridge 2 | Historic | Undetermined |
| 36AR0545 | Armstrong | Oak Ridge 3 | Prehistoric; Historic | Undetermined |
| 36AR0546 | Armstrong | Oak Ridge 4 | Historic | Undetermined |
| 36AR0547 | Armstrong | Oak Ridge 5 | Prehistoric; Historic | Undetermined |
| 36AR0548 | Armstrong | Oak Ridge 6 | Historic | Undetermined |
| 36AR0549 | Armstrong | Oak Ridge 7 | Historic | Undetermined |
| 36AR0559 | Armstrong | Brick House | Prehistoric; Historic | Undetermined |
| **Clarion County (*n*=55)** | | | | |
| 36CL/121 | Clarion | Isolated Find - PA American Clarion WW Act 537 | Prehistoric | Undetermined |
| 36CL/122 | Clarion | Isolated Find - Commonwealth Connector | Prehistoric | Undetermined |
| 36CL/126 | Clarion | Isolated Find - Phase IB Archaeological Survey, Project Construction Phase A | Historic | Undetermined |
| 36CL/127 | Clarion | Isolated Find - Phase IB Archaeological Survey, Project Construction Phase A | Historic | Undetermined |
| 36CL/128 | Clarion | Isolated Find - Phase IB Archaeological Survey, Project Construction Phase A | Historic | Undetermined |
| 36CL/129 | Clarion | Isolated Find - Phase IB Archaeological Survey, Project Construction Phase A | Historic | Undetermined |
| 36CL0037 | Clarion | Jack Snow | Prehistoric; Historic | Undetermined |
| 36CL0040 | Clarion | Madison Furnace | Historic | Undetermined |
| 36CL0041 | Clarion | Hahn's Ferry | Historic | Undetermined |
| 36CL0063 | Clarion | Peney Creek | Prehistoric | Undetermined |
| 36CL0065 | Clarion | Finnefrock | Prehistoric | Undetermined |
| 36CL0071 | Clarion | Brush Run Flats | Prehistoric | Undetermined |
| 36CL0075 | Clarion | Rimrock Shetter | Prehistoric | Undetermined |
| 36CL0076 | Clarion | Beaver Hill Rock Shelter | Prehistoric | Undetermined |
| 36CL0077 | Clarion | Deer Creek Overlook Rock Shelter | Prehistoric | Undetermined |
| 36CL0086 | Clarion | Miller Farm Pine Creek | Prehistoric | Undetermined |
| 36CL0087 | Clarion | Shaffer | Prehistoric | Undetermined |
| 36CL0088 | Clarion | Maysport Bank | Prehistoric | Undetermined |
| 36CL0092 | Clarion | Cherico | Prehistoric | Undetermined |

| Site # | County | Name | Time Period | SHPO NRHP Evaluation |
|---|---|---|---|---|
| 36CL0093 | Clarion | Fishbasket North | Prehistoric | **Eligible** |
| 36CL0096 | Clarion | Town Run | Prehistoric | Undetermined |
| 36CL0097 | Clarion | East Wash | Prehistoric | Undetermined |
| 36CL0098 | Clarion | West Wash | Prehistoric | Undetermined |
| 36CL0106 | Clarion | Peney Creek | Prehistoric | Undetermined |
| 36CL0107 | Clarion | Peney Creek #2 | Prehistoric | Undetermined |
| 36CL0123 | Clarion | McCauley | Prehistoric | Undetermined |
| 36CL0124 | Clarion | Gurver | Prehistoric | Undetermined |
| 36CL0125 | Clarion | Stan Carrier | Prehistoric | Undetermined |
| 36CL0136 | Clarion | Vendel 6 | Prehistoric | Undetermined |
| 36CL0137 | Clarion | JC & K Coal | Prehistoric | Undetermined |
| 36CL0146 | Clarion | Shaffer #1 | Prehistoric | Undetermined |
| 36CL0147 | Clarion | Shaffer #2 | Prehistoric | Undetermined |
| 36CL0148 | Clarion | Piney Creek | Historic | Undetermined |
| 36CL0152 | Clarion | Limestone Rockshelter | Prehistoric | Undetermined |
| 36CL0154 | Clarion | Stone House | Prehistoric | Undetermined |
| 36CL0155 | Clarion | Max | Prehistoric | Undetermined |
| 36CL0156 | Clarion | Wyant | Prehistoric | Undetermined |
| 36CL0157 | Clarion | Heffner | Prehistoric | Undetermined |
| 36CL0158 | Clarion | Trittsburg | Prehistoric | Undetermined |
| 36CL0166 | Clarion | MP 277 Locus 2 | Historic | Undetermined |
| 36CL0167 | Clarion | MP 283 Locus 1 | Prehistoric | Undetermined |
| 36CL0169 | Clarion | Brush Run Site #1 | Prehistoric | Undetermined |
| 36CL0174 | Clarion | Deer Creek | Prehistoric | Undetermined |
| 36CL0183 | Clarion | Turntable Site | Historic | Undetermined |
| 36CL0184 | Clarion | Shirey Coal Mine Site | Historic | Undetermined |
| 36CL0185 | Clarion | Brinker Grist Mill Site | Historic | Undetermined |
| 36CL0186 | Clarion | Sherry | Prehistoric | Undetermined |
| 36CL0187 | Clarion | Cyphert | Historic | Undetermined |
| 36CL0188 | Clarion | Brocious | Historic | Undetermined |
| 36CL0189 | Clarion | Troup | Historic | Undetermined |
| 36CL0190 | Clarion | Hallowbaugh | Historic | Undetermined |
| 36CL0195 | Clarion | Oxbow Pond | Prehistoric | Undetermined |
| 36CL0197 | Clarion | Porter | Historic | Undetermined |
| 36CL0200 | Clarion | PHAST XXIV | Historic | Undetermined |
| 36CL0212 | Clarion | Nolf Rockshelter | Prehistoric; Historic | Undetermined |

**Table 2.18-4**
**Previously Recorded NRHP-Listed and NRHP-Eligible Architectural and Historical Resources by County within Study Area**

| Resource # | County | Name | Resource Type | Address | SHPO NRHP Evaluation |
|---|---|---|---|---|---|
| **Westmoreland County (*n*=2)** | | | | | |
| 1979RE00825 | Westmoreland | Western Division of Pennsylvania Canal | Structure | | Listed |
| 1992RE00865 | Westmoreland | Laurel Hill Inclined Plane | Structure | | Eligible |
| **Indiana County (*n*=9)** | | | | | |
| 1974RE00081 | Indiana | McCormick, John B., House | Building | | Listed |
| 1979RE00825 | Indiana | Western Division of Pennsylvania Canal | Structure | | Listed |
| 1985RE00108 | Indiana | Diehl, George, Homestead | Building | | Listed |
| 1990RE00599 | Indiana | McIsaac, Robert, House | Building | | Eligible |
| 1991RE00850 | Indiana | Keller, Christian, Mill | Building | | Eligible |
| 1995RE46669 | Indiana | Weaver, William W., Property No. 2 | Building | | Eligible |
| 1995RE48629 | Indiana | Laughard, Clark R. | Building | | Eligible |
| 2004RE08400 | Indiana | Bridge | Structure | State Route 7213 | Eligible |
| 2013RE00284 | Indiana | Blose-Behm Farm | Building | 674 Behm Rd. | Eligible |
| **Jefferson County (*n*=1)** | | | | | |
| 1993RE01101 | Jefferson | Coleman House | Building | N Point Rd. | Eligible |
| **Armstrong County (*n*=0)** | | | | | |
| **Clarion County (*n*=11)** | | | | | |
| 1979RE00564 | Clarion | Clarion County Courthouse & Jail | Building | Main St. | Listed |
| 2001RE01636 | Clarion | Sutton-Ditz House | Building | 18 Grant St. | Listed |
| 1981RE00045 | Clarion | Navarre Hall | Building | | Eligible |
| 1985RE00737 | Clarion | Ross Memorial Library | Building | Main St. | Eligible |
| 1987RE00201 | Clarion | Clarion U.S. Post Office | Building | 626 Main St. | Eligible |
| 1987RE00202 | Clarion | Ditz Hardware | Building | Main St. | Eligible |
| 1990RE00428 | Clarion | White Pillars | Building | | Eligible |
| 1994RE00566 | Clarion | Science Hall | Building | Wood St. | Eligible |
| 1995RE47321 | Clarion | Harvey Hall | Building | | Eligible |
| 1997RE02049 | Clarion | Pittsburg & Shawmut Railroad: Tunnel | Structure | | Eligible |
| 2000RE00873 | Clarion | Piney Station Hydroelectric Plant | Building | Piney Station Rd. | Eligible |

**Table 2.18-5**
**Previously Recorded Historic Districts by County within Study Area**

| Resource # | County | Name | SHPO NRHP Evaluation |
|---|---|---|---|
| **Westmoreland County (*n*=1)** | | | |
| 1993RE00391 | Westmoreland | Pennsylvania Railroad: Main Line (Harrisburg to Pittsburgh) | **Eligible** |
| **Indiana County (*n*=8)** | | | |
| 1988RE00104 | Indiana | Commodore Historic District | **Listed** |
| 1989RE00401 | Indiana | Heilwood Historic District | Undetermined |
| 1992RE00252 | Indiana | Buffalo, Rochester & Pittsburgh Railroad (Cloe to Homer City and Ridge Branch Junction to Clarksburg | **Eligible** |
| 1995RE33076 | Indiana | Maple Grove Church of God | Undetermined |
| 1995RE34420 | Indiana | Clearfield Bituminous Coal Corporation Commodore Company Town | Undetermined |
| 1995RE34497 | Indiana | Cherry Tree & Dixonville Railroad: The Loop | Undetermined |
| 1995RE52033 | Indiana | Wandin Historic District | Not Eligible |
| 2011RE00067 | Indiana | Buffalo, Rochester & Pittsburgh Railway | **Eligible** |
| **Jefferson County (*n*=5)** | | | |
| 1995RE38390 | Jefferson | Hamilton, Village of | Undetermined |
| 1995RE38407 | Jefferson | Ringgold, Village of | Undetermined |
| 2010RE00204 | Jefferson | Pittsburg & Shawmut Railroad | **Eligible** |
| 2010RE03886 | Jefferson | Allegheny Valley Railway | Undetermined |
| 2011RE00067 | Jefferson | Buffalo, Rochester & Pittsburgh Railway | **Eligible** |
| **Armstrong County (*n*=2)** | | | |
| 2010RE00204 | Armstrong | Pittsburg & Shawmut Railroad | **Eligible** |
| 2013RE00598 | Armstrong | Oak Ridge Historic District | Undetermined |
| **Clarion County (*n*=4)** | | | |
| 1997RE01446 | Clarion | Pittsburg & Shawmut Railroad (Coder to Piney, MP 00 to 23.8) | Not Eligible |
| 2009RE00265 | Clarion | Knox and Kane Railroad | Undetermined |
| 2010RE03886 | Clarion | Allegheny Valley Railway | Undetermined |
| 2013RE00736 | Clarion | Clarion University of Pennsylvania | Not Eligible |

# APPENDIX B
## Segment Resources Impact Summary Table 4.1-1

**Table 4.1-1**

**Segment Resource Impact Summary**

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas WellsCrossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| Timblin Substation-Piney Substation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5-001 | 1.96 | 63.34 | 1.07 | 7.71 | 0 | 0 | 1/1/4 | 0 | 8 | 0/1/1 | 0.1 | 0/0/0 | 0/1/3 | 0/0/0 | 3 | 0/0/0 | 4 | 1.29 | 0 | 0 | 0 | 0 | 0 | 1 | 57.77 | 0 | 0 | 0 | 0/0/0 | 0 | 0/1/1 | 1.18 | 0 |
| 5-002 | 1.55 | 50.34 | 0.13 | 37.79 | 0 | 0 | 0/0/0 | 0 | 4 | 0/0/1 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 1 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28.56 | 0 | 0 | 0 | 0/0/0 | 0 | 0/1/1 | 0.49 | 0 |
| 5-003 | 1.35 | 26.92 | 0.18 | 9.29 | 0 | 0 | 1/1/2 | 0 | 1 | 2/3/8 | 0.86 | 0/0/0 | 1/1/1 | 0/0/0 | 0 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.74 | 0 | 0 | 0 | 0/0/0 | 0 | 0/1/1 | 0.48 | 0 |
| 5-004 | 1.68 | 53.13 | 0.34 | 23.82 | 0 | 0 | 0/1/3 | 0 | 9 | 0/2/4 | 0.02 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 19.09 | 0 | 0 | 0 | 0.2 | 0 | 1 | 31.37 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-005 | 0.99 | 19.95 | 0.23 | 16.41 | 0 | 0 | 2/2/3 | 0 | 0 | 0/2/3 | 0.02 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0.09 | 0 | 1 | 16.61 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-006 | 1 | 31.59 | 0.23 | 18.63 | 0 | 0 | 0/0/1 | 0 | 1 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0.12 | 0 | 1 | 28.98 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-007 | 1.36 | 44.12 | 0.33 | 3.61 | 0 | 0 | 0/0/0 | 0 | 6 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0.15 | 0 | 5 | 25.2 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-008 | 1.08 | 34.72 | 0.22 | 8.37 | 0 | 0 | 0/1/3 | 0 | 6 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 24.11 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-009 | 0.82 | 26.33 | 0.09 | 13.21 | 0 | 0 | 0/0/2 | 0 | 5 | 0/2/3 | 0.11 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 2.89 | 0 | 0 | 0 | 0 | 0 | 1 | 20.8 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-010 | 2.37 | 76.27 | 0.45 | 19.94 | 0 | 0 | 1/4/4 | 0 | 15 | 0/0/7 | 0.09 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 23.97 | 0 | 0 | 0 | 0 | 0.12 | 2 | 33.73 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-011 | 3.17 | 100.2 | 0.49 | 16.39 | 0 | 0 | 1/4/10 | 0 | 8 | 0/1/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 35.31 | 0 | 0 | 0 | 0 | 0 | 4 | 53.69 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-012 | 1.42 | 28.42 | 0.28 | 7.89 | 0 | 0.17 | 0/0/2 | 0 | 5 | 3/7/14 | 1.88 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 21.27 | 0 | 0 | 0 | 0/0/2 | 0 | 0/0/0 | 0 | 0 |
| 5-013 | 0.51 | 17.31 | 0.02 | 5.62 | 0 | 0 | 0/0/1 | 0 | 7 | 1/3/6 | 1.02 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 7.08 | 0 | 0 | 0 | 0 | 0 | 1 | 5.77 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-014 | 0.85 | 28.12 | 0.05 | 0 | 0 | 0 | 1/1/3 | 0 | 9 | 0/2/4 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 8.52 | 0 | 0 | 0 | 0 | 0 | 3 | 14.61 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-015 | 6.07 | 193.1 | 1 | 5.49 | 0 | 0 | 2/3/5 | 0 | 43 | 3/5/16 | 2.79 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 9 | 53.77 | 0 | 0 | 0 | 0.63 | 0 | 7 | 113.8 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-016 | 2.71 | 87.05 | 0.77 | 8.86 | 7.9 | 0 | 0/3/8 | 0 | 14 | 0/3/5 | 0.13 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 17.09 | 0 | 0 | 0 | 0.12 | 0.14 | 4 | 54.72 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-017 | 1.18 | 37.81 | 0.33 | 1.78 | 0 | 0 | 0/0/1 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 12.39 | 0 | 0 | 0 | 0 | 0 | 0 | 23.75 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-018 | 1.36 | 27.27 | 0.25 | 0 | 0 | 0 | 0/1/1 | 0 | 1 | 2/2/4 | 1.1 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 21.67 | 0 | 0 | 0 | 0 | 0 | 3 | 7.22 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-019 | 2.16 | 68.23 | 0.42 | 0 | 3.21 | 0 | 3/3/6 | 0 | 7 | 0/1/8 | 0.48 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 24.21 | 0 | 0 | 0 | 0.13 | 0 | 3 | 32.34 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-020 | 2.11 | 68.01 | 0.24 | 15.68 | 0 | 0 | 0/4/8 | 0 | 14 | 1/3/9 | 0.55 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 12.4 | 0 | 0 | 0 | 0.25 | 0 | 3 | 36.56 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-021 | 1.95 | 63.02 | 0.22 | 14.75 | 0 | 0 | 1/2/4 | 0 | 11 | 0/1/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 43.63 | 0 | 0 | 0 | 0 | 0 | 0 | 10.85 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-022 | 2.05 | 66.19 | 0.33 | 16.55 | 0 | 0 | 1/2/5 | 0 | 11 | 0/0/1 | 0.05 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 30.85 | 0 | 0 | 0 | 0 | 0 | 3 | 20.27 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |



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| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 5-023 | 0.6 | 12.29 | 0.24 | 0 | 2.16 | 0 | 0/0/1 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 6.55 | 0 | 0 | 0 | 0 | 0 | 1 | 6.14 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-024 | 6.76 | 132.7 | 1.3 | 40.65 | 0.07 | 0 | 2/11/25 | 0 | 10 | 1/7/19 | 1.79 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 15 | 68.16 | 0 | 0 | 0 | 0.31 | 0.32 | 12 | 57.07 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-025 | 1.56 | 48.01 | 0.34 | 0 | 0.07 | 0 | 2/3/4 | 0 | 3 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 12.64 | 0 | 0 | 0 | 0.12 | 0 | 2 | 23.76 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-026 | 4.75 | 151.5 | 0.74 | 36.25 | 0 | 0 | 5/15/24 | 0 | 19 | 1/1/6 | 0.19 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 8 | 67.9 | 0 | 0 | 0 | 0.31 | 0 | 5 | 62.05 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-027 | 2.3 | 73.86 | 0.18 | 0 | 0 | 0 | 3/5/12 | 0 | 12 | 1/1/8 | 0.1 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 54.06 | 0 | 0 | 0 | 0.18 | 0 | 2 | 17.4 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-028 | 3 | 96.27 | 0.63 | 22.91 | 0 | 0 | 3/5/11 | 0 | 12 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 31.63 | 0 | 0 | 0 | 0 | 0 | 1 | 39.32 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-029 | 4.21 | 134.5 | 0.71 | 14.95 | 0 | 0 | 2/3/13 | 0 | 22 | 0/1/8 | 0.03 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 51.94 | 0 | 0 | 0 | 0.54 | 0 | 2 | 56.34 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-030 | 1.5 | 48.77 | 0.25 | 3.18 | 0 | 0 | 2/3/3 | 0 | 9 | 0/3/4 | 0.03 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 25.65 | 0 | 0 | 0 | 0.14 | 0 | 3 | 16.94 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-031 | 4.27 | 136.4 | 0.41 | 9.47 | 0 | 0 | 3/4/13 | 0 | 22 | 0/2/9 | 0.18 | 0/0/0 | 0/0/4 | 0/0/2 | 0 | 0/0/0 | 10 | 90.56 | 0 | 0 | 0 | 0.13 | 0.13 | 7 | 31.53 | 0 | 0 | 0 | 0/0/2 | 0 | 0/0/0 | 0 | 0 |
| 5-032 | 3.03 | 97.03 | 0.64 | 26.65 | 0 | 0.23 | 3/4/12 | 0 | 16 | 0/1/3 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 35.71 | 0 | 0 | 0 | 0 | 0 | 2 | 51.86 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-033 | 4.49 | 143.3 | 1.5 | 47.57 | 0 | 0 | 11/12/17 | 0 | 22 | 0/1/5 | 0.1 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 6 | 37.99 | 0 | 0 | 0 | 0 | 0 | 2 | 63.25 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-034 | 1.97 | 63.49 | 0.71 | 28.7 | 0 | 0 | 3/7/8 | 0 | 9 | 1/1/1 | 0.43 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.13 | 0 | 0 | 0 | 1.1 | 0 | 1 | 55.41 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-035 | 1.2 | 38.52 | 0.2 | 1.72 | 0 | 0 | 1/1/1 | 0 | 5 | 0/0/5 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 9.2 | 0 | 0 | 0 | 0.3 | 0 | 3 | 16.91 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-036 | 3.8 | 121.4 | 1.36 | 47.28 | 0 | 0.23 | 6/9/12 | 0 | 14 | 0/2/3 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 14.21 | 0 | 0 | 0 | 0.38 | 0 | 4 | 71.27 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-037 | 1.8 | 35.85 | 0.35 | 4.05 | 0 | 0.15 | 2/3/10 | 0 | 1 | 3/5/5 | 0.34 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 16.72 | 0 | 0 | 0 | 0.07 | 0 | 2 | 18.89 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-038 | 1.1 | 35.22 | 0.48 | 8.61 | 0 | 0.5 | 2/3/8 | 0 | 5 | 0/1/3 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 5.37 | 0 | 0 | 0 | 0.13 | 0 | 2 | 18.29 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-039 | 0.05 | 1.67 | 0.04 | 0 | 0 | 0 | 0/0/1 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-040 | 1.98 | 63.32 | 0.84 | 31.28 | 0 | 0 | 1/5/14 | 0 | 8 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 20.34 | 0 | 0 | 0 | 0.23 | 0 | 1 | 32.31 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-041 | 4.62 | 147.5 | 0.75 | 6.24 | 0 | 0 | 7/15/26 | 0 | 30 | 0/3/8 | 0.54 | 0/0/0 | 0/2/4 | 0/0/0 | 2 | 0/0/0 | 4 | 80.43 | 0 | 0 | 0 | 0.15 | 0 | 5 | 49.93 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-042 | 0.94 | 18.9 | 0.29 | 0 | 0 | 0 | 0/0/5 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 9.92 | 0 | 0 | 0 | 0 | 0 | 1 | 10.3 | 17.28 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-043 | 2.12 | 68.39 | 0.83 | 11.59 | 0 | 0.55 | 0/2/10 | 0 | 14 | 0/2/9 | 0.43 | 0/0/0 | 0/0/1 | 0/0/0 | 1 | 0/0/0 | 3 | 32.16 | 0 | 0 | 0 | 0.13 | 0 | 2 | 29.88 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-044 | 0.85 | 28.13 | 0 | 0 | 0 | 0 | 0/1/2 | 0 | 5 | 0/1/3 | 0.08 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 27.09 | 0 | 0 | 0 | 0 | 0 | 0 | 0.37 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-045 | 0.23 | 6.32 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 5.71 | 0 | 0 | 0 | 0 | 0 | 0 | 0.94 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-046 | 0.2 | 4.58 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 6.38 | 0 | 0 | 0 | 0 | 0 | 0 | 0.47 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-047 | 4.04 | 128.9 | 1.14 | 10.73 | 0 | 0 | 6/9/15 | 0 | 27 | 0/2/6 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 5 | 69.6 | 0 | 0 | 0 | 0 | 0 | 5 | 52.23 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 5-048 | 4.23 | 135 | 1.16 | 24.68 | 0 | 0 | 2/6/18 | 0 | 26 | 0/1/12 | 0.53 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 9 | 68.88 | 0 | 0 | 0 | 0 | 0 | 4 | 49.81 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas WellsCrossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 5-049 | 4.72 | 92.82 | 0.84 | 12.79 | 0 | 0.08 | 2/5/14 | 0 | 5 | 2/3/14 | 0.64 | 0/0/0 | 1/2/2 | 0/0/0 | 0 | 0/0/0 | 10 | 71.54 | 0 | 0 | 0 | 0.61 | 0 | 5 | 35.3 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-050 | 3.25 | 103.3 | 0.88 | 5.15 | 0 | 0 | 2/5/11 | 0 | 18 | 4/7/17 | 1.96 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 3 | 57.41 | 0 | 0 | 0 | 0 | 0 | 3 | 41.17 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-051 | 1.3 | 42.24 | 0.48 | 6.94 | 0 | 0 | 0/1/1 | 0 | 6 | 1/1/3 | 0.59 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 15.99 | 0 | 0 | 0 | 0 | 0 | 2 | 17.87 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-052 | 6.04 | 192.4 | 2.31 | 14.27 | 0 | 0 | 2/3/7 | 0 | 33 | 1/3/13 | 0.93 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 8 | 110.16 | 0 | 0 | 0 | 0.12 | 0 | 5 | 58.76 | 0 | 0 | 0 | 0/0/0 | 0.7 | 0/0/0 | 0 | 0 |
| 5-053 | 1.37 | 44.68 | 0.33 | 0 | 0 | 0 | 0/1/3 | 0 | 10 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 22.98 | 0 | 0 | 0 | 0.12 | 0 | 1 | 21.25 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-054 | 2.72 | 87.39 | 1.03 | 1.74 | 0 | 0 | 2/6/8 | 0 | 22 | 0/3/14 | 0.84 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 47.32 | 0 | 0 | 0 | 0.32 | 0 | 4 | 30.15 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-055 | 1.42 | 46.21 | 0.37 | 8.2 | 0 | 0 | 0/1/4 | 0 | 11 | 0/0/2 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 1 | 19.29 | 0 | 0 | 0 | 0 | 0 | 2 | 25.65 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-056 | 0.38 | 13.4 | 0.06 | 0 | 0 | 0 | 0/1/2 | 0 | 5 | 0/1/1 | 0.06 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 12.35 | 0 | 0 | 0 | 0 | 0 | 0 | 0.83 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-057 | 1.65 | 53.41 | 0.51 | 2.52 | 0 | 0 | 0/0/3 | 0 | 11 | 1/3/10 | 0.98 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 38.69 | 0 | 0 | 0 | 0 | 0 | 0 | 12.74 | 0 | 0 | 0 | 0/0/1 | 0.53 | 0/0/0 | 0 | 0 |
| 5-058 | 1.74 | 55.36 | 0.41 | 2.84 | 0 | 0.3 | 2/2/5 | 0 | 10 | 2/2/4 | 0.65 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 20.99 | 0 | 0 | 0 | 0 | 0 | 1 | 18.76 | 10.5 | 0 | 0 | 0/0/0 | 0.5 | 0/0/0 | 0 | 0 |
| 5-059 | 0.79 | 25.08 | 0.44 | 6.34 | 0 | 0.07 | 0/1/3 | 0 | 4 | 0/0/3 | 0.21 | 0/0/0 | 0/1/1 | 0/0/0 | 0 | 0/0/0 | 2 | 6.41 | 0 | 0 | 0 | 0.95 | 0 | 2 | 15.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 5-060 | 0.55 | 11.34 | 0.07 | 2.9 | 0 | 0.32 | 0/0/0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0/1/1 | 0/0/0 | 0 | 0/0/0 | 1 | 6.34 | 0 | 0 | 0 | 0 | 0 | 0 | 1.29 | 0 | 0 | 0 | 0/0/0 | 0.45 | 0/0/0 | 0 | 0 |
| 5-061 | 0.29 | 10.4 | 0.06 | 0 | 0 | 0 | 0/0/2 | 0 | 7 | 1/2/5 | 0.23 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.51 | 0 | 0 | 0 | 0 | 0 | 1 | 6.52 | 0 | 0 | 0 | 0/0/0 | 0.29 | 0/0/0 | 0 | 0 |
| 5-062 | 0.14 | 3.37 | 0.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 2/2/3 | 0.4 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 1.32 | 0 | 0 | 0 | 0/0/0 | 0.14 | 0/0/0 | 0 | 0 |
| 5-063 | 0.06 | 2.67 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 3 | 0/2/3 | 0.08 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0 | 0/0/0 | 0.06 | 0/0/0 | 0 | 0 |
| 5-064 | 0.07 | 2.38 | 0.02 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 1/1/2 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.11 | 0 | 0 | 0 | 0/0/0 | 0 | 1/1/1 | 0.07 | 0 |
| 5-065 | 0.08 | 3.05 | 0.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 1/1/1 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.97 | 0 | 0 | 0 | 0/0/0 | 0 | 1/1/1 | 0.08 | 0 |
| Trade City Substation-Timblin Substation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6-001 | 1.11 | 35.64 | 0.43 | 13.68 | 0 | 0 | 1/1/1 | 0 | 1 | 0/2/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0.1 | 0 | 2 | 25.57 | 0 | 0 | 0 | 0/0/0 | 0.48 | 0/0/0 | 0 | 0 |
| 6-002 | 0.55 | 11.31 | 0.29 | 8.05 | 0 | 0 | 0/1/2 | 0 | 0 | 0/2/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 1.73 | 0 | 0 | 0 | 0.07 | 0 | 1 | 8.34 | 0 | 0 | 0 | 0/0/0 | 0.45 | 0/0/0 | 0 | 0 |
| 6-003 | 1.45 | 47.15 | 0.45 | 6.73 | 0 | 0 | 3/5/6 | 0 | 15 | 0/4/9 | 1 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 23.38 | 0 | 0 | 0 | 0.45 | 0 | 2 | 14.42 | 0 | 0 | 0 | 0/0/0 | 1.45 | 0/0/0 | 0 | 0 |
| 6-004 | 0.63 | 20.24 | 0.12 | 2.25 | 0 | 0 | 0/1/1 | 0 | 1 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 3.47 | 0 | 0 | 0 | 0 | 0 | 0 | 7.35 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-005 | 0.7 | 14.24 | 0.08 | 0.99 | 0 | 0 | 2/3/6 | 0 | 1 | 1/1/4 | 0.18 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 3.64 | 0 | 0 | 0 | 0 | 0 | 1 | 10.19 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-006 | 1.42 | 46.09 | 0.8 | 5.06 | 0 | 0 | 1/2/6 | 0 | 15 | 0/2/5 | 0.05 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 10.9 | 0 | 0 | 0 | 0 | 0 | 1 | 32.62 | 0 | 0 | 0 | 0/0/0 | 0.3 | 0/0/0 | 0 | 0 |
| 6-007 | 2.06 | 66.52 | 1.01 | 6.02 | 0 | 0 | 3/4/11 | 0 | 12 | 0/2/5 | 0.19 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 24.16 | 0 | 0 | 0 | 0 | 0 | 2 | 30.51 | 0 | 0 | 0 | 0/0/0 | 0.73 | 0/0/0 | 0 | 0 |
| 6-008 | 1.61 | 51.44 | 0 | 0.24 | 0 | 0.96 | 2/6/11 | 0 | 16 | 1/2/5 | 0.15 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 22.1 | 0 | 0 | 0 | 0 | 0 | 0 | 21.82 | 0 | 0 | 4.01 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 6-009 | 0.2 | 7.51 | 0 | 0 | 0 | 0 | 0/1/1 | 0 | 1 | 0/1/1 | 1.12 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 4.61 | 0 | 0 | 0 | 0 | 0 | 0 | 0.79 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-010 | 0.58 | 19.64 | 0.02 | 0 | 0 | 0 | 0/0/3 | 0 | 4 | 0/1/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 18.54 | 0 | 0 | 0 | 0 | 0 | 0 | 0.15 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-011 | 3.16 | 101.3 | 0.74 | 10.54 | 0 | 0.29 | 4/8/13 | 0 | 19 | 0/2/5 | 0.04 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 7 | 20.38 | 0 | 0 | 0.05 | 0 | 0 | 3 | 58.4 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-012 | 1.3 | 42.32 | 0.39 | 12.15 | 0 | 0 | 0/1/5 | 0 | 12 | 1/3/6 | 2.3 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 4.35 | 0 | 0 | 0 | 0 | 0 | 2 | 23.05 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-013 | 1.5 | 48.7 | 0.06 | 0.7 | 0 | 0 | 1/3/7 | 0 | 12 | 0/0/2 | 0.38 | 0/0/0 | 0/0/0 | 1/1/1 | 0 | 0/0/0 | 2 | 26.58 | 0 | 0 | 0.05 | 0 | 0 | 1 | 5.43 | 0 | 0 | 0 | 1/1/1 | 0 | 0/0/0 | 0 | 0 |
| 6-014 | 3.42 | 109.6 | 0.5 | 2.63 | 0 | 1.34 | 6/8/9 | 0 | 22 | 1/1/5 | 0.47 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 69.24 | 0 | 0 | 2.05 | 0.13 | 0 | 3 | 33.75 | 6.06 | 0 | 5.88 | 0/0/0 | 1.11 | 0/0/0 | 0 | 0 |
| 6-015 | 1.84 | 59.42 | 0.5 | 2.95 | 0 | 0 | 2/5/11 | 0 | 10 | 0/0/2 | 0.37 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 10.67 | 0 | 0 | 0 | 0 | 0 | 3 | 41.71 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-016 | 1.82 | 36.13 | 0.26 | 0.85 | 0 | 0.41 | 3/4/7 | 0 | 0 | 1/1/4 | 0.14 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 14.21 | 0 | 0 | 0 | 0 | 0 | 2 | 18.75 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-017 | 0.98 | 31.43 | 0.05 | 0.72 | 0 | 0 | 0/2/4 | 0 | 3 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 17.83 | 0 | 0 | 0 | 0 | 0 | 0 | 13.46 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-018 | 1.69 | 54.65 | 0.22 | 0 | 0 | 0 | 0/2/8 | 0 | 8 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 27.38 | 0 | 0 | 0 | 0 | 0 | 1 | 24.32 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-019 | 2.18 | 70.33 | 0.39 | 14.78 | 0 | 0 | 6/8/12 | 0 | 17 | 0/3/5 | 0.06 | 0/0/0 | 0/1/2 | 0/0/0 | 0 | 0/0/0 | 4 | 46.14 | 0 | 0 | 0 | 0 | 0 | 0 | 19.5 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-020 | 1.41 | 45.82 | 0.31 | 2.18 | 0 | 0 | 1/2/3 | 0 | 6 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 25.62 | 0 | 0 | 0 | 0 | 0 | 4 | 17.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-021 | 2.22 | 71.59 | 0.19 | 0 | 0 | 1.06 | 1/4/6 | 0 | 13 | 0/1/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 27.25 | 0 | 0 | 2.22 | 0.07 | 0 | 4 | 22.62 | 6.25 | 0 | 10.51 | 0/0/0 | 1.37 | 0/0/0 | 0 | 0 |
| 6-022 | 1.5 | 48.78 | 0.89 | 3.21 | 0 | 0.69 | 1/1/4 | 0 | 6 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 5.87 | 0 | 0 | 1.3 | 0 | 0 | 3 | 41.25 | 4.58 | 0 | 4.21 | 0/0/0 | 1.11 | 0/0/0 | 0 | 0 |
| 6-023 | 2.78 | 54.83 | 0.92 | 12.15 | 0 | 0.6 | 3/5/10 | 0 | 1 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 7 | 6.7 | 0 | 0 | 1.54 | 0 | 0 | 3 | 43.69 | 2.11 | 0 | 4.04 | 0/0/0 | 1.04 | 0/0/0 | 0 | 0 |
| 6-024 | 0.94 | 30.06 | 0.33 | 0 | 0 | 0.52 | 0/0/4 | 0 | 4 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 3 | 0 | 0 | 0.94 | 0.26 | 0 | 2 | 21.96 | 7.98 | 0 | 5.07 | 0/0/0 | 0.5 | 0/0/0 | 0 | 0 |
| 6-025 | 1.72 | 55.76 | 0.48 | 3.51 | 0 | 0 | 1/1/5 | 0 | 9 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 20.9 | 0 | 0 | 0.58 | 0 | 0 | 3 | 32.51 | 2.51 | 0 | 5.59 | 0/0/0 | 0.98 | 0/0/0 | 0 | 0 |
| 6-026 | 1.22 | 39.7 | 0.41 | 5.64 | 0 | 0 | 1/2/2 | 0 | 8 | 0/2/5 | 0.53 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 6.47 | 0 | 0 | 0.49 | 3.13 | 0 | 1 | 27.57 | 9.7 | 0 | 13.14 | 0/0/0 | 0.75 | 0/0/0 | 0 | 0 |
| 6-027 | 3.44 | 110.1 | 0.8 | 10.14 | 0 | 0 | 3/6/12 | 0 | 15 | 0/2/6 | 0.63 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 47.45 | 0 | 0 | 2.54 | 1.71 | 0 | 3 | 56.19 | 0 | 0 | 6.93 | 0/0/0 | 1.03 | 0/0/0 | 0 | 0 |
| 6-028 | 1.39 | 45.25 | 0.22 | 0.63 | 0 | 0 | 1/3/5 | 0 | 9 | 0/1/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 5.15 | 0 | 0 | 1.39 | 0.14 | 0 | 1 | 31.9 | 0 | 0 | 0 | 0/0/0 | 0.32 | 0/0/0 | 0 | 0 |
| 6-029 | 1.51 | 48.92 | 0.87 | 0.65 | 0 | 0.42 | 2/5/8 | 0 | 6 | 1/1/3 | 0.09 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/1 | 1 | 14.31 | 0 | 0 | 1.51 | 0 | 0 | 2 | 32.94 | 5.18 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-030 | 2.01 | 64.93 | 0.16 | 2.23 | 0 | 0.88 | 5/8/9 | 0 | 17 | 4/9/16 | 1.96 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 27.44 | 0 | 0 | 2.01 | 0.15 | 0 | 1 | 27 | 2.59 | 0 | 9.3 | 0/0/0 | 0.76 | 0/0/0 | 0 | 0 |
| 6-031 | 2.38 | 75.83 | 0.34 | 0 | 0 | 0 | 5/7/10 | 0 | 10 | 0/1/5 | 0 | 0/0/0 | 1/2/2 | 0/0/0 | 0 | 0/0/0 | 2 | 56.51 | 0 | 0 | 2.38 | 0 | 0 | 2 | 15.09 | 0.42 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 6-032 | 1.49 | 29.81 | 0.68 | 2.7 | 0 | 0 | 1/4/9 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 7.32 | 0 | 0 | 1.49 | 0.28 | 0 | 3 | 17.02 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-033 | 0.12 | 2.97 | 0 | 0 | 0 | 0 | 0/1/1 | 0 | 0 | 0/1/2 | 0.21 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 4.1 | 0 | 0 | 0.12 | 0 | 0 | 0 | 0.05 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 6-034 | 0.86 | 27.83 | 0.03 | 0 | 0 | 0 | 3/4/5 | 0 | 2 | 1/4/5 | 0.36 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 24.18 | 0 | 0 | 0.86 | 0 | 0 | 1 | 1.11 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas WellsCrossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 6-035 | 0.09 | 2.45 | 0 | 0 | 0 | 0 | 0/0/1 | 0 | 0 | 0/1/2 | 0.17 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0.46 | 0 | 0 | 0.09 | 0 | 0 | 0 | 0.37 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| Dixonville East Substation-Trade City Substation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7-001 | 1.09 | 35.17 | 0 | 0 | 0 | 0 | 2/3/6 | 0 | 10 | 0/4/10 | 0.08 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 12.65 | 0 | 0 | 1.09 | 0 | 0 | 0 | 11.88 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-002 | 0.58 | 11.88 | 0 | 0 | 0 | 0 | 0/3/5 | 0 | 1 | 0/1/4 | 0.3 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0.58 | 0 | 0 | 0 | 8.96 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-003 | 1.07 | 34.16 | 0.39 | 0 | 0 | 0 | 0/1/7 | 0 | 9 | 0/2/4 | 0.5 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.58 | 0 | 0 | 1.07 | 0 | 0 | 2 | 20.38 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-004 | 0.6 | 20.12 | 0.37 | 0.42 | 0 | 0 | 2/2/5 | 0 | 6 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 1.05 | 0 | 0 | 0.6 | 0 | 0 | 1 | 17.11 | 1.76 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-005 | 0.58 | 18.74 | 0.34 | 0 | 0 | 0 | 2/3/5 | 0 | 2 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0.58 | 0 | 0 | 1 | 17.29 | 2.05 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-006 | 2.91 | 57.43 | 0.83 | 11.4 | 0 | 0 | 1/7/13 | 0 | 1 | 0/4/11 | 0.89 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 25.49 | 0 | 1.97 | 2.91 | 0.06 | 0 | 2 | 33.35 | 7.9 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-007 | 1.6 | 51.74 | 0.46 | 4.22 | 0 | 0 | 1/6/8 | 0 | 7 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 26.35 | 0 | 0 | 1.6 | 0 | 0 | 3 | 21.59 | 0.45 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-008 | 1.12 | 36.52 | 0.19 | 1.19 | 0 | 0 | 1/1/7 | 0 | 7 | 1/2/4 | 0.31 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 26.54 | 0 | 0 | 1.12 | 0 | 0 | 2 | 6.01 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-009 | 1.05 | 34.42 | 0.32 | 3.41 | 0 | 0 | 1/3/8 | 0 | 8 | 0/1/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 14.24 | 0 | 0 | 1.05 | 0 | 0 | 0 | 16.95 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-010 | 0.53 | 18.11 | 0.08 | 0 | 0 | 0 | 3/4/5 | 0 | 5 | 0/1/2 | 0.38 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 12.18 | 0 | 0 | 0.53 | 0 | 0 | 1 | 4.62 | 2.66 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-011 | 1.54 | 49.16 | 0.2 | 14.55 | 0 | 0 | 2/3/9 | 0 | 8 | 0/3/7 | 0.34 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 37.49 | 0 | 0 | 1.54 | 0 | 0 | 1 | 5.99 | 1.92 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-012 | 4.68 | 149.3 | 0.63 | 6.34 | 0 | 0 | 5/12/26 | 0 | 27 | 1/5/14 | 0.99 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 6 | 83.11 | 0 | 0 | 4.68 | 0.24 | 0 | 4 | 49.39 | 0 | 0 | 0 | 0/0/0 | 0.14 | 0/0/1 | 1.7 | 0 |
| 7-013 | 1.99 | 64.17 | 0.16 | 5.73 | 0 | 0 | 2/7/14 | 0 | 10 | 0/0/5 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 25.81 | 0 | 0 | 1.99 | 0 | 0 | 1 | 34.56 | 1.77 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-014 | 1.04 | 33.99 | 0.3 | 3.85 | 0 | 0 | 0/2/5 | 0 | 5 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.4 | 0 | 0 | 1.04 | 0 | 0 | 2 | 23.63 | 2.98 | 0 | 0 | 0/0/0 | 0.17 | 0/0/0 | 0 | 0 |
| 7-015 | 4.79 | 152.8 | 0.78 | 24.83 | 0 | 0 | 8/11/30 | 0 | 31 | 1/4/11 | 0.72 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 7 | 74.66 | 0 | 0 | 4.79 | 0 | 0 | 4 | 65.46 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.97 | 0 |
| 7-016 | 1.67 | 54.09 | 0.05 | 6.59 | 0 | 0 | 1/2/10 | 0 | 9 | 0/1/6 | 0 | 0/0/0 | 0/1/4 | 0/0/0 | 0 | 0/0/0 | 5 | 32.29 | 0 | 0 | 1.67 | 0 | 0 | 0 | 18.13 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-017 | 1.35 | 43.99 | 0.26 | 1.88 | 0 | 0 | 3/7/8 | 0 | 4 | 0/1/2 | 0.08 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 29 | 0 | 0 | 1.35 | 0 | 0 | 2 | 13.96 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-018 | 1.42 | 46.08 | 0.41 | 7.56 | 0 | 0 | 4/6/8 | 0 | 8 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 12.41 | 0 | 0 | 1.42 | 0 | 0 | 2 | 21.7 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-019 | 0.98 | 31.51 | 0.05 | 0 | 0 | 0 | 1/2/5 | 0 | 2 | 1/1/3 | 0.49 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 24.38 | 0 | 0 | 0.98 | 0 | 0 | 0 | 5.59 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-020 | 0.14 | 3.43 | 0.1 | 2.85 | 0 | 0 | 0/1/1 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0.44 | 0 | 0 | 0.14 | 0 | 0 | 0 | 2.55 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-021 | 0.73 | 24.27 | 0.12 | 0 | 0 | 0 | 1/3/4 | 0 | 4 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 14.19 | 0 | 0 | 0.73 | 0 | 0 | 1 | 8.4 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-022 | 1.88 | 37.41 | 0.51 | 4.39 | 0 | 0 | 4/9/11 | 0 | 2 | 0/1/5 | 0.53 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 7.67 | 0 | 0 | 1.88 | 0 | 0 | 4 | 23.35 | 0 | 0 | 0 | 0/0/0 | 0.72 | 0/0/0 | 0 | 0 |
| 7-023 | 1.27 | 40.47 | 0.1 | 0 | 0 | 0 | 0/1/9 | 0 | 5 | 0/1/2 | 0.31 | 0/0/0 | 0/0/0 | 0/1/1 | 0 | 0/0/0 | 4 | 16.69 | 0 | 0 | 1.27 | 0 | 0 | 2 | 7.87 | 0 | 0 | 0 | 1/1/1 | 0.54 | 0/0/0 | 0 | 0 |
| 7-024 | 4.06 | 129.8 | 0.82 | 6.06 | 0 | 0 | 3/8/15 | 0 | 23 | 1/3/8 | 0.39 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/1 | 7 | 57.65 | 0 | 0 | 4.06 | 2.45 | 0 | 6 | 33.82 | 14.24 | 0 | 0 | 0/0/0 | 1.32 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 7-025 | 2.15 | 69.3 | 0.6 | 15.99 | 0 | 0 | 2/3/8 | 0 | 11 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 14.16 | 0 | 0 | 2.15 | 0 | 0 | 2 | 41.16 | 5.24 | 0 | 0 | 0/0/0 | 1.31 | 0/0/0 | 0 | 0 |
| 7-026 | 1.12 | 36.63 | 0.08 | 0 | 0 | 0 | 3/4/6 | 0 | 8 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 24.37 | 0 | 0 | 1.12 | 0 | 0 | 1 | 7.89 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-027 | 1.54 | 30.66 | 0.4 | 3.72 | 0 | 0 | 2/6/7 | 0 | 2 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 24.63 | 0 | 0 | 1.54 | 0 | 0 | 1 | 10.23 | 0 | 0 | 0 | 0/0/0 | 0.82 | 0/0/0 | 0 | 0 |
| 7-028 | 4.11 | 131.1 | 0.3 | 21.47 | 0 | 0 | 7/12/19 | 0 | 20 | 0/2/9 | 0.85 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 1/1/1 | 10 | 70.26 | 0 | 0 | 4.11 | 0.07 | 0 | 7 | 47.79 | 0 | 0 | 0 | 0/0/0 | 1.6 | 0/0/0 | 0 | 0 |
| 7-029 | 3.45 | 110.2 | 0.24 | 3.67 | 0 | 0 | 3/6/14 | 0 | 12 | 0/1/5 | 0.24 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 7 | 60.89 | 0 | 0 | 3.45 | 0.13 | 0 | 4 | 39.56 | 0 | 0 | 0 | 0/0/0 | 1.04 | 0/0/0 | 0 | 0 |
| 7-030 | 1.4 | 45.5 | 0.51 | 10.11 | 0 | 0 | 3/3/6 | 0 | 14 | 0/1/3 | 0.23 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 4 | 13.49 | 0 | 0 | 0.2 | 0 | 0 | 2 | 24.62 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-031 | 1.94 | 61.31 | 0 | 0 | 3.91 | 0 | 1/4/12 | 0 | 11 | 0/3/9 | 1.42 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 46.74 | 0 | 0 | 1.94 | 0 | 0 | 0 | 10.45 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-032 | 1.31 | 26.19 | 0.02 | 3.52 | 0 | 0 | 2/6/9 | 0 | 2 | 3/4/5 | 1.23 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 13.89 | 0 | 0 | 1.31 | 0 | 0 | 1 | 12.98 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-033 | 1.15 | 37.13 | 0.23 | 0 | 0 | 0 | 2/4/7 | 0 | 6 | 1/3/6 | 1.28 | 0/0/0 | 0/1/1 | 0/0/0 | 0 | 0/0/0 | 1 | 3.92 | 0 | 0 | 1.15 | 0 | 0 | 1 | 17.71 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-034 | 2.39 | 76.82 | 0.18 | 9.21 | 0 | 0 | 2/5/14 | 0 | 18 | 0/3/10 | 3.09 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 6 | 22.96 | 0 | 0 | 2.39 | 0 | 0 | 1 | 25.63 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-035 | 1.21 | 24.2 | 0.18 | 11.96 | 0 | 0 | 0/4/6 | 0 | 2 | 0/1/4 | 0.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 2.71 | 0 | 0 | 1.21 | 0 | 0 | 0 | 15.16 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-036 | 0.95 | 30.47 | 0.44 | 14.39 | 0 | 0 | 0/3/6 | 0 | 4 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 1.95 | 0 | 0 | 0.86 | 0 | 0 | 2 | 25.85 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-037 | 1.14 | 37.39 | 0.15 | 14.29 | 0 | 0 | 0/1/6 | 0 | 7 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 6.2 | 0 | 0 | 0.65 | 0 | 0 | 1 | 29.56 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-038 | 2.84 | 91 | 0.25 | 8.6 | 12.86 | 0.54 | 4/4/9 | 0 | 17 | 0/2/5 | 0.15 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 49.59 | 0 | 0 | 0.15 | 0 | 0 | 2 | 19.79 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-039 | 1.51 | 49.07 | 0.14 | 1.48 | 0 | 0.33 | 1/4/6 | 0 | 17 | 3/5/7 | 2.08 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 31.96 | 0 | 0 | 0.61 | 0 | 0 | 0 | 12.46 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-040 | 2.7 | 86.8 | 0.77 | 29.84 | 0 | 0.27 | 5/8/12 | 0 | 7 | 0/0/5 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 26.2 | 0 | 0 | 1.13 | 0 | 0 | 2 | 50.39 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-041 | 2.55 | 81.75 | 0.99 | 10.37 | 0 | 0.52 | 1/1/5 | 0 | 19 | 0/3/4 | 1.27 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 25.73 | 0 | 0 | 0 | 0.4 | 0 | 3 | 39.64 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 7-042 | 2.23 | 44.26 | 0.82 | 18.08 | 0 | 0.99 | 1/4/9 | 0 | 3 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 14.47 | 0 | 0 | 0.6 | 0 | 0 | 2 | 22.31 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-043 | 1.48 | 47.9 | 0.28 | 6.12 | 0 | 0.86 | 2/3/4 | 0 | 10 | 0/1/8 | 0.87 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 14.53 | 0 | 0 | 0 | 0 | 0 | 2 | 16.37 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-044 | 0.49 | 16.2 | 0.19 | 2.28 | 0 | 0.41 | 0/1/1 | 0 | 4 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 1.27 | 0 | 0 | 0 | 0 | 0 | 1 | 12.33 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 7-045 | 0.23 | 7.77 | 0 | 0 | 0 | 0.23 | 0/1/1 | 0 | 1 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 6.52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| Glory Substation-Dixonville East Substation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8-001 | 0.3 | 9.94 | 0 | 0 | 0 | 0.28 | 0/1/1 | 0 | 3 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0.72 | 0 | 0 | 0 | 0 | 0 | 0 | 7.35 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-002 | 0.15 | 3.65 | 0 | 0 | 0 | 0.15 | 0/1/1 | 0 | 1 | 1/2/2 | 0.7 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 1.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0.51 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-003 | 0.38 | 12.63 | 0 | 0 | 0 | 0.38 | 0/2/2 | 0 | 2 | 0/2/3 | 0.14 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 3.71 | 0 | 0 | 0 | 0 | 0 | 0 | 2.25 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-004 | 0.18 | 6.16 | 0 | 0 | 0 | 0.16 | 0/0/0 | 0 | 1 | 0/1/2 | 0.06 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 1.13 | 0 | 0 | 0 | 0 | 0 | 0 | 5.26 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |



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| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 8-005 | 0.08 | 2.2 | 0 | 0 | 0 | 0.08 | 0/0/0 | 0 | 0 | 0/1/2 | 0.06 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0.66 | 0 | 0 | 0 | 0 | 0 | 0 | 1.61 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-006 | 0.13 | 4.43 | 0.02 | 0 | 0 | 0.13 | 0/0/1 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0.78 | 0 | 0 | 0 | 0 | 0 | 0 | 2.89 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-007 | 2.21 | 71.2 | 0.39 | 12.36 | 0 | 0.59 | 3/6/7 | 0 | 13 | 0/1/7 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 25.52 | 0 | 0 | 0 | 0 | 0 | 2 | 35.91 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-008 | 0.75 | 15.38 | 0.06 | 3.57 | 0 | 0.19 | 0/1/2 | 0 | 1 | 1/3/6 | 0.64 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 5.12 | 0 | 0 | 0 | 0 | 0 | 0 | 7.69 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-009 | 2.45 | 78.69 | 0.18 | 3.89 | 0 | 1.06 | 0/1/3 | 0 | 16 | 1/2/3 | 0.82 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 25.84 | 0 | 0 | 0 | 0.06 | 0 | 2 | 47.06 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-010 | 2.06 | 65.56 | 0.22 | 3.34 | 0 | 1.02 | 0/0/1 | 0 | 8 | 0/3/9 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 5 | 24.88 | 0 | 0 | 0 | 0 | 0 | 4 | 27.92 | 0 | 0 | 0 | 0/0/0 | 0.73 | 0/0/0 | 0 | 0 |
| 8-011 | 1.58 | 31.54 | 0.41 | 8.73 | 0 | 0.15 | 0/1/3 | 0 | 2 | 3/6/14 | 1.5 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 5 | 7.12 | 0 | 0 | 0 | 0 | 0 | 3 | 17.11 | 0 | 0 | 0 | 0/0/0 | 0.53 | 0/0/0 | 0 | 0 |
| 8-012 | 1 | 20.17 | 0.13 | 0 | 0 | 0.18 | 1/1/4 | 0 | 1 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.16 | 0 | 0 | 0 | 0 | 0 | 1 | 11.67 | 0 | 0 | 0 | 0/0/1 | 0.21 | 0/0/0 | 0 | 0 |
| 8-013 | 0.84 | 27.16 | 0.12 | 0 | 0 | 0 | 0/1/1 | 0 | 12 | 0/1/8 | 0.04 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 13.53 | 0 | 0 | 0 | 0/0/1 | 0.37 | 0/0/0 | 0 | 0 |
| 8-014 | 0.31 | 10.27 | 0.02 | 0 | 0 | 0.07 | 1/1/1 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0.16 | 0 | 0 | 0 | 0.8 | 0 | 1 | 9.03 | 0 | 0 | 0 | 0/1/1 | 0 | 0/0/0 | 0 | 0 |
| 8-015 | 0.15 | 3.65 | 0.05 | 0 | 0 | 0 | 1/1/1 | 0 | 1 | 0/1/4 | 0.37 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.67 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-016 | 0.6 | 20.26 | 0.08 | 3.44 | 0 | 0.1 | 0/0/1 | 0 | 8 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.42 | 0 | 0 | 0 | 0 | 0 | 1 | 15.55 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-017 | 1.94 | 61.81 | 0.5 | 5.34 | 0 | 0.56 | 3/4/8 | 0 | 17 | 2/3/7 | 2.37 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 4.42 | 0 | 0 | 0 | 0 | 0 | 1 | 46.51 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-018 | 2.01 | 64.72 | 0.19 | 0 | 0 | 0 | 1/1/2 | 0 | 20 | 1/9/14 | 3.26 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 17.82 | 0 | 0 | 0 | 2.11 | 0 | 2 | 33.28 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-019 | 0.76 | 25.19 | 0.02 | 0 | 0 | 0 | 1/2/4 | 0 | 7 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 1.3 | 0 | 0 | 0 | 0 | 0 | 2 | 21.65 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 8-020 | 0.44 | 15.1 | 0 | 0 | 0 | 0 | 0/0/1 | 0 | 3 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 8.41 | 0 | 0 | 0 | 0.36 | 0 | 0 | 3.49 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-021 | 3.84 | 122.6 | 0.34 | 7.48 | 0 | 0 | 3/5/10 | 0 | 24 | 0/0/7 | 0.15 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 7 | 49.76 | 0 | 0 | 0 | 0 | 0 | 4 | 57.31 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-022 | 3.02 | 96.73 | 0.8 | 13.18 | 0 | 0 | 2/4/10 | 0 | 17 | 0/2/6 | 0 | 0/0/0 | 0/1/1 | 0/0/0 | 0 | 0/0/0 | 5 | 20.68 | 0 | 0 | 0 | 0 | 0 | 3 | 65.88 | 1.33 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-023 | 2.02 | 65.05 | 0.49 | 13.88 | 0 | 0.85 | 3/4/6 | 0 | 16 | 0/3/12 | 0.1 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 12.08 | 0 | 0 | 0 | 0.82 | 0 | 3 | 45.57 | 0.19 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-024 | 0.52 | 17.62 | 0.06 | 0 | 0 | 0 | 0/1/1 | 0 | 5 | 0/0/4 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 0 | 5.46 | 0 | 0 | 0 | 0 | 0 | 1 | 8.68 | 1.9 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-025 | 1.61 | 32.09 | 0.28 | 2.84 | 0 | 0.18 | 0/1/5 | 0 | 1 | 0/2/6 | 0.67 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 22.53 | 0 | 0 | 0 | 0 | 0 | 3 | 14.42 | 10.93 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-026 | 1.43 | 45.09 | 0.25 | 4.79 | 0 | 0 | 1/2/4 | 0 | 8 | 0/0/4 | 0.04 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 7.94 | 0 | 0 | 0 | 0 | 0 | 2 | 34.34 | 5.18 | 0 | 0 | 0/1/1 | 0 | 0/0/0 | 0 | 0 |
| 8-027 | 1.86 | 60.11 | 0 | 0 | 0 | 0 | 2/2/6 | 0 | 17 | 0/0/5 | 0 | 0/0/0 | 0/0/0 | 1/1/1 | 0 | 0/0/0 | 2 | 17.96 | 0 | 0 | 0 | 0.44 | 0 | 1 | 33.06 | 0 | 0 | 0 | 0/1/1 | 0 | 0/0/0 | 0 | 0 |
| 8-028 | 1.2 | 39.04 | 0 | 0 | 0 | 0 | 1/2/6 | 0 | 7 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 8.29 | 0 | 0 | 0 | 1.65 | 0.29 | 0 | 13 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-029 | 3.06 | 97.89 | 0 | 0 | 0 | 0 | 5/6/9 | 0 | 26 | 2/4/16 | 0.56 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 5 | 66.96 | 0 | 0 | 0 | 0.22 | 0 | 3 | 20.92 | 0.09 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-030 | 2.07 | 66.71 | 0.34 | 4.23 | 0 | 0 | 1/3/6 | 0 | 28 | 2/5/16 | 1.13 | 0/0/0 | 0/0/0 | 1/1/2 | 0 | 0/0/0 | 4 | 11.9 | 0 | 0 | 0 | 0 | 0 | 5 | 47.18 | 3.23 | 0 | 0 | 1/1/1 | 0 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas WellsCrossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 8-031 | 0.43 | 14.36 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.43 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 8-032 | 1.11 | 22.27 | 0 | 0 | 0 | 0 | 0/0/1 | 0 | 0 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 16.43 | 0 | 0 | 0 | 0 | 0 | 1 | 9.97 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-033 | 3.44 | 109.1 | 0.29 | 0 | 0 | 0 | 1/2/6 | 0 | 32 | 4/8/16 | 0.56 | 0/0/0 | 0/2/3 | 0/0/0 | 0 | 0/0/0 | 5 | 4.19 | 0 | 0 | 0 | 0 | 0.18 | 4 | 83.43 | 8.98 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-034 | 5.48 | 174 | 0.24 | 3.81 | 0 | 2.22 | 0/4/8 | 0 | 30 | 3/10/23 | 3.74 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 6 | 57.79 | 0 | 0 | 0 | 2.09 | 0 | 3 | 92.32 | 0 | 0 | 0.02 | 1/1/1 | 0 | 0/0/0 | 0 | 0 |
| 8-035 | 1.4 | 45.36 | 0.1 | 1.59 | 0 | 0 | 1/2/3 | 0 | 8 | 0/1/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 26.2 | 0 | 0 | 0 | 0 | 0 | 0 | 18.03 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 8-036 | 1.39 | 27.8 | 0.06 | 0 | 0 | 0 | 0/1/1 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 15.98 | 0 | 0 | 0 | 0 | 0 | 2 | 16.08 | 3.15 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 8-037 | 0.73 | 23.75 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 4 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 2.65 | 0 | 0 | 0 | 0 | 0 | 1 | 11 | 1.77 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| Seward Substation-Glory Substation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8-038 | 0.09 | 2.43 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 1 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.27 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-001 | 0.74 | 24.09 | 0 | 0 | 0 | 0.02 | 0/0/0 | 0 | 4 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 10.66 | 0 | 0 | 0 | 0 | 0 | 0 | 10.26 | 1.12 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-002 | 0.14 | 3.44 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 3.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0.23 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-003 | 2.35 | 75.63 | 0.31 | 2.59 | 0 | 0.87 | 0/0/0 | 0 | 14 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 5.01 | 0 | 0 | 0 | 0 | 0 | 2 | 64.63 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-004 | 1.84 | 59.32 | 0.47 | 8.3 | 0 | 1.35 | 0/0/1 | 0 | 14 | 1/3/6 | 1.2 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 1 | 5.88 | 0 | 0 | 0 | 0 | 0 | 1 | 45.21 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-005 | 1.47 | 29.27 | 0.32 | 1.51 | 0 | 0.68 | 0/0/0 | 0 | 0 | 0/0/8 | 0.62 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 2.52 | 0 | 0 | 0 | 0 | 0 | 2 | 19.4 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-006 | 0.47 | 9.86 | 0.21 | 1.85 | 0 | 0.17 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5.39 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-007 | 0.65 | 20.05 | 0.37 | 6.77 | 0 | 0.11 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 18.59 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-008 | 1.23 | 39.56 | 0.08 | 0 | 0 | 0.9 | 0/0/0 | 0 | 6 | 0/3/5 | 0.05 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 5.52 | 0 | 0 | 0 | 1.78 | 0 | 1 | 22.95 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-009 | 0.95 | 19.16 | 0.28 | 7.83 | 0 | 0.15 | 0/1/2 | 0 | 0 | 0/1/2 | 0.32 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 0.46 | 0 | 0 | 0 | 0 | 0 | 2 | 15.21 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-010 | 2.04 | 64.96 | 0.33 | 1.27 | 0 | 0.95 | 2/2/4 | 0 | 7 | 0/4/8 | 0.05 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 19.18 | 0 | 0 | 0 | 0 | 0 | 1 | 31.58 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-011 | 4.47 | 142.6 | 1.43 | 14.77 | 7.74 | 1.32 | 1/3/5 | 0 | 24 | 0/0/1 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 6.17 | 0 | 0 | 0 | 0 | 0 | 8 | 114.87 | 12.19 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-012 | 3.48 | 111.3 | 0.45 | 13.98 | 0 | 0.64 | 0/1/1 | 0 | 9 | 1/1/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 25.78 | 0 | 0 | 0 | 0 | 0 | 5 | 75.97 | 9.89 | 0 | 0 | 0/1/2 | 0 | 0/0/0 | 0 | 0 |
| 9-013 | 1.75 | 34.79 | 0.27 | 2.82 | 0 | 0 | 0/0/0 | 0 | 0 | 1/1/1 | 0 | 0/0/0 | 1/1/1 | 0/0/0 | 0 | 0/0/0 | 1 | 0.07 | 0 | 0 | 0 | 0 | 0 | 5 | 30.48 | 17.6 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-014 | 1.36 | 43.12 | 0.13 | 6.4 | 0 | 0.33 | 1/1/1 | 0 | 6 | 1/1/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 15.47 | 0 | 0 | 0 | 0 | 0 | 1 | 22.72 | 2.19 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-015 | 4.61 | 147.2 | 0.02 | 0.87 | 0 | 3.28 | 1/1/2 | 0 | 29 | 1/1/8 | 0.37 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 16.25 | 0 | 0 | 0 | 0 | 0 | 4 | 115.06 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-016 | 0.98 | 32.14 | 0 | 0 | 0 | 0.28 | 0/0/0 | 0 | 8 | 0/2/5 | 1.01 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 17.47 | 0 | 0 | 0 | 0 | 0 | 0 | 7.92 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-017 | 0.7 | 22.76 | 0 | 0 | 0 | 0.49 | 0/0/0 | 0 | 5 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.6 | 3.11 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |

| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 9-018 | 0.23 | 5.1 | 0.01 | 0 | 0 | 0.05 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.61 | 0.61 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-019 | 1.02 | 32.94 | 0.25 | 0 | 0 | 0.28 | 0/0/0 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 27.08 | 1.71 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-020 | 0.96 | 31.61 | 0.08 | 0 | 0 | 0 | 1/1/1 | 0 | 13 | 2/3/9 | 0.58 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0.65 | 0 | 0 | 0 | 0 | 0 | 2 | 27.62 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-021 | 4.94 | 97.09 | 0.06 | 0 | 0 | 0.05 | 1/2/5 | 0 | 11 | 7/15/36 | 2.83 | 0/0/0 | 2/5/7 | 0/0/0 | 0 | 0/0/0 | 7 | 34.78 | 0 | 0 | 0 | 0 | 0 | 3 | 62.92 | 2.98 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-022 | 2.48 | 79.76 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 21 | 0/2/5 | 0.38 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 5.84 | 0 | 0 | 0 | 0 | 0 | 6 | 70.23 | 0 | 0 | 0 | 0/1/1 | 0 | 0/0/0 | 0 | 0 |
| 9-023 | 2.34 | 75.32 | 0.02 | 0 | 0 | 0 | 2/2/2 | 0 | 23 | 0/3/12 | 0.5 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 12.74 | 0 | 0 | 0 | 0 | 0 | 3 | 44.5 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-024 | 0.38 | 13.4 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 4 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 8.02 | 0 | 0 | 0 | 0 | 0 | 0 | 5.38 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-025 | 1.29 | 42.08 | 0.16 | 0 | 0 | 0 | 1/2/2 | 0 | 8 | 0/1/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 12.89 | 0 | 0 | 0 | 0 | 0 | 1 | 25.9 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-026 | 2.28 | 73.47 | 0 | 0 | 0 | 0 | 1/4/9 | 0 | 12 | 1/6/12 | 0.2 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 35.34 | 0 | 0 | 0 | 0 | 0 | 0 | 34.62 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-027 | 1 | 32.96 | 0 | 0 | 0 | 0 | 1/2/3 | 0 | 9 | 2/2/6 | 0.26 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 20.43 | 0 | 0 | 0 | 0 | 0 | 0 | 5.6 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-028 | 1.13 | 37.03 | 0.02 | 0 | 0 | 0 | 0/0/1 | 0 | 3 | 0/1/2 | 0.06 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 12.38 | 0 | 0 | 0 | 0 | 0 | 0 | 22.8 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-029 | 0.79 | 26.26 | 0.03 | 0 | 0 | 0 | 0/2/2 | 0 | 6 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 5.39 | 0 | 0 | 0 | 0 | 0 | 1 | 20.13 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-030 | 2.57 | 82.37 | 0.02 | 0 | 0 | 0 | 0/0/4 | 0 | 14 | 0/3/6 | 0.64 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 28.58 | 0 | 0 | 0 | 0 | 0 | 3 | 50.32 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-031 | 2.69 | 86.47 | 0.03 | 0 | 0 | 0 | 0/0/0 | 0 | 12 | 0/1/5 | 0.36 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 21.77 | 0 | 0 | 0 | 0 | 0.15 | 5 | 60.92 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-032 | 0.95 | 31.14 | 0.13 | 0 | 0 | 0 | 0/0/0 | 0 | 8 | 1/2/4 | 0.13 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 16.69 | 0 | 0 | 0 | 0 | 0 | 1 | 13.45 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-033 | 0.84 | 26.73 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 2 | 1/1/2 | 0.08 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 18.46 | 0 | 0 | 0 | 0 | 0 | 1 | 5.12 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-034 | 2.38 | 75.87 | 0 | 0 | 0 | 0 | 2/3/5 | 0 | 16 | 1/5/5 | 0.58 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 4 | 43.36 | 0 | 0 | 0 | 0 | 0 | 0 | 29.2 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 9-035 | 2.82 | 90.42 | 0.35 | 14.6 | 0 | 0 | 1/2/4 | 0 | 18 | 2/5/13 | 3.23 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 6.27 | 0 | 0 | 0 | 0 | 0 | 1 | 77.87 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-036 | 2.05 | 66 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 21 | 1/3/10 | 0.52 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 0.92 | 0 | 0 | 0 | 0 | 0 | 0 | 60.82 | 0 | 0 | 9.17 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-037 | 3.89 | 124.2 | 0.54 | 18.66 | 0 | 0.29 | 0/0/0 | 0 | 27 | 2/5/10 | 1.86 | 0/0/0 | 1/2/2 | 0/0/0 | 0 | 0/0/0 | 3 | 12.72 | 0 | 0 | 0 | 0 | 0 | 2 | 79.62 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-038 | 2.08 | 67.09 | 0.03 | 0 | 0 | 0 | 1/1/2 | 0 | 20 | 1/3/9 | 0.5 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 2 | 10.97 | 0 | 0 | 0 | 0 | 0 | 1 | 54.45 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-039 | 1.26 | 25.31 | 0.02 | 0 | 0 | 0 | 0/1/1 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0.78 | 0 | 0 | 0 | 0 | 0 | 4 | 22.42 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-040 | 0.37 | 12.85 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 2 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 10.28 | 0 | 0 | 0 | 0 | 0 | 0 | 2.57 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-041 | 0.83 | 27.55 | 0.03 | 0 | 0 | 0 | 2/2/2 | 0 | 7 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 4.95 | 0 | 0 | 0 | 0 | 0 | 0 | 18.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-042 | 1.63 | 52.7 | 0.4 | 2.21 | 0 | 0.28 | 0/0/1 | 0 | 17 | 0/0/4 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 2 | 1.6 | 0 | 0 | 0 | 0 | 0 | 2 | 46.85 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-043 | 3.74 | 73.71 | 1.13 | 7.82 | 0 | 0.52 | 0/0/0 | 0 | 3 | 0/2/3 | 0.12 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 1/1/1 | 2 | 0.36 | 0 | 0 | 0 | 0 | 0.42 | 5 | 67.12 | 2.65 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |



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| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 9-044 | 2.76 | 88.63 | 0.58 | 0.05 | 0 | 0.05 | 1/1/2 | 0 | 13 | 1/2/8 | 0.55 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 1/1/1 | 4 | 36.98 | 0 | 0 | 0 | 0 | 0 | 4 | 47.05 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-045 | 1.91 | 61.62 | 0 | 0 | 0 | 0.03 | 0/0/1 | 0 | 9 | 0/1/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 10.42 | 0 | 0 | 0 | 0 | 0 | 0 | 47.83 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-046 | 1.12 | 36.52 | 0.15 | 2.25 | 0 | 0.12 | 0/0/0 | 0 | 7 | 0/1/4 | 0.2 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 1/1/1 | 1 | 1.32 | 0 | 0 | 0 | 0 | 0 | 2 | 31.16 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-047 | 1.65 | 53.39 | 0.34 | 5.43 | 0 | 0.14 | 2/2/3 | 0 | 8 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 37.08 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-048 | 1.24 | 40.51 | 0.51 | 3.49 | 0 | 0.19 | 0/1/2 | 0 | 7 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 1 | 9.87 | 0 | 0 | 0 | 0 | 0 | 1 | 27.32 | 0 | 0 | 0 | 0/0/1 | 0 | 0/0/0 | 0 | 0 |
| 9-049 | 0.52 | 17.8 | 0 | 0 | 0 | 0.3 | 0/0/0 | 0 | 3 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 10.64 | 0 | 0 | 0 | 0 | 0 | 0 | 7.16 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-050 | 3.21 | 102.6 | 0.8 | 11.38 | 0 | 0.05 | 1/1/4 | 0 | 20 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 6 | 11.31 | 0 | 0 | 0 | 0 | 0 | 4 | 59.02 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-051 | 3 | 95.47 | 0.9 | 2.72 | 0 | 0 | 0/0/0 | 0 | 16 | 0/2/7 | 0.22 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 1/1/1 | 4 | 21.1 | 0 | 0 | 0 | 0.15 | 0 | 3 | 59.22 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.13 | 0 |
| 9-052 | 1.72 | 54.86 | 0.5 | 0 | 0 | 0.73 | 0/0/0 | 0 | 8 | 1/3/7 | 1.52 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 2 | 17.14 | 0 | 0 | 0 | 0 | 0 | 3 | 27.57 | 2.42 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-053 | 1.36 | 27.12 | 0.15 | 0 | 0 | 0.55 | 0/0/0 | 0 | 5 | 6/7/16 | 1.99 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 3.9 | 0 | 0 | 0 | 0 | 0 | 1 | 18.5 | 12.26 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-054 | 0.24 | 5.3 | 0.05 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 1/1/3 | 0.82 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.84 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.16 | 0 |
| 9-055 | 2.18 | 70.3 | 0.51 | 3.73 | 0 | 1.59 | 0/0/0 | 0 | 11 | 0/0/3 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 1/1/1 | 1 | 5.7 | 0 | 0 | 0 | 0 | 0 | 1 | 60.28 | 10.24 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.79 | 0 |
| 9-056 | 0.97 | 31.09 | 0.08 | 0 | 0 | 0.65 | 0/1/1 | 0 | 5 | 0/0/3 | 0 | 0/0/0 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 3 | 15.88 | 0 | 0 | 0 | 0 | 0 | 1 | 9.32 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 |
| 9-057 | 1.75 | 56.59 | 0.19 | 0.01 | 0 | 0.83 | 0/0/0 | 0 | 8 | 0/3/4 | 0.29 | 0/0/0 | 0/0/1 | 0/0/0 | 1 | 0/0/0 | 7 | 19.96 | 0 | 0 | 0 | 0 | 0 | 2 | 19.13 | 5.14 | 0 | 13.24 | 0/0/0 | 0.94 | 1/1/1 | 1 | 0 |
| 9-058 | 5.44 | 173.1 | 1.39 | 6.18 | 0 | 0.73 | 0/0/0 | 0 | 35 | 1/9/25 | 1.49 | 0/0/0 | 0/0/0 | 0/0/0 | 2 | 0/0/0 | 11 | 12.29 | 0 | 0 | 0 | 0.13 | 0 | 4 | 128.67 | 77.54 | 0 | 64.54 | 0/0/0 | 1.47 | 0/0/0 | 1.87 | 0 |
| 9-059 | 3.01 | 96.48 | 1.08 | 10.98 | 0 | 0 | 0/0/0 | 0 | 18 | 1/1/5 | 0.48 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 6.3 | 0 | 0 | 0 | 0.14 | 0 | 7 | 74.67 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.25 | 0 |
| 9-060 | 2 | 64.35 | 0.89 | 6.5 | 0 | 0 | 0/0/0 | 0 | 15 | 0/0/3 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 3 | 4.71 | 0 | 0 | 0 | 0 | 0 | 1 | 42.04 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.26 | 0 |
| 9-061 | 0.52 | 17.59 | 0.35 | 4.93 | 0 | 0 | 0/0/0 | 0 | 4 | 0/0/1 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 16.34 | 0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0.52 | 0 |
| 9-062 | 0.86 | 27.42 | 0.34 | 3.81 | 0 | 0 | 0/0/0 | 0 | 3 | 0/0/2 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 2 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 18.56 | 14.67 | 0 | 0 | 0/0/0 | 0.28 | 1/1/1 | 0.86 | 0 |
| 9-063 | 2.15 | 67.9 | 0.47 | 5.36 | 0 | 0 | 0/0/0 | 0 | 11 | 0/0/20 | 0 | 0/0/0 | 0/1/2 | 0/0/0 | 1 | 0/0/1 | 2 | 3.54 | 0 | 0 | 0 | 0.23 | 0 | 4 | 57.85 | 0.73 | 0 | 0 | 0/0/0 | 0.29 | 1/1/1 | 0.72 | 0 |
| 9-064 | 0.36 | 7.71 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/18 | 0 | 0/0/0 | 1/1/3 | 0/0/0 | 0 | 1/1/1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.9 | 0.66 | 0 | 0 | 0/1/1 | 0.36 | 1/1/1 | 0.36 | 0 |
| 9-065 | 0.55 | 11.38 | 0.16 | 0 | 0 | 0 | 0/0/0 | 0 | 1 | 1/2/2 | 0.14 | 0/0/1 | 0/0/0 | 0/0/0 | 0 | 1/1/1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7.16 | 0 | 0 | 0 | 1/1/1 | 0.5 | 0/0/1 | 0.55 | 0 |
| 9-066 | 0.66 | 21.39 | 0.11 | 0 | 0 | 0 | 0/0/0 | 0 | 4 | 0/1/13 | 0 | 0/0/0 | 0/1/1 | 0/0/0 | 1 | 1/1/1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10.6 | 0 | 0 | 0 | 0/1/1 | 0.63 | 1/1/1 | 0.66 | 0 |
| 9-067 | 0.15 | 5.19 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/10 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 1/1/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3.28 | 0 | 0 | 0 | 0/1/1 | 0.15 | 1/1/1 | 0.15 | 0 |
| 9-068 | 0.56 | 18.3 | 0.16 | 1.47 | 0 | 0 | 0/0/0 | 0 | 2 | 0/0/0 | 0 | 0/0/0 | 0/1/1 | 0/0/0 | 0 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.66 | 0 | 0 | 0 | 0/0/0 | 0.3 | 1/1/1 | 0.56 | 0 |
| 9-069 | 0.03 | 1.58 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.37 | 0 | 0 | 0 | 0/0/0 | 0.03 | 1/1/1 | 0.03 | 0 |



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| | Engineering | | | | | | | | Land Use | | | | | | | | | | | | | | Environmental | | | | | | | Cultural | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | Length (Miles) | Non-Existing Route Corridor Required (Acres) | Steep Slope (>20%) (Miles) | Landslide Potential in Route Corridor(Acres) | Surface Mining in Route Corridor(Acres) | Underground Mining Subsidence Potential Crossed (Miles) | Oil and Gas Wells Crossed[1] | Airport Impact-Length of Route Corridor Within FAA Regulated Conical Surface (Miles) | Newly Crossed Parcels (Count) | Residences Crossed [1] | Residential Area in New Route Corridor (Acres) | Apartment Buildings Crossed[1] | Commercial/Industrial Buildings Crossed[1] | Institutional, Churches, Schools Crossed[1] | Trails Crossed By New Route Corridor(Count) | Recreational Areas, Including Local Parks[1] | Highways/Railroads/Roadways Crossed (Count) | Agricultural Land in Route Corridor (Acres) | Conservation Easements in New Route Corridor(Acres) | Agricultural Easements in New Route Corridor (Acres) | Environmental Justice Area (Miles) | Forested/Shrub Wetlands in New Route Corridor (Acres) | Non-Forested Wetlands in New Route Corridor (Acres) | Streams Crossed (Count) | Forest in New Route Corridor(Acres) | PA Natural Heritage Program RTE Species Buffer (Acres) | Scenic Resources/Unique Geological Resources/ Wilderness Areas/Natural Landmarks Crossed by New Route Corridor(Miles within 500Ft of Resources) | State Forest/Park/Game Lands and Federal Lands in New Route Corridor (Acres) | Cemeteries Crossed[1] | Length of Line Within 0.5-Mile of Listed/Eligible Historic District (Miles) | Previously Documented Architectural Resources[1] | Length of Line Within 0.5-Mile of Previously Documented Architectural Resources (Miles) | Previously Documented Archaeological Resources within Route Corridor (Count) |
| 9-070 | 0.72 | 14.86 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 1 | 5/11/32 | 0.66 | 0/0/1 | 0/0/1 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0.42 | 0 | 1 | 6.54 | 18.46 | 0 | 0 | 0/0/0 | 0.72 | 1/1/1 | 0.72 | 0 |
| 9-071 | 0.89 | 29.45 | 0 | 0 | 0 | 0.32 | 0/0/0 | 0 | 16 | 0/9/54 | 0.14 | 0/0/0 | 1/3/9 | 0/0/1 | 0 | 0/0/1 | 3 | 0 | 0 | 0 | 0 | 0.12 | 0.01 | 0 | 12.47 | 0 | 0 | 0 | 0/0/0 | 0.89 | 0/0/0 | 0.89 | 0 |
| 9-072 | 1.21 | 39.63 | 0 | 0 | 0 | 0.27 | 0/0/0 | 0 | 5 | 0/0/0 | 0 | 0/0/0 | 0/0/2 | 0/0/0 | 0 | 0/0/0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23.42 | 6.17 | 0 | 26.52 | 0/0/0 | 0.86 | 0/0/0 | 0.59 | 0 |
| 9-073 | 0.32 | 10.47 | 0 | 0 | 0 | 0.06 | 0/0/0 | 0 | 4 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 1 | 0/0/0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6.49 | 0 | 0 | 0 | 0/0/0 | 0.32 | 1/1/1 | 0.32 | 0 |
| 9-074 | 0.02 | 1.3 | 0 | 0 | 0 | 0 | 0/0/0 | 0 | 0 | 0/0/0 | 0 | 0/0/0 | 0/0/0 | 0/0/0 | 0 | 0/0/0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.22 | 0 | 0 | 0 | 0/0/0 | 0.02 | 1/1/1 | 0.02 | 0 |

Note:

1 #/#/# Indicates number in varying width Route Corridor or calculated ROW for segments along existing line, as described above/number in 500-foot ROW (within 250 feet of centerline)/number in 1,000-foot ROW (within 500 feet of centerline), where appropriate.

# APPENDIX C
## Alternative Routes Analysis Calculations

# Raw Data

| Resource Evaluation Criteria | East | Central | West |
|---|---|---|---|
| **Engineering** | | | |
| Length of Route (miles) | 79.71 | 66.44 | 78.99 |
| Steep Terrain-Slopes 20% or greater (miles) | 11.92 | 12.91 | 17.71 |
| Non-Existing Route Corridor (acres) | 2495.02 | 1297.77 | 2480.89 |
| Airports -Length of Route Corridor within FAA Regulated Conical Surface (miles) | 0 | 0 | 0 |
| Underground Mining Subsidence (miles) | 9.27 | 5.83 | 7.14 |
| Surface Mining (miles) | 12.86 | 2.16 | 7.74 |
| Oil and Gas Wells in Route Corridor (number) | 51 | 28 | 68 |
| Landslide Areas (acres) | 163.33 | 206.35 | 297.61 |
| **Land Use** | | | |
| Parcels without Existing Easements (number) | 464 | 69 | 398 |
| Houses and Apartments within 500 feet (number) | 210 | 247 | 161 |
| Environmental Justice Area (acres) | 14.38 | 13.41 | 15.9 |
| Commercial/Industrial Structures within 500 feet (number) | 14 | 17 | 23 |
| Institutional Complexes (schools, churches, hospitals, etc.) within 500 feet (number) | 1 | 0 | 2 |
| Hiking and Bike Trails crossed by new Route Corridor (number) | 5 | 0 | 6 |
| County, Local, and Private Recreational Areas in within 500 feet (number) | 1 | 2 | 2 |
| Highway, Railroad, and Road crossed (number) | 114 | 103 | 121 |
| Agricultural Land in New Route Corridor (acres) | 831.05 | 438.58 | 782.35 |
| Conservation Easements in new Route Corridor (acre) | 0 | 0 | 0 |
| Agricultural Easements in New Route Corridor (acres) | 0 | 1.97 | 0 |

| Resource Evaluation Criteria | East | Central | West |
|---|---|---|---|
| **Environmental** | | | |
| Wetlands Forested (acres) | 9.63 | 1.91 | 3.07 |
| Wetlands Non-Forested (acres) | 0.33 | 0.73 | 0.25 |
| Perennial Streams (number) | 71 | 84 | 92 |
| Forest (acres) | 1262 | 757.39 | 1312.81 |
| RTE buffers (acres) | 44.25 | 94.15 | 29.92 |
| Length of Line Within 0.5 Miles Scenic Resources (miles | 0 | 0 | 0 |
| Length of Line Within 0.5 Miles Wilderness/Natural Areas (miles) | 0 | 0 | 0 |
| Length of Line Within 0.5 Miles National Natural Landmarks (miles) | 0 | 0 | 0 |
| State and Federal Land (acres) | 51.68 | 4.04 | 5.88 |
| **Cultural** | | | |
| Cemeteries within 500 feet (number) | 1 | 4 | 5 |
| Length of Line Within 0.5 Miles of Architectural Resources (miles) | 4.96 | 2.37 | 2.16 |
| Archaeological Resources (previously documented) within ROW (number) | 0 | 0 | 0 |
| Length of Line Within 0.5 Miles of Listed/Eligible Historic District (miles) | 7.89 | 5.96 | 4.12 |

# Normalization

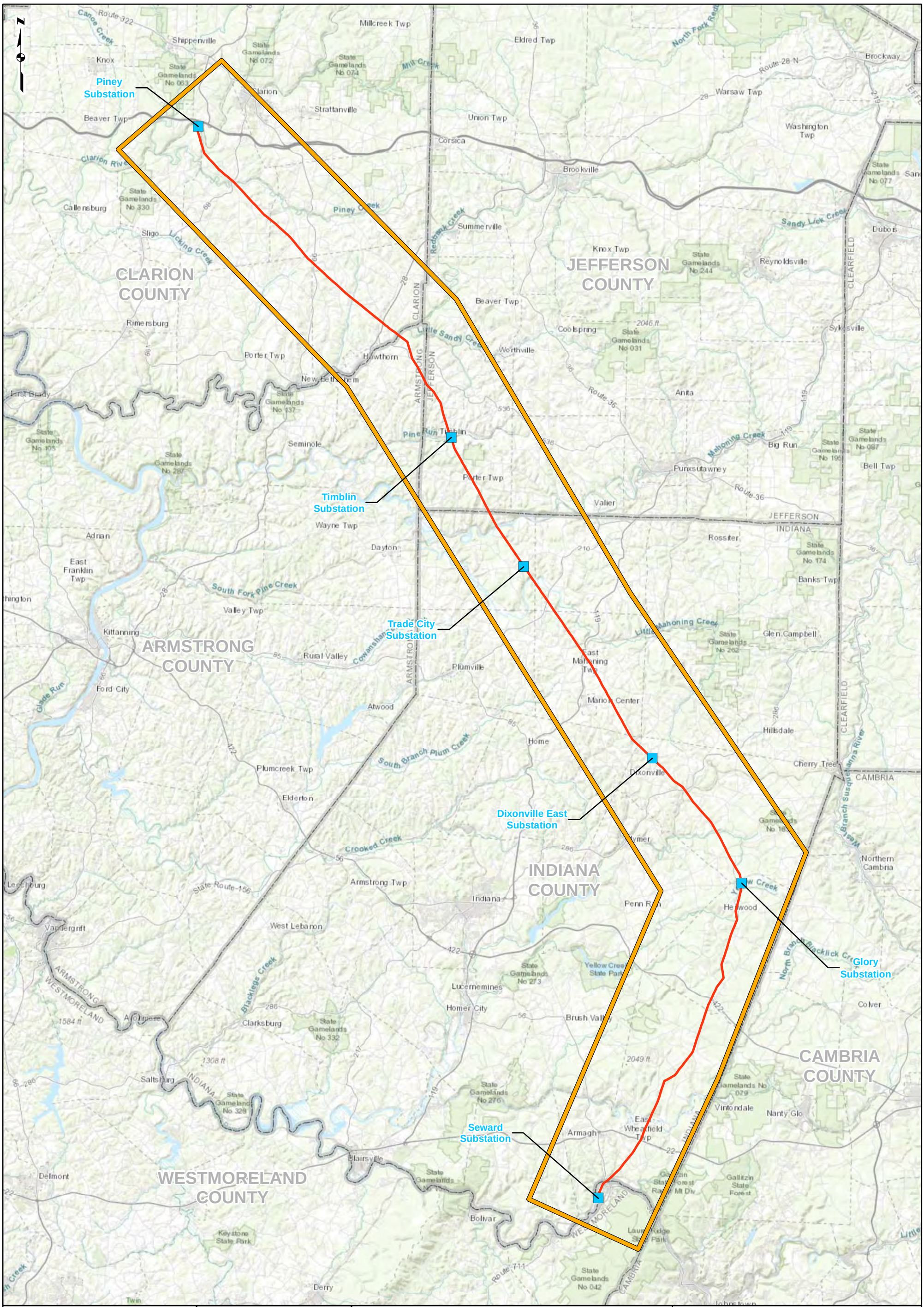
| Resource Evaluation Criteria | East | Central | West |
|---|---|---|---|
| **Engineering** | | | |
| Length of Route (miles) | 10.00 | 8.34 | 9.91 |
| Steep Terrain-Slopes 20% or greater (miles) | 6.73 | 7.29 | 10.00 |
| Non-Existing Route Corridor (acres) | 10.00 | 5.20 | 9.94 |
| Airports -Length of Route Corridor within FAA Regulated Conical Surface (miles) | 0.00 | 0.00 | 0.00 |
| Underground Mining Subsidence (miles) | 10.00 | 6.29 | 7.70 |
| Surface Mining (miles) | 10.00 | 1.68 | 6.02 |
| Oil and Gas Wells in Route Corridor (number) | 7.50 | 4.12 | 10.00 |
| Landslide Areas (acres) | 5.49 | 6.93 | 10.00 |
| **Land Use** | | | |
| Parcels without Existing Easements (number) | 10.00 | 1.49 | 8.58 |
| Houses and Apartments within 500 feet (number) | 8.50 | 10.00 | 6.52 |
| Environmental Justice Area (acres) | 9.04 | 8.43 | 10.00 |
| Commercial/Industrial Structures within 500 feet (number) | 6.09 | 7.39 | 10.00 |
| Institutional Complexes (schools, churches, hospitals, etc.) within 500 feet (number) | 5.00 | 0.00 | 10.00 |
| Hiking and Bike Trails crossed by new Route Corridor (number) | 8.33 | 0.00 | 10.00 |
| County, Local, and Private Recreational Areas in within 500 feet (number) | 5.00 | 10.00 | 10.00 |
| Highway, Railroad, and Road crossed (number) | 9.42 | 8.51 | 10.00 |
| Agricultural Land in New Route Corridor (acres) | 10.00 | 5.28 | 9.41 |
| Conservation Easements in new Route Corridor (acre) | 0.00 | 0.00 | 0.00 |
| Agricultural Easements in New Route Corridor (acres) | 0.00 | 10.00 | 0.00 |

| Resource Evaluation Criteria | East | Central | West |
|---|---|---|---|
| **Environmental** | | | |
| Wetlands Forested (acres) | 10.00 | 1.98 | 3.19 |
| Wetlands Non-Forested (acres) | 4.52 | 10.00 | 3.42 |
| Perennial Streams (number) | 7.72 | 9.13 | 10.00 |
| Forest (acres) | 9.61 | 5.77 | 10.00 |
| RTE buffers (acres) | 4.70 | 10.00 | 3.18 |
| Length of Line Within 0.5 Miles Scenic Resources (miles | 0.00 | 0.00 | 0.00 |
| Length of Line Within 0.5 Miles Wilderness/Natural Areas (miles) | 0.00 | 0.00 | 0.00 |
| Length of Line Within 0.5 Miles National Natural Landmarks (miles) | 0.00 | 0.00 | 0.00 |
| State and Federal Land (acres) | 10.00 | 0.78 | 1.14 |
| **Cultural** | | | |
| Cemeteries within 500 feet (number) | 2.00 | 8.00 | 10.00 |
| Length of Line Within 0.5 Miles of Architectural Resources (miles) | 10.00 | 4.78 | 4.35 |
| Archaeological Resources (previously documented) within ROW (number) | 0.00 | 0.00 | 0.00 |
| Length of Line Within 0.5 Miles of Listed/Eligible Historic District (miles) | 10.00 | 7.55 | 5.22 |

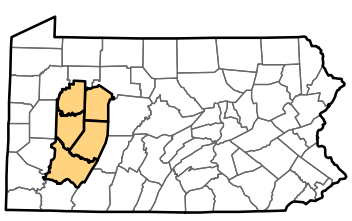
# Weighted Analysis Calculation

| Resource Evaluation Criteria | Weight | East | Central | West |
|---|---|---|---|---|
| **Engineering** | | | | |
| Length of Route (miles) | **60.0** | 600.0 | 500.1 | 594.6 |
| Steep Terrain-Slopes 20% or greater (miles) | **55** | 370.2 | 400.9 | 550.0 |
| Non-Existing Route Corridor (acres) | **70** | 700.0 | 364.1 | 696.0 |
| Airports -Length of Route Corridor within FAA Regulated Conical Surface (miles) | **52.5** | 0.0 | 0.0 | 0.0 |
| Underground Mining Subsidence (miles) | **35.0** | 350.0 | 220.1 | 269.6 |
| Surface Mining (miles) | **35.0** | 350.0 | 58.8 | 210.7 |
| Oil and Gas Wells in Route Corridor (number) | **25.0** | 187.5 | 102.9 | 250.0 |
| Landslide Areas (acres) | **53.7** | 294.7 | 372.3 | 537.0 |
| **Land Use** | | | | |
| Parcels without Existing Easements (number) | **75.0** | 750.0 | 111.5 | 643.3 |
| Houses and Apartments within 500 feet (number) | **76.9** | 653.8 | 769.0 | 501.3 |
| Environmental Justice Area (acres) | **42.0** | 379.8 | 354.2 | 420.0 |
| Commercial/Industrial Structures within 500 feet (number) | **75.0** | 456.5 | 554.3 | 750.0 |
| Institutional Complexes (schools, churches, hospitals, etc.) within 500 feet (number) | **83.1** | 415.5 | 0.0 | 831.0 |
| Hiking and Bike Trails crossed by new Route Corridor (number) | **42.8** | 356.7 | 0.0 | 428.0 |
| County, Local, and Private Recreational Areas in within 500 feet (number) | **67.3** | 336.5 | 673.0 | 673.0 |
| Highway, Railroad, and Road crossed (number) | **33.1** | 311.9 | 281.8 | 331.0 |
| Agricultural Land in New Route Corridor (acres) | **44.0** | 440.0 | 232.2 | 414.2 |
| Conservation Easements in new Route Corridor (acre) | **55.0** | 0.0 | 0.0 | 0.0 |
| Agricultural Easements in New Route Corridor (acres) | **45.0** | 0.0 | 450.0 | 0.0 |

| Resource Evaluation Criteria | Weight | East | Central | West |
|---|---|---|---|---|
| **Environmental** | | | | |
| Wetlands Forested (acres) | **66.2** | 662.0 | 131.3 | 211.0 |
| Wetlands Non-Forested (acres) | **60.0** | 271.2 | 600.0 | 205.5 |
| Perennial Streams (number) | **43.0** | 331.8 | 392.6 | 430.0 |
| Forest (acres) | **40.0** | 384.5 | 230.8 | 400.0 |
| RTE buffers (acres) | **71.9** | 337.9 | 719.0 | 228.5 |
| Length of Line Within 0.5 Miles Scenic Resources (miles | **71.3** | 0.0 | 0.0 | 0.0 |
| Length of Line Within 0.5 Miles Wilderness/Natural Areas (miles) | **73.2** | 0.0 | 0.0 | 0.0 |
| Length of Line Within 0.5 Miles National Natural Landmarks (miles) | **78.0** | 0.0 | 0.0 | 0.0 |
| State and Federal Land (acres) | **43.4** | 434.0 | 33.9 | 49.4 |
| **Cultural** | | | | |
| Cemeteries within 500 feet (number) | **76.8** | 153.6 | 614.4 | 768.0 |
| Length of Line Within 0.5 Miles of Architectural Resources (miles) | **76.8** | 768.0 | 367.0 | 334.5 |
| Archaeological Resources (previously documented) within ROW (number) | **54.0** | 0.0 | 0.0 | 0.0 |
| Length of Line Within 0.5 Miles of Listed/Eligible Historic District (miles) | **56.0** | 560.0 | 423.0 | 292.4 |




PROJECT LOCATION



ARMSTRONG, CLARION, INDIANA, JEFFERSON, AND WESTMORELAND COUNTIES, PENNSYLVANIA

REFERENCE: WORLD TOPOGRAPHIC, ARCGIS ONLINE, ACCESSED 09/2023.

**LEGEND**

- Existing Substation
- Existing Transmission Line
- Study Area
- County Boundary

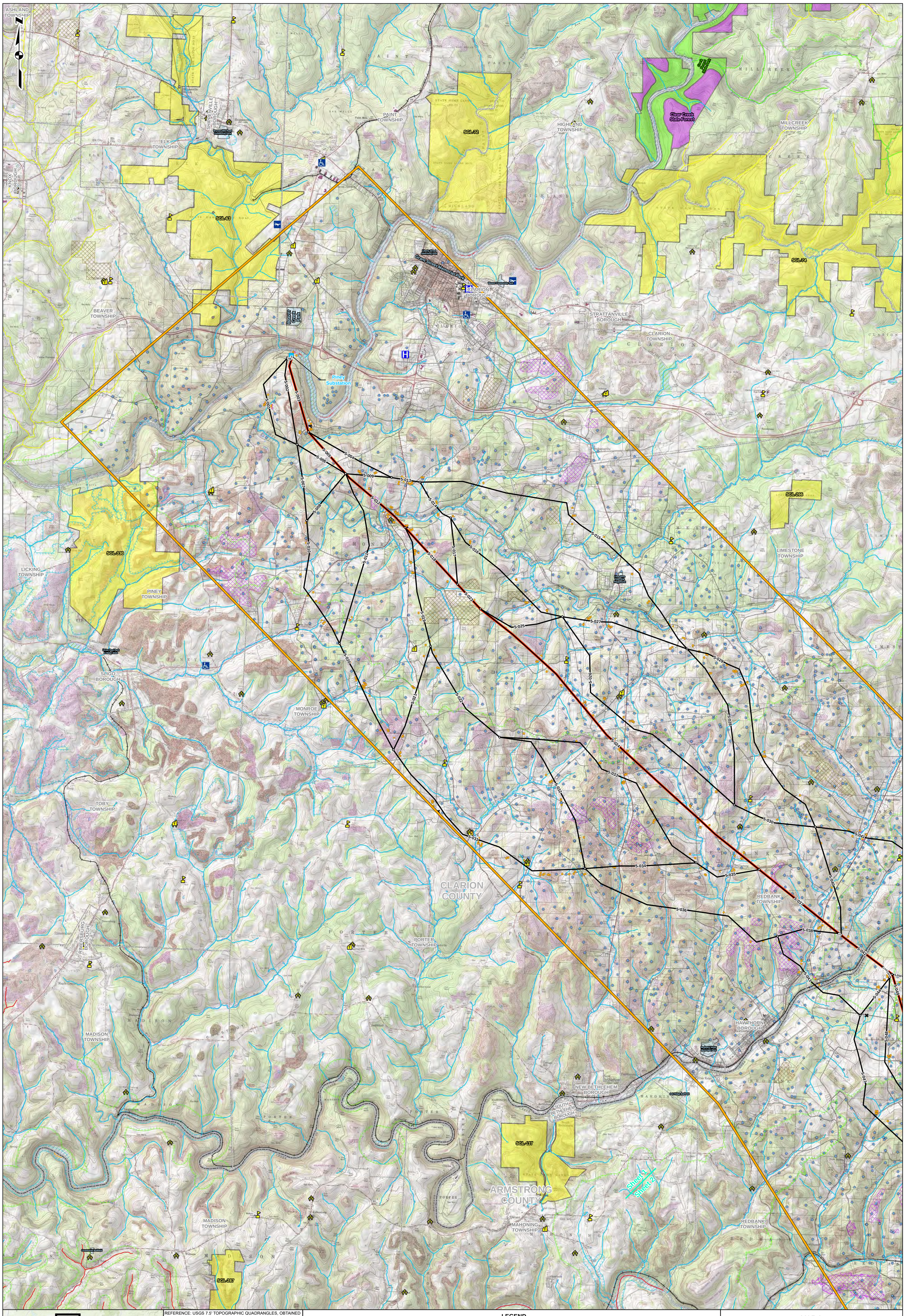
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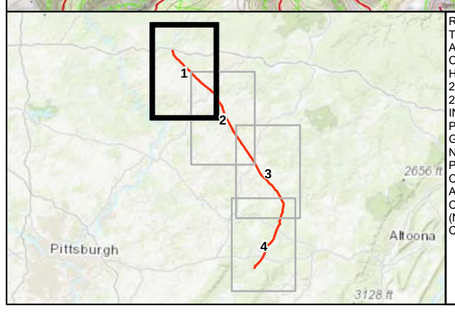
# MAP 1
# STUDY AREA MAP

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
CHECKED: MFW APPROVED: LJP

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REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLES, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 09/2023. SCHOOLS, CEMETERIES, CHURCHES, HOSPITALS, ESRI ARCGIS ONLINE, 2021. NURSING HOMES, PA DOH, 2018. CH93 STREAM DESIGNATED USES, PA DEP, 2019. NATIONAL WETLAND INVENTORY (NWI) WETLANDS, USFWS, 2022. FEMA 100-YEAR FLOODPLAINS, 2022. PA NATURAL HERITAGE INVENTORY, 2016. OIL/GAS WELLS, PA DEP, 2023. RAILROADS, PENNDOT, 2020. LOCAL PARKS, PA DCNR, 2015. STATE GAMELANDS, PGC, 2019. STATE PARKS, DCNR, 2017. WILD NATURAL AREAS, DCNR, 2017. STATE FORESTS, DCNR, 2017. PARCEL BOUNDARIES, CLARION COUNTY ASSESSOR, JEFFERSON COUNTY ASSESSOR, WESTMORELAND COUNTY ASSESSOR, ARMSTRONG COUNTY ASSESSOR, DYNAMO SPATIAL (INDIANA COUNTY), 2022. NATIONAL CONSERVATION EASEMENT DATABASE (NCED), 2022. AIRPORTS, ESRI ARCGIS ONLINE, FAA SECTIONAL CHARTS, 2018.

## LEGEND

- Existing Substation
- Study Segment
- Existing Transmission Line
- Study Area

**Building Within 500-Feet of Centerline:**

- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned
- Airport
- Nursing Home
- School
- Church
- Cemetery
- Hospital
- Oil/Gas Well
- Railroad
- NWI Wetland
- FEMA 100-Year Floodplain

**Ch. 93 Designated Use Stream:**

- CWF (Cold Water Fishes)
- EV (Exceptional Value)
- HQ (High Quality)
- TSF (Trout Stocking)
- WWF (Warm Water Fishes)
- PA Natural Heritage Inventory Supporting Landscape
- PA Natural Heritage Inventory Core Habitat
- Local Park
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- Municipal Boundary
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- Parcel Boundary
- Conservation Easement

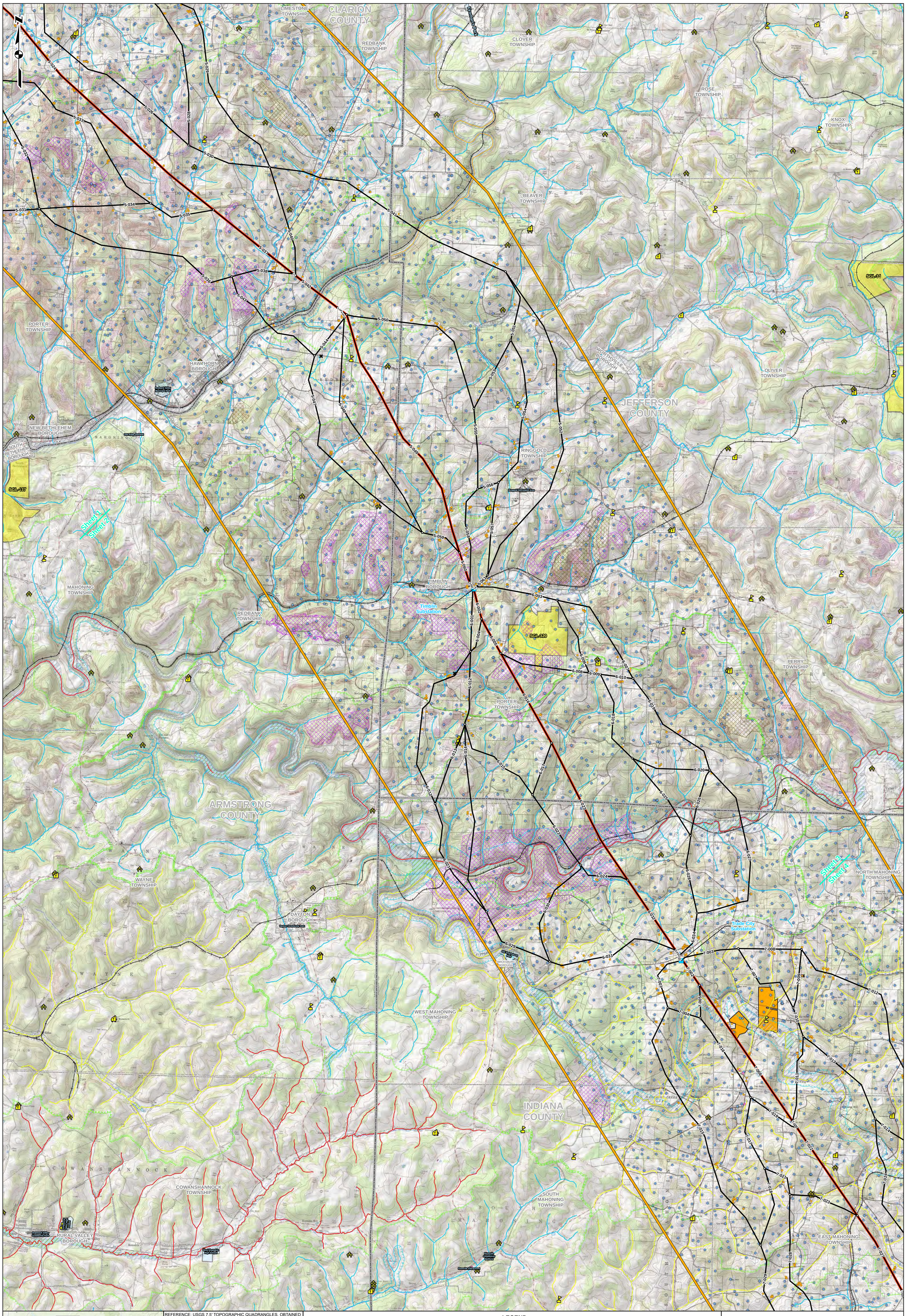
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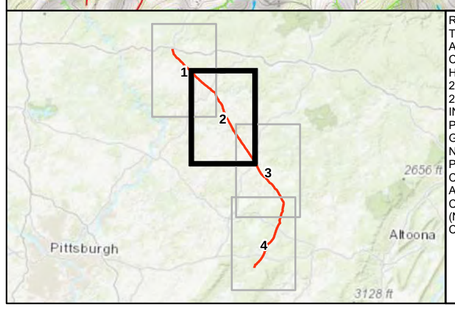
MAP 2
GIS CONSTRAINTS MAP
ALTERNATIVE SEGMENTS - TOPOGRAPHIC
SHEET 1 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
APPROVED: LJP

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## LEGEND

- Existing Substation
- Study Segment
- Existing Transmission Line
- Study Area

**Building Within 500-Feet of Centerline:**

- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned

- Airport
- Nursing Home
- School
- Church
- Cemetery
- Hospital
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- Railroad

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- CWF (Cold Water Fishes)
- EV (Exceptional Value)
- HQ (High Quality)
- TSF (Trout Stocking)
- WWF (Warm Water Fishes)

- PA Natural Heritage Inventory Supporting Landscape
- PA Natural Heritage Inventory Core Habitat
- Local Park
- State Game Land
- State Park
- Wild Natural Area
- State Forest

- Surface Mining
- Underground Mining
- Municipal Boundary
- County Boundary
- Parcel Boundary
- Conservation Easement

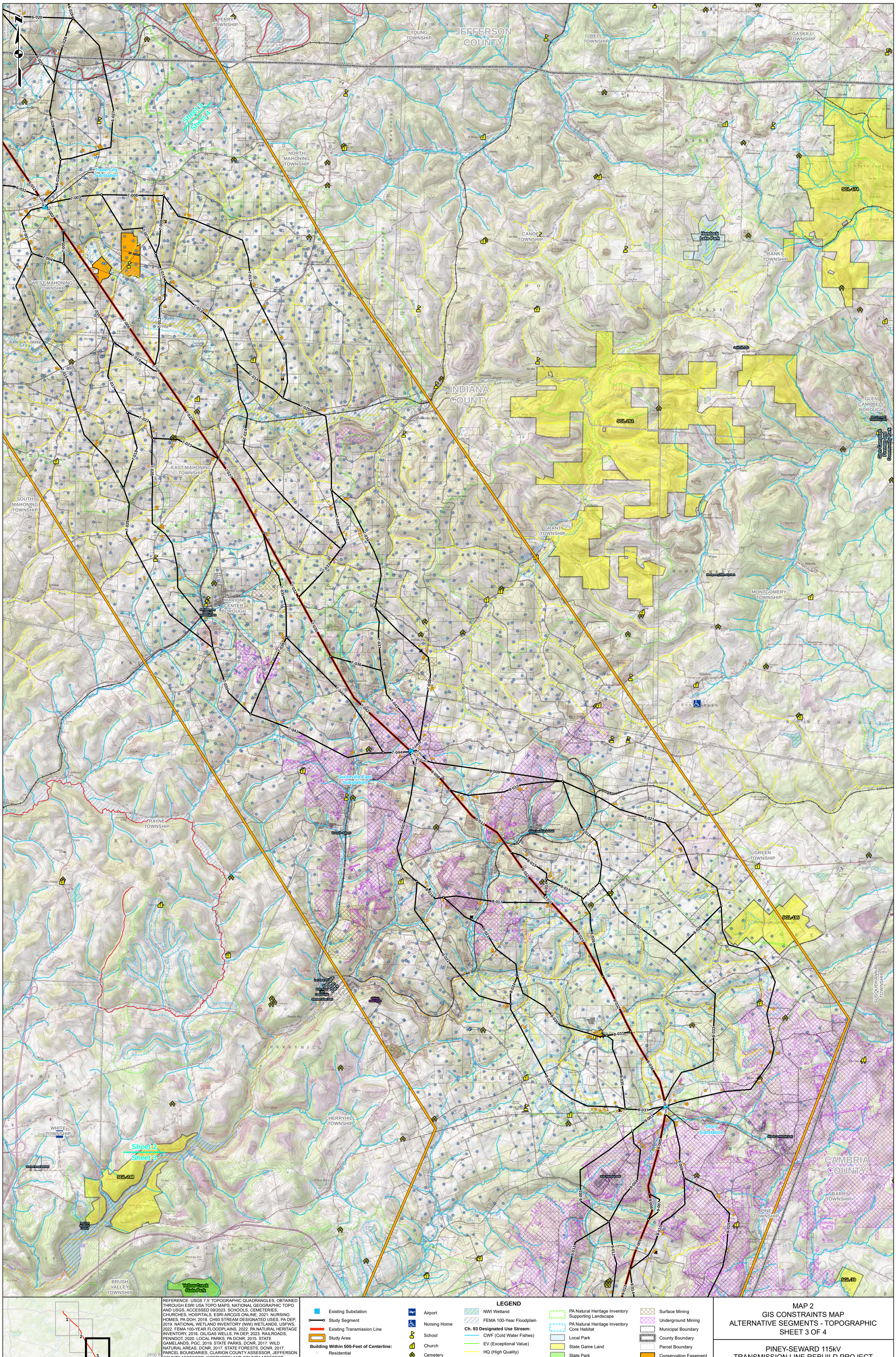
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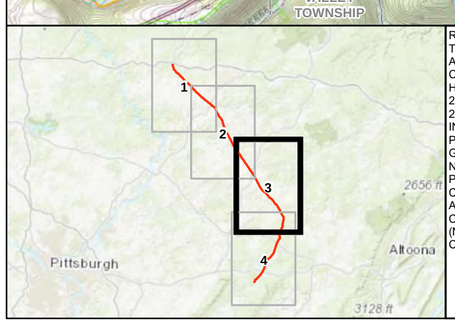
# MAP 2
# GIS CONSTRAINTS MAP
# ALTERNATIVE SEGMENTS - TOPOGRAPHIC
# SHEET 2 OF 4

## PINEY-SEWARD 115kV
## TRANSMISSION LINE REBUILD PROJECT
## MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
## (A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
APPROVED: LJP

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## LEGEND

- Existing Substation
- Study Segment
- Existing Transmission Line
- Study Area

**Building Within 500-Feet of Centerline:**

- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned

- Airport
- Nursing Home
- School
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- PA Natural Heritage Inventory Core Habitat
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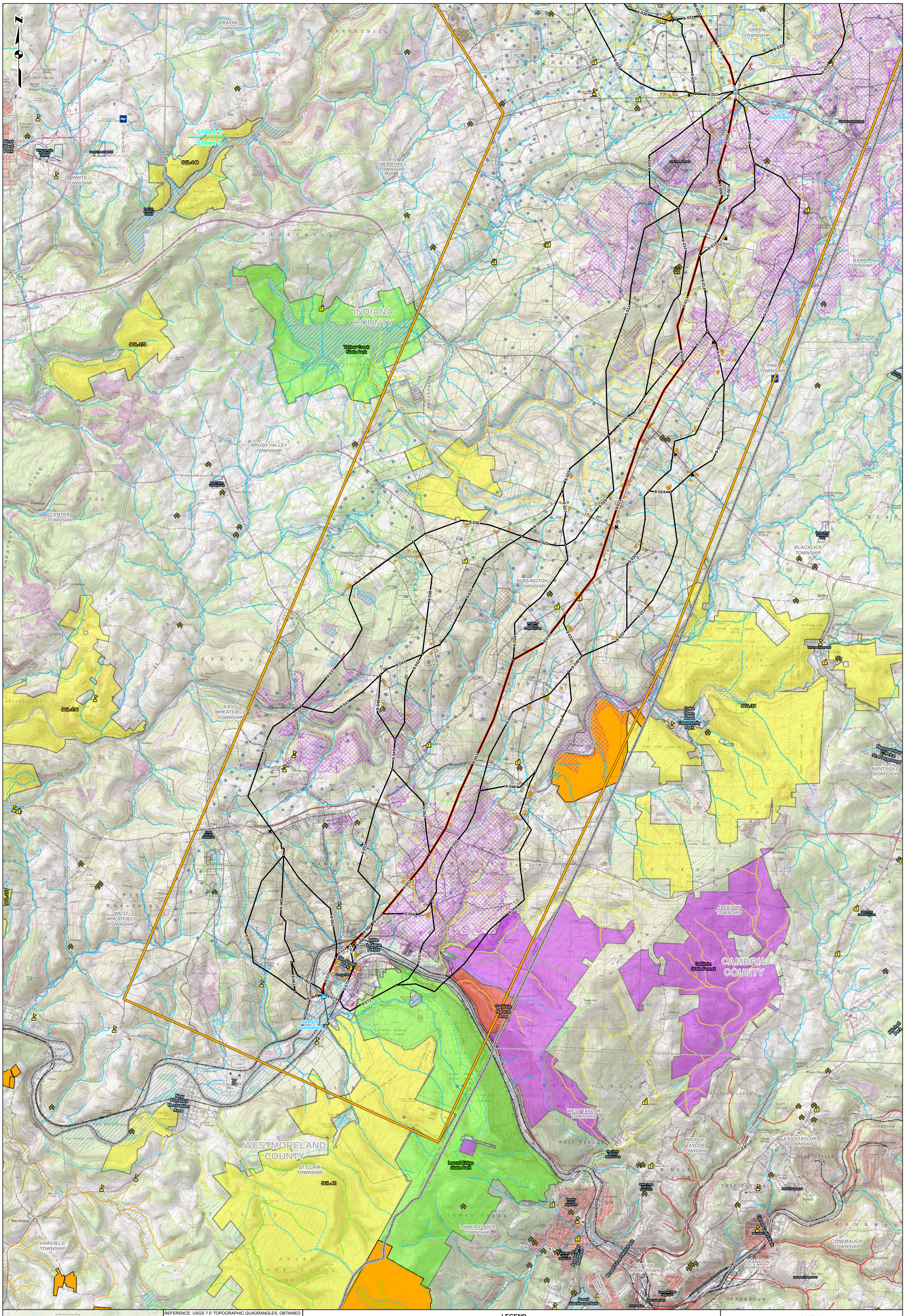
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- Municipal Boundary
- County Boundary
- Parcel Boundary
- Conservation Easement

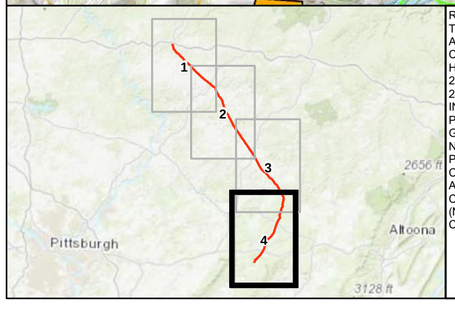
# MAP 2
# GIS CONSTRAINTS MAP
# ALTERNATIVE SEGMENTS - TOPOGRAPHIC
# SHEET 3 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
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## LEGEND

- Existing Substation
- Study Segment
- Existing Transmission Line
- Study Area

**Building Within 500-Feet of Centerline:**

- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned

- Airport
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- Church
- Cemetery
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- Oil/Gas Well
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- State Park
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- Surface Mining
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- Municipal Boundary
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- Parcel Boundary
- Conservation Easement

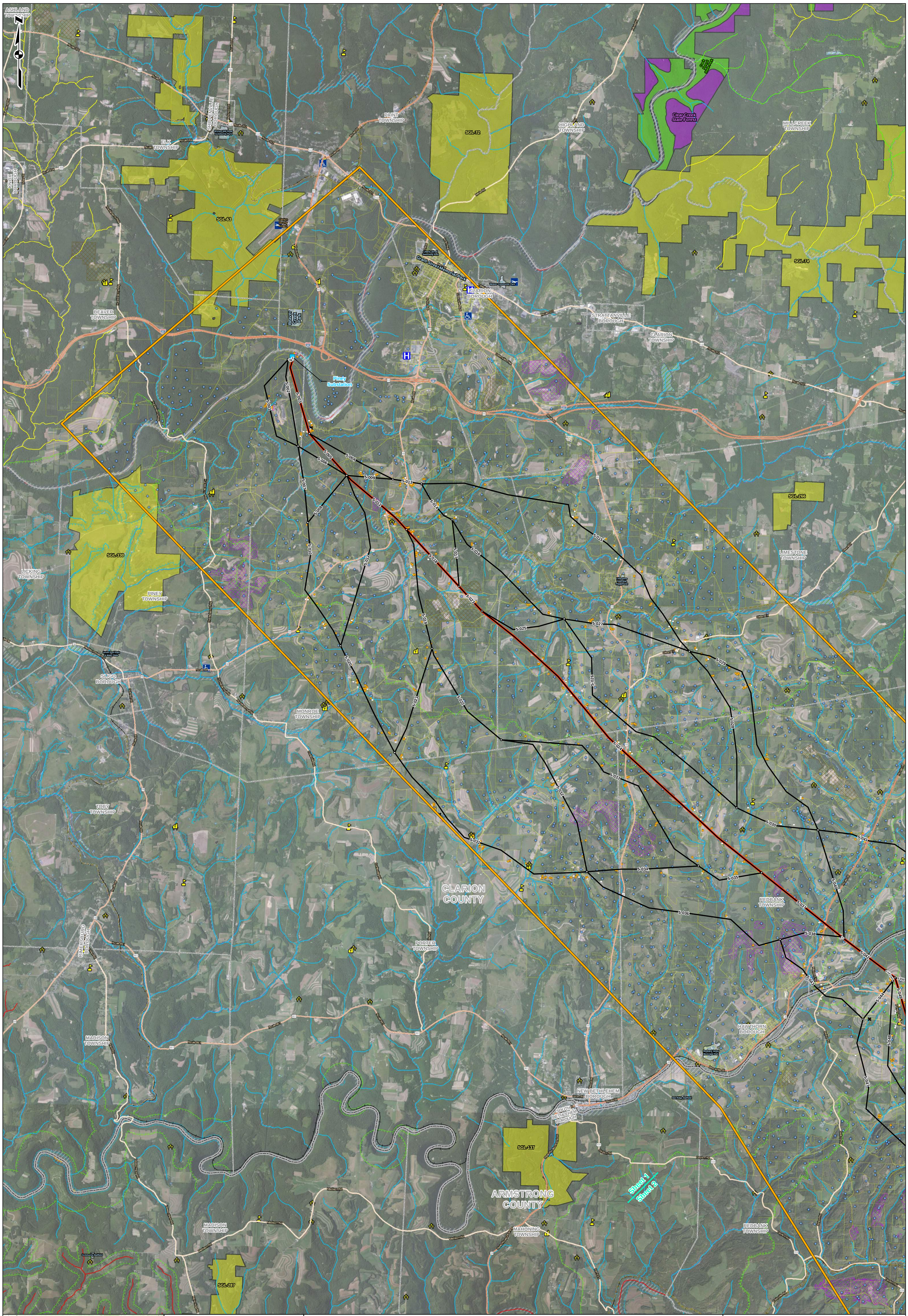
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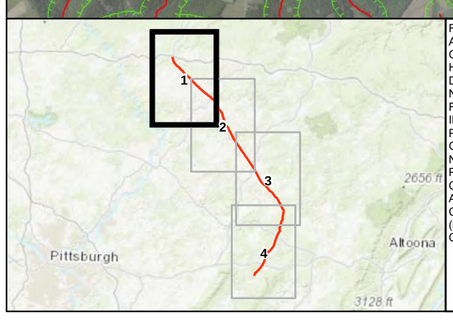
# MAP 2
# GIS CONSTRAINTS MAP
# ALTERNATIVE SEGMENTS - TOPOGRAPHIC
# SHEET 4 OF 4

## PINEY-SEWARD 115kV
## TRANSMISSION LINE REBUILD PROJECT
## MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
## (A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
APPROVED: LJP

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## LEGEND

- Existing Substation
- Study Segment
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- Study Area

**Building Within 500-Feet of Centerline:**

- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned

- Airport
- Nursing Home
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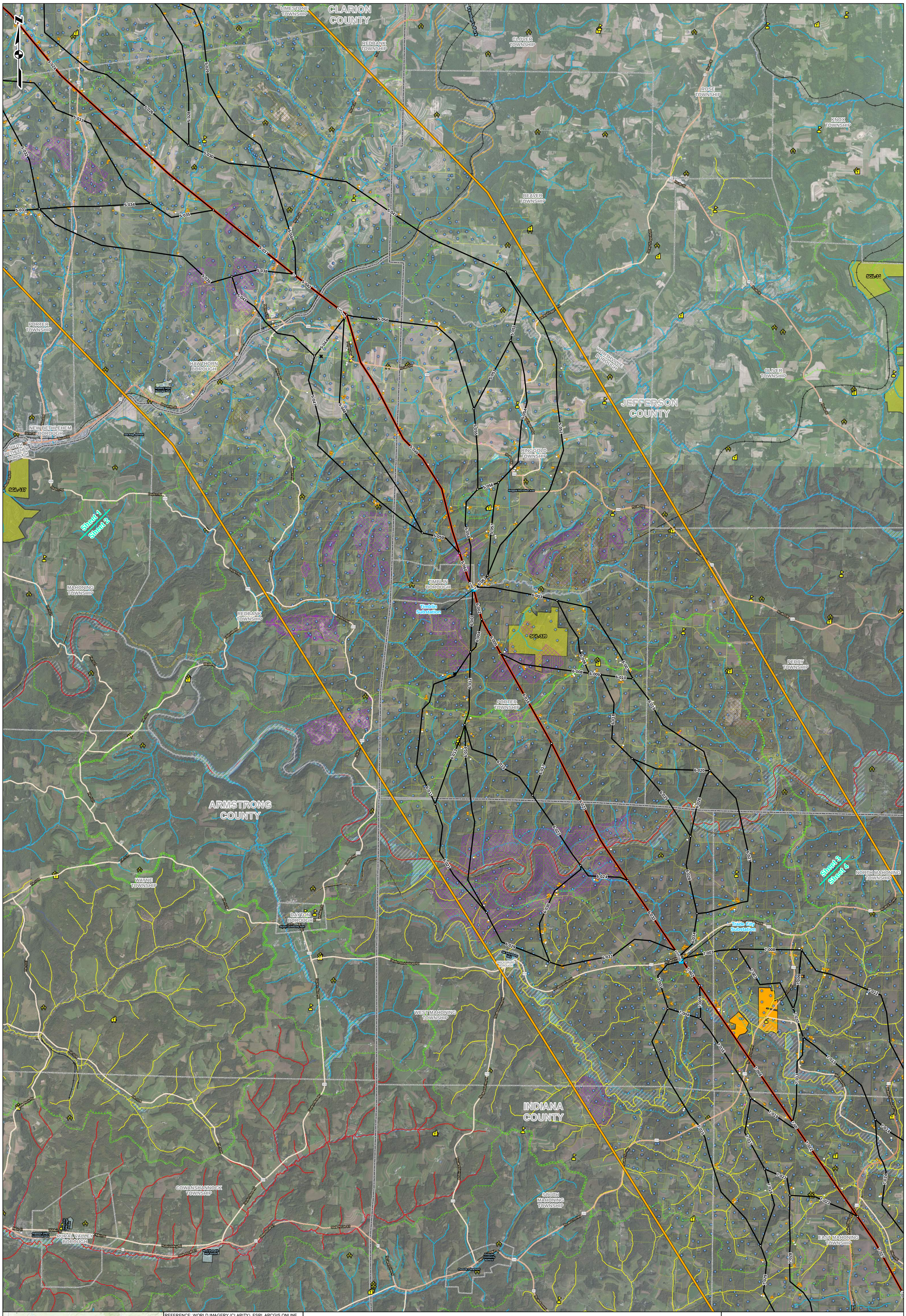
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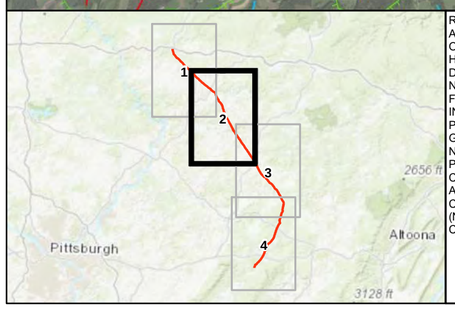
# MAP 3
# GIS CONSTRAINTS MAP
# ALTERNATIVE SEGMENTS - AERIAL
# SHEET 1 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
CHECKED: MFW APPROVED: LJP

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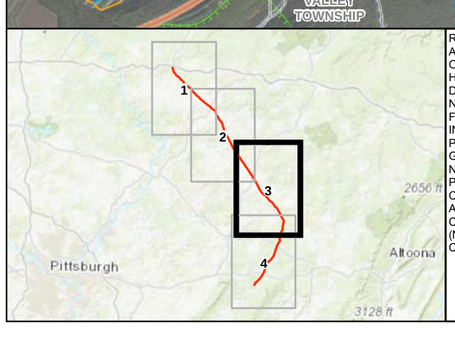
MAP 3
GIS CONSTRAINTS MAP
ALTERNATIVE SEGMENTS - AERIAL
SHEET 2 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

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APPROVED: LJP

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## LEGEND

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- Conservation Easement

0 2,000 4,000 8,000 Feet

MAP 3
GIS CONSTRAINTS MAP
ALTERNATIVE SEGMENTS - AERIAL
SHEET 3 OF 4

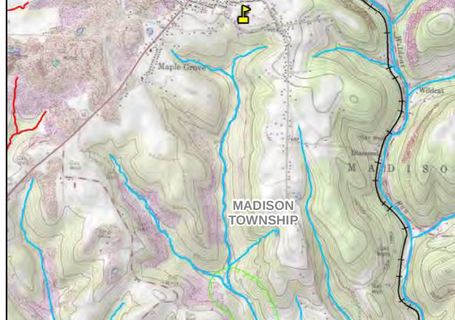
PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
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Sheet 2
Sheet 3
RAYNE TOWNSHIP
CLYMER BOROUGH
WHITE TOWNSHIP
CHERRYHILL TOWNSHIP
GREEN TOWNSHIP
BARR TOWNSHIP
PINE TOWNSHIP
BLACKLICK TOWNSHIP
BUFFINGTON TOWNSHIP
BRUSH VALLEY TOWNSHIP
CENTER TOWNSHIP
EAST WHEATFIELD TOWNSHIP
WEST WHEATFIELD TOWNSHIP
JACKSON TOWNSHIP
WEST TAYLOR TOWNSHIP
MIDDLE TAYLOR TOWNSHIP
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LOWER YODER TOWNSHIP
CONEMAUGH TOWNSHIP
FAIRFIELD TOWNSHIP
ST CLAIR TOWNSHIP
CITY OF JOHNSTOWN
FRANKLIN BOROUGH
BROWNSTOWN BOROUGH
NANTY GLO BOROUGH
INDIANA COUNTY
CAMBRIA COUNTY
WESTMORELAND COUNTY
Glory Substation
Seward Substation
SGL-248
SGL-273
SGL-276
SGL-79
SGL-153
SGL-42
Yellow Creek State Park
Gallitzin State Forest
Gallitzin Natural Area
Laurel Ridge State Park
Coke Oven Road Community Park
Mayor Arthur C. Price Sr. Playground
Little League Fields
7th Street Park
Powell Stackhouse Park
Broad Street Mini Park
Aspen Way Ball Field
Citizen Court Park
New Florence Recreation Area
First Ward Park
Indiana County Airport
Stormer Road Ballfield
White Township Recreation Complex
Two Lick Reservoir Launch
Brush Valley Township Park
Buffington Township Community Park
Pine Township Park
Alverta Community Park
Duman Road Community Park
2nd Street Playground
Lady Field Community Park
Clyde Fire Hall Playground
Dorothy Avenue Playground
Middle Taylor Township Playground
West Taylor Township Memorial Park
Porkhill Playground
Lexington Avenue Park
Ebensburg Road Playground
Point Stadium
Route 119 Highway N
Route 403 Highway N
Route 553 Hwy
Route 56 Highway E
Route 22 Highway
Route 422 Highway
Route 286 Highway
Route 711
Benjamin Franklin Hwy
William Penn Hwy
Admiral Peary Hwy
Bedford St
Main St
Locust St
Clearfield St
Power Plant Rd
Mahon Hill Rd
Mahon Hill Rd
Mahon Hill

ASHLAND TOWNSHIP
SHIPPENVILLE BOROUGH
Shippenville
Dryers Mill Pond Community Park
PAINT TOWNSHIP
STATE GAME LANDS NO 72
SGL-72
HIGHLAND TOWNSHIP
Clear Creek State Forest
MILLCREEK TOWNSHIP
ELK TOWNSHIP
KNOX BOROUGH
SGL-63
Liberty Street Swimming Pool
Grant Street Memorial Park
Weaver Community Park
CLARION BOROUGH
SGL-74
BEAVER TOWNSHIP
Beaver Creek Park
STRATTANVILLE BOROUGH
CLARION TOWNSHIP
Piney Substation
PINEY TOWNSHIP
SGL-266
SGL-330
CLARION COUNTY
MONROE TOWNSHIP
LIMESTONE TOWNSHIP
East Route
LICKING TOWNSHIP
Union Rod Park & Water Park
SLIGO BOROUGH
Central Route
TOBY TOWNSHIP
RIMERSBURG BOROUGH
West Route
REDBANK TOWNSHIP
PORTER TOWNSHIP
HAWTHORN BOROUGH
Redbank Valley Municipal Park
MADISON TOWNSHIP
NEW BETHLEHEM BOROUGH
SOUTH BETHLEHEM BOROUGH
SGL-137
REDBANK TOWNSHIP
Sheet 1
Sheet 2
ARMSTRONG COUNTY
MAHONING TOWNSHIP
Community Ballfield
SGL-287




REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLES, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 09/2023. SCHOOLS, CEMETERIES, CHURCHES, HOSPITALS, ESRI ARCGIS ONLINE, 2021. NURSING HOMES, PA DOH, 2018. CH93 STREAM DESIGNATED USES, PA DEP, 2019. NATIONAL WETLAND INVENTORY (NWI) WETLANDS, USFWS, 2022. FEMA 100-YEAR FLOODPLAINS, 2022. PA NATURAL HERITAGE INVENTORY, 2016. OIL/GAS WELLS, PA DEP, 2023. RAILROADS, PENNDOT, 2020. LOCAL PARKS, PA DCNR, 2015. STATE GAMELANDS, PGC, 2019. STATE PARKS, DCNR, 2017. WILD NATURAL AREAS, DCNR, 2017. STATE FORESTS, DCNR, 2017. PARCEL BOUNDARIES, CLARION COUNTY ASSESSOR, JEFFERSON COUNTY ASSESSOR, WESTMORELAND COUNTY ASSESSOR, ARMSTRONG COUNTY ASSESSOR, DYNAMO SPATIAL (INDIANA COUNTY), 2022. NATIONAL CONSERVATION EASEMENT DATABASE (NCED), 2022. AIRPORTS, ESRI ARCGIS ONLINE, FAA SECTIONAL CHARTS, 2018.

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## LEGEND

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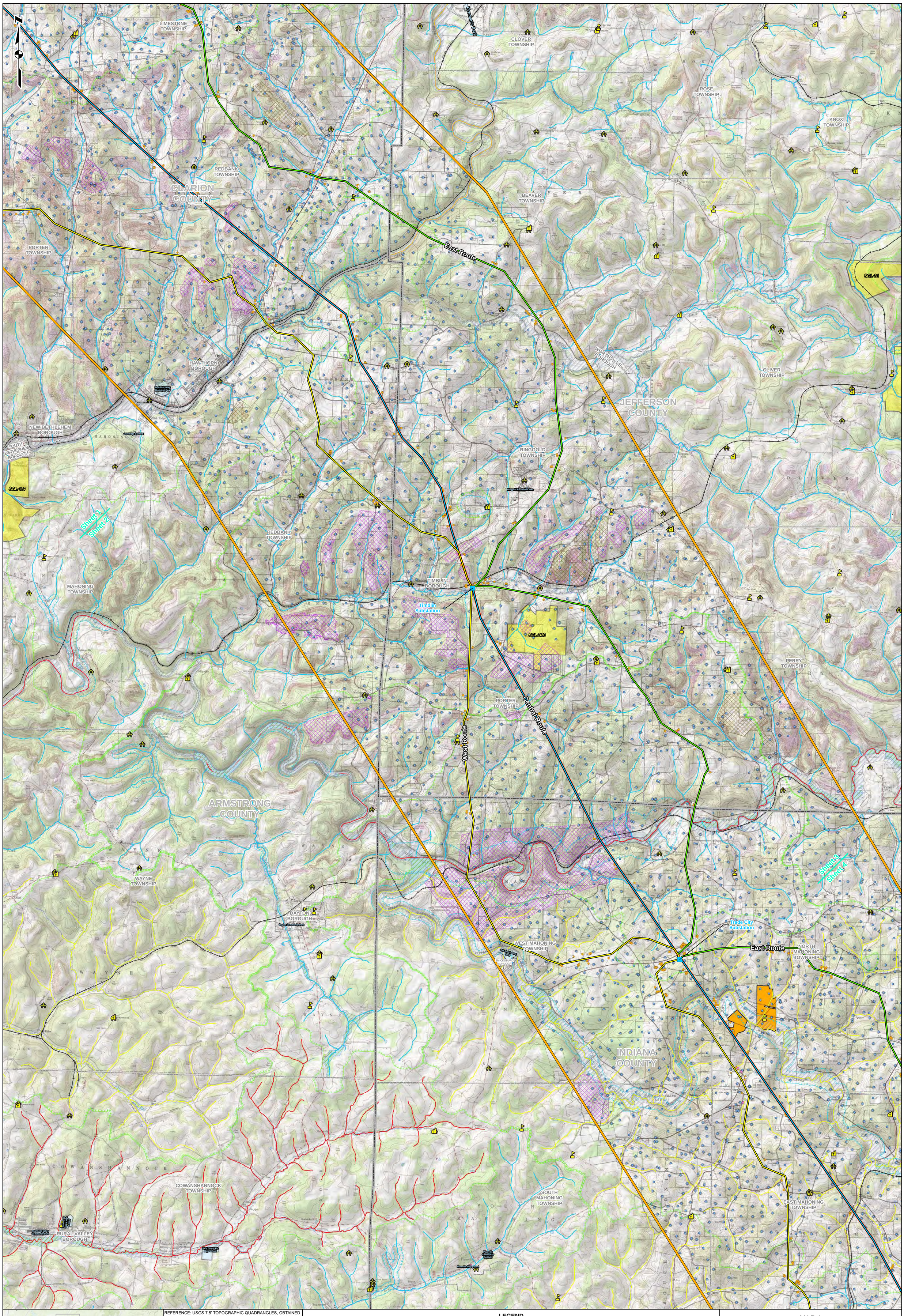
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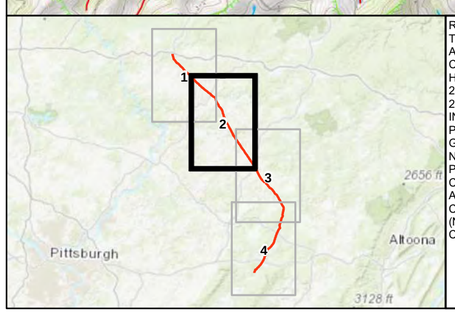
# MAP 4
# GIS CONSTRAINTS MAP
# ALTERNATIVE ROUTES - TOPOGRAPHIC
# SHEET 1 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
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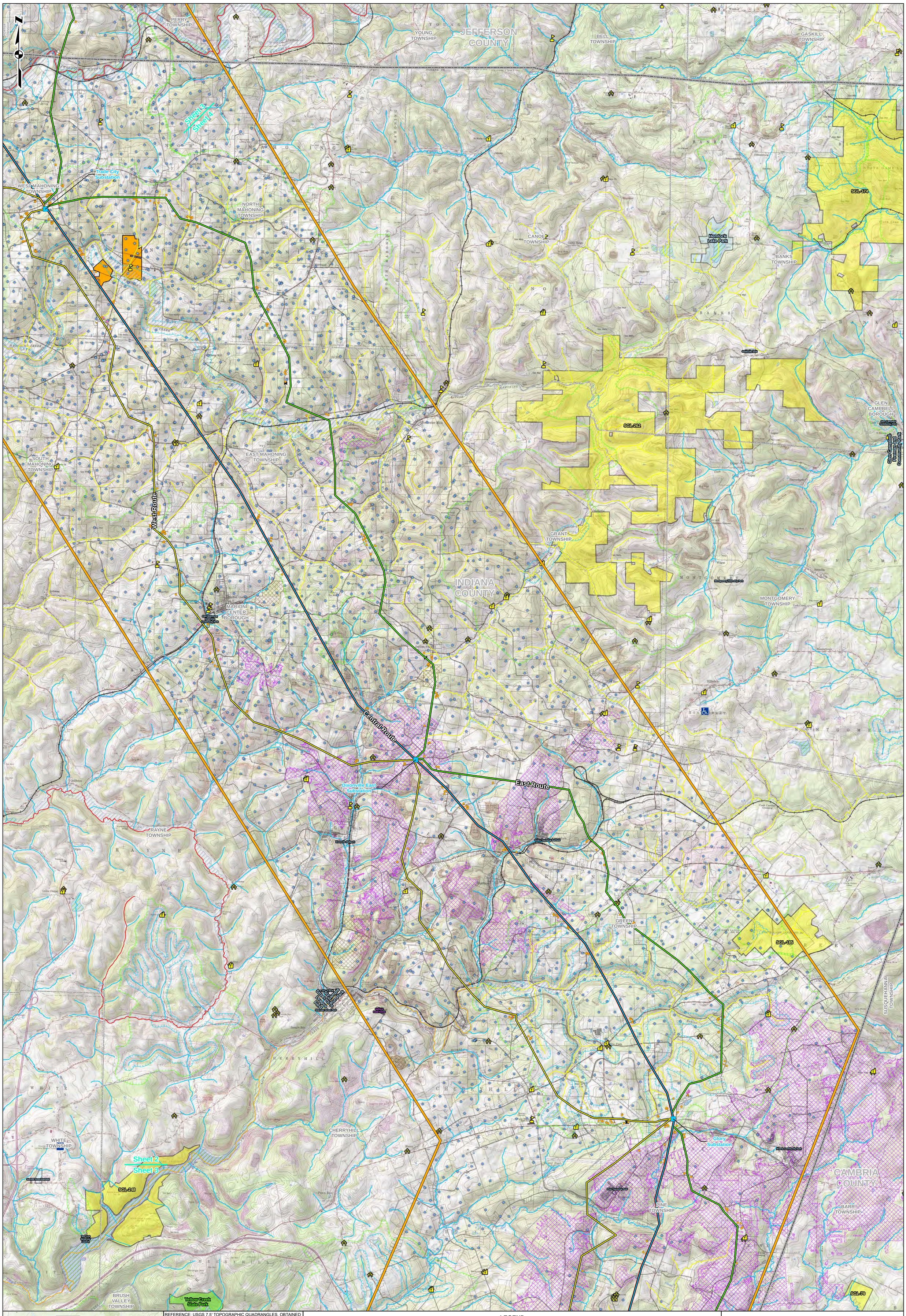
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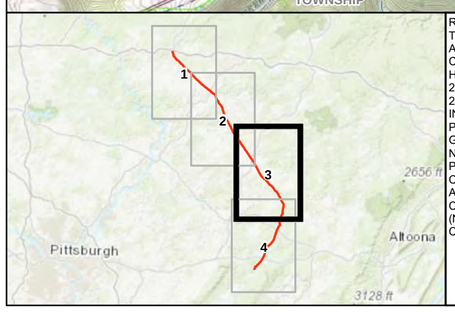
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# SHEET 3 OF 4

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N

Sheet 2
Sheet 3

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GREEN TOWNSHIP
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BARR TOWNSHIP
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INDIANA COUNTY
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BUFFINGTON TOWNSHIP
BLACKLICK TOWNSHIP
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JACKSON TOWNSHIP
CAMBRIA COUNTY
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CITY OF JOHNSTOWN
FRANKLIN BOROUGH
BROWNSTOWN BOROUGH

Glory Substation
Seward Substation
West Route
Central Route
East Route

First Ward Park
White Township Recreation Complex
Stormer Road Ballfield
Two Lick Seventh Day Church
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Dunnon Road Community Park
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Coke Oven Road Community Park
Mayor Arthur C. Pilas Sr. Playground
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Citizen Council Park
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Bedno Street Park
Powell Stackhouse Park
Lexington Avenue Park

SGL-248
SGL-273
SGL-278
SGL-79
SGL-42
SGL-459

Gallitzin State Forest
Gallitzin Natural Area
Laurel Ridge State Park

REFERENCE: USGS 7.5' TOPOGRAPHIC QUADRANGLES, OBTAINED THROUGH ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESSED 09/2023. SCHOOLS, CEMETERIES, CHURCHES, HOSPITALS, ESRI ARCGIS ONLINE, 2021. NURSING HOMES, PA DOH, 2018. CH93 STREAM DESIGNATED USES, PA DEP, 2019. NATIONAL WETLAND INVENTORY (NWI) WETLANDS, USFWS, 2022. FEMA 100-YEAR FLOODPLAINS, 2022. PA NATURAL HERITAGE INVENTORY, 2016. OIL/GAS WELLS, PA DEP, 2023. RAILROADS, PENNDOT, 2020. LOCAL PARKS, PA DCNR, 2015. STATE GAMELANDS, PGC, 2019. STATE PARKS, DCNR, 2017. WILD NATURAL AREAS, DCNR, 2017. STATE FORESTS, DCNR, 2017. PARCEL BOUNDARIES, CLARION COUNTY ASSESSOR, JEFFERSON COUNTY ASSESSOR, WESTMORELAND COUNTY ASSESSOR, ARMSTRONG COUNTY ASSESSOR, DYNAMO SPATIAL (INDIANA COUNTY), 2022. NATIONAL CONSERVATION EASEMENT DATABASE (NCED), 2022. AIRPORTS, ESRI ARCGIS ONLINE, FAA SECTIONAL CHARTS, 2018.

**Route Alternative:**
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- Central Route
- East Route
- Existing Transmission Line

**Building Within 500-Feet of Centerline:**
- Residential
- Commercial/Industrial
- Outbuilding
- Institutional
- Abandoned

**LEGEND**

- Existing Substation
- Study Area
- Airport
- Nursing Home
- School
- Church
- Cemetery
- Hospital
- Oil/Gas Well
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- CWF (Cold Water Fishes)
- EV (Exceptional Value)
- HQ (High Quality)
- TSF (Trout Stocking)
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- State Forest
- Surface Mining
- Underground Mining
- Municipal Boundary
- County Boundary
- Parcel Boundary
- Conservation Easement

0 2,000 4,000 8,000 Feet

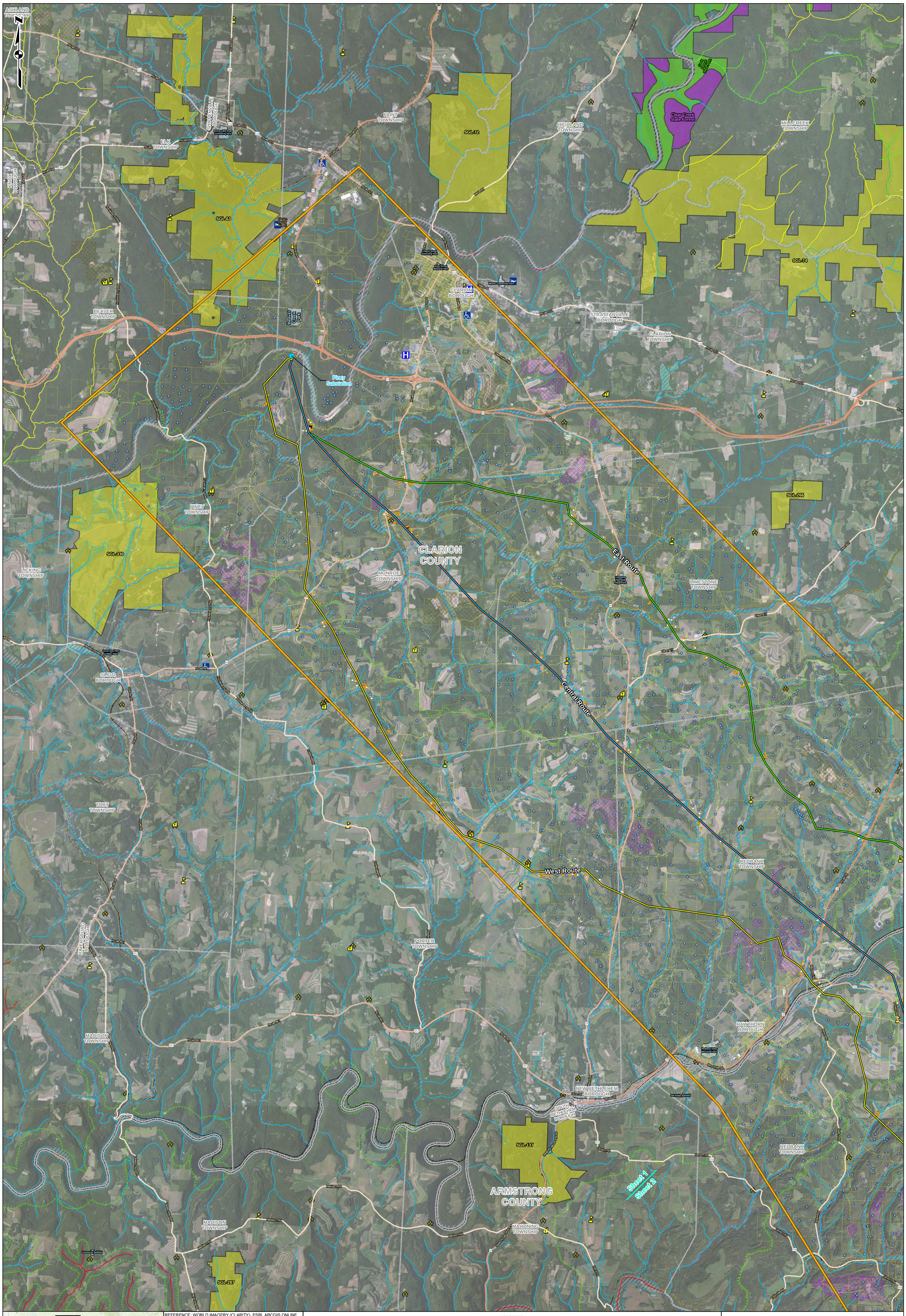
1 2 3 4
2656 ft
3128 ft
Pittsburgh
Altoona

# MAP 4
# GIS CONSTRAINTS MAP
# ALTERNATIVE ROUTES - TOPOGRAPHIC
# SHEET 4 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
APPROVED: LJP

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REFERENCE: WORLD IMAGERY (CLARITY), ESRI, ARCGIS ONLINE, ACCESSED 09/2023. WORLD TRANSPORTATION, ESRI, ARCGIS ONLINE, ACCESSED 09/2023. SCHOOLS, CEMETERIES, CHURCHES, HOSPITALS, ESRI ARCGIS ONLINE, 2021. NURSING HOMES, PA DOH, 2018. CH93 STREAM DESIGNATED USES, PA DEP, 2019. NATIONAL WETLAND INVENTORY (NWI) WETLANDS, USFWS, 2022. FEMA 100-YEAR FLOODPLAINS, 2022. PA NATURAL HERITAGE INVENTORY, 2016. OIL/GAS WELLS, PA DEP, 2023. RAILROADS, PENNDOT, 2020. LOCAL PARKS, PA DCNR, 2015. STATE GAMELANDS, PGC, 2019. STATE PARKS, DCNR, 2017. WILD NATURAL AREAS, DCNR, 2017. STATE FORESTS, DCNR, 2017. PARCEL BOUNDARIES, CLARION COUNTY ASSESSOR, JEFFERSON COUNTY ASSESSOR, WESTMORELAND COUNTY ASSESSOR, ARMSTRONG COUNTY ASSESSOR, DYNAMO SPATIAL (INDIANA COUNTY), 2022. NATIONAL CONSERVATION EASEMENT DATABASE (NCED), 2022. AIRPORTS, ESRI ARCGIS ONLINE, FAA SECTIONAL CHARTS, 2018.

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**LEGEND**

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- Underground Mining
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0 2,000 4,000 8,000 Feet

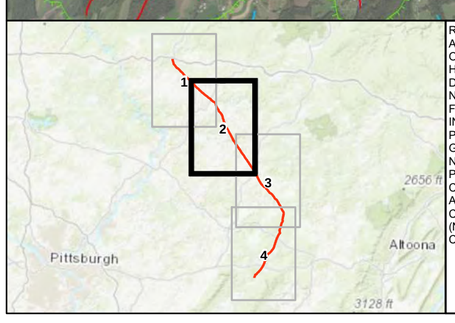
# MAP 5
# GIS CONSTRAINTS MAP
# ALTERNATIVE ROUTES - AERIAL
# SHEET 1 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
CHECKED: MFW APPROVED: LJP

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LIMESTONE TOWNSHIP
CLOVER TOWNSHIP
ROSE TOWNSHIP
KNOX TOWNSHIP
REDBANK TOWNSHIP
CLARION COUNTY
BEAVER TOWNSHIP
PORTER TOWNSHIP
East Route
SGL-31
HAWTHORN BOROUGH
WORTHVILLE BOROUGH
OLIVER TOWNSHIP
JEFFERSON COUNTY
NEW BETHLEHEM BOROUGH
SOUTH BETHLEHEM BOROUGH
SGL-137
RINGGOLD TOWNSHIP
Sheet 1
Sheet 2
REDBANK TOWNSHIP
MAHONING TOWNSHIP
TIMBLIN BOROUGH
Timblin Substation
SGL-320
PERRY TOWNSHIP
PORTER TOWNSHIP
West Route
Central Route
ARMSTRONG COUNTY
WAYNE TOWNSHIP
DAYTON BOROUGH
Sheet 3
Sheet 4
Trade City Substation
East Route
WEST MAHONING TOWNSHIP
SMICKSBURG BOROUGH
NORTH MAHONING TOWNSHIP
INDIANA COUNTY
COWANSHANNOCK TOWNSHIP
SOUTH MAHONING TOWNSHIP
RURAL VALLEY BOROUGH
EAST MAHONING TOWNSHIP




REFERENCE: WORLD IMAGERY (CLARITY), ESRI, ARCGIS ONLINE, ACCESSED 09/2023. WORLD TRANSPORTATION, ESRI, ARCGIS ONLINE, ACCESSED 09/2023. SCHOOLS, CEMETERIES, CHURCHES, HOSPITALS, ESRI ARCGIS ONLINE, 2021. NURSING HOMES, PA DOH, 2018. CH93 STREAM DESIGNATED USES, PA DEP, 2019. NATIONAL WETLAND INVENTORY (NWI) WETLANDS, USFWS, 2022. FEMA 100-YEAR FLOODPLAINS, 2022. PA NATURAL HERITAGE INVENTORY, 2016. OIL/GAS WELLS, PA DEP, 2023. RAILROADS, PENNDOT, 2020. LOCAL PARKS, PA DCNR, 2015. STATE GAMELANDS, PGC, 2019. STATE PARKS, DCNR, 2017. WILD NATURAL AREAS, DCNR, 2017. STATE FORESTS, DCNR, 2017. PARCEL BOUNDARIES, CLARION COUNTY ASSESSOR, JEFFERSON COUNTY ASSESSOR, WESTMORELAND COUNTY ASSESSOR, ARMSTRONG COUNTY ASSESSOR, DYNAMO SPATIAL (INDIANA COUNTY), 2022. NATIONAL CONSERVATION EASEMENT DATABASE (NCED), 2022. AIRPORTS, ESRI ARCGIS ONLINE, FAA SECTIONAL CHARTS, 2018.

## LEGEND

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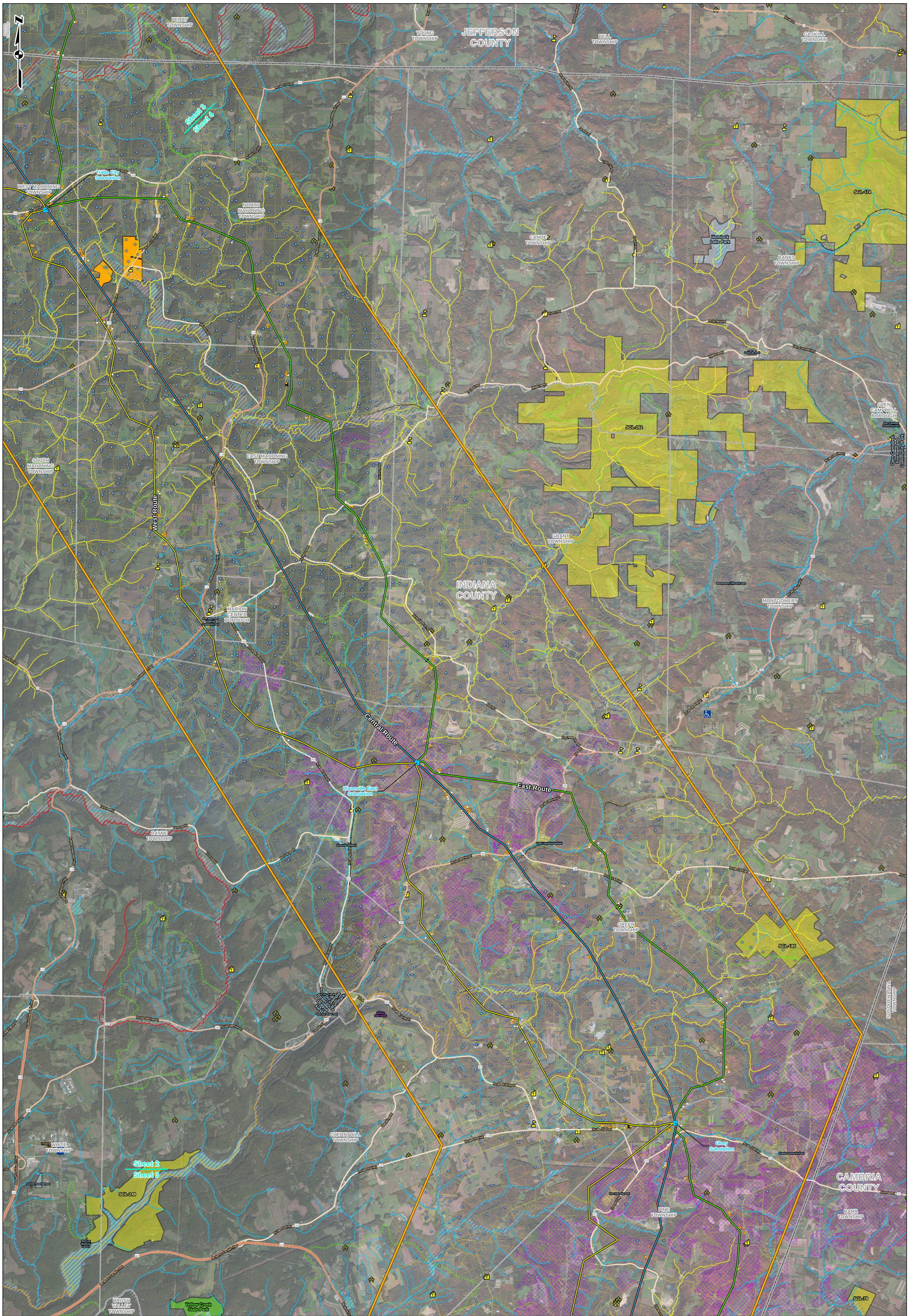
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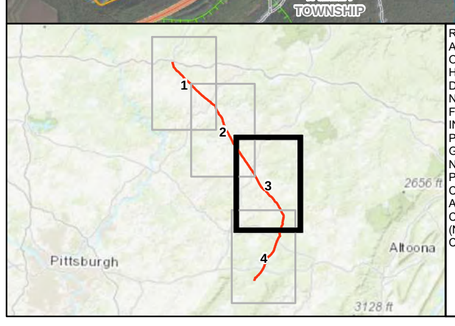
# MAP 5
# GIS CONSTRAINTS MAP
# ALTERNATIVE ROUTES - AERIAL
# SHEET 2 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ
CHECKED: MFW
DATE: 9/8/2023
APPROVED: LJP

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0 2,000 4,000 8,000 Feet

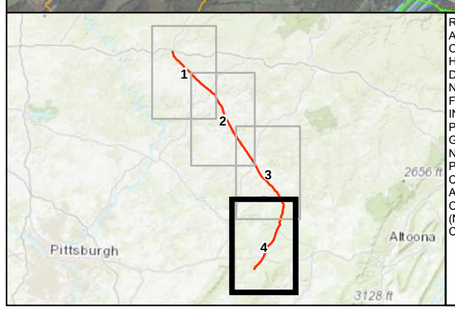
MAP 5
GIS CONSTRAINTS MAP
ALTERNATIVE ROUTES - AERIAL
SHEET 3 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
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**LEGEND**

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0 2,000 4,000 8,000 Feet

MAP 5
GIS CONSTRAINTS MAP
ALTERNATIVE ROUTES - AERIAL
SHEET 4 OF 4

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
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SHEET 1

SHEET 2

SHEET 3

Piney Substation

Timblin Substation

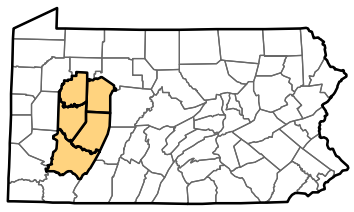
Trade City Substation

Dixonville East Substation

Glory Substation

Seward Substation

## PROJECT LOCATION



ARMSTRONG, CLARION, INDIANA, JEFFERSON, AND WESTMORELAND COUNTIES, PENNSYLVANIA

REFERENCE: WORLD TOPOGRAPHIC, ARCGIS ONLINE, ACCESSED 09/2023.

**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- Sheet Index

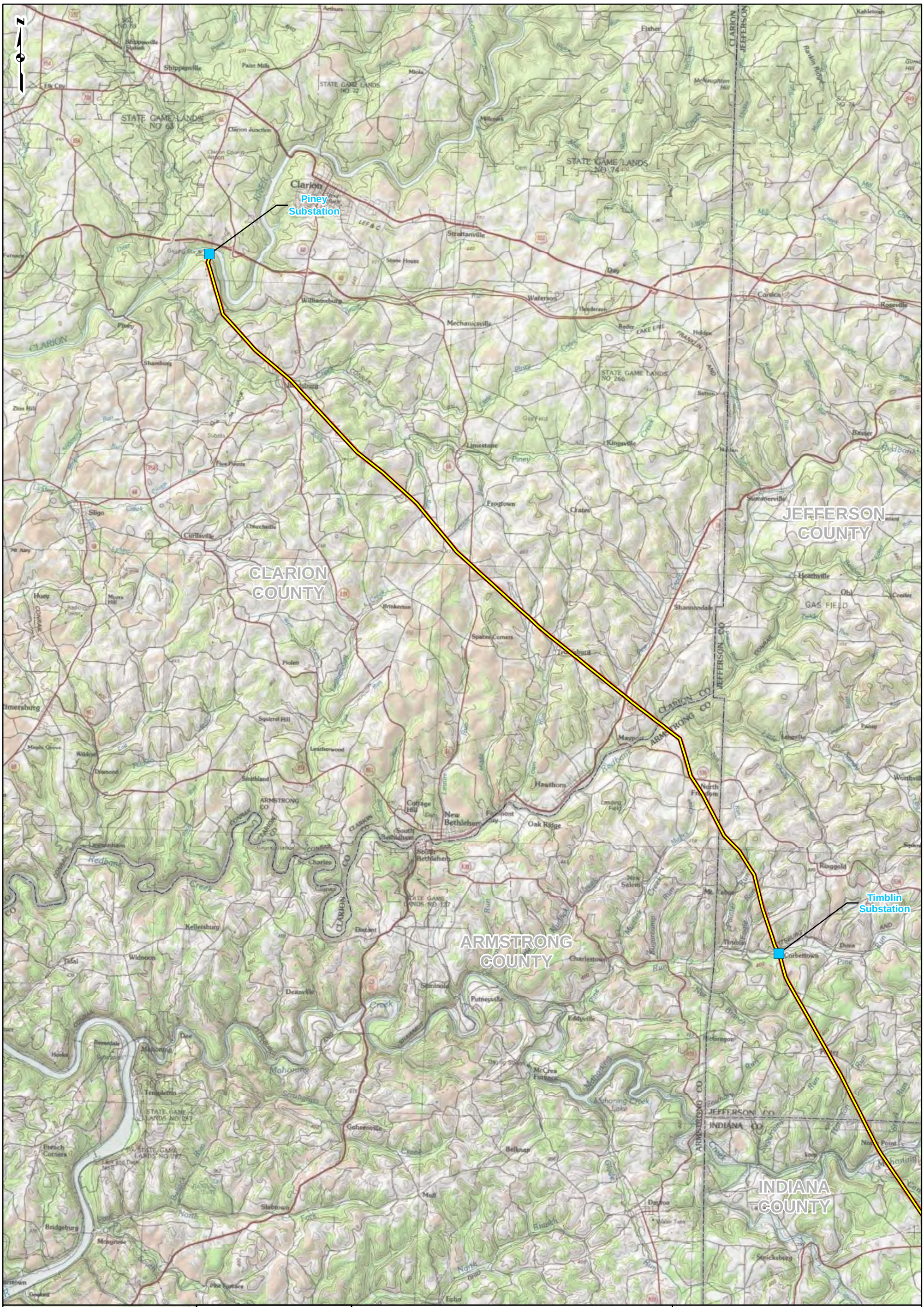
0 2.5 5 10 Miles

MAP 6
PROPOSED ROUTE CENTERLINE
(TOPOGRAPHIC BACKGROUND)
SHEET INDEX

PINEY-SEWARD 115kV
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REFERENCE: USGS 30'x60' TOPOGRAPHIC QUADRANGLES: ASHTABULA (1986), CLEARFIELD (1984), ERIE (1986), INDIANA (1985), JAMESTOWN (1986), JOHNSTOWN (1983), OIL CITY (1984), PITTSBURGH EAST, TYRONE (1985), AND WARREN (1984), PENNSYLVANIA, OBTAINED VIA ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESS 09/2023.

**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- County Boundary

0 1 2 4 Miles

MAP 6
PROPOSED ROUTE CENTERLINE
(TOPOGRAPHIC BACKGROUND)
SHEET 1 OF 3

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Timblin Substation

Trade City Substation

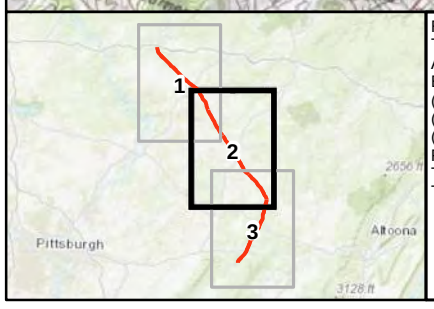
Dixonville East Substation

Glory Substation

JEFFERSON COUNTY

ARMSTRONG COUNTY

INDIANA COUNTY




REFERENCE: USGS 30'x60' TOPOGRAPHIC QUADRANGLES: ASHTABULA (1986), CLEARFIELD (1984), ERIE (1986), INDIANA (1985), JAMESTOWN (1986), JOHNSTOWN (1983), OIL CITY (1984), PITTSBURGH EAST, TYRONE (1985), AND WARREN (1984), PENNSYLVANIA, OBTAINED VIA ESRI USA TOPO MAPS, NATIONAL GEOGRAPHIC TOPO AND USGS, ACCESS 09/2023.

**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- County Boundary

0 1 2 4 Miles

MAP 6
PROPOSED ROUTE CENTERLINE
(TOPOGRAPHIC BACKGROUND)
SHEET 2 OF 3

PINEY-SEWARD 115kV
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Dixonville East Substation

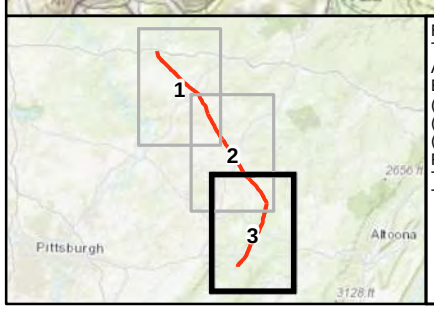
Glory Substation

Seward Substation

INDIANA COUNTY

CAMBRIA COUNTY

WESTMORELAND COUNTY




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**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- County Boundary

0 1 2 4 Miles

MAP 6
PROPOSED ROUTE CENTERLINE
(TOPOGRAPHIC BACKGROUND)
SHEET 3 OF 3

PINEY-SEWARD 115kV
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SHEET 1

SHEET 2

SHEET 3

Piney Substation

Timblin Substation

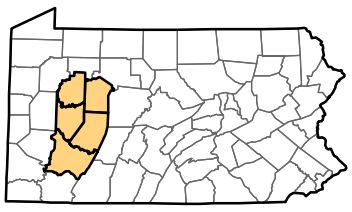
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Dixonville East Substation

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## PROJECT LOCATION



ARMSTRONG, CLARION, INDIANA, JEFFERSON, AND WESTMORELAND COUNTIES, PENNSYLVANIA

REFERENCE: WORLD TOPOGRAPHIC, ARCGIS ONLINE, ACCESSED 09/2023.

**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- Sheet Index

0 2.5 5 10 Miles

MAP 7
PROPOSED ROUTE CENTERLINE
(AERIAL BACKGROUND)
SHEET INDEX

PINEY-SEWARD 115kV
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(A FIRSTENERGY COMPANY)

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**LEGEND**

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- Proposed Route
- Existing Transmission Line
- County Boundary

0 1 2 4 Miles

MAP 7
PROPOSED ROUTE CENTERLINE
(AERIAL BACKGROUND)
SHEET 1 OF 3

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Timblin Substation

Trade City Substation

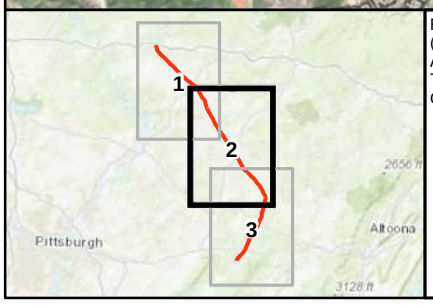
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0 1 2 4 Miles

MAP 7
PROPOSED ROUTE CENTERLINE
(AERIAL BACKGROUND)
SHEET 2 OF 3

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
CHECKED: MFW APPROVED: LJP

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Dixonville East Substation

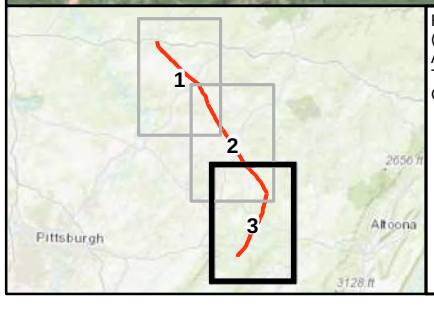
Glory Substation

Seward Substation

INDIANA COUNTY

CAMBRIA COUNTY

WESTMORELAND COUNTY




REFERENCE: WORLD IMAGERY (CLARITY), ESRI, ARCGIS ONLINE, ACCESSED 09/2023. WORLD TRANSPORTATION, ESRI, ARCGIS ONLINE, ACCESS 09/2023.

**LEGEND**

- Existing Substation
- Proposed Route
- Existing Transmission Line
- County Boundary

0 1 2 4 Miles

MAP 7
PROPOSED ROUTE CENTERLINE
(AERIAL BACKGROUND)
SHEET 3 OF 3

PINEY-SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT
MID-ATLANTIC INTERSTATE TRANSMISSION, LLC
(A FIRSTENERGY COMPANY)

DRAWN BY: EFJ DATE: 9/8/2023
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# MAIT EXHIBIT 7

**EXHIBIT 7**

**GOVERNMENT AGENCY REQUIREMENTS FOR SITING AND CONSTRUCTION**
**PINEY-SEWARD 115KV TRANSMISSION LINE REBUILD PROJECT**

| Agency | Requirement | Document | Anticipated Approval | Current Status | Contact Information |
|---|---|---|---|---|---|
| **Federal** | | | | | |
| United States (U.S.) Army Corps of Engineers | U.S. Clean Water Act Section 404 Permit | Permit Application | May 2026 | Anticipated to be submitted April 2025 | Michael Engelhardt<br>Pittsburgh District, Regulatory<br>2200 William S. Moorhead Federal Building<br>1000 Liberty Ave. Ste 2200,<br>Pittsburgh, PA 15222<br>410-215-1130 |
| U.S. Fish and Wildlife Service | Endangered Species Act Coordination | Coordination Letters, PNDI Review, Species Survey Reports | December 2024 (Actual) | Consultation Complete, Avoidance Measures Required. See Exhibit 7A | Jodie Mamuscia<br>NW Regional Office<br>110 Radnor Road,<br>Suite 101<br>State College, PA 16801<br>814-206-7455 |
| Federal Aviation Administration | Approval | Notice of Proposed Construction or Alteration | Prior to Construction | Anticipated to be submitted as design advances | Chris Rocheleau<br>APL-1<br>800 Independence Ave SW<br>Suite 1005<br>Washington, DC 20591<br>202-267-9134 |
| **State** | | | | | |
| Pennsylvania Department of Environmental Protection-Regional Permit Coordination Office | Title 25 PA Code Chapter 105 Permit | Permit Application | May 2026 | Anticipated to be submitted April 2025 | Kevin White<br>Regional Permit Coordination Office<br>Rachel Carson State Office Building<br>P.O. Box 69206 Harrisburg, PA 17106<br>570-826-2015 |
| | PAG -02 NPDES | Notice of Intent and Erosion and Sediment Pollution Control Plan, Post-Construction Stormwater Management Plan | May 2026 | Anticipated to be submitted April 2025 | |
| | Submerged Land License Agreement | Permit Application | May 2026 | Anticipated to be submitted April 2025 | |
| Pennsylvania Game Commission | Endangered Species Act Coordination | Coordination Letters, PNDI Review | January 2025 (Actual) | Consultation Complete, Avoidance Measures Required. See Exhibit 7B | Sue Guers<br>2001 Elmerton Ave<br>Harrisburg, PA 17110<br>833-742-4868 |
| Pennsylvania Fish and Boat Commission | Endangered Species Act Coordination | Coordination Letters, PNDI Review, Species Survey Reports | July 2024 (Actual) | Consultation Complete, Avoidance Measures Required. See Exhibit 7C | Christopher A. Urban<br>1601 Elmerton Ave<br>Harrisburg, PA 17106<br>717-705-7800 |
| Pennsylvania Department of Conservation and Recreation | Endangered Species Act Coordination | Coordination Letters, PNDI Review, Species Survey Reports | February 2025 (Actual) | Consultation Complete, Avoidance Measures Required. See Exhibit 7D | Greg Podniesinski<br>Rachel Carson State Office Building<br>400 Market Street, 5th Floor<br>Harrisburg, PA 17101<br>717-787-2869 |

**Exhibit 7 (Continued)**

| Agency | Requirement | Document | Anticipated Approval | Current Status | Contact Information |
|---|---|---|---|---|---|
| **State (Continued)** | | | | | |
| Pennsylvania Historic and Museum Commission – Bureau of Historic Preservation | Section 106 Consultation | Coordination Letters, Phase 1B survey report | May 2025 | Field surveys complete and reporting in progress. | Barbara Frederick<br>Commonwealth Keystone Building, 2nd Floor<br>400 North Street<br>Harrisburg, PA 1712<br>717-772-0921 |
| Pennsylvania Department of Transportation (District 10-0) | Crossing Agreement, Highway Occupancy Permit, Excess Maintenance Agreement | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this District | Daniel Tyger and Brock Heigley<br>2550 Oakland Ave<br>Indiana, PA 15701<br>724-357-2800 |
| Pennsylvania Department of Transportation (District 12-0) | Crossing Agreement, Highway Occupancy Permit, Excess Maintenance Agreement | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this District | Bill Krichbaum and Justin Haines<br>825 N. Gallatin Ave Ext.<br>Uniontown, PA 15401<br>724-439-7315 |
| **County** | | | | | |
| Westmoreland County Conservation District | Erosion and Sediment Control Plan Approval | Erosion and Sediment Control Plan | May 2026 | Anticipated to be submitted April 2025 | Rob Cronauer<br>218 Donohoe Rd<br>Greensburg, PA 15601<br>724-837-5271 |
| Indiana County Conservation District | Erosion and Sediment Control Plan Approval | Erosion and Sediment Control Plan | May 2026 | Anticipated to be submitted March 2025 | Doug Beri JR<br>435 Hamill Road<br>Indiana, PA 15701<br>724-471-4751 |
| Armstrong County Conservation District | Erosion and Sediment Control Plan Approval | Erosion and Sediment Control Plan | May 2026 | Anticipated to be submitted April 2025 | Holly Laird<br>124 Armsdale Rd, Suite 1<br>Kittanning, PA 16201<br>724-548-3425 |
| Jefferson County Conservation District | Erosion and Sediment Control Plan Approval | Erosion and Sediment Control Plan | May 2026 | Anticipated to be submitted April 2025 | Tom McFarland<br>1514 Route 28<br>Brookville, PA 15825<br>814-849-7463 |
| Clarion County Conservation District | Erosion and Sediment Control Plan Approval | Erosion and Sediment Control Plan | May 2026 | Anticipated to be submitted April 2025 | Trudy Alexander<br>249 S 2nd Ave<br>Clarion, PA 16214<br>814-297-8014 |
| **Local** | | | | | |
| St Clair Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Matthew Serakowski<br>550 Seward Street<br>Seward, Pennsylvania 15954<br>814-446-5211 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |

**Exhibit 7 (Continued)**

| Agency | Requirement | Document | Anticipated Approval | Current Status | Contact Information |
|---|---|---|---|---|---|
| **Local (Continued)** | | | | | |
| East Wheatfield Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Colleen Rudnik<br>215 Buck Stiles Road<br>Armagh, PA 15920<br>814-446-6311 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Buffington Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Kimberly Luther<br>1010 Route 403 Hwy S<br>Homer City, PA 15748<br>814-749-0422 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Pine Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Ryan Shultz<br>6410 Route 403 Hwy N<br>P.O Box 89<br>Heilwood, PA 15745<br>814-948-4480 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Green Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Jennifer Jennings<br>1492 Route 240 Hwy<br>Commodore, PA 15729<br>724-254-9355 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Rayne Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Craig A. Andrie<br>140 Tanoma Road<br>Home, PA 15747<br>724-463-6261 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| East Mahoning Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Bertha Ackerson<br>12052 Route 119 Hwy N<br>PO Box 164<br>Marion Center, PA 15759<br>724-397-2260 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |

**Exhibit 7 (Continued)**

| Agency | Requirement | Document | Anticipated Approval | Current Status | Contact Information |
|---|---|---|---|---|---|
| **Local (Continued)** | | | | | |
| North Mahoning Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Joan Diem<br>673 Mottarn Road<br>Rochester Mills, PA 15771<br>724-286-9700 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| West Mahoning Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Nancy Holmes<br>24062 Route 954 Hwy N<br>Smicksburg, PA 16256<br>814-257-8654 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Porter Township<br>(Jefferson County) | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | DJ Stear<br>2081 Fairview Road<br>Dayton, PA 16222<br>814-938-3981 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Timblin Borough | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Greg Snyder<br>P.O Box M<br>Timblin, PA 15778<br>814-256-3838 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Redbank Township (Armstrong County) | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | John Gerow<br>409 Sugar Valley Road<br>Mayport, PA 16240<br>814-365-5474 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |

**Exhibit 7 (Continued)**

| Agency | Requirement | Document | Anticipated Approval | Current Status | Contact Information |
|---|---|---|---|---|---|
| **Local (Continued)** | | | | | |
| Redbank Township (Clarion County) | Redbank Township (Clarion County) | Redbank Township (Clarion County) | Redbank Township (Clarion County) | Redbank Township (Clarion County) | Kenneth E. Lee<br>P.O Box 47<br>Fairmount City, PA 16224<br>814-275-4045 |
| | Redbank Township (Clarion County) | Redbank Township (Clarion County) | Redbank Township (Clarion County) | Redbank Township (Clarion County) | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Ringgold Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | James P. Neese<br>2253 Ringgold Timblin Road<br>Ringgold, PA 15770<br>814-365-5109 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Porter Township<br>(Clarion County) | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Darl M Henry<br>9485 Curllsville Road<br>New Bethlehem, PA 16242<br>814-275-2500 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Limestone Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | W. Eugene Smith<br>12496 Olean Trail<br>Summerville, PA 15864<br>814-379-3737 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Monroe Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Walter D. Shook<br>17956 Route 68<br>Sligo, PA 16255<br>814-745-2819 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| Piney Township | Act 14, 67, and 68, 127, and 167 Coordination | Notification Letter | May 2026 | Anticipated to be submitted April 2025 | Donald Wensel<br>291 McEwen Road<br>Sligo, PA 16255<br>814-745-2445 |
| | Local Driveway Permit | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |
| | Local Excessive Maintenance Agreements | Permit Application | Two months prior to construction | Anticipated to be submitted six months prior to construction in this township | |

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

October 29, 2024

Adam Mann
GAI Consultants, Inc.
385 East Waterford Drive
Homestead, PA 15120-5005

RE: USFWS Project #2023-0117440
PNDI Review # 769901_FINAL_1

Dear Mr. Mann:

Thank you for your correspondence of July 19, 2024, and subsequent phone conservation of October 16, 2024, which provided the U.S. Fish and Wildlife Service (Service) with information about the proposed Piney-Seward and Erie South-Piney 115 kV Transmission Line Rebuild project, located in Jefferson, Westmoreland, Armstrong, Clarion, Indiana, Crawford, Erie, and Venango counties, Pennsylvania. The proposed project is within the range of the federally listed endangered Indiana bat *(Myotis sodalis)*, the federally listed threatened northern long-eared bat (*Myotis septentrionalis;* NLEB), and the federally listed threatened eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*; EMR). Your project also crosses the Allegheny River, Oil Creek, and French Creek, which contain the following federally listed, endangered freshwater mussels: clubshell *(Pleurobema clava)*, longsolid *(Fusconaia subrotunda)*, northern riffleshell *(Epioblasma rangiana)*, rayed bean *(Villosa fabalis)*, sheepnose (*Plethobasus cyphyus*), and snuffbox (*Epioblasma triquetra*), as well as the federally listed, threatened rabbitsfoot (*Theliderma cylindrica*). The portion of French Creek that intersects with your project also contains designated critical habitat for rabbitsfoot. Moreover, your project is in the range of the tricolored bat *(Perimyotis subflavus)*, a species proposed for listing under the Endangered Species Act. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) to ensure the protection of endangered and threatened species and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq*.) to ensure protection of other fish and wildlife resources.

Your project consists of the rebuild of approximately 157 miles of existing electric transmission line. You plan to expand the existing right-of-way (ROW) by approximately 80 to 130 feet to one side to accommodate the new transmission line, with a project footprint of approximately 3,000 acres. You expect that 900 acres of forest will be cleared for the ROW expansion. Additional disturbance includes grading to accommodate temporary access roads and work areas.

The Service provided a response to your November 18, 2022, project submission on February 6, 2023. Our correspondence outlined potential project impacts, and we requested additional project information. Further, due to the large amount of tree removal associated with the project, you conducted presence/probable absence surveys for Indiana bat, northern long-eared bat, and tri-colored bat. Your bat survey resulted in the capture of 36 northern long-eared bats, and you detected 32 roost trees, mostly within the southern half of the project area. Neither Indiana bats, nor tricolored bats, were detected during the survey effort.

Federally listed and Proposed Bat Species

There are no known Indiana bat portals within or adjacent to the project limit of disturbance. Further, your presence/absence survey failed to detect Indiana bats. Therefore, we conclude that Indiana bats are either not present in the project area, or are at low numbers; thus, effects to Indiana bats are indiscriminate or discountable.

Your survey effort failed to detect tricolored bats; thus, presence during summer breeding season in the limit of disturbance is unlikely. However, 3 known hibernacula intersect with the project area; therefore, we recommend tree removal take place during hibernation (Nov 16 – March 31) in these areas.

Your project intersects 3 known northern long-eared bat portals, two of which also contain tricolored bats. We recommend tree removal in this area take place during hibernation (Nov 16 – March 31). Further, you captured 36 northern long-eared bats and tracked individuals to 32 roost trees. These trees are outside the limit of disturbance, and will not be removed. You have committed to not remove trees during summer occupancy within 1.5 miles of the known roost trees, and within 3 miles from individual capture locations (tree removal would take place between Oct 1 – March 31 in these areas). The Service defines contiguous forest as forest patches that are separated by less than 1000 feet of non-forested area (see: https://www.fws.gov/media/nleb-and-tcb-determination-key-standing-analysis). As you are proposing to widen the existing right-of-way by an additional 80 -130 feet, the width will not reach 1000 feet, thus will not result in the separation of a forest patch.

Therefore, since tree removal within summer habitat will take place between Oct 1 and March 31, and tree removal within swarming habitat will take place during hibernation (Nov 16 – March 31), you will not remove known roost trees, and your tree removal will not result in the separation of a forest patch, we conclude that effects to northern long-eared bats are indiscriminate or discountable.

Tree removal during hibernation between the following points (Nov 16 – Mar 31):

1) 79.6965780, 41.5312372 and 79.5928058, 41.3768498
2) 79.3658237, 41.1243549 and 79.2271966, 41.0308087
3) 79.0268807, 40.7747304 and 78.9149540, 40.6686107

Tree removal during maternity season (Oct 1 – March 31) will take place from the southern end of the project area to 79.7123490, 41.5647482, except where it intersects with hibernation habitat. There is also a capture point with a 3-mile buffer in Crawford County where tree

removal should take place during maternity season between 79.7854820, 41.7244857 and 79.8258247, 41.8059747. In areas bats were not located (e.g., Erie County), a time-of-year restriction is not necessary. See attached map for details.

Freshwater Mussels

Freshwater mussels are sedentary filter-feeders, and as such, they are vulnerable to substrate disturbance, silt deposition, scouring, water quality degradation, changes in channel morphology, and alterations of river hydrology. In order to better determine effects to freshwater mussels, you provided additional project information, including the statement that no instream work will occur in French Creek, Oil Creek, or the Allegheny River. Further, you will be following an approved erosion and sedimentation control plan that will protect water quality in the aforementioned streams. Thus, we conclude that project impacts to the above listed mussels are insignificant or discountable.

Eastern Massasauga Rattlesnake

GAI conducted an EMR habitat assessment within the limit of disturbance in Venango County south of the Allegheny River to the Clarion County line. The Investigation Area consists of the existing and expanded ROW, and the proposed access roads. Five wetland areas were determined to have at least one feature that could support eastern massasaugas, no site contained habitat suitable for overwintering. Therefore, due to the lack of overwintering habitat, we expect that effects to EMR are insignificant or discountable.

Additional Conservation Recommendations

*Monarch*
In 2020, the Service determined that listing the monarch butterfly *(Danaus plexippusas)* threatened or endangered under the Endangered Species Act (Act) is warranted but precluded by higher priority listing actions (for more information, please see: https://www.fws.gov/media/monarch-butterfly-species-status-assessment-ssa-report. With this finding, the monarch became a candidate species under the Act and its status will be reviewed annually.

Candidate species receive no statutory protections under the Act but the Service encourages cooperative conservation efforts because they are, by definition, species that warrant protection. We recommend you assess the project to ensure you are following the best practices in relation to monarch conservation. Best management practices for monarchs are available here: https://monarchjointventure.org/mjvprograms/science/roadside-habitat-for-monarchs/best-management-practices-resources.

Some recommendations include mowing between October 1 and May 1 when monarchs are less likely to be using host plants, and adding milkweed to your planting mix *(e.g., Asclepias syriaca;* common milkweed). For more information on candidate species, please see: https://www.fws.gov/sites/default/files/documents/Candidate-Species.pdf.

*Frosted Elfin*
Venango County contains historic records of frosted elfin (*Callophyrys irus*) butterflies. Frosted elfin, a rare butterfly, is currently being evaluated for protection under the Endangered Species Act. Frosted elfin is difficult to detect and has likely persisted at low numbers in conjunction with its host plants: false indigo (*Baptisia tinctoria*) and wild lupine (*Lupinus perrennis*). The Service is working closely with state wildlife agencies and natural heritage programs throughout the frosted elfin range to assess the butterfly's abundance and distribution. The Service plans to make a decision on whether the species warrants listing in 2027, and we are working with partners on proactive conservation throughout the range. Although a complete inventory of Pennsylvania frosted elfin populations is currently lacking, we have observed extant populations in power and transmission line rights-of-ways. For more information on frosted elfin, please see:
https://www.fws.gov/sites/default/files/documents/508_frostedelfin_speciesstatusassessment.pdf

If First Energy would like to contribute to proactive conservation efforts for frosted elfin, we recommend adding false indigo *(Baptisia tinctoria)* to your planting list in the dry, upland habitats.

*Pollinators*
To address loss of pollinator diversity and abundance in Pennsylvania, conservation partners representing an array of stakeholders, including state and national level organizations, developed the Pennsylvania Pollinator Protection Plan (P4). As outlined in the P4, declines in pollinator diversity and abundance have mainly been driven by habitat loss, pesticide use, invasive species, and pathogens. P4 provides pollinator biology and best management practices Por diverse landscapes, including rights-of-ways, agricultural, and natural areas. Please see the following link to access the P4: https://pollinators.psu.edu/bee-health/pennsylvania-pollinator-protection-plan-p4. P4 will be updated as new information is available.

This response is based on the information submitted to this office and our knowledge of species distribution and habitat needs. No field inspection of the project area has been conducted by this office.

*To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.*

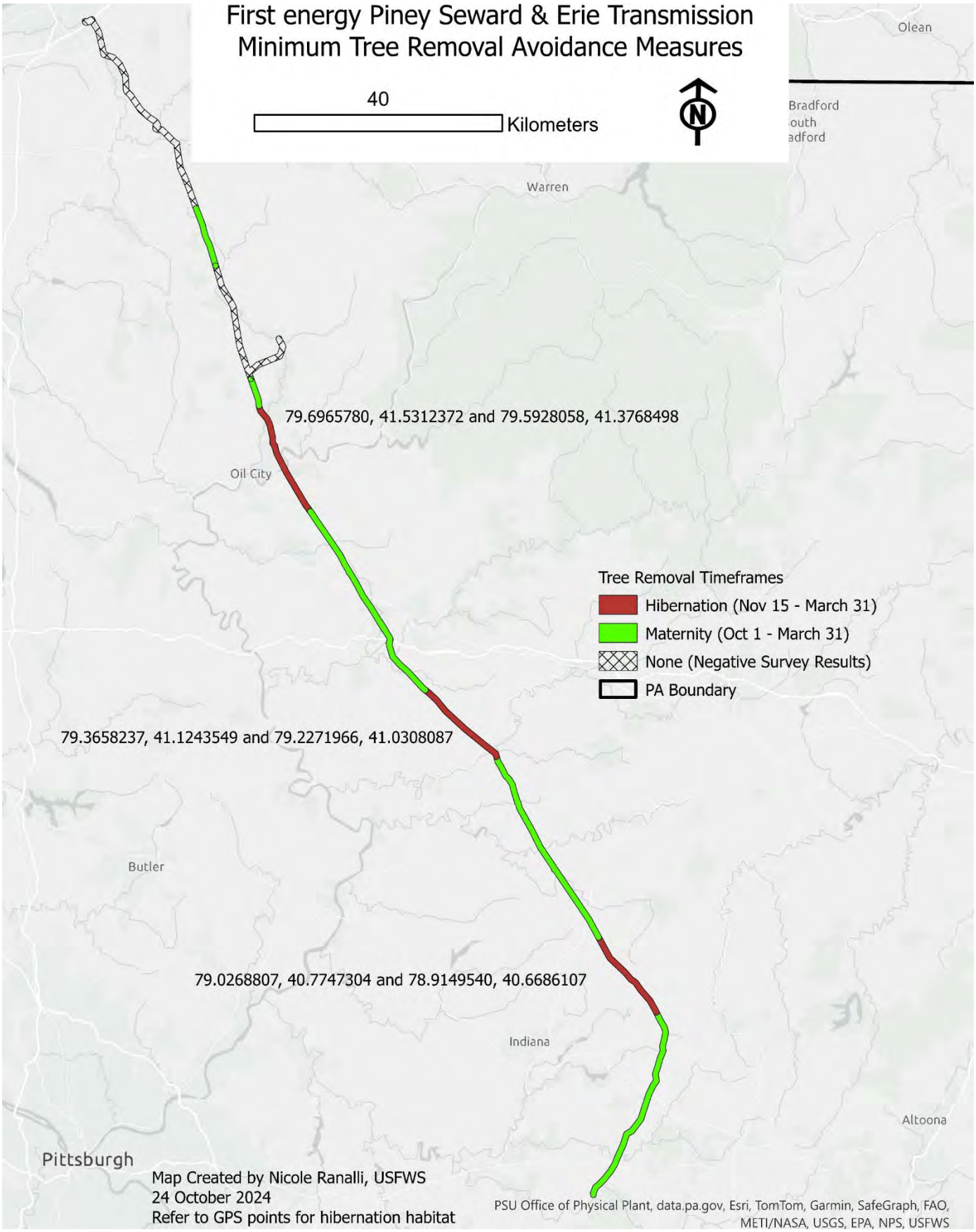
If you have any questions regarding this matter, please contact Nicole Ranalli of my staff at 814-206-7455 or nicole_ranalli@fws.gov

Sincerely,

Jodie Mamuscia
Field Office Supervisor

cc:
PGC – Guers, Nolder
GAI - Peterson

Enclosure: Minimum Avoidance Measures Map


First energy Piney Seward & Erie Transmission
Minimum Tree Removal Avoidance Measures
40
Kilometers
N
Olean
Bradford
outh
adford
Warren
79.6965780, 41.5312372 and 79.5928058, 41.3768498
Oil City
Tree Removal Timeframes
Hibernation (Nov 15 - March 31)
Maternity (Oct 1 - March 31)
None (Negative Survey Results)
PA Boundary
79.3658237, 41.1243549 and 79.2271966, 41.0308087
Butler
79.0268807, 40.7747304 and 78.9149540, 40.6686107
Indiana
Altoona
Pittsburgh
Map Created by Nicole Ranalli, USFWS
24 October 2024
Refer to GPS points for hibernation habitat
PSU Office of Physical Plant, data.pa.gov, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

PENNSYLVANIA GAME COMMISSION
BUREAU OF WILDLIFE MANAGEMENT
2001 ELMERTON AVENUE HARRISBURG, PA 17110-9797 | (717) 787-5529

January 30, 2025 **PGC ID Number: 202210190101**

Lars Peterson
GAI Consultants
385 East Waterfront Drive
Homestead, PA 15120
l.peterson@gaiconsultants.com

PNDI Receipt File: *project_receipt_seward_glory_piney_erie_s_769901_FINAL_2.pdf*
Re: *First Energy* - Piney-Seward and Erie South-Piney 115 kV Transmission Line Rebuild Project
Multiple Townships/Municipalities; Indiana, Westmoreland, Armstrong, Jefferson, Clarion, Venango, Crawford and Erie Counties, Pennsylvania

Dear Lars Peterson,

Thank you for submitting Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt *project_receipt_seward_glory_piney_erie_s_769901_FINAL_2.pdf*. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

**This letter provides updates to the PGC response letter dated September 5, 2024.** In response to a request from GAI on January 22, 2025, specific areas of the proposed transmission line R.O.W. and associated access roads and workspaces subject to seasonal tree clearing restrictions have been defined.

**Potential Impact Anticipated**

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

| Scientific Name | Common Name | PA Status | Federal Status |
|---|---|---|---|
| *Myotis leibii* | Eastern Small-footed Bat | THREATENED | N/A |
| *Myotis lucifugus* | Little Brown Bat | ENDANGERED | N/A |
| *Lasionycteris noctivagans* | Silver-haired Bat | SPECIAL CONCERN | N/A |

**Next Steps**
To avoid potential impacts to these species, all trees or dead snags greater than 3 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off - R.O.W. workspaces) shall be cut between **November 16th and March 31st** in the following areas:

- From 41.86138° N, 79.8562° W south to 41.47296° N, 79.6677° W, including the side spur north of Oil Creek State Park.
- From 41.25191° N, 79.4831° W south to 41.03882° N, 79.2343° W
- From 40.92940° N, 79.1596° W south to 40.85610° N, 79.0979° W
- From 40.71310° N, 78.9592° W south to 40.51830° N, 78.9414° W

In addition, the proposed project is located on State Game Lands No. 47, 63, 109 and 202, within the PGC's NW region. Please contact Mr. Jared Schibik, Land Management Supervisor at 814-432-3187 to discuss the project activities and coordinate obtaining the necessary approvals and coordinate obtaining the necessary approvals if your project will impact State Game Lands. It is recommended that you coordinate with Game Commission Staff early in your project planning process.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

**Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.**

Sincerely,

Amber Nolder

Amber Nolder
Wildlife Biologist
Bureau of Wildlife Management
Phone: 717-787-4250, Extension 73410
Fax: 717-787-6957
E-mail: anolder@pa.gov

A PNHP Partner




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Hoppe
Trusso
Havens

pennsylvania
FISH AND BOAT COMMISSION

July 18, 2024

**IN REPLY REFER TO**
SIR# 56957

GAI Consultants
Lars Peterson
385 E Waterfront Drive
Homestead, Pennsylvania 15120

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species**
**PNDI Search No. 769901_1**
**Seward-Glory-Piney-Erie South Transmission Line Rebuild Project**
**ARMSTRONG County - CLARION County - CRAWFORD County - ERIE County - INDIANA County - JEFFERSON County - VENANGO County - WESTMORELAND County**

Dear Lars Peterson:

In prior correspondence with the Commission, due to nearby known occurrences of Eastern Massasauga within the watershed of the proposed project, to further determine potential adverse impacts from the proposed project to the species of concern, a habitat evaluation (*Letter dated January 9, 2023*) was requested for the subject property.

As a Pennsylvania qualified/recognized and properly permitted surveyor of the Eastern Massasauga, Dr. Glenn Johnson was contracted to evaluate the habitats on site to determine their potential to support the species of concern. According to the report (*Eastern Massasauga Rattlesnake (Sistrurus catenatus) Habitat Assessment: Piney-Seward and Erie South-Piney Transmission Line Rebuild Project,* by *Riveredge Environmental, Inc*, report dated 16 May, 2024), the site does not contain potential habitat for the Eastern Massasauga. I concur with the results of this evaluation; therefore, I do not foresee the proposed project resulting in adverse impacts to the Eastern Massasauga.

Additionally, provided that the recommendations described in our previous letter (*dated January 9, 2023*) are adhered to, I do not foresee the proposed project resulting in adverse impacts to the Eastern Sand Darter (*Ammocrypta pellucida*), Least Brook Lamprey (*Lampetra aepyptera*), Northern Madtom (*Noturus stigmosus*), Tadpole Madtom (*Noturus gyrinus*), Timber Rattlesnake (*Crotalus horridus*), Clubshell (*Pleurobema clava*), Cylindrical Papershell (*Anodontoides ferussacianus*), Elktoe (*Alasmidonta marginata*), Fragile Papershell (*Leptodea fragilis*), Long-solid (*Fusconaia subrotunda*), Northern Riffleshell (*Epioblasma rangiana*), Rabbitsfoot (*Theliderma cylindrica*), Rainbow (*Villosa iris*), Rayed Bean Mussel (*Villosa fabalis*), Round Pigtoe (*Pleurobema sintoxia*), Sheepnose (*Plethobasus cyphyus*), Snuffbox (*Epioblasma triquetra*), Three-ridge (*Amblema plicata*), Wavy-rayed Lampmussel (*Lampsilis fasciola*) and White Heelsplitter (*Lasmigona complanata*).

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not

necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

**If you have any questions regarding this review, please contact Josh Brown at 814-359-5129 or joshubrown@pa.gov and refer to the SIR # 56957.** Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,



Christopher A. Urban, Chief
Natural Diversity Section

CAU/JRB/dn

February 7, 2025

PNDI Number: 769901
Version: Final_2; 7/11/2024

Lars Peterson
GAI Consultants
385 East Waterfront Drive
Homestead, PA 15120
Email: l.peterson@gaiconsultants.com (hard copy will not follow)

Re: Seward-Glory-Piney-Erie South Transmission Line Rebuild Project
Erie, Crawford, Venango, Clarion, Armstrong, Jefferson, Indiana, and Westmoreland Counties, PA

Dear Lars,

Thank you for the submission of your field survey for Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number 769901 (Final_2) for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

No Impact Anticipated per Survey with Avoidance/Minimization Measures and Monitoring

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. DCNR requested a botanical survey for 62 target species on December 1, 2022. Surveys were conducted by GAI from May 1, 2023 to July 19, 2024.

Shining ladies'-tresses (*Spiranthes lucida*; proposed PA Threatened), Bebb's sedge (*Carex bebbi*; PA Endangered; proposed PA Threatened), yellow sedge (*Carex flava*; PA Threatened), lesser panicled sedge (*Carex diandra*; PA Threatened), backward sedge (*Carex retrorsa*; PA Endangered), hard-stemmed bulrush (*Schoenoplectus acutus*; PA Endangered), American columbo (*Frasera caroliniensis*; PA Endangered), and purple-fringeless orchid (*Platanthera peramoena*; PA Threatened) were documented within the study area.

Bushy bluestem (*Andropogon glomeratus*) was encountered within the existing right-of-way; however, this species was recently proposed to be delisted. Populations in western PA are considered likely to be non-native.

Two species of interest were also observed within the study area: featherbells (*Stenanthium gramineum*) and eastern gamma-grass (*Tripsacum dactyloides*).

In addition, numerous ecological communities of concern were identified, including seven locations of Hemlock Palustrine Forest, four locations of Hemlock – Mixed Hardwood Palustrine Forest, two locations of Golden Saxifrage – Pennsylvania Bitter-cress Spring Run, and one location each of Big Bluestem – Indian-grass Floodplain Grassland and Sedge – Mixed Forb Fen. The proposed limit of disturbance (LOD) was designed to avoid the majority of these communities.

Avoidance and Minimization Measures:

The following threatened, endangered, and special concern plant populations are detailed in GAI's botanical report. All locations will be included on project plans and communicated to relevant personnel.

Sheet 23 of 109, Figure 2, Northern Wetlands Section: **Shining ladies'**-tresses Population 2 is adjacent to the LOD but will be avoided and fenced during construction.

Sheet 28 of 109, Figure 2, Northern Wetlands Section: **Bebb's sedge Population 2** is near the LOD but will be avoided and fenced during construction.

Sheet 46 of 109, Figure 2, Northern Wetlands Section: **Shining ladies'-tresses Population 1, Bebb's** sedge Population 1, and yellow sedge Population 1 will be avoided. These populations occur within a Sedge – Mixed Forb Fen community. This fen will be impacted by a proposed access road. Fencing will be implemented during construction along the boundary of the LOD to avoid additional impacts to the fen and associated plant populations.

Sheet 97 of 109, Figure 2, Northern Wetlands Section: The lesser panicled sedge Population 1 area will be impacted by timber matting; however, no impacts to individuals are proposed. Fencing will be installed around individuals to prevent timber matting and tree removal impacts.

Sheet 1 of 12, Figure 2, Creeks and Rivers Section: Backward sedge Population 1 and hard-stemmed bulrush Population 1 will be avoided. No fencing is necessary because these populations are relatively far from the LOD.

Sheet 8 of 18, Figure 2, American Columbo Section: American columbo Population 3 is surrounded by the LOD but will be avoided and fenced during construction.

Sheets 11 and 12 of 18, Figure 2, American Columbo Section: American columbo Population 1B will be avoided. Proposed impacts to American columbo Population 1A were minimized; however, approximately 25 square feet will be permanently impacted and approximately 2,764 square feet will be temporarily impacted by timber matting. The timber matting will be in place for approximately 2 weeks and cannot be placed during the dormant season due to public hunting activities on state game lands. Approximately 10-20% of Population 1 will be impacted by permanent and temporary impacts. Fencing will be installed around the remaining population during construction.

Sheet 14 of 18, Figure 2, American Columbo Section: American columbo Populations 2A, 2B, 2C, and 2D are adjacent to the LOD but will be avoided and fenced during construction.

Sheet 17 of 33, Figure 2, Southern End Section: Purple fringeless orchid Populations 2A and 2B are adjacent to the LOD but will be avoided and fenced during construction.

Sheet 24 of 33, Figure 2, Southern End Section: Purple fringeless orchid Population 1 is adjacent to the LOD but will be avoided and fenced during construction.

Monitoring:

All populations listed in the Avoidance and Minimization Measures above will receive a single check-up (at an appropriate time of year) in the year following the completion of the project. A botanical survey form (with associated photos and mapping) will be completed for each population and a brief report discussing any changes or impacts to populations will be submitted to DCNR for review. Depending on the results, additional monitoring (up to 3 years total) may be requested for certain populations (e.g., American columbo Population 1A).

Based on the Avoidance and Minimization Measures and Monitoring detailed above, DCNR has determined that no impact is likely.

Recommended Best Management Practices:

- Use a conservative approach to project design that minimizes permanent and temporary disturbances to soil and native vegetation. This will conserve habitat and limit opportunities for invasive plants.
- Clean boot treads, tools, construction equipment, watercraft, and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds and invasive earthworms/cocoons that may have been picked up at other worksites.
- Use clean project materials (e.g., weed-free straw, topsoil, rock fill, etc.) or materials native to the worksite to avoid introducing invasive species from contaminated sources.
- Do not use seed mixes that include invasive species. More information about invasive plants in Pennsylvania can be found at the following link: http://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/Pages/default.aspx
- Use habitat appropriate seed mixes and, when available, use PA ecotypes. For example, use a riparian seed mix when reseeding along a waterway. The Bureau of Forestry Planting & Seeding Guidelines can be found at the following link for recommendations: http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20031083.pdf
- Use native plants for landscaping, revegetation, and stormwater management. Do not use nonnative invasive species. Reduce the area of lawn and impermeable surfaces to the fullest extent practicable in favor of native gardens or habitat restoration (e.g., forest, meadow, wetland, etc.). More information about lawn conversion can be found at the following link: https://www.dcnr.pa.gov/Conservation/Water/LawnConversion/Pages/default.aspx
- Plant forest buffers where trees were historically present along streams, wetlands, and bodies of water. Buffers should be a minimum of 35 feet in width (ideally at least 100 feet in width). Where trees are not appropriate (e.g., powerline rights-of-way), buffer with native shrubs and herbaceous plants. More information about riparian buffers can be found at the following link: https://www.dcnr.pa.gov/Conservation/Water/RiparianBuffers/Pages/default.aspx
- Manage road/utility rights-of-way, median strips, edges, and other green spaces for diverse native plant communities and wildlife (e.g., common and swamp milkweed for monarch butterfly). In seed mixes, include PA native wildflowers that have overlapping bloom periods and provide forage for pollinators throughout the growing season.

- Avoid blanket herbicide applications; instead, spot-treat undesirable tall woody vegetation and invasive weeds. Where mowing is necessary, reduce frequency to once every few years during the dormant season (i.e., after first frost in late fall and before bird nesting in early spring), leaving some refugia for overwintering wildlife.
- Monitor for invasive plants before, during, and after project activities and promptly control any identified infestations. Frequent monitoring allows for early detection and rapid response.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely,



Greg Podniesinski, Section Chief
Natural Heritage Section

# MAIT EXHIBIT 8

| | Tract Number | Title_Tax Assessed To | Auditor Parcel Number (APN) | County | Township | Tax Mailing Address: Street 1 | City | State/Region | Zip |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 38550 | Seward Generations, LLC | 40-014-112.00..-000 | Indiana | East Wheatfield | 1501 Ligonier St | Latrobe | PA | 15650 |
| 2 | 38552 | Pennsylvania Electric Company | 60-00939-00000 | Westmoreland | St Clair | 76 South Main St | Akron | OH | 44308 |
| 3 | 38555 | Hoover, Earl Douglas & Jane P | 60-03-00-0-001 | Westmoreland | St Clair | 7728 Manor Dr | Harrisburg | PA | 17112 |
| 4 | 38556 | Diocesan Cent Coun of Greensburg | 60-03-00-0-038 | Westmoreland | St Clair | 150 Route 56 | Seward | PA | 15920 |
| 5 | 38558 | Sandy Bottom Sportsmens Assoc | 60-03-00-0-005 | Westmoreland | St Clair | Po Box 16 | Seward | PA | 15954 |
| 6 | 38559 | United Youth Baseball League | 40-015-105.00..-000 | Indiana | East Wheatfield | Inc Rd 1 Box 750 | Homer City | PA | 15748 |
| 7 | 38560 | Wheatfield Properties, Inc. | 40-015-171.00..-000 | Indiana | East Wheatfield | 234 Merlo Rd | Mineral Point | PA | 15942 |
| 8 | 38561 | David A. Neuner and Michele Neuner, his wife | 40-015-104.00..-000 | Indiana | East Wheatfield | 50 Lookout Point Rd, Po Box 373 | Seward | PA | 15954 |
| 9 | 38562 | Millwork Solutions, Inc | 40-015-102.00..-000 | Indiana | East Wheatfield | 1 Peacock Lane | Glen Head | NY | 11545 |
| 10 | 38563 | Donald A Miller UX | 40-015-102.03..-000 | Indiana | East Wheatfield | 305 Route 711 Hwy | Seward | PA | 15954 |
| 11 | 38564 | William Thad Gibbons AL | 40-015-102.04..-000 | Indiana | East Wheatfield | 55 Beartracks Hill Rd | Seward | PA | 15954 |
| 12 | 38566 | Jeffrey L. Botteicher and Kimberly F. Botteicher, his wife | 40-015-103.08..-000. | Indiana | East Wheatfield | 440 Beartracks Hill Rd | Seward | PA | 15954 |
| 13 | 38567 | William T. Gibbons and Audrey J. Gibbons | 40-015-103.00..-000 | Indiana | East Wheatfield | 55 Beartracks Hill Rd | Seward | PA | 15954 |
| 14 | 38568 | Telford C. Manges and Joanne C. Manges, husband and wife | 40-015-106.00..-000 | Indiana | East Wheatfield | 426 Hill Rd | Seward | PA | 15954 |
| 15 | 38569 | Mark R. Mathews | 40-015-107.00..-000 | Indiana | East Wheatfield | 1512 Letchworth Rd | Camp Hill | PA | 17011 |
| 16 | 38570 | Manges Family Limited Partnership | 40-010-134.00..-000 | Indiana | East Wheatfield | 1619 Grange Hall Rd | Seward | PA | 15954 |
| 17 | 38571 | Gerald W. Lamb and Beth Ann Lamb, husband and wife | 40-010-134.01..-000 | Indiana | East Wheatfield | 1808 Grange Hall Rd | Seward | PA | 15954 |
| 18 | 38573 | TOTH, DONALD UX | 40-010-166.00 | Indiana | East Wheatfield | 2972 Benshoff Hill Rd | Johnstown | PA | 15909 |
| 19 | 38574 | Donald Toth, UX | 40-010-166.01..-000 | Indiana | East Wheatfield | 2972 Benshoff Hill Rd | Johnstown | PA | 15909 |
| 20 | 38577 | James Kime, Jr. | 40-010-123.00..-000 | Indiana | East Wheatfield | 65 Sunshine Valley Rd | Seward | PA | 15954 |
| 21 | 38578 | Mary Francis Stinson AL | 40-010-120.00..-000 | Indiana | East Wheatfield | 9988 Route 403 Hwy S | Seward | PA | 15954 |
| 22 | 38579 | Mary Frances Stinson AL | 40-010-120.01.-000 | Indiana | East Wheatfield | 9988 Route 403 Hwy S | Seward | PA | 15954 |
| 23 | 38580 | Lanny R. Stinson ux | 40-010-120.02...-000 | Indiana | East Wheatfield | 9988 Route 403 Hwy S | Seward | PA | 15954 |
| 24 | 38581 | Gregory W. Tomb | 40-010-119.01..-000 | Indiana | East Wheatfield | 58 Sunshine Valley Rd | Seward | PA | 15954 |
| 25 | 38582 | Gregory W. Tomb | 40-010-119.00..-000 | Indiana | East Wheatfield | 58 Sunshine Valley Rd | Seward | PA | 15954 |
| 26 | 38584 | Andrew Charles Walbeck UX | 40-010-118.00..-000 | Indiana | East Wheatfield | Po Box 465 | Seward | PA | 15954 |
| 27 | 38586 | Barbara Schawl Lantzy and Max Lantzy | 40-010-116.00..-000 | Indiana | East Wheatfield | 9895 Route 403 Hwy S | Seward | PA | 15954 |
| 28 | 38586.1 | John R Widdowson, Jr., et ux | 40-010-114.04..-000 | Indiana | East Wheatfield | 117 Beechwood Lane | Seward | PA | 15954 |
| 29 | 38587 | Roger A Good | 40-040-115.00..-000 | Indiana | East Wheatfield | 9879 Route 403 Hwy S | Seward | PA | 15954 |
| 30 | 38588 | David A. Rumon and Patricia Coons Rumon, Co-Trustees of the Rumon Living Trust dated J | 40-010-112.01..-000 | Indiana | East Wheatfield | 10350 Lower Huntington Rd | Roanoke | IN | 46783 |
| 31 | 38589 | William J. Zimmerman, et ux | 40-010-112.00..-000 | Indiana | East Wheatfield | 9721 Route 403 Hwy S | Seward | PA | 15954 |
| 32 | 38591 | David L. Phillips and Yvonne J. Phillips | 40-008-100.00..-000 | Indiana | East Wheatfield | 155 Buttermilk Lane | New Alexandria | PA | 15670 |
| 33 | 38591.1 | Nathan A. Bevard | 40-008-100.01 | Indiana | East Wheatfield | 705 Matthew Dr | Yardley | PA | 19067 |
| 34 | 38591.2 | Nathan A. Bevard | 40-008-100.02 | Indiana | East Wheatfield | 594 George Lane | Seward | PA | 15954 |
| 35 | 38591.3 | Robert J & Jill Marie Zimmerman | 40-008-100.04..-000 | Indiana | East Wheatfield | 310 Abigail Ln | Ebensburg | PA | 15931 |
| 36 | 38591.4 | Nathan A Bevard | 40-008-100.03 | Indiana | East Wheatfield | 594 George Lane | Ebensburg | PA | 15954 |
| 37 | 38592 | Jacqueline M. Lee, et al | 40-004-110.00..-000 | Indiana | East Wheatfield | 110 Lynne Dr | Altoona | PA | 16601 |
| 38 | 38594 | Jacqueline M. Lee | 40-004-111.00..-000 | Indiana | East Wheatfield | 110 Lynne Dr | Altoona | PA | 16601 |
| 39 | 38595 | Mark L Watt and Mary E. Watt | 40-004-112.01A | Indiana | East Wheatfield | 173 5Th Street | New Florence | PA | 15944 |
| 40 | 38596 | Christopher T Deyarmin | 40-004-112.01..-000 | Indiana | East Wheatfield | 12661 Rte 22 Hwy E | Seward | PA | 15954 |
| 41 | 38597 | Penn Dept of Transportation | 40-004-105.00..-000 | Indiana | East Wheatfield | Po Box 429 | Indiana | PA | 15701 |
| 42 | 38598 | David Allen Allison, et al C/O Mary Bowman | 40-009-130.00..-901 | Indiana | East Wheatfield | Po Box 130 | Dilltown | PA | 15929 |
| 43 | 38599 | Christopher T Deyarmin | 40-004-112.01B.-000 | Indiana | East Wheatfield | 12661 Rte 22 Hwy E | Seward | PA | 15954 |
| 44 | 38600 | County of Indiana | 40-004-101.00..-000 | Indiana | East Wheatfield | 825 Philadelphia St | Indiana | PA | 15701 |
| 45 | 38601 | Indiana County | 40-004-122.00..-000 | Indiana | East Wheatfield | 825 Philadelphia St | Indiana | PA | 15701 |
| 46 | 38602 | George Adam O'Hara, et ux | 09-006-111.00..-000 | Indiana | Buffington | Po Box 152 | Dilltown | PA | 15929 |
| 47 | 38603 | County of Indiana | 09-017-128.00..-000 | Indiana | Buffington | 825 Philadelphia St | Indiana | PA | 15701 |
| 48 | 38604 | Peter George Draksler and Toni Lynn Draksler, husband and wife | 09-006-110 | Indiana | Buffington | Po Box 145 | Dilltown | PA | 15929 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 49 | 38605 | The County of Indiana | 09-006-109.01..-000 | Indiana | Buffington | 825 Philadelphia St | Indiana | PA | 15701 |
| 50 | 38606 | County of Indiana | 09-007-105.00..-000 | Indiana | Buffington | 825 Philadelphia St | Indiana | PA | 15701 |
| 51 | 38607 | Emaunuel, Louis AL C/O Louis Emaunuel | 09-006-112.00..-000 | Indiana | Buffington | 281 Lower Club Rd | New Florence | PA | 15944 |
| 52 | 38608 | James E. Stewart and Barbara E. Stewart, husband and wife and James R. Stewart, single | 09-007-103 | Indiana | Buffington | 5909 Rte 403 Hwy S | Homer City | PA | 15748 |
| 53 | 38609 | Dean Earl and Mary Ann Martin Stiles | 09-007-101.01 | Indiana | Buffington | 5609 Pennsylvania Highway 403 | Homer City | PA | 15748 |
| 54 | 38610 | Dale W. Bracken and Alyce N. Bracken | 09-007-100.11..-000 | Indiana | Buffington | 54 Bracken Rd | Vintondale | PA | 15961 |
| 55 | 38612 | Dale W. Bracken and Alyce N. Bracken | 09-007-105.01 | Indiana | Buffington | 54 Bracken Rd | Vintondale | PA | 15961 |
| 56 | 38613 | The Township of Buffington C/O Anita Toth | 09-007-100.10..-000 | Indiana | Buffington | Rd 1 | Vintondale | PA | 15961 |
| 57 | 38614 | James E. Stewart UX | 09-007-100.06..-000 | Indiana | Buffington | 5909 Route 403 Hwy S | Homer City | PA | 15748 |
| 58 | 38615 | Walter G. Mangus | 09-007-100.06B1-000 | Indiana | Buffington | 5205 Route 403 Hwy S | Homer City | PA | 15748 |
| 59 | 38616 | Richard J. Goldberg and Charlene M. Goldberg | 09-007-100.06B2 | Indiana | Buffington | 2 Shearer St | Johnstown | PA | 15906 |
| 60 | 38617 | Thomas J. Campbell and Michelle Campbell | 09-007-100.06B.-000 | Indiana | Buffington | 5037 Route 403 Hwy S | Homer City | PA | 15748 |
| 61 | 38619 | Dale W Bracken, et ux | 09-007-112.00..-000 | Indiana | Buffington | 54 Bracken Rd | Vintondale | PA | 15961 |
| 62 | 38621 | Dale W. Bracken and Alyce N. Bracken | 09-015-109.00..-000. | Indiana | Buffington | 54 Bracken Rd | Vintondale | PA | 15961 |
| 63 | 38622 | Gorman, Eric M. ux | 09-015-110.01.00..-000 | Indiana | Buffington | 2538 Barkley Church Rd | Vintondale | PA | 15961 |
| 64 | 38623 | Dale W. Bracken and Alyce N. Bracken | 09-015-112.01..-000. | Indiana | Buffington | 54 Bracken Rd | Vintondale | PA | 15961 |
| 65 | 38624 | Edward J Naworol, et al | 09-015-108.00..-000 | Indiana | Buffington | 11076 Route 403 Hwy S | Seward | PA | 15954 |
| 66 | 38625 | Jane Cauffiel Thomson Family Limited Partnership | 09-015-115.00..-000 | Indiana | Buffington | 216 Long Plain Rd | South Deerfield | MA | 1373 |
| 67 | 38626 | Stoney W & Christine M Wagner | 09-015-106.00..-000 | Indiana | Buffington | 3968 Pennsylvania Highway 403 | Homer City | PA | 15748 |
| 68 | 38627 | Stoltzfus, Samuel A. ux | 09-015-103. 00..-000 | Indiana | Buffington | 538 Pyer Rd | Homer City | PA | 15748 |
| 69 | 38628 | McCloskey, Michael A. al | 09-015-105.00..-000 | Indiana | Buffington | 3635 Rte 403 Hwy S | Homer City | PA | 15748 |
| 70 | 38630 | Clay, Mary P. al | 09-009-115.00..-000 | Indiana | Buffington | 210 Pyer Rd | Homer City | PA | 15748 |
| 71 | 38631 | Stoltfzus, Samuel A. ux | 09-009-107. 00..-000 | Indiana | Buffington | 538 Pyer Rd | Homer City | PA | 15748 |
| 72 | 38632 | Stoltzfus, Samuel A. ux | 09-009-111.00..-000 | Indiana | Buffington | 538 Pyer Rd | Homer City | PA | 15748 |
| 73 | 38634 | Green, Daniel S. | 09-009-104.01..-000 | Indiana | Buffington | 3266 Route 403 Hwy S | Homer City | PA | 15748 |
| 74 | 38635 | Hofflander, Jon | 09-009-104.01B.-000 | Indiana | Buffington | 654 Philadelphia St; Po Box 400 | Indiana | PA | 15701 |
| 75 | 38636.1 | Robert Bartlebaugh and Emma Bartlebaugh | 09-009-104.01A.-000 | Indiana | Buffington | No Information | No Information | NO INFORMATION | INFORMAT |
| 76 | 38637 | Arcurio, Joseph F. et ux | 09-009-104.03..-000 | Indiana | Buffington | 130 Arcurio Dr | Homer City | PA | 15748 |
| 77 | 38638 | Henry C. Young, Jr. | 09-009-105.03A.-000 | Indiana | Buffington | 1994 Stewart Hollow Rd | Homer City | PA | 15748 |
| 78 | 38639 | Henry C. Young, Jr. | 09-009-105.03..-000 | Indiana | Buffington | 1994 Stewart Hollow Rd | Homer City | PA | 15748 |
| 79 | 38641 | Timothy W. Knoll and Krista K. Knoll, married | 09-009-105.04..-000 | Indiana | Buffington | 1796 Stewart Hollow Rd | Homer City | PA | 15748 |
| 80 | 38642 | Nicole R Empfield, et vir | 09-009-105.00..-000 | Indiana | Buffington | 1697 Stewart Hollow Rd | Homer City | PA | 15748 |
| 81 | 38643 | Samuel K King, et ux | 09-009-117.00..-000 | Indiana | Buffington | 5506 Camerons Rd | Homer City | PA | 15748 |
| 82 | 38644 | Samuel K King, et ux | 09-010-126.00..-000 | Indiana | Buffington | 5506 Camerons Rd | Homer City | PA | 15748 |
| 83 | 38645 | Jacqueline J Buckingham | 09-010-137.00..-000 | Indiana | Buffington | 5726 Camerons Rd | Homer City | PA | 15748 |
| 84 | 38646 | Jackie J Buckingham | 09-010-141.00..-000 | Indiana | Buffington | 5726 Camerons Rd | Homer City | PA | 15748 |
| 85 | 38650 | Janet A Harasty | 09-010-128.00..-000 | Indiana | Buffington | 5816 Camerons Rd | Homer City | PA | 15748 |
| 86 | 38651 | Jason Newlin, et al | 09-010-129.00..-000 | Indiana | Buffington | 5758 Camerons Rd | Homer City | PA | 15748 |
| 87 | 38652 | Maryjane Jackens Crnarich, et al | 09-010-135.00..-000 | Indiana | Buffington | 5727 Camerons Rd | Homer City | PA | 15748 |
| 88 | 38653 | Lori S. Luther | 09-012-109.00..-000 | Indiana | Buffington | 1685 Route 403 Hwy S | Homer City | PA | 15748 |
| 89 | 38654 | Theodore Mehalko, et ux C/O Constance Lane Meffacko | 09-010-130.00..-000 | Indiana | Buffington | 4468 George Oaks Dr | San Jose | CA | 95118 |
| 90 | 38655 | Joseph A McCloskey, et ux | 09-012-109.05..-000 | Indiana | Buffington | 1474 Route 403 Hwy S | Homer City | PA | 15748 |
| 91 | 38656 | Helen Chappell | 09-012-109.04..-000 | Indiana | Buffington | 1429 Route 403 Hwy S | Homer City | PA | 15748 |
| 92 | 38657 | Joseph L. Smith, et ux | 09-012-106.00..-000 | Indiana | Buffington | 3640 Route 403 Hwy S | Homer City | PA | 15748 |
| 93 | 38658 | Robert E. Smith, Jr. and Patricia A. Huber Smith | 09-012-106.04..-000 | Indiana | Buffington | 205 Shortcut Rd | Homer City | PA | 15748 |
| 94 | 38659 | BUFFINGTON TOWNSHIP | 09-012-106.03..-000 | Indiana | Buffington | 1010 Route 403 Hwy S | Homer City | PA | 15748 |
| 95 | 38660 | Brady Gallaher | 09-012-105. 00..-000 | Indiana | Buffington | Po Box 401 | Milbridge | ME | 4658 |
| 96 | 38661 | Kevin McCullough and Kelly McCullough, his wife | 09-012-104.00..-000 | Indiana | Buffington | 1039 Route 403 Hwy S | Homer City | PA | 15748 |
| 97 | 38662 | TOWNSHIP OF BUFFINGTON THE C/O KIMBERLY A LUTHER, SEC | 09-012-102.01..-000 | Indiana | Buffington | Rd 1 Box 493 | Homer City | PA | 15748 |

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|---|---|---|---|---|---|---|---|---|---|
| 98 | 38664 | Phillip C. Godin, Jacob A. Wehar, and Benjamin B. Slack-Foust, as joint tenants with right o | 09-012-102.00..-000 | Indiana | Buffington | Apt #215 , 1600 Cambridge Dr | Davidsville | PA | 15928 |
| 99 | 38665.1 | Ammon Zook and Lydia Zook | 33-012-110.09..-000 | Indiana | Buffington | 542 Pennsylvania Highway 403 | Homer City | PA | 15748 |
| 100 | 38665.3 | Ammon Zook and Lydia Zook | 33-012-110.07 | Indiana | Buffington | 542 Pennsylvania Highway 403 | Homer City | PA | 15748 |
| 101 | 38666 | William E. Ramer and Lotta Mae Ramer | 09-012-100.00..-000 | Indiana | Buffington | 355 Seldom Seen Rd | Kittanning | PA | 16201 |
| 102 | 38667 | Lecol Pennsylvania Real Estate Inc. | 33-012-110.01..-00 | Indiana | Buffington | 260 Rte 403 S; Po Box 124 | Strongstown | PA | 15957 |
| 103 | 38668 | Lecol Pennsylvania Real Estate, Inc., a Pennsylvania corporation | 33-012-110.06..-000 | Indiana | Buffington | 260 Rte 403 S; Po Box 124 | Strongstown | PA | 15957 |
| 104 | 38669 | Lecol Pennsylvania Real Estate, Inc., a Pennsylvania corporation | 33-012-110.02A.-000 | Indiana | Buffington | 260 Rte 403 S; Po Box 124 | Strongstown | PA | 15957 |
| 105 | 38672 | Keith A. Stanley and Lesa A. Stanley, his wife; and William Kania | 33-012-118.00..-000 | Indiana | Buffington | Po Box 427 | Claysville | PA | 15323 |
| 106 | 38675 | Chester C. Johnson and Gloria Johnson | 33-012-122.00..-000 | Indiana | Buffington | 89 Deer Ln | Penn Run | PA | 15765 |
| 107 | 38679 | MOORE, STEVEN L | 33-012-122.02..-000 | Indiana | Buffington | 12695 Rte 422 Hwy E | Penn Run | PA | 15765 |
| 108 | 38680 | James A. Duncan, III and Tina L. Duncan, his wife | 33-012-120.00..-000 | Indiana | Buffington | 14334 Route 422 Hwy E | Penn Run | PA | 15765 |
| 109 | 38685 | Jerry D. Brown, Jr. | 33-013-102.01..-000 | Indiana | Buffington | 14325 Rte 422 Hwy E, Po Box 79 | Strongstown | PA | 15957 |
| 110 | 38686 | ACM III, a Pennsylvania Limited Partnership | 33-013-102.00..-000 | Indiana | Buffington | 810 S Harmony Rd | Penn Run | PA | 15765 |
| 111 | 38690 | Brian E. Bono | 33-013-101.06..-000 | Indiana | Buffington | 333 Hemlock Ln | Penn Run | PA | 15765 |
| 112 | 38691 | Paul  F. Somogyi and Janet L. Somogyi, his wife | 33-013-101.09..-000 | Indiana | Buffington | 400 Hemlock Ln | Penn Run | PA | 15765 |
| 113 | 38692 | GILLEN, DAVID T UX | 33-013-101.05..-000 | Indiana | Buffington | 490 Hemlock Ln | Penn Run | PA | 15765 |
| 114 | 38694 | Virginia Allison and David Allison, her husband | 33-013-118.00..-000 | Indiana | Buffington | 450 Ben Franklin Rd N | Indiana | PA | 15701 |
| 115 | 38695 | Commonwealth of Pennsylvania, Department of Transportation | 33-013-116.01H.-000 | Indiana | Buffington | Dept Of Transportation | Harrisburg | PA | 17100 |
| 116 | 38696 | Joyce E. Hoy and Barbara K. Hoy | 33-013-116.01I.-000 | Indiana | Buffington | 685 Rte 403 Hwy N | Northern Cambria | PA | 15714 |
| 117 | 38697 | Kerry M. Lohr and Michele E. Lohr, husband and wife | 33-013-116.00..-000 | Indiana | Buffington | 751 Route 403 Hwy N | Northern Cambria | PA | 15714 |
| 118 | 38698 | JLC Partners, L.P., a Pennsylvania Limited Partnership | 33-013-128.00..-000 | Indiana | Buffington | 300 N 5Th St | Indiana | PA | 15701 |
| 119 | 38700 | The Lannding, LLC, a Pennsylvania limited liability company | 33-013-161.00..-000 | Indiana | Buffington | 418 Harvey Ave | Erie | PA | 16511 |
| 120 | 38702 | Andrew Borkholder and Sevilla Borkholder, aka Cevilla Borkholder, his wife | 33-013-130.00..-000 | Indiana | Buffington | Po Box 123 | Strongstown | PA | 15957 |
| 121 | 38703 | Andy H. Shetler and Katie E. Shetler, his wife | 33-013-136..-000 | Indiana | Buffington | 1387 Rte 403 Hwy N | Northern Cambria | PA | 15714 |
| 122 | 38706 | CAMERON LUMBER LLP | 33-009-101.00..-000 | Indiana | Buffington | 2769 Camerons Rd | Homer City | PA | 15748 |
| 123 | 38707 | JLC Partners, L.P. | 33-009-119.00..-000 | Indiana | Buffington | 300 N 5Th St | Indiana | PA | 15701 |
| 124 | 38707.1 | Diocese of Greensburg | 33-009-118.00..-602 | Indiana | Buffington | 349 Morris St | Clymer | PA | 15728 |
| 125 | 38708 | JLC Partners, L.P. | 33-009-116.00..-000 | Indiana | Buffington | 300 N 5Th St | Indiana | PA | 15701 |
| 126 | 38710 | Jack Belichick and William Belichick | 33-008-106.00.--000 | Indiana | Pine | 20 Hamil Rd | Northern Cambria | PA | 15714 |
| 127 | 38711 | Vickey M. Brown and Harry L. Brown, her husband | 33-008-102.00..-000 | Indiana | Buffington | 4092 Route 403 Hwy N | Northern Cambria | PA | 15714 |
| 128 | 38712 | JLC Partners, L.P., a Pennsylvania limited partnership | 33-008-100.00..-000 | Indiana | Buffington | 300 N 5Th St | Indiana | PA | 15701 |
| 129 | 38713 | Rosebud Mining Company, a Pennsylvania corporation | 33-008-134.00..-000 | Indiana | Buffington | 301 Market St | Kittanning | PA | 16201 |
| 130 | 38714 | Rosebud Mining Company, a Pennsylvania corporation | 33-007-105.00..-000 | Indiana | Buffington | 301 Market St | Kittanning | PA | 16201 |
| 131 | 38715 | Tri-County ATV Recreation & Rescue Association, Inc, a Pennsylvania Corporation | 33-007-104.00..-000 | Indiana | Buffington | Po Box 29 | Heilwood | PA | 15745 |
| 132 | 38716 | Rosebud Mining Company, a Pennsylvania corporation | 33-007-110. 00..-000 | Indiana | Buffington | 301 Market St | Kittanning | PA | 16201 |
| 133 | 38718 | Richard M, William J, and Laura R Valazak | 33-007-104.01..-000 | Indiana | Pine | 48 Coates Lane | Indiana | PA | 15701 |
| 134 | 38719 | Richard M, William J, and Laura R Valazak | 33-007-113.00..-000 | Indiana | Pine | 48 Coates Lane | Indiana | PA | 15701 |
| 135 | 38720 | Ronald J, Richard M, William J, and Laura R Valazak | 33-007-121.09..-000 | Indiana | Pine | 48 Coates Lane | Indiana | PA | 15701 |
| 136 | 38721 | Edward J Ballas | 33-007-121.00..-000 | Indiana | Buffington | 925 Nixon Ave | Indiana | PA | 15701 |
| 137 | 38722 | Ronald J, Richard M, and William J Valazak and Maragaret A Sutton | 33-007-100.00..-000 | Indiana | Pine | 297 Tower Hill Rd | Northern Cambria | PA | 15714 |
| 138 | 38723 | Jennifer M Hoffman and Jason Matthew Valazak | 33-007-100.03..-000 | Indiana | Pine | 167 Pleasantview Drive | McMurray | PA | 15317 |
| 139 | 38726 | Paul Edward Strong | 33-005-106.02..-000 | Indiana | Buffington | Po Box 102 | Heilwood | PA | 15745 |
| 140 | 38727 | Robert Falcone, Etal | 33-005-109.00..-000 | Indiana | Pine | 2934 W 32nd St | Erie | PA | 16506 |
| 141 | 38728 | Robert E. Hicks, Jr. and Margaret L. Hicks, his wife | 33-005-109.01 | Indiana | Buffington | 9284 Route 553 Hwy | Clymer | PA | 15728 |
| 142 | 38729 | Michael G. Trinkley and Deborah L. Trinkley | 33-005-103.00..-000 | Indiana | Buffington | 9309 Route 553 Hwy | Clymer | PA | 15728 |
| 143 | 38730 | Pennsylvania Electric Company | 33-005-110.00..-000 | Indiana | Green | 76 South Main St | Akron | OH | 44308 |
| 144 | 38731 | Daniel R Yoder, et ux | 20-006-101.01..-000 | Indiana | Green | 965 Laurel Rd | Clymer | PA | 15728 |
| 145 | 38732 | Jonas M. Yoder, et ux | 20-006-100.00..-000 | Indiana | Green | 890 Rimer Rd | Luthersburg | PA | 15848 |
| 146 | 38733 | Thomas E. Houser, et al | 20-015-102.00..-000 | Indiana | Green | 698 Evergreen Rd | Clymer | PA | 15728 |

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| 147 | 38734 | Edward J. Houser and Lindsey M. Houser | 20-015-101.00..-000 | Indiana | Green | 777 Evergreen Rd | Clymer | PA | 15728 |
| 148 | 38735 | Suzette A Kelley, et al | 20-015-108.00..-000 | Indiana | Green | 202 Hill Top Rd | Clymer | PA | 15728 |
| 149 | 38736 | Walter Allison Schroth Trust | 20-014-101.00..-000 | Indiana | Green | PO Box 623 | Indiana | PA | 15701 |
| 150 | 38737 | Pine Flats, LLC | 20-014-102.00..-907 | Indiana | Green | 256 Stiffler Lane | Clymer | PA | 15728 |
| 151 | 38738 | Hoover, John C | 20-014-118.00..-000 | Indiana | Green | 2267 Route 580 Hwy | Clymer | PA | 15728 |
| 152 | 38739 | JLC Partners, L.P., a Pennsylvania Limited Partnership | 20-014-133.00..-000 | Indiana | Green | 300 N 5Th St | Indiana | PA | 15701 |
| 153 | 38740 | Herbert S Anderson, Jr, et ux | 20-016-101.00..-000 | Indiana | Green | 1817 Wandin Rd | Commodore | PA | 15729 |
| 154 | 38741 | Judy A. Rogers, et al | 20-013-113.00..-000 | Indiana | Green | 3845 N Bank Rd Ne | Millersport | OH | 43046 |
| 155 | 38742 | Kenneth Allshouse | 20-017-100.00..-000 | Indiana | Green | 770 Powers Dr | Wexford | PA | 15090 |
| 156 | 38743 | Danielle M Lydic | 20-017-101.00..-000 | Indiana | Green | 526 Hill Rd | Commodore | PA | 15729 |
| 157 | 38744 | Willis A. Houck, et ux | 20-017-103.00..-000 | Indiana | Green | 770 Hill Rd | Commodore | PA | 15729 |
| 158 | 38746 | Robert S. Butler and Heather S. Butler | 20-017-124.00..-000 | Indiana | Green | 1986 Cookport Rd | Commodore | PA | 15729 |
| 159 | 38748 | Louis A. Kopczyk | 20-017-110.00..-000 | Indiana | Green | 130 O'Neil Rd | Clymer | PA | 15728 |
| 160 | 38752 | Scott E Meckley | 20-018-123.01..-000 | Indiana | Green | 1376 Cypress Rd | Commodore | PA | 15729 |
| 161 | 38753 | Scott Meckley and Faith Meckley | 20-018-123.02..-000 | Indiana | Green | 1376 Cypress Rd | Commodore | PA | 15729 |
| 162 | 38755 | Corwin, Chris | 20-018-118.00..-000 | Indiana | Green | 3700 Chaneyville Rd | Owings | MD | 20736 |
| 163 | 38756 | F. Musser Holdings, LP | 20-018-115.00..-000 | Indiana | Green | 1880 Route 119 Hwy N | Indiana | PA | 15701 |
| 164 | 38757 | Diocese of Greensburg | 20-018-110.00..-000 | Indiana | Green | 723 East Pittsburgh St | Pittsburgh | PA | 15214 |
| 165 | 38758 | Marian J. Buterbaugh c/o Marion Earley | 20-018-116.00..-000 | Indiana | Green | 107 Timbersprings Dr | Indiana | PA | 15701 |
| 166 | 38759 | Ron Q. Marsh and Judith A. Marsh | 20-019-155.00..-000 | Indiana | Green | 7 High St | Enola | PA | 17025 |
| 167 | 38760 | John A. Britsky and Laura A. Britsky | 20-022-172.00..-000 | Indiana | Green | 3526 Rte 286 Hwy E | Indiana | PA | 15701 |
| 168 | 38764 | Wesley E. Luzier, et ux | 20-034-130.00..-000 | Indiana | Green | 294 Light House Rd | Commodore | PA | 15729 |
| 169 | 38766 | Adam T. Rohler | 20-022-144.00..-000 | Indiana | Green | 203 Light House Rd | Commodore | PA | 15729 |
| 170 | 38767 | Royal Oil & Gas Corporation, Etal | 20-022-146.00..-901 | Indiana | Green | 1 Indian Springs Rd | Indiana | PA | 15701 |
| 171 | 38768 | Detwiler, Diana F. Vir | 20-022-154.00..-000 | Indiana | Green | 621 Holly Rd | Clymer | PA | 15728 |
| 172 | 38769 | Lydick, H. Duane ux | 20-022-156.00..-000 | Indiana | Green | 243 Raspberry Rd | Clymer | PA | 15728 |
| 173 | 38770 | Brian A. Wolfe, et al | 20-022-155.01..-000 | Indiana | Green | 168 Beech Rd | Clymer | PA | 15728 |
| 174 | 38771 | Nancy J. Barr | 20-022-155-02..-000 | Indiana | Green | 222 Beech Rd | Clymer | PA | 15728 |
| 175 | 38772 | Berkey, Daniel R. ux | 20-022-155.02A.-000 | Indiana | Green | 226 Beech Rd | Clymer | PA | 15728 |
| 176 | 38773 | Victor Sinemus UX | 20-022-155.05..-000 | Indiana | Green | 649 S Summit St | Derry | PA | 15627 |
| 177 | 38774 | Raspberry Retreat, LLC | 20-022-155.00..-000 | Indiana | Green | 814 Raspberry Rd | Clymer | PA | 15728 |
| 178 | 38775 | K Robert Crawford, et ux | 20-022-155.08..-000 | Indiana | Green | 814 Raspberry Rd | Clymer | PA | 15728 |
| 179 | 38777 | Diane L Fenton, et al | 20-022-158.02A.-000 | Indiana | Green | 755 Raspberry Rd | Clymer | PA | 15728 |
| 180 | 38778 | Kimberly J. Chi; Sally J. Lute; Randy L. Greene; Garry W. Greene; Scott M. Greene; Diane L. | 20-022-158.02..-000 | Indiana | Green | 755 Raspberry Rd | Clymer | PA | 15728 |
| 181 | 38780 | Frederick E. Rice | 20-027-128.00..-000 | Indiana | Green | 313 Grobmyer Ave | Carrollton | KY | 41008 |
| 182 | 38781 | Syster, Jeffrey G. ux | 20-027-129.00..-000 | Indiana | Green | 1991 Purchase Line Rd | Clymer | PA | 15728 |
| 183 | 38782 | James F Crawford, Etal | 20-027-122.00..-000 | Indiana | Green | 1816 Purchase Line Rd | Clymer | PA | 15728 |
| 184 | 38783 | James F Jr & Regina A Crawford | 20-027-122.01..-000 | Indiana | Green | 1984 Camino Manzana | Los Alamos | NM | 87544 |
| 185 | 38784 | Pennsylvania Electric Company | 20-027-133.01..-000 | Indiana | Green | 76 South Main St | Akron | OH | 44308 |
| 186 | 38785 | Greene, Jason J, et al | 20-027-142.00..-000 | Indiana | Green | 696 Ash Rd | Clymer | PA | 15728 |
| 187 | 38786 | William G. Roush, et al | 20-027-133.00..-000 | Indiana | Green | 294 Nibert Rd | Indiana | PA | 15701 |
| 188 | 38787 | Joseph J Rorabaugh, et ux | 20-027-134.00..-000 | Indiana | Green | 577 Ash Rd | Clymer | PA | 15728 |
| 189 | 38788 | Conrad, Gary L., et ux | 20-027-157.00..-000 | Indiana | Rayne | 124 Conrad Rd | Punxsutawney | PA | 15767 |
| 190 | 38789 | Peterson, Glenda S, et al | 35-005-103.02..-000 | Indiana | Rayne | 1385 Dixonville Rd | Clymer | PA | 15728 |
| 191 | 38791 | Timothy L. Conrad, et ux | 35-005-107.00..-000 | Indiana | Rayne | 1762 Dixonville Rd | Clymer | PA | 15728 |
| 192 | 38792 | Timothy L. Conrad, et ux | 35-005-109.00..-000 | Indiana | East Mahoning | 1762 Dixonville Rd | Clymer | PA | 15728 |
| 193 | 38793 | Caton, Paul C. ux | 35-005-110.00..-000 | Indiana | East Mahoning | 1793 Route 217 Hwy N | Blairsville | PA | 15717 |
| 194 | 38794 | Blose, Carl, et al | 35-005-108.00..-000 | Indiana | Rayne | 1190 Ambrose Rd | Home | PA | 15747 |
| 195 | 38795 | Carl Blose, et al | 27-019-109.00..-000 | Indiana | East Mahoning | 1190 Ambrose Rd | Home | PA | 15747 |

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|---|---|---|---|---|---|---|---|---|---|
| 196 | 38796 | Ingalsbe, Christie Elyse | 27-019-108.00..-000 | Indiana | East Mahoning | 2011 Abell Lane | Sparks | MD | 21152 |
| 197 | 38797 | Eagan B. Minich, et ux | 27-019-102.00..-000 | Indiana | East Mahoning | 90 Montgomery Church Rd | Marion Center | PA | 15759 |
| 198 | 38798 | Serian Group LLC | 27-019-100.00..-901 | Indiana | East Mahoning | 281 Lower Club Rd | New Florence | PA | 15944 |
| 199 | 38799 | F Musser Holdings LP | 27-018-118.00..-000 | Indiana | East Mahoning | 1880 Route 119 Hwy N | Indiana | PA | 15701 |
| 200 | 38800 | Scott A. Raybuck, et al | 27-013-101.00..-000 | Indiana | East Mahoning | 1040 S Buena Vista Dr | Spokane | WA | 99224 |
| 201 | 38802 | John F. Blake | 27-013-101.02A.-000 | Indiana | East Mahoning | 1639 Deckers Point Rd | Marion Center | PA | 15759 |
| 202 | 38803 | Karl S Lightcap Trust by Trustee | 27-014-108.00..-000 | Indiana | East Mahoning | 2920 Pearce Hollow Rd | Marion Center | PA | 15759 |
| 203 | 38804 | Royden E. Kinter, et al | 27-013-100.00..-000 | Indiana | East Mahoning | 600 Deckers Point Rd | Marion Center | PA | 15759 |
| 204 | 38805 | Elkin, Benjamin T | 27-014-103.00..-000 | Indiana | East Mahoning | 1425 Olson Rd | Marion Center | PA | 15759 |
| 205 | 38806 | David Paul Miller | 27-014-102.04B.-000 | Indiana | East Mahoning | 117 Miller Ln; Po Box 278 | Marion Center | PA | 15759 |
| 206 | 38807 | Miller, David P, et ux | 27-014-102.04A.-000 | Indiana | East Mahoning | Po Box 278 | Marion Center | PA | 15759 |
| 207 | 38808 | Miller, David P, et ux | 27-014-101.00..-000 | Indiana | East Mahoning | Po Box 278 | Marion Center | PA | 15759 |
| 208 | 38809 | John F Hastings | 27-011-112.00..-000 | Indiana | East Mahoning | 1080 Hastings Rd | Marion Center | PA | 15759 |
| 209 | 38810 | Daley, Ashley M, et al | 27-011-111.02..-000 | Indiana | East Mahoning | 1001 Richmond Rd | Marion Center | PA | 15759 |
| 210 | 38811 | Ashley M & Terrance L Daley | 27-011-111.02..-000 | Indiana | East Mahoning | 1001 Richmond Rd | Marion Center | PA | 15759 |
| 211 | 38813 | Ronald, E Leasure, et al | 27-011-114.00..-000 | Indiana | East Mahoning | 1502 Olson Rd | Marion Center | PA | 15759 |
| 212 | 38816 | Elkin, Bejamin T, et ux | 27-010-104.00..-000 | Indiana | East Mahoning | 1425 Olson Rd | Marion Center | PA | 15759 |
| 213 | 38817 | Elkin, Bejamin T, et ux | 27-006-122.02..-000 | Indiana | East Mahoning | 1425 Olson Rd | Marion Center | PA | 15759 |
| 214 | 38818 | Mumau, Gary L, et ux | 27-006-121.00..-000 | Indiana | East Mahoning | 11582 Route 119 Hwy N | Marion Center | PA | 15759 |
| 215 | 38819 | Serian Group LLC | 27-006-120.00..-000 | Indiana | East Mahoning | Po Box 257 | Rossiter | PA | 15772 |
| 216 | 38820 | Streams, Myron P | 27-007-107.00..-000 | Indiana | East Mahoning | 522 Gilgal Rd | Marion Center | PA | 15759 |
| 217 | 38821 | Peffer, Donald, et ux | 27-007-103.00..-000 | Indiana | East Mahoning | 303 Johnston Rd | Marion Center | PA | 15759 |
| 218 | 38822 | Barry L. Stear, ux | 27-006-100.00..-000 | Indiana | East Mahoning | 12135 Route 119 Hwy N | Marion Center | PA | 15759 |
| 219 | 38823 | Thomas H Loughry, et ux | 27-007-104.00..-000 | Indiana | East Mahoning | 4401 Pollock Rd | Marion Center | PA | 15759 |
| 220 | 38824 | Shannon P Ashbaugh, et ux | 27-002-112.00..-000 | Indiana | East Mahoning | 82 Simpson Rd | Marion Center | PA | 15759 |
| 221 | 38824.1 | Thomas H Loughry, et ux | 27-002-112.01..-000 | Indiana | East Mahoning | 4401 Pollock Rd | Marion Center | PA | 15759 |
| 222 | 38825 | Myron P Streams | 27-007-102.00..-000 | Indiana | East Mahoning | 522 Gilgal Rd | Marion Center | PA | 15759 |
| 223 | 38828 | Ashbaugh, Shannon P, et ux | 27-002-110.00..-000 | Indiana | East Mahoning | 349 Simpson Rd | Marion Center | PA | 15759 |
| 224 | 38829 | Thomas Howard Jr. Loughry, et ux | 27-002-113.00..-000 | Indiana | East Mahoning | 2903 Pollock Rd | Marion Center | PA | 15759 |
| 225 | 38830 | Willard K Weaver, et ux | 27-001-131.01..-000 | Indiana | East Mahoning | 5760 Pollock Rd | Marion Center | PA | 15759 |
| 226 | 38831 | Robert J Dilts, et ux | 27-001-129.00..-000 | Indiana | East Mahoning | 6803 Pollock Rd | Marion Center | PA | 15759 |
| 227 | 38832 | Rougeaux, Robert R III, et al | 28-004-109.00..-000 | Indiana | North Mahoning | 485 Brocious Rd | Marion Center | PA | 15759 |
| 228 | 38833 | Robert J Dilts, et ux | 27-001-127.00..-000 | Indiana | North Mahoning | 6803 Pollock Rd | Marion Center | PA | 15759 |
| 229 | 38835 | Israel Isenberg, et ux | 28-004-104.01..-000 | Indiana | North Mahoning | 300 Rudolph Rd | Smicksburg | PA | 16256 |
| 230 | 38836 | Isareal Isenberg, et ux | 28-004-104.01A.-000 | Indiana | North Mahoning | 1842 Buterbaugh Rd | Cherry Tree | PA | 15724 |
| 231 | 38837 | Dean Family Farms LLC, et al | 28-004-105.00..-000 | Indiana | North Mahoning | 3612 Epperly Dr | Del City | OK | 73115 |
| 232 | 38838 | Dean Family Farms LLC, et al | 28-004-105.01..-000 | Indiana | North Mahoning | 3612 Epperly Dr | Del City | OK | 73115 |
| 233 | 38839 | Dilts, Robert J, Jr., et ux | 28-004-106.06..-000 | Indiana | North Mahoning | 115 Gahagan Rd | Smicksburg | PA | 16256 |
| 234 | 38840.1 | McCully, Zane Kerry, et ux | 28-004-106.04..-000 | Indiana | North Mahoning | 415 Gahagan Rd | Smicksburg | PA | 16256 |
| 235 | 38844 | Hoover, William T., et al | 28-004-115.00..-000 | Indiana | North Mahoning | 475 Gahagan Rd | Smicksburg | PA | 16256 |
| 236 | 38845 | William Todd Hoover, et al | 28-004-115.01..-000 | Indiana | North Mahoning | 475 Gahagan Rd | Smicksburg | PA | 16256 |
| 237 | 38847 | Trustees Little Mahoning Bible | 28-003-121.00..-000 | Indiana | North Mahoning | 1051 Alabran Rd; Conference Grour | Smicksburg | PA | 16256 |
| 238 | 38848 | Trustees Little Mahoning Bible | 30-015-115.00..-000 | Indiana | West Mahoning | 1051 Alabran Rd | Smicksburg | PA | 16256 |
| 239 | 38849 | XTO Energy, Inc | 30-015-114.00..-000 | Indiana | West Mahoning | PO Box 64106 | Spring | TX | 77387 |
| 240 | 38850 | Stewart, Harry R Jr., et ux | 30-015-105.06..-000 | Indiana | West Mahoning | 156 State Route 839 | Dayton | PA | 16222 |
| 241 | 38851 | Ritchie, Floyd C, et ux | 30-015-105.05..-000 | Indiana | West Mahoning | 257 Cherry Hill Rd | Greenville | PA | 16125 |
| 242 | 38853 | Ralph A Juart | 30-015-104.02..-000 | Indiana | West Mahoning | 1015 Brink Rd | Smicksburg | PA | 16256 |
| 243 | 38854 | Jonas Weaver, et ux | 30-015-103.00..-000 | Indiana | West Mahoning | 1478 Sinktown Rd | Home | PA | 15747 |
| 244 | 38856 | XTO Energy, Inc | 30-015-102.00..-000 | Indiana | West Mahoning | PO Box 64106 | Spring | TX | 77387 |

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|---|---|---|---|---|---|---|---|---|---|
| 245 | 38857 | Pennsylvania Electric Company ATTN Tax Dept | 30-015-102.01..-000 | Indiana | West Mahoning | PO Box 4747 | Oakbrook | IL | 60522 |
| 246 | 38858 | Gregory W. Stephenson and Edith A. Stephenson, husband and wife | 30-015-102.02..-000 | Indiana | West Mahoning | 25397 Rte 954 Hwy N | Smicksburg | PA | 16256 |
| 247 | 38859 | Emery L. Byler and Sarah M. Miller, husband and wife | 30-016-105.00..-000 | Indiana | West Mahoning | 102 Kerr Rd | Smicksburg | PA | 16256 |
| 248 | 38860 | David D. Miller and Anna L. Miller, husband and wife | 30-016-104..-000 | Indiana | West Mahoning | 592 Kerr Rd | Smicksburg | PA | 16256 |
| 249 | 38861 | Joseph E. Petrovich and Lottie J. Petrovich, Co-Trustees of the Petrovich Family Trust | 30-016-102.00..-000 | Indiana | West Mahoning | 378 Hemlock Acres Rd | Smicksburg | PA | 16256 |
| 250 | 38862 | Joseph E. Petrovich and Lottie J. Petrovich, Co-Trustees of the Petrovich Family Trust, inclu | 30-010-105.00..-000 | Indiana | West Mahoning | 378 Hemlock Acres Rd | Smicksburg | PA | 16256 |
| 251 | 38863 | Dennis L. Phillips and Gary M. Phillips, Tenants in Common | 30-010-104.00..-000. | Indiana | West Mahoning | 352 Norman Smith Rd | Punxsutawney | PA | 15767 |
| 252 | 38865 | Matthew T. Fleury, Individually | 30-009-109.01..-000 | Indiana | West Mahoning | 3133 Antheo Ct | Murrysville | PA | 15668 |
| 253 | 38866 | Carl E. Ingram and Martha H. Ingram, husband and wife | 30-009-108.03..-000 | Indiana | West Mahoning | Po Box 116 | Smicksburg | PA | 16256 |
| 254 | 38867 | Fleury Farms Limited Partnership | 30-009-106.00..-000 | Indiana | West Mahoning | 3133 Antheo Ct | Murrysville | PA | 15668 |
| 255 | 38868 | United States of America | 30-009-117.00..-000 | Indiana | West Mahoning | | | | |
| 256 | 38869 | George J. Venesky and Rebecca M. Venesky, husband and wife | 30-009-105.00..-000 | Indiana | West Mahoning | 1327 Heslop Rd | Mountain Top | PA | 18707 |
| 257 | 38870 | Deborah J. Troup (Oswalt) (New owner of record is Crystal Gindlesperger) | 30-009-101.00..-000 | Indiana | West Mahoning | 122 Lake Dr | Smicksburg | PA | 16256 |
| 258 | 38871 | Gary L. Conrad and Tabitha L. Conrad | 30-009-103.00..-000. | Indiana | West Mahoning | 124 Conrad Rd | Punxsutawney | PA | 15767 |
| 259 | 38872 | Samuel H. Patterson, Jr., and Donald H. Patterson | 30-009-118.00..-000 | Indiana | West Mahoning | 34 Private Road, Box 5 | Northpoint | PA | 15763 |
| 260 | 38874 | Florence M & Chloe L Reeder | 20-581-0106B | Jefferson | Porter | 859 Lantz Rd | Punxsutawney | PA | 15767 |
| 261 | 38876 | Swineford, Mark W & Candy L, et al | 20-581-0104 | Jefferson | Porter | 87 Woodland Lane | Du Bois | PA | 15801 |
| 262 | 38877 | Lettie, Kevin B & Pamela S | 20-561-0112 | Jefferson | Porter | 3191 Porter Road | Punxsutawney | PA | 15767 |
| 263 | 38878 | Robert C Whisner Trustee | 20-561-0111 | Jefferson | Porter | 337 Liberty Hill Road | New Stanton | PA | 15672 |
| 264 | 38879 | Stanford, Brian W | 20-581-0102 | Jefferson | Porter | 1492 Ringgold Timblin Road | Timblin | PA | 15778 |
| 265 | 38880 | Mark E Overly& Emily D Overly | 20-561-0110 | Jefferson | Porter | 886 Hamilton Porter Rd | Punxsutawney | PA | 15767 |
| 266 | 38881 | Overly, Mark E & Emily D | 20-561-0109 | Jefferson | Porter | 886 Hamilton Porter Rd | Punxsutawney | PA | 15767 |
| 267 | 38882 | Blair M. Overly and Nichole M. Overly | 20-561-0108 | Jefferson | Porter | 886 Hamilton Porter Rd | Punxsutawney | PA | 15767 |
| 268 | 38883 | Jill D Martin Rend & Francis A Rend | 20-561-0109 A | Jefferson | Porter | 531 Hamilton Porter Rd | Punxsutawney | PA | 15767 |
| 269 | 38884 | Jill D Martin Rend | 20-561-0120 | Jefferson | Porter | 531 Hamilton Porter Rd | Punxsutawney | PA | 15767 |
| 270 | 38885 | David A Gingerich & Kathryn J Gingerich | 20-561-0119 | Jefferson | Porter | 3685 Porter Road | Punxsutawney | PA | 15767 |
| 271 | 38886 | Wilbur E. Carney and Laurie S. Carney, husband and wife | 20-561-0136 | Jefferson | Porter | 1406 N Main St | Punxsutawney | PA | 15767 |
| 272 | 38887 | Wilbur E. Carney and Laurie S. Carney, husband and wife | 20-541-0104 | Jefferson | Porter | 1406 N Main St | Punxsutawney | PA | 15767 |
| 273 | 38888 | Elmer C. Dobson C/O Mary Dobson | 20-541-0103 BB | Jefferson | Porter | 2422 Dora Timblin Rd | Punxsutawney | PA | 15767 |
| 274 | 38890 | Stephen D Adams | 20-541-0103 BA | Jefferson | Porter | 3155 Townsend Angling Rd | Collins | OH | 44826 |
| 275 | 38891 | Miller, David S & Sharon J | 20-541-0103 A | Jefferson | Porter | 314 Kemerer Dr | Greensburg | PA | 15601 |
| 276 | 38892 | Harry D. & Blanche L.  Weaver, et al C/O Dawn Michelle Davey | 20-521-0202 | Jefferson | Porter | 3000 Rosemoor Lane | Fairfax | VA | 22031 |
| 277 | 38893 | Adam R Bowser & Tia M Bowser | 20-541-0100 | Jefferson | Porter | Box 171 | Shelocta | PA | 15774 |
| 278 | 38894 | Randall K Toth, et al | 20-521-0201 | Jefferson | Porter | 406 Penn St | New Bethlehem | PA | 16242 |
| 279 | 38894.5 | Jodi A Blose, et al | 31-500-0112 | Jefferson | Ringgold | 2007 Sherry Hollow Road | Mayport | PA | 16240 |
| 280 | 38894.7 | Troyer, Reuben M & Dena E | 31-500-0115 AA | Jefferson | Ringgold | 1245 Schreckengost Road | Mayport | PA | 16240 |
| 281 | 38894.8 | Worobey, Alan R & Dixie Lee | 31-500-0120 | Jefferson | Ringgold | 583 Kiester Road | Slippery Rock | PA | 16057 |
| 282 | 38894.9 | James P Neese & E Diane Neese, et al | 31-500-0120 D | Jefferson | Ringgold | 388 Saint James Road | Mayport | PA | 16240 |
| 283 | 38895 | Rhonda J McMillen Toth | 20-521-0200 | Jefferson | Porter | 2494 Penn St | Fairmount City | PA | 16224 |
| 284 | 38895.2 | David A Gingerich & Kathryn J Gingerich | 31-520-0118 | Jefferson | Ringgold | 553 Orchard Road | Ringgold | PA | 15770 |
| 285 | 38895.8 | Miller, Freeman E & Karen D | 36-001-0203 | Jefferson | Timblin | 424 Orchard Rd | Ringgold | PA | 15770 |
| 286 | 38896 | Emanuel M E & Lydia W Yoder | 36-001-0201 | Jefferson | Porter | 693 E Market St | Punxsutawney | PA | 15767 |
| 287 | 38897 | Pennsylvania Electric Co | 36-001-0202 | Jefferson | Timblin | PO Box 4747 | Oakbrook | IL | 60522 |
| 288 | 38898 | Yoder, Emanuel M E & Lydia W | 36-001-0202 A | Jefferson | Timblin | 693 East Market St | Punxsutawney | PA | 15767 |
| 289 | 38901 | Yoder, Emanuel M E & Lydia W | 36-001-0201 A | Jefferson | Timblin | 693 East Market St | Punxsutawney | PA | 15767 |
| 290 | 38903 | Blair S Allen & Phyllis Ann Allen C/O Allen, Jason | 31-520-0119 | Jefferson | Ringgold | 676 Orchard Road | Ringgold | PA | 15770 |
| 291 | 38906 | Gary L Noerr & Gloria J Noerr | 31-520-0117 A | Jefferson | Ringgold | 116 Mulligan Dr | Punxsutawney | PA | 15767 |
| 292 | 38911 | Powell, Richard E | 31-500-0109 | Jefferson | Ringgold | 1110 Schreckengost Road | Mayport | PA | 16240 |
| 293 | 38914 | McMaster, Charles H & Joan J, et al | 31-500-0113 | Jefferson | Ringgold | 7 W Highland Ave, Apt A | Uniontown | PA | 15401 |

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| 294 | 38916 | McMillen, Kerrick P | 31-500-0114 | Jefferson | Ringgold | 1320 Orchard Road | Ringgold | PA | 15770 |
| 295 | 38917.1 | Byler, William D. & Fannie D. | 31-480-0104 A | Jefferson | Ringgold | 666 Snyder Rd | Mayport | PA | 16240 |
| 296 | 38918 | Byler, William D, et ux | 31-480-0103 | Jefferson | Ringgold | 733 Snyder Road | Mayport | PA | 16240 |
| 297 | 38918.2 | Wesley Smith | 31-480-0103 D | Jefferson | Ringgold | 137 Lewis St | Reynoldsville | PA | 15851 |
| 298 | 38919 | Sturgeon, Casey L & Jenny L | 31-480-0102 B | Jefferson | Ringgold | 346 Nursery Lane | Mayport | PA | 16240 |
| 299 | 38920 | Trayer, Mark A & Mary A | 31-480-0102 A | Jefferson | Ringgold | 136 Nursery Lane | Mayport | PA | 16240 |
| 300 | 38921 | Sturgeon, Casey L & Jenny L | 31-480-0102 | Jefferson | Ringgold | 346 Nursery Road | Mayport | PA | 16240 |
| 301 | 38922 | Wesley D Smith | 40-028.00-01-19 | Armstrong | Redbank | 137 Lewis St | Reynoldsville | PA | 15851 |
| 302 | 38923 | Lucienne B Brocious | 40-028.00-01-03 | Armstrong | Redbank | 160 Minich Rd | Mayport | PA | 16240 |
| 303 | 38924 | Karen D Shay & Glenn A Shay, Trustee | 40-028.00-01-02 | Armstrong | Redbank | 342 Hollenbaugh Rd | Mayport | PA | 16240 |
| 304 | 38925 | Shay, Karen D & Glenn A Trustee | 40-028.00-01-01 | Armstrong | Redbank | 342 Hollenbaugh Rd | Mayport | PA | 16240 |
| 305 | 38926 | Shaun J Jones | 40-016.00-01-46 | Armstrong | Redbank | 1385 State Route 1025 | New Bethlehem | PA | 16242 |
| 306 | 38927 | Crawford, Terry L | 40-016.00-01-45 | Armstrong | Redbank | 159 Crawford Ln | Mayport | PA | 16240 |
| 307 | 38929 | Nolf, Random V & Nolf, Mark A GRM Partnership | 40-016.00-01-09 | Armstrong | Redbank | 2373 Brookville St | Fairmount City | PA | 16224 |
| 308 | 38930 | Sherman, Dolores | 40-016.00-01-11 | Armstrong | Redbank | 1129 Dairy Rd, Po Box 208 | Hawthorn | PA | 16230 |
| 309 | 38931 | Randall W Bain & Darlene S Bain | 40-010.00-01-06 | Armstrong | Redbank | 1916 Brenlin St | Johnstown | PA | 15904 |
| 310 | 38932 | Ochs Investment Limited Partnership | 40-010.00-01-04 | Armstrong | Redbank | 1624 E Grandview Blvd | Erie | PA | 16510 |
| 311 | 38933 | Redbank Valley Trails Association | 25-010-183-000-00 | Clarion | Redbank | 419 Arch St | New Bethlehem | PA | 16242 |
| 312 | 38934 | John A. Smith | 25-010-173-000-00 | Clarion | Redbank | 1093 Macadam Road | Mayport | PA | 16240 |
| 313 | 38935 | Jared B. Smith and Amanda M. Smith | 25-010-174-000-00 | Clarion | Redbank | 3608 Main St, P O Box 51 | Hawthorn | PA | 16230 |
| 314 | 38936 | David Alan Smith and Elizabeth M. Smith | 25-010-175-000-00 | Clarion | Redbank | 889 Dairy Road | Mayport | PA | 16240 |
| 315 | 38937 | Brian E. Dougherty and Susan M. Dougherty | 25-010-124-000-00 | Clarion | Redbank | #2 Tannery Hill | Fairmount City | PA | 16224 |
| 316 | 38938 | Kaven Hornberger and Ashley Hornberger | 25-010-119-000-00 | Clarion | Redbank | 6342 Rt 28 | Mayport | PA | 16240 |
| 317 | 38939 | Paul A Hollobaugh | 25-030-041-000-00 | Clarion | Redbank | 2168 Dairy Rd | Mayport | PA | 16240 |
| 318 | 38942 | Jeffery Shaffer and R. Shanelle Hawk | 25-030-041-004-00 | Clarion | Redbank | Po Box 1 | Mayport | PA | 16240 |
| 319 | 38943 | John W. Bartley, Jr. etal | 25-030-044-000-00 | Clarion | Redbank | 2129 Catherine St | Galesburg | IL | 61401 |
| 320 | 38944 | SAC CITRUS, INC. | 25-020-162-000-00 | Clarion | Redbank | One Glade Park East, Po Box 1022 | Kittanning | PA | 16201 |
| 321 | 38945 | Maura E. Keck, Hannah C. Keck, and Timothy A. Keck, as joint tenants with the right of surv | 25-020-003-000-00 | Clarion | Redbank | 93 Carrier St | Summerville | PA | 15864 |
| 322 | 38946 | Ronald W. Truitt and Theresa Ann Truitt | 25-020-128-000-00 | Clarion | Redbank | 1135 Carriage Rd | Fairmount City | PA | 16224 |
| 323 | 38947 | David G. McGuire and Julie A. McGuire | 25-020-128-001-00 | Clarion | Redbank | 4500 Truittsburg Road | Fairmount City | PA | 16224 |
| 324 | 38948 | John Thomas Conner | 25-020-128-003-00 | Clarion | Redbank | 4008 Phillips Ct | Mars | PA | 16046 |
| 325 | 38949 | John Thomas Conner, Holly Grace Dwyer and James Raymond Conner | 25-020-129-000-00 | Clarion | Redbank | 4008 Phillips Ct | Mars | PA | 16046 |
| 326 | 38950 | SNYDER ARMCLAR GAS COMPANY | 25-020-128-002-00 | Clarion | Redbank | 409 Butler Road; P O Box 1022 | Kittanning | PA | 16201 |
| 327 | 38951 | Janet C. Truitt | 25-020-125-000-00 | Clarion | Redbank | 4415 Truittsburg Road | Fairmont City | PA | 16224 |
| 328 | 38952 | Todd A. Webb and Antoinette D. Webb | 25-020-124-001-00 | Clarion | Redbank | 1454 Honey Hollow Road | Marion Center | PA | 15759 |
| 329 | 38953 | Deanna Conners | 25-020-124-000-00 | Clarion | Redbank | 675 Windmill Road | Fairmount City | PA | 16224 |
| 330 | 38954 | Jeffrey L. Taylor and Sherry C. Taylor | 25-020-122-000-00 | Clarion | Redbank | 1075 Windmill Road | Fairmount City | PA | 16224 |
| 331 | 38958 | Roberta M. Snyder, Trustee of the Roberta M. Snyder Revocable Trust Dated September 3 | 25-020-095-002-00 | Clarion | Redbank | 711 Penn Street | New Bethlehem | PA | 16242 |
| 332 | 38959 | Justin R. Monrean and Marcy L. Monrean | 25-020-095-000-00 | Clarion | Redbank | 2592 Pumptown Road | Fairmount City | PA | 16224 |
| 333 | 38960 | Justin R. Monrean | 25-020-095-003-00 | Clarion | Redbank | 2592 Pump Town Road | Fairmount City | PA | 16224 |
| 334 | 38961 | Pamela B. Davis | 25-020-095-001-00 | Clarion | Redbank | 2400 Pumptown Road | Fairmount City | PA | 16224 |
| 335 | 38962 | Tate M. Allison and Rebecca J. Allison; Peter Monrean and Erin Monrean; Justin Monrean | 25-020-087-000-00 | Clarion | Redbank | 11518 Old State N | Strattanville | PA | 16258 |
| 336 | 38963 | Tate M. Allison and Rebecca J. Allison | 25-020-098-000-00 | Clarion | Redbank | 630 Schoolhouse Road | Fairmount City | PA | 16224 |
| 337 | 38964 | SNYDER ARMCLAR GAS COMPANY LP | 25-020-099-000-00 | Clarion | Porter | Po Box 1022 | Kittanning | PA | 16201 |
| 338 | 38965 | Glenn R. Hammond, Jr. and Shelly A. Hammond | 25-020-112-000-00 | Clarion | Redbank | 431 Switzer Road | Fairmount City | PA | 16224 |
| 339 | 38966 | Sherri Dugan, Kenneth D. Switzer and Melissa J. Pence | 25-020-112-003-00 | Clarion | Redbank | 70 Switzer Rd | Fairmount City | PA | 16224 |
| 340 | 38967 | Carla Mae Royer | 25-020-104-001-00 | Clarion | Redbank | 6766 Rt 66 | Fairmount City | PA | 16224 |
| 341 | 38968 | Sherri Dugan, Kenneth Switzer and Melissa J. Pence | 25-020-104-001-01 | Clarion | Redbank | 70 Switzer Rd | Fairmount City | PA | 16224 |
| 342 | 38969 | Sherri L Dugan, et al | 25-020-109-000-00 | Clarion | Redbank | 70 Switzer Rd | Fairmount City | PA | 16224 |

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|---|---|---|---|---|---|---|---|---|---|
| 343 | 38970 | Preston A. Cypher | 25-020-104-000-00 | Clarion | Porter | 6531 Route 66 | Fairmount City | PA | 16224 |
| 344 | 38972 | Nathan J. Raybuck and Kara D. Raybuck | 16-030-043-000-00 | Clarion | Limestone | 132 Raybuck Rd | New Bethlehem | PA | 16242 |
| 345 | 38973 | Rex L. Munsee and Cynthia A. Munsee | 16-030-045-002-00 | Clarion | Limestone | 7683 Olean Trail | New Bethlehem | PA | 16242 |
| 346 | 38974 | Rex L. Munsee and Cynthia A. Munsee | 16-030-045-006-00 | Clarion | Limestone | 7683 Olean Trail | New Bethlehem | PA | 16242 |
| 347 | 38975 | Scott P. Austin and Helen A. Austin | 16-030-045-007-00 | Clarion | Limestone | 14450 64Th Way N | West Palm Beach | FL | 33418 |
| 348 | 38976 | Scott P. Austin and Helen A. Austin | 16-030-045-000-00 | Clarion | Limestone | 14450 64Th Way N | Palm Beach Gardens | FL | 33418 |
| 349 | 38977 | J. Arnold Diller and Esther Diller Trust Dated 04/10/2012 | 16-030-057-000-00 | Clarion | Limestone | 8399 Route 66 | Fairmount City | PA | 16224 |
| 350 | 38978 | J. Arnold Diller and Esther Diller | 16-030-055-000-00 | Clarion | Limestone | 8399 Route 66 | Fairmount City | PA | 16224 |
| 351 | 38979 | Buzard, Cory S & Ashley D | 16-030-056-000-00 | Clarion | Limestone | 743 Stony Rd | New Bethlehem | PA | 16242 |
| 352 | 38980 | J. Arnold Diller and Esther E. Diller Trust dated 04/10/2012 | 16-030-061-000-00 | Clarion | Limestone | 8399 Route 66 | Fairmount City | PA | 16224 |
| 353 | 38981 | Charles E. Costan and Cassandra J. Costan | 16-030-066-001-00 | Clarion | Limestone | 963 Stony Rd | New Bethlehem | PA | 16242 |
| 354 | 38982 | Patty J. Strong and Barry D. Downs | 16-030-065-000-00 | Clarion | Limestone | 3499 State Route 28/66 | New Bethlehem | PA | 16242 |
| 355 | 38983 | Matthew P. Ritzert and Julie D. Ritzert | 16-030-067-000-00 | Clarion | Limestone | 7900 Route 58 | Emlenton | PA | 16373 |
| 356 | 38984 | Greg A. Martin and Violet J. Martin | 16-030-068-002-00 | Clarion | Limestone | 1266 Mcclune Rd | New Bethlehem | PA | 16242 |
| 357 | 38985 | Smathers, James M, et al | 16-030-068-000-00 | Clarion | Limestone | 207 Smathers Road | New Bethlehem | PA | 16242 |
| 358 | 38986 | Daniel J. Smathers and Maria S. Smathers | 16-030-068-004-00 | Clarion | Limestone | 211 Smathers Road | New Bethlehem | PA | 16242 |
| 359 | 38987 | Phillip Mullet and Sarah J Mullet | 16-030-068-001-00 | Clarion | Limestone | 913 Mcclune Rd | Bethlehem | PA | 16242 |
| 360 | 38988 | Craig L. Mullet and Leann J. Mullet | 16-030-070-000-00 | Clarion | Limestone | 913 Mcclune Rd | New Bethlehem | PA | 16242 |
| 361 | 38990 | David Smathers | 16-030-071-000-00 | Clarion | Limestone | 1077 Smathers Road | New Bethlehem | PA | 16242 |
| 362 | 38991 | Michael L. Scott | 16-030-152-000-00 | Clarion | Limestone | 1135 Deer Hollow Rd | New Bethlehem | PA | 16242 |
| 363 | 38992 | Michael H. Schaeffer and Julie A. Schaeffer | 19-010-014-000-00 | Clarion | Monroe | 232 Moggey Road | Sligo | PA | 16255 |
| 364 | 38993 | Jeffrey W Deitz and Linda M Deitz | 19-010-015-000-00 | Clarion | Monroe | 489 Lilac Ln | Clarion | PA | 16214 |
| 365 | 38994 | Ronald Dean and Sandra Dean | 19-020-003-000-00 | Clarion | Monroe | 1046 Frosty Road | New Bethlehem | PA | 16242 |
| 366 | 38995 | Donald W. Deitz and Edith M. Deitz | 19-020-028-000-00 | Clarion | Monroe | 489 Lilac Ln | Clarion | PA | 16214 |
| 367 | 38996 | Donald W. Deitz and Edith M. Deitz | 19-010-016-000-00 | Clarion | Monroe | 489 Lilac Ln | Clarion | PA | 16214 |
| 368 | 38997 | Ronald Dean and Sandra Dean | 19-020-004-000-00 | Clarion | Monroe | 1046 Frosty Road | New Bethlehem | PA | 16242 |
| 369 | 38998 | Fox, Eric C and Darla C | 19-020-005-000-00 | Clarion | Monroe | 2962 Gourley Road | Sligo | PA | 16255 |
| 370 | 38999 | Lynne Marie Coleman | 19-020-016-000-00 | Clarion | Monroe | 7136 S Reidsburg Road | Sligo | PA | 16255 |
| 371 | 39000 | Arendas, David W & Sue A | 19-020-019-001-00 | Clarion | Monroe | 7996 East Reidsburg Road | Clarion | PA | 16214 |
| 372 | 39003 | William L. McSwain and Patricia A. McSwain | 19-020-018-006-00 | Clarion | Monroe | Po Box 16214 | Clarion | PA | 16255 |
| 373 | 39004 | Reidsburg Independent Zion Baptist Church | 19-020-018-005-00 | Clarion | Monroe | 114 Zion Road | Clarion | PA | 16214 |
| 374 | 39005 | Timber River Development Corporation | 19-020-137-001-00 | Clarion | Monroe | 609 Pinoak Road | Mayport | PA | 16240 |
| 375 | 39006 | Mark A. Servey and Elizabeth A. Servey | 19-020-018-009-00 | Clarion | Monroe | 7861 E Reidsburg Road | Clarion | PA | 16214 |
| 376 | 39007 | Timber River Development Corporation | 19-020-044-000-00 | Clarion | Monroe | 609 Pinoak Road | Mayport | PA | 16240 |
| 377 | 39010 | Andrew B. Griebel | 19-020-048-001-00 | Clarion | Monroe | 95 Brook Rd | Clarion | PA | 16214 |
| 378 | 39011 | Jerry L Over & Brenda J Over | 19-021-013-000-00 | Clarion | Monroe | 78 Old Town Road | Clarion | PA | 16214 |
| 379 | 39012 | Douglas A. Stewart and Jacqueline M. Stewart; David A. Stewart and Jill A. Stewart; and Da | 19-021-021-000-00 | Clarion | Monroe | 451 Seven Hills Road | Strattanville | PA | 16258 |
| 380 | 39013 | Edward A. Schmader | 19-021-022-000-00 | Clarion | Monroe | 63 Old Town Road | Clarion | PA | 16214 |
| 381 | 39014 | Fae L. Thompson | 19-021-023-000-00 | Clarion | Monroe | 8243 Rt 66 | Fairmount City | PA | 16224 |
| 382 | 39015 | Commonwealth of Pennsylvania, Department of Transportation | 19-021-024-000-00 | Clarion | Monroe | 2550 Oakland Ave | Indiana | IN | 15701 |
| 383 | 39017 | Commonwealth of Pennsylvania, Department of Transportation | 19-021-026-000-00 | Clarion | Monroe | 2550 Oakland Ave | Indiana | IN | 15701 |
| 384 | 39018 | Stephen E Beck | 19-020-048-002-00 | Clarion | Monroe | 19795 Pennsylvania Highway 89 | Clarion | PA | 16214 |
| 385 | 39019 | Terry L. Rapp | 19-020-133-000-00 | Clarion | Monroe | 609 Pinoak Rd | Mayport | PA | 16240 |
| 386 | 39020 | Piney Creek Partners, LLC | 19-020-138-000-00 | Clarion | Monroe | 246 Mesa Dr | Freeport | PA | 16229 |
| 387 | 39021 | Gerald W. Baltzer | 19-020-132-000-00 | Clarion | Monroe | 63 Fischer Avenue | Pittsburgh | PA | 15223 |
| 388 | 39022 | Eric Charles Robertson and Erin Dawn Monrean | 19-020-129-002-00 | Clarion | Monroe | P O Box 54 | Corsica | PA | 15829 |
| 389 | 39023 | PINEY CREEK PARTNERS LLC | 19-020-110-000-00 | Clarion | Monroe | 246 Mesa Dr | Freeport | PA | 16229 |
| 390 | 39024 | Karen L. Shultz | 19-020-109-000-00 | Clarion | Monroe | 421 Redwood St | Brea | CA | 92821 |
| 391 | 39025 | David H. Hartley | 19-020-114-002-00 | Clarion | Monroe | 3724 Piney Dam Rd | Clarion | PA | 16214 |

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|---|---|---|---|---|---|---|---|---|---|
| 392 | 39026 | Russell E. Elliott | 19-020-114-007-00 | Clarion | Monroe | 3770 Piney Dam Road | Clarion | PA | 16214 |
| 393 | 39027 | Jason F. Lewis and Amanda C. Lewis | 19-020-114-000-00 | Clarion | Monroe | 123 River Road | Clarion | PA | 16214 |
| 394 | 39029 | Linda S. Lewis | 23-030-005-001-00 | Clarion | Piney | 4067 Piney Dam Road | Clarion | PA | 16214 |
| 395 | 39030 | A. Roxanne Kahle | 19-020-114-009-00 | Clarion | Monroe | 181 River Road | Clarion | PA | 16214 |
| 396 | 39031 | Allegheny Energy Partners, Inc | 23-030-005-000-00 | Clarion | Piney | PO Box 6854 | San Diego | CA | 92166 |
| 397 | 39032 | Brookfield Power Piney & Deep Creek, LLC | 23-030-008-000-00 | Clarion | Monroe | PO Box 528 | Marlborough | MA | 01752 |
| 398 | 39033 | Brookfield Power Piney & Deep Creek, LLC | 23-030-010-000-00 | Clarion | Piney | 200 Donald Lynch Blvd | Marlborough | MA | 01752 |
| 399 | 96661 | Terry Rayko, et ux | 20-022-160.02..-000 | Indiana | Green | 153 Aikins Rd | Creekside | PA | 15732 |
| 400 | 96663 | Carrie M. Johns | 20-022-160.01..-000 | Indiana | Green | 353 Light House Rd | Commodore | PA | 15729 |
| 401 | 96697 | Patty Ferringer Houck, et vir | 20-027-133.04..-000 | Indiana | Green | 770 Hill Rd | Commodore | PA | 15729 |
| 402 | 96736 | Ryen, Richard Allen ux | 27-014-100.00..-000 | Indiana | East Mahoning | 1557 Wildwood Ln | Slidell | LA | 70458 |
| 403 | 96742 | Ronald, E Leasure, et al | 27-011-114.01..-000 | Indiana | East Mahoning | 1500 Olson Rd | Marion Center | PA | 15759 |
| 404 | 96778 | William Todd Hoover, et al | 28-004-118.00..-000 | Indiana | North Mahoning | 475 Gahagan Rd | Smicksburg | PA | 16256 |
| 405 | 96779 | Hoover, Robert R. utx | 28-003-102.02..-000 | Indiana | North Mahoning | 4267 Route 210 Highway | Punxsutawney | PA | 15767 |
| 406 | 96824 | Barbara J Reddinger | 30-008-116.02..-000 | Indiana | West Mahoning | No Information | No Information | NO INFORMATION | NFORMAT |
| 407 | 96825 | Carol Alcorn, et vir | 30-008-116.00..-000 | Indiana | West Mahoning | 341 Sr 1025 | New Bethlehem | PA | 16242 |
| 408 | 96832 | Richard L Campbell, et ux | 20-022-160.03..-000 | Indiana | Green | 351 Lighthouse Rd | Commodore | PA | 15729 |

# MAIT EXHIBIT 9

76 South Main St.
Akron, Ohio 44300

<Date>

<Landowner Name>
<Address 1>
<Address 2>
<City>, <State> <Zip Code>

RE: Piney – Seward Transmission Line Project
Parcel ID: <County APN>

Dear <Landowner Name>,

Mid-Atlantic Interstate Transmission, LLC ("MAIT"), a FirstEnergy company is proposing to rebuild and upgrade a portion of its existing transmission line to increase and enhance service reliability. This project may require adjustment of the current right of way to accommodate the upgrade and rebuild.

Enclosed is a property owner information packet that includes a property owner notice required by the Pennsylvania Public Utility Commission (PaPUC), a Code of Conduct for right-of-way agents and subcontractor employees, a survey permission form, and a brochure entitled "Maintaining Safe and Reliable Transmission System-Vegetation Management for New Transmission Construction Projects" which explains the Company's right-of way maintenance practices.

You have been identified as a property owner along the existing transmission line corridor. This letter is to notify you of upcoming survey work and obtain your permission to perform preliminary engineering including but not limited to surveying, core boring, cultural and environmental assessments, and property valuations. Please note that soil and sod moved during survey work will be returned to the excavated area, and no heavy equipment will be used as part of this effort.

These initial activities allow MAIT to evaluate the corridor and work closely with you, the landowner, to address any of your questions or concerns. A real estate agent will contact you soon to discuss the project and the upcoming surveys and studies expected to begin in June 2022. PaPUC regulations prohibit us from engaging in negotiations with you to acquire a transmission line right-of way for at least 15 calendar days from the time you receive this package.

To indicate your permission for us to begin the necessary studies on your property, please sign the enclosed permission form and send it back in the enclosed self- addressed stamped envelope.

If you have any questions, please contact our contract Field Project Supervisor, Tobe Resetar from our approved real estate contractor AFS, LLC, at 814-297-0003 (tresetar@afsrow.com) or call our project hotline at 1-888-311-4737.

Sincerely,
Lisa Marinelli

Sr. Real Estate Representative
FirstEnergy Service Company on behalf of Mid-Atlantic Interstate Transmission, LLC

Enclosures:

- PA PUC Notice
- Agent Code of Conduct
- Survey Permission Form
- Vegetation Management Brochure
- Project Fact Sheet



DRAFT

<Landowner Name>
<Address 1>
<Address 2>
<City>, <State> <Zip Code>

RE: Piney – Seward Transmission Line Project
Parcel ID: <County APN>

**NOTICE**

The Pennsylvania Public Utility Commission requires that Mid-Atlantic Interstate Transmission, LLC ("MAIT"), a FirstEnergy Company, give you the following information:

MAIT is proposing to rebuild an existing electric transmission line in <County Name> County, Pennsylvania to enhance service reliability and support residential and business expansion plans in the area.

The Piney – Seward Transmission Line Project consists of the rebuilding an existing, approximately sixty-six mile 115-kilovolt (115kV) transmission line that will connect the existing Piney Substation to the existing Seward Substation.

Expansion of the existing right of way corridor will be required on your property identified as County Parcel ID Number <APN>, in <County Name> County, PA. A representative of the utility will contact you in the near future to discuss the utility's plans as they may affect your property. In order to better prepare you for these discussions and to avoid possible misunderstandings, we want to take this opportunity to inform you of your legal rights and the legal rights and duties of MAIT with regard to this project.

You have the right to have legal counsel represent you in these negotiations. You do not have to sign any agreement without the advice of counsel. If you do not know an attorney, you may contact your local bar association.

MUST YOU ACCEPT ANY OFFER MADE BY THE UTILITY FOR YOUR PROPERTY?

No. You may refuse to accept it. However, the utility has the power to take property by eminent domain, subject to the approval of the Public Utility Commission, for the construction of transmission lines if the utility is unable to negotiate an agreement to buy the right-of-way. If your property is condemned, you must be paid "just compensation". "Just compensation" has been defined by the courts in Pennsylvania as the difference between the fair market value of your property before condemnation, unaffected by the condemnation, and the fair market value of your remaining property after condemnation, as affected by the condemnation.

CAN THE UTILTIY CONDEMN YOUR HOUSE?

No. The utility cannot condemn your house or a reasonable "curtilage" around your house. Generally, curtilage includes the land or buildings within 100 meters (328 feet) of your house which are used for your domestic purposes. However, the 100-meter limit does not automatically extend beyond the homeowner's property line.

DO YOU HAVE A RIGHT TO A PUBLIC HEARING WHEN THE UTILITY SEEKS TO CONDEMN YOUR PROPERTY?

Yes. When an electric utility seeks to have your property condemned, the utility must first apply to the Pennsylvania Public Utility Commission for a certificate finding the condemnation to be necessary or proper for the service, accommodation, convenience, or safety of the public. The Commission will then hold a public hearing. As the landowner whose property may be condemned, you are a party to the proceeding and may retain counsel, present evidence, and/or testify yourself in opposition to the application for the certification. If you wish to testify at the public hearing, you should make your intention known by letter to Secretary, Pennsylvania Public Utility Commission, P. O. Box 3265, Harrisburg, Pennsylvania 17120. If the Commission approves the utility's application for a certificate finding the condemnation in the public interest, then the utility may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies the utility's application, the utility cannot condemn your land. If you retain an attorney to represent you before the Commission, you must do so at your own expense.

The Commission will not decide how much money you should receive if your land is condemned. The only issue the Commission will decide is whether the condemnation serves the public interest. If the Commission approves the utility's application for condemnation, the amount of money to which you are entitled will be determined by a local Board of View or the Court of Common Pleas. However, you may at any time make an agreement with the utility as to the amount of damages you are to be paid.

DOES THE UTILITY HAVE THE RIGHT TO ENTER YOUR LAND AT ANY TIME PRIOR TO CONDEMNATION?

Yes. The utility has the right, for the purpose of making studies, tests, surveys, soundings, and appraisals, to enter any land which they could condemn. However, the owner must be notified prior to entering the property. Any actual damages to your property, as a result of such entry prior to condemnation, must be paid by the utility. The utility may not engage in any construction, and its right to enter exists only to the extent necessary to condemn the property.

MUST THE UTILITY FURNISH YOU WITH INFORMATION ON THE RIGHT-OF-WAY MAINTENANCE PRACTICES FOR THIS PROJECT?

Yes. The Pennsylvania Public Utility Commission requires MAIT give you the following information on the RIGHT-OF-WAY MAINTENANCE PRACTICES for this project.

The methods currently used by MAIT are set forth in *FirstEnergy Vegetation Management Specification*, which will be made available to you for your inspection upon request. If you wish further information concerning right-of-way maintenance methods, you can contact Supervisor, Transmission Construction Vegetation Management, Michael Haines by phone at 330-801-9124 or email (mrhaines@firstenergycorp.com). You may discuss with this person, either before or during negotiation of the right-of-way agreement, these methods, and any other questions you may have about right-of-way maintenance.

Once a utility has constructed an electric transmission line on a right-of-way across your land, the utility must maintain the right-of-way free of tall growing trees and brush which might impair the reliability of electric service, the safety of the line, and access to the line or its towers. The

utility or its contractors may remove and control tall growing trees and brush by several methods; hand cutting of trees, limbs and brush; mechanical cutting with chain saws or motorized cutting machines; application of herbicides, either from the ground or from a helicopter. The utility must confine its maintenance activities to the approved right-of-way across you land, except where tall growing trees or brush or their root systems grow into the right-of-way from adjoining land and constitute a threat to the electric transmission line and its structures.

If you believe that the maintenance method(s) used by the company would raise problems with your use of your land adjacent to the right-of-way, it is your responsibility as the landowner to bring this to the attention of the utility before you sign the right-of-way agreement.

The utility company has a responsibility to maintain its right-of-way and regular maintenance must occur. Although you as the landowner cannot determine whether or not maintenance will occur, your right-of-way agreement may specify certain conditions on the performance of the maintenance program which are important to you. These conditions can be part of the negotiations between you and the utility company for your land, since the right-of-way agreement is a legal contract between the landowner and the utility company. It is important for you to understand also that the maintenance methods used by the utility may change over time as the costs of maintenance or the methods of performing maintenance change. You may want to specify in your right-of-way agreement that the utility company inform you of changes in its maintenance methods or in the maintenance schedule for your land.

The provisions of the right-of-way agreement are enforceable in the local Court of Common Pleas. The right-of-way agreement cannot be enforced by the Pennsylvania Public Utility Commission. Any claims for damage resulting from improper maintenance of the right-of-way must be settled with the utility, its contractors, or in local Court of Common Pleas at your expense. The Commission cannot award damages for violations of the right-of-way agreement.

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# Mid-Atlantic Interstate Transmission ("MAIT")
# Piney – Seward Transmission Line Project
# Code of Conduct
# For
# Right-of-Way Agents and Subcontractor Employees

**To Property Owner and any affected adjacent Property Owners on the Transmission Line Project:**

**This Code of Conduct applies to all communications and interactions with property owners and occupants of property by all right-of-way agents and subcontractor employees representing MAIT in the negotiation of right-of-way, subsequent acquisition of property rights, including the performance of surveying, environmental assessments, and other activities for the Piney – Seward Transmission Line Project ("Project").**

**Property owners may report improper public utility employee/land agent practices to the following agencies:**

**Pennsylvania Public Utility**
**Commission Commonwealth**
**Keystone Building**
**400 North Street**
**Harrisburg, PA 17120**
**1-800-692-7380 (Utility Customer Hotline)**

**Pennsylvania Office of Consumer**
**Advocate 555 Walnut Street**
**5th Floor Forum Place**
**Harrisburg PA 17101-1923**
**717-783-5048**
**1-800-684-6560 (PA Only)**

## CODE OF CONDUCT

1. **All communications with property owners and occupants must be factually correct and made in good faith.**

    a. Do provide maps and documents necessary to keep the landowner properly informed
    b. Do not make false or misleading statements.
    c. Do not misrepresent any fact.
    d. If you do not know the answer to a question, do not speculate about the answer. Advise the property owner that you will investigate the question and provide an answer later.
    e. Follow-up in a timely manner on all commitments to provide additional information.
    f. Do not suggest that the Project is required for national or homeland security reasons or has been authorized by the federal government.
    h. Do not send written communications suggesting an agreement has been reached when, in fact, an agreement has not been reached.
    i. If information provided is subsequently determined to be incorrect, follow up with the property owner as soon as practical to provide the corrected information.
    j. Do provide the property owner with appropriate contact information should additional contacts be necessary.

2. **All Communications and interactions with property owners and occupants of property must be respectful and reflect fair dealing**.

    a. When contacting a property owner in person, promptly identify yourself as representing MAIT and display your Company photo ID badge.
    b. When contacting a property owner by telephone, promptly identify yourself as representing MAIT.
    c. Do not engage in behavior that may be considered harassing, coercive, manipulative, intimidating or causing undue pressure.
    d. All communications by a property owner, whether in person, by telephone or in writing, in which the property owner indicates that he or she does not want to negotiate or does not want to give permission for surveying or other work on his or her property, must be respected and politely accepted without argument. Unless specifically authorized by MAIT, do not contact the property owner again regarding negotiations or requests for permission.
    e. When asked to leave property, promptly leave and do not return unless specifically authorized by MAIT.
    f. If discussions with the property owner become acrimonious, politely discontinue the discussion, and withdraw from the situation.

g. Obtain permission to enter property for purposes of surveying or conducting environmental assessments or other activities. Clearly explain to the property owner the scope of the work to be conducted based on the permission given. Attempt to notify the occupant of the property each time you enter the property based on this permission.
h. Do not represent that a relative, neighbor and/or friend have signed a document or reached an agreement with MAIT.
i. Do not ask a relative, neighbor and/or friend of a property owner to convince the property owner to take any action.
j. Do not represent that a relative, neighbor and/or friend supports or opposes the Project.
k. Do not suggest that any person should be ashamed of or embarrassed by his or her opposition to the Project or that such opposition is inappropriate.
l. Do not argue with property owners about the merits of the Project.
m. Do not suggest that an offer is "take it or leave it."
n. Do not threaten to call law enforcement officers or obtain court orders.
o. Do not threaten the use of eminent domain.
p. Do not suggest that MAIT will seek federal authorization to construct the Project.
q. Avoid discussing a property owner's failure to note an existing easement when purchasing the property and other comments about the property owner's acquisition of the property.

**3. All communications and interactions with property owners and/or their representatives of property must respect the privacy of property owners and other persons.**

a. Discussions with property owners and/or their representatives are to remain confidential
b. Do not discuss your negotiations or interactions with other property owners or other persons.
c. Do not ask relatives, neighbors and/or friends to influence the property owner or any other person.
d. Avoid discussions of personal matters about the property owner, others, and yourself.

RE: Piney – Seward Transmission Project
Parcel ID: <County APN>

PERMISSION FORM

We, <Landowner Name> (Grantor) hereby give permission to the Mid-Atlantic Interstate Transmission, LLC (Company), its employee's, agents, and contractor's permission to enter upon my property to perform preliminary engineering work, including surveying, core boring and cultural and environmental assessments as well as property appraisal.

Company agrees to enter upon the property "as is." Grantor makes no warranties as to the condition of the property or for the property for the particular suitability of the property for Company's purposes.

Company may deem it necessary to trim or cut vegetation for surveying and will be responsible for any damage done to the property, including planted crops. Company further agrees to pay grantor, for any marketable trees greater than 6-inch Diameter at Breast Height cut down in the course of the surveys. Such payment will be determined utilizing the prevailing local market price for standing timber.

GRANTOR:

_____ _____
Signature Date

_____
Print Name

_____ _____
Phone Number E-Mail

DRAFT

MAINTAINING A
SAFE AND RELIABLE

# TRANSMISSION SYSTEM



VEGETATION MANAGEMENT FOR NEW
TRANSMISSION CONSTRUCTION PROJECTS

FirstEnergy®

Transmission lines are considered the “superhighway” of the electric grid, moving large amounts of energy across our region from where it is generated to where it is needed.

Safely operating the power grid is a cornerstone of delivering reliable and affordable energy to our customers. An easement gives FirstEnergy the right to build, maintain and safely operate transmission lines, which includes removing trees and managing vegetation. The width of a transmission line right-of-way (ROW) varies according to the voltage of the lines and the easement rights originally negotiated with property owners. An easement agreement with a property owner remains in place even if the property is transferred or sold to a new owner.

## ENSURING SERVICE RELIABILITY

Unless properly maintained by FirstEnergy, trees have the potential to come in contact with power lines and other electric facilities and cause power outages, especially during severe weather. We’re aware that tree trimming and tree removal can sometimes be a sensitive issue for property owners, but the work must be done to comply with reliability mandates established by the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and state public utility commissions.

FirstEnergy employees and forestry contractors follow strict safety precautions and are committed to managing vegetation in ways that have a minimal impact on the environment.

Creating and sustaining compatible, stable and low-growing habitat on the ROW is a key component of a successful vegetation management program. A properly maintained transmission line corridor should include a diverse mixture of grasses, low-growing shrubs and other ground cover preferred by birds, deer and other wildlife to promote a thriving habitat. A well-managed ROW provides food and cover wildlife need to survive, and the electric service reliability our customers require.

FirstEnergy’s policy regarding transmission lines includes the removal of all trees, regardless of height, to the edge of the ROW. This may include removing trees where pruning was completed.

We also inspect areas adjacent to the ROW. Trees that are dead, dying, diseased, structurally defective, leaning or significantly encroaching the ROW may be removed if they pose a danger of falling into or near a transmission line. Strict vegetation management practices are followed for new transmission projects as well as scheduled maintenance work.

**A properly maintained transmission line corridor should include a diverse mixture of grasses, low-growing shrubs and other ground cover preferred by birds, deer and other wildlife to promote a thriving habitat.**

## NEW TRANSMISSION CONSTRUCTION PROJECTS

FirstEnergy's *Energizing the Future* program is a long-term transmission initiative that involves upgrading and modernizing the grid to meet the future demands of our customers and communities.

This initiative includes the construction of new transmission lines as well as the rebuilding of existing lines. These projects require the removal of vegetation in the ROW to ensure proper clearance for overhead lines. Vegetation also is frequently removed in areas where construction activities occur. In some cases, FirstEnergy may need to acquire tree-removal rights from property owners for projects that do not require additional ROW.

FirstEnergy's policy is to make every reasonable effort to notify property owners before vegetation management work begins along a new or existing transmission corridor. During construction projects, our contractors generally use tree-marking paint and flagging to identify trees and brush that require removal or pruning. Our crews attempt to make follow-up contact with property owners after trees are marked to address questions or concerns.



### MANUAL REMOVAL AND TRIMMING

For as long as there have been power lines, forestry personnel have used manual saws and bucket trucks to remove trees and limbs. Manual tree work requires a forestry professional to climb a tree and remove limbs or use a chainsaw to remove the tree at ground level. In recent years, the forestry industry has moved toward mechanical techniques to increase worker safety, improve crew efficiency and enhance quality.

### MECHANICAL REMOVAL

Qualified professionals determine the techniques and equipment used to get the job done based on site conditions and accessibility. Some of the tools commonly used during mechanical removal operations to cut, transport and stack trees include harvesting equipment, skidders, chippers, excavators, log trucks, bucket trucks and large brush-mowing equipment.

Construction matting is often installed in the work area to support equipment, protect underground infrastructure and minimize damage to private property and sensitive areas.

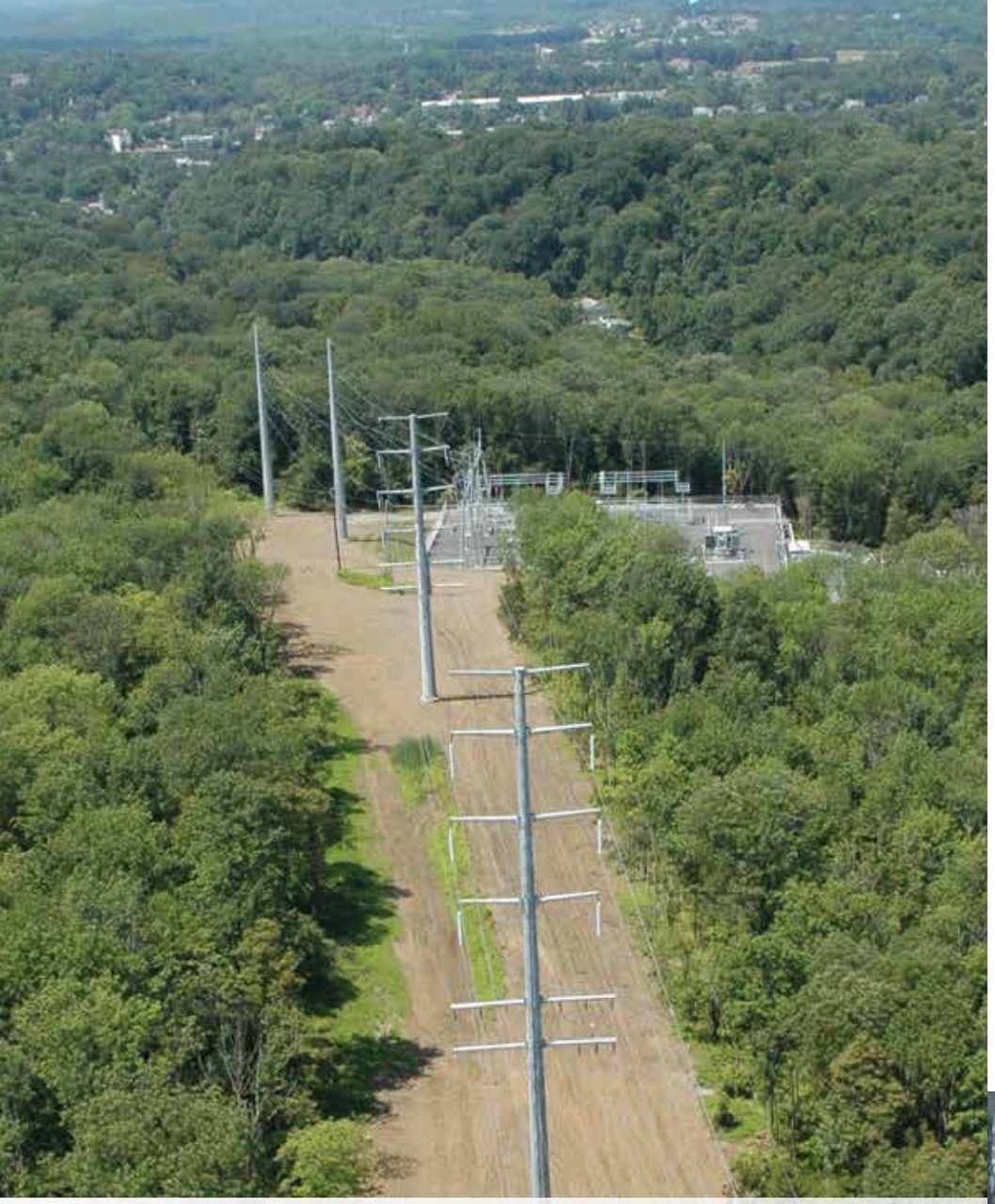
### AERIAL SAW

Manual tree trimming is limited by the reach of a bucket truck or a tree climber, which can make trimming the very top of the tree a challenge. Another way to trim along the edge of a ROW is by using helicopters equipped with an aerial saw, which consists of multiple 24-inch rotary blades powered by a motor suspended on a vertical boom beneath the helicopter. FirstEnergy has been safely using aerial tree trimming since 1988, in accordance with American National Standards Institute tree-pruning standards.

As the helicopter slowly flies along the ROW, the aerial saw trims trees and other vegetation efficiently and thoroughly. Tree limbs are neatly cut without tearing, and typically fall straight down, assisted by air blasts from the helicopter rotors.

The aerial saw eliminates the risk of injury to workers using bucket trucks or climbing trees near energized lines. It is most commonly used in remote areas or places inaccessible by vehicles. In addition, this method helps protect private land and roads from damage by heavy equipment during the course of the vegetation management work. The aerial saw can perform work quickly, trimming both sides of a 10- to 12-mile ROW in one week. It also is an effective tool to use in environmentally sensitive areas because it eliminates the use of heavy equipment to perform the work. This method is not typically used to trim trees in residential areas unless safety buffers are used.





## CLEAN UP

FirstEnergy contractors clean up debris following clearing, trimming or aerial saw work. Debris is removed from maintained yards, agricultural fields, access roads and environmentally sensitive areas. In unmaintained forested areas, debris is stacked in piles along the edge of the ROW. This practice is used where appropriate to minimize impacts associated with debris disposal, and also benefits the environment by leaving material for wildlife habitat and nutrient recycling.





## EPA-APPROVED HERBICIDE APPLICATION

Once the ROW is cleared of trees, it is important to take steps to prevent future growth of unwanted trees, shrubs and other incompatible plants. This is most effectively accomplished by using herbicides approved by the Environmental Protection Agency and authorized for use on utility ROW.

The EPA approves these products only after determining they will not adversely affect people, animals or the environment when properly applied. EPA-approved products have undergone significant testing. In fact, some of the products our contractors use are the same as those commonly used by homeowners to control weeds and other vegetation. Herbicide application is the preferred method to control immature trees or brush. Herbicide-control options are determined by terrain, brush height and density, and are designed to control only incompatible vegetation.

While mechanical methods such as cutting and mowing might appear to be less harmful compared with herbicide use, these methods have some disadvantages. For example, cutting and mowing vegetation may have the undesired effect of causing it to grow back thicker and fuller, requiring repeated and more frequent maintenance.

In subsequent years, once the preferred low-growing vegetation becomes dominant, less herbicide is needed for maintenance as incompatible species become less prevalent. Herbicide use also eliminates the need for much more frequent mechanical treatments, like tree trimming and mowing – meaning vegetation management crews are needed less often.

Herbicides also are important vegetation management tools to stop the spread of invasive plant species. Using herbicides helps control weeds and other nuisance plants from overtaking the ROW, and will stop the spread to adjacent areas, including private property.

Herbicides are applied by state-certified applicators, or under the supervision of a certified applicator. Herbicide application methods include individual cut-stump treatments directly applied to the stump; low-volume applications using a backpack spray kit; high-volume applications using off-road vehicles; and in some instances in remote areas and difficult terrain, the use of helicopters to apply an aerial spray. FirstEnergy vegetation managers and contractors are trained and certified in the use of herbicides.



**An EPA-registered herbicide is applied to a freshly-cut stump to prevent regrowth.**

# INSPECTING AND MAINTAINING TRANSMISSION CORRIDORS

Inspections are a key component of FirstEnergy's comprehensive vegetation management program.

Twice a year, helicopters fly low over our transmission line corridors to inspect the condition of the electrical equipment and monitor any ROW encroachments from trees, shrubs or other vegetation.

In addition to the inspections, most of FirstEnergy's transmission corridors are maintained on a five-year cycle, based on expected growth rates. In New Jersey and certain areas of Pennsylvania, the vegetation maintenance work is done every four years. If a helicopter inspection uncovers an issue with a leaning tree or fast-growing vegetation, the problem will be addressed immediately rather than waiting until the next regularly scheduled vegetation management cycle.

During regularly scheduled maintenance cycles, FirstEnergy contractors perform detailed inspections of the corridor and identify areas where tree trimming, tree removal and brush control are required. FirstEnergy's policy is to make every reasonable effort to notify property owners before vegetation management work takes place along a ROW. However, in the event of storms or other emergencies, advance notice may not always be possible.

FirstEnergy employs integrated vegetation management (IVM) techniques, which involve evaluating the ROW to identify incompatible vegetation, the timeframe for control and the evaluation and selection of control options. These options include manual operations, mechanical methods, and the selective use of EPA-approved herbicides. Site characteristics, environmental impact and safety are analyzed to determine the most effective control options. The goal of IVM is to create and sustain stable and compatible vegetation within and along the transmission corridor.

**Before**



**After**



## GUIDELINES FOR PLANTING ON RIGHTS-OF-WAY

Before planting shrubs or other vegetation in or near any ROW, please contact a member of FirstEnergy's transmission forestry staff to determine if the species is compatible.



Remember, it's important to select the right plant for the right location. Planting proper vegetation in and around a ROW can help provide a sustainable and compatible plant community. However, the vegetation must be limited to low-growing plants – such as grasses, herbs and shrubs – that are less than 5 feet high when fully grown. Vegetation also must be planted at least 10 feet away from any pole, tower or guy wire and should not hinder access to the transmission line.

**FirstEnergy foresters plant low-growing milkweed on a ROW as part of a demonstration project to encourage the growth of plant species that could help rejuvenate declining populations of bees, monarch butterflies and other pollinating insects.**

## FirstEnergy customer service phone numbers

During construction projects, FirstEnergy and its affiliates typically develop a project hotline number that can be used to reach the project team directly with questions or concerns. This number is generally provided to all property owners well in advance of construction. If customers need to contact FirstEnergy and a project hotline number is not available, these Customer Service numbers may be used.

| | |
|---|---|
| THE ILLUMINATING COMPANY | 1-800-589-3101 |
| JCP&L | 1-800-662-3115 |
| MET-ED | 1-800-545-7741 |
| MON POWER | 1-800-686-0022 |
| OHIO EDISON | 1-800-633-4766 |
| PENELEC | 1-800-545-7741 |
| PENN POWER | 1-800-720-3600 |
| POTOMAC EDISON | 1-800-686-0011 |
| TOLEDO EDISON | 1-800-447-3333 |
| WEST PENN POWER | 1-800-686-0021 |

Information about FirstEnergy's tree trimming and vegetation management program for its transmission system is available online at www.firstenergycorp.com/help/brochures.html.




COMM8321-12-16-AI-CS
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Energizing the FUTURE

# Piney-Seward 115 kV Transmission Line Rebuild Project

*Enhancing Service Reliability for Penelec Customers*

Mid-Atlantic Interstate Transmission, LLC ("MAIT") is proposing to rebuild the Piney-Seward 115 kV transmission line in Westmoreland, Indiana, Jefferson, Armstrong and Clarion counties to enhance service reliability and accommodate load growth in the area.




## Project Overview

MAIT has determined that the approximately 66-mile-long Piney-Seward 115-kilovolt ("kV") transmission line must be rebuilt due to its physical condition and current design.

The proposed project consists of replacing the existing transmission structures with new steel monopole structures and stringing new line conductor in a six-wire, single-circuit configuration. The new line will be constructed parallel to the existing line to keep the existing line energized while construction is underway. When construction is complete, the existing line will be removed.

The new line will improve service reliability for customers and accommodate existing and future load growth in the area, ensuring the transmission system can continue to serve customer needs adequately, reliably and safely in the future.

PJM, the regional transmission system operator, and the PJM stakeholders have reviewed the proposed project and have assigned the supplemental upgrade identification number s1672. More information about the project can be found at www.pjm.com.

*Continued on back*

COMM9858-06-22-CV
Produced by FirstEnergy's Communications and Branding Department

FirstEnergy

## Line Siting and Approvals

A detailed line route evaluation was completed for this project, and MAIT determined that instead of creating a separate transmission corridor, expanding the existing corridor would lessen the potential impacts to landowners, the community and any sensitive environmental or cultural features.

MAIT will file an application and seek authorization from the Pennsylvania Public Utility Commission ("PaPUC") for this project.

Detailed wetland, stream and other environmental and historical evaluations have been or will be conducted along the existing transmission line corridor in coordination with appropriate governmental agencies. MAIT will obtain all permits required by local, state and federal agencies prior to construction.

## Easements

As proposed, the existing transmission corridor will be expanded to accommodate the project. MAIT will negotiate with property owners to obtain any agreements necessary for additional right-of-way, temporary access roads and vegetation clearing. Company representatives will work closely with local officials and affected landowners to keep them updated on the project.

## Preliminary Project Timeline

Virtual Public Outreach Program ..... July/August 2022

Anticipated Application Submittal Date..... Third Quarter 2023

Anticipated Approval Date ..... First Quarter 2025

Anticipated Construction Start ..... Fourth Quarter 2025

Project Complete & Placed in Service ..... Fourth Quarter 2029

## About Energizing the Future

Through *Energizing the Future*, FirstEnergy is upgrading and strengthening the transmission grid to meet the existing and future needs of our customers and communities. Projects are focused on upgrading or replacing aging equipment to strengthen our transmission infrastructure, reduce outages and cut maintenance costs; enhancing performance by building a smarter, more secure transmission system; and adding flexibility by building in redundancy and allowing system operators to react more swiftly to changing grid conditions.

**For more information, visit firstenergycorp.com/transmission.**

Energizing the FUTURE

FirstEnergy

# MAIT EXHIBIT 10

# Mid-Atlantic Interstate Transmission ("MAIT")
# Piney – Seward Transmission Line Project
# Code of Conduct
# For
# Right-of-Way Agents and Subcontractor Employees

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**Pennsylvania Office of Consumer**
**Advocate 555 Walnut Street**
**5th Floor Forum Place**
**Harrisburg PA 17101-1923**
**717-783-5048**
**1-800-684-6560 (PA Only)**

DRAFT

## CODE OF CONDUCT

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    a. Do provide maps and documents necessary to keep the landowner properly informed
    b. Do not make false or misleading statements.
    c. Do not misrepresent any fact.
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    e. Follow-up in a timely manner on all commitments to provide additional information.
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    h. Do not send written communications suggesting an agreement has been reached when, in fact, an agreement has not been reached.
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    b. When contacting a property owner by telephone, promptly identify yourself as representing MAIT.
    c. Do not engage in behavior that may be considered harassing, coercive, manipulative, intimidating or causing undue pressure.
    d. All communications by a property owner, whether in person, by telephone or in writing, in which the property owner indicates that he or she does not want to negotiate or does not want to give permission for surveying or other work on his or her property, must be respected and politely accepted without argument. Unless specifically authorized by MAIT, do not contact the property owner again regarding negotiations or requests for permission.
    e. When asked to leave property, promptly leave and do not return unless specifically authorized by MAIT.
    f. If discussions with the property owner become acrimonious, politely discontinue the discussion, and withdraw from the situation.

DRAFT

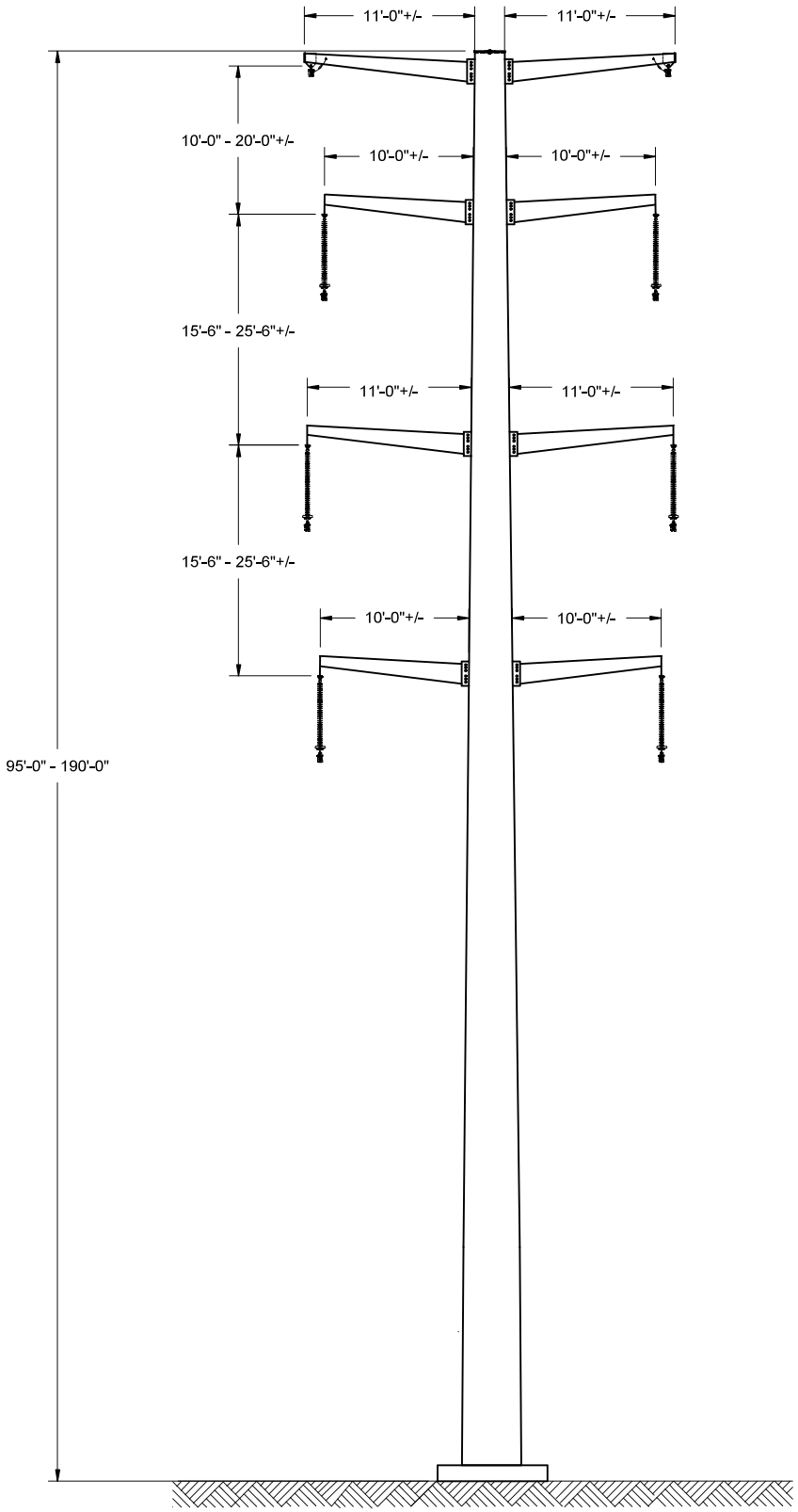
g. Obtain permission to enter property for purposes of surveying or conducting environmental assessments or other activities. Clearly explain to the property owner the scope of the work to be conducted based on the permission given. Attempt to notify the occupant of the property each time you enter the property based on this permission.
h. Do not represent that a relative, neighbor and/or friend have signed a document or reached an agreement with MAIT.
i. Do not ask a relative, neighbor and/or friend of a property owner to convince the property owner to take any action.
j. Do not represent that a relative, neighbor and/or friend supports or opposes the Project.
k. Do not suggest that any person should be ashamed of or embarrassed by his or her opposition to the Project or that such opposition is inappropriate.
l. Do not argue with property owners about the merits of the Project.
m. Do not suggest that an offer is "take it or leave it."
n. Do not threaten to call law enforcement officers or obtain court orders.
o. Do not threaten the use of eminent domain.
p. Do not suggest that MAIT will seek federal authorization to construct the Project.
q. Avoid discussing a property owner's failure to note an existing easement when purchasing the property and other comments about the property owner's acquisition of the property.

**3. All communications and interactions with property owners and/or their representatives of property must respect the privacy of property owners and other persons.**

a. Discussions with property owners and/or their representatives are to remain confidential
b. Do not discuss your negotiations or interactions with other property owners or other persons.
c. Do not ask relatives, neighbors and/or friends to influence the property owner or any other person.
d. Avoid discussions of personal matters about the property owner, others, and yourself.

DRAFT

# MAIT EXHIBIT 11




**PRELIMINARY - NOT FOR CONSTRUCTION**

MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

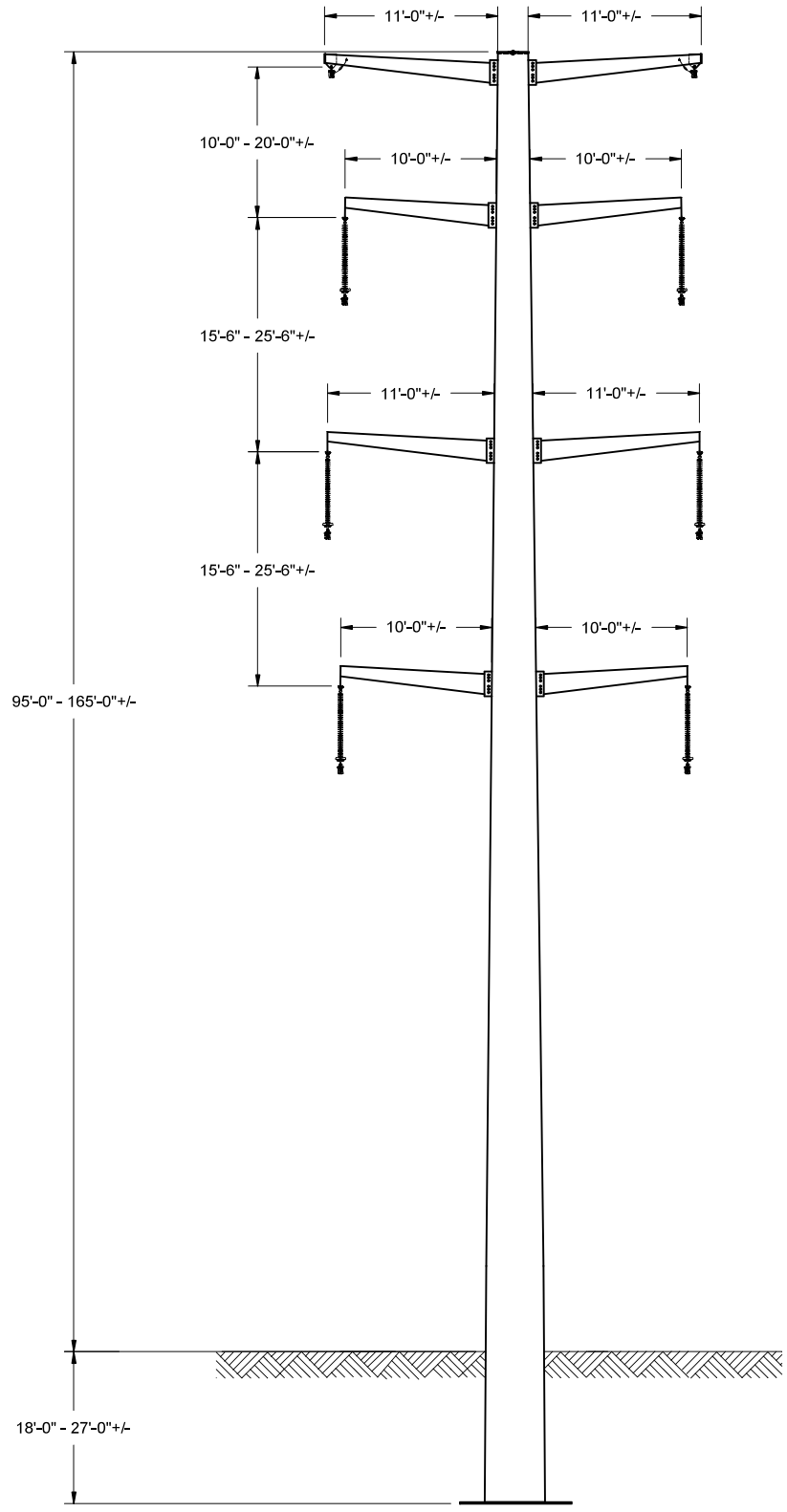
# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE TANGENT

## EXHIBIT 11

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 12




**PRELIMINARY - NOT FOR CONSTRUCTION**

MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

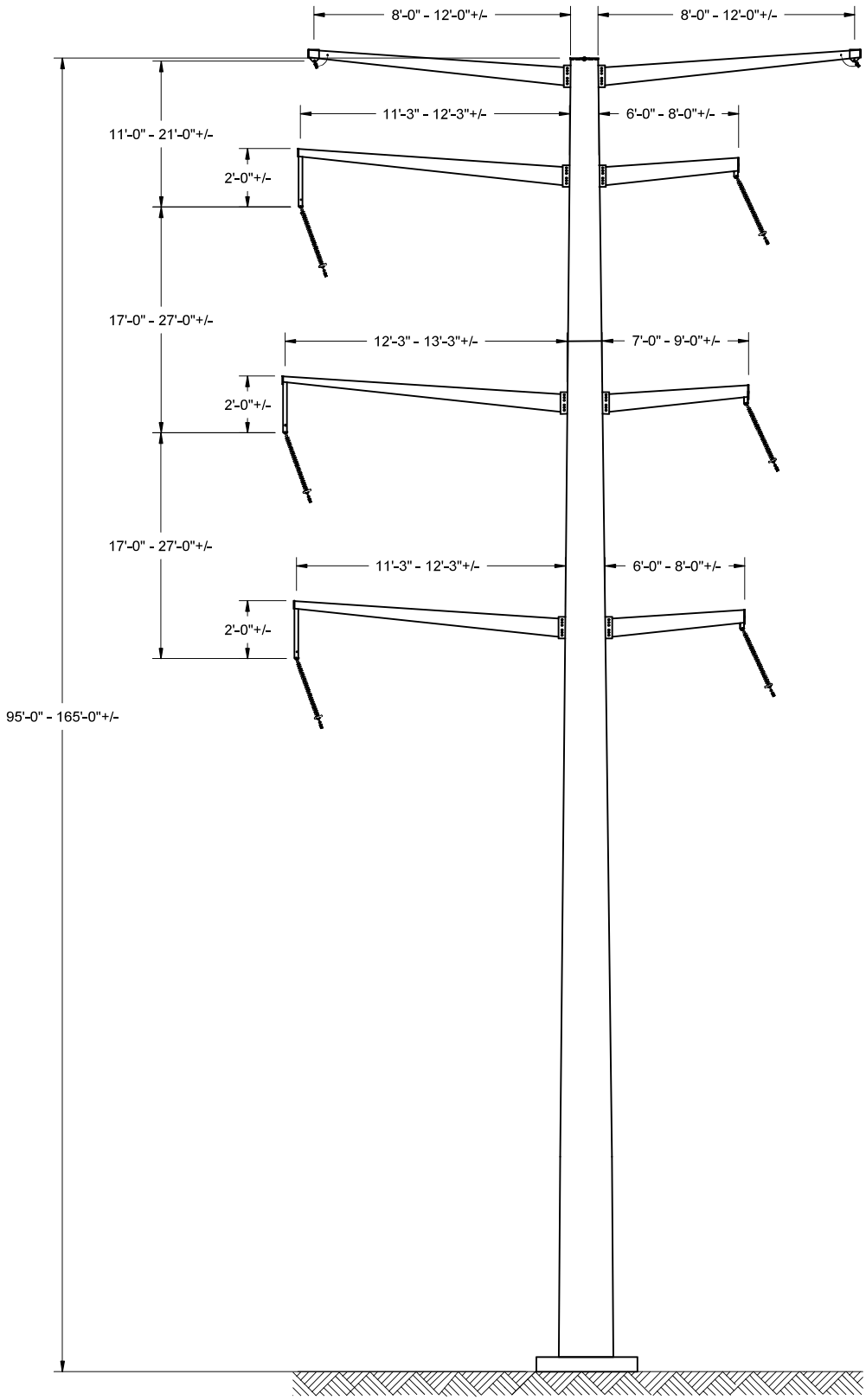
# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE TANGENT DIRECT EMBED

EXHIBIT 12

PAPER SIZE: 8.5X11

SCALE: NTS

# MAIT EXHIBIT 13




**PRELIMINARY - NOT FOR CONSTRUCTION**

MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

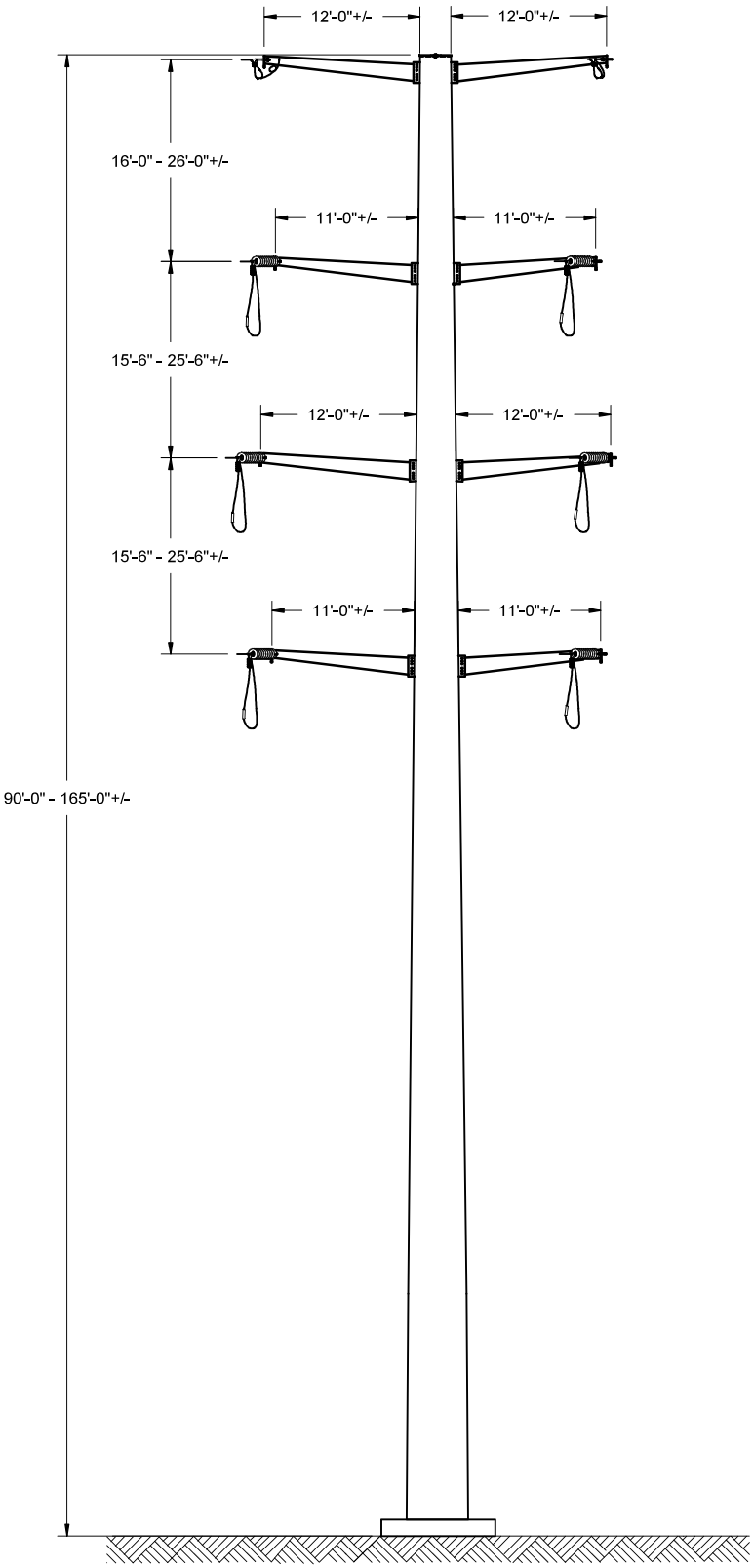
# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE ANGLE

EXHIBIT 13

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 14




**PRELIMINARY - NOT FOR CONSTRUCTION**

MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

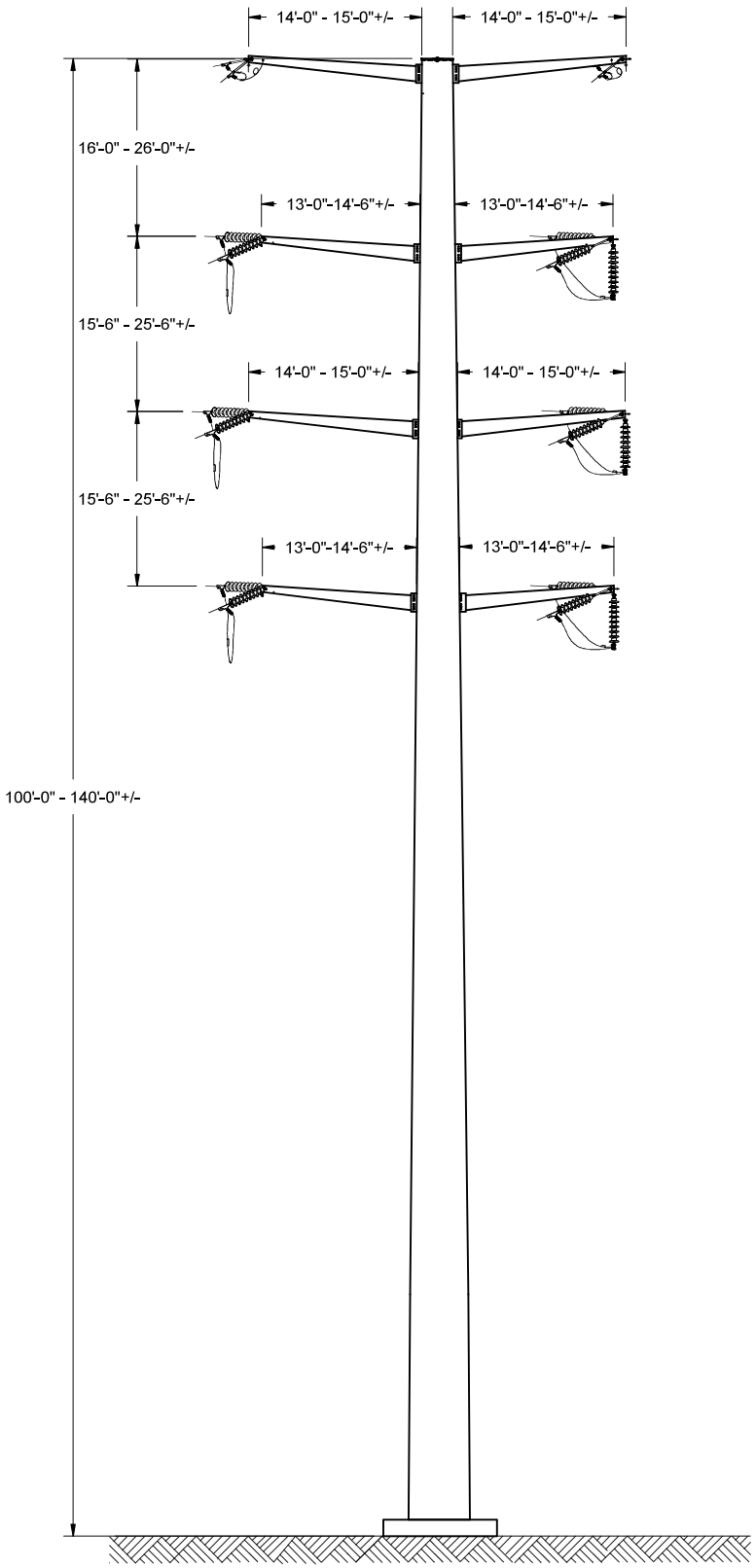
# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE LIGHT ANGLE DEADEND

EXHIBIT 14

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 15




MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE HEAVY ANGLE DEADEND

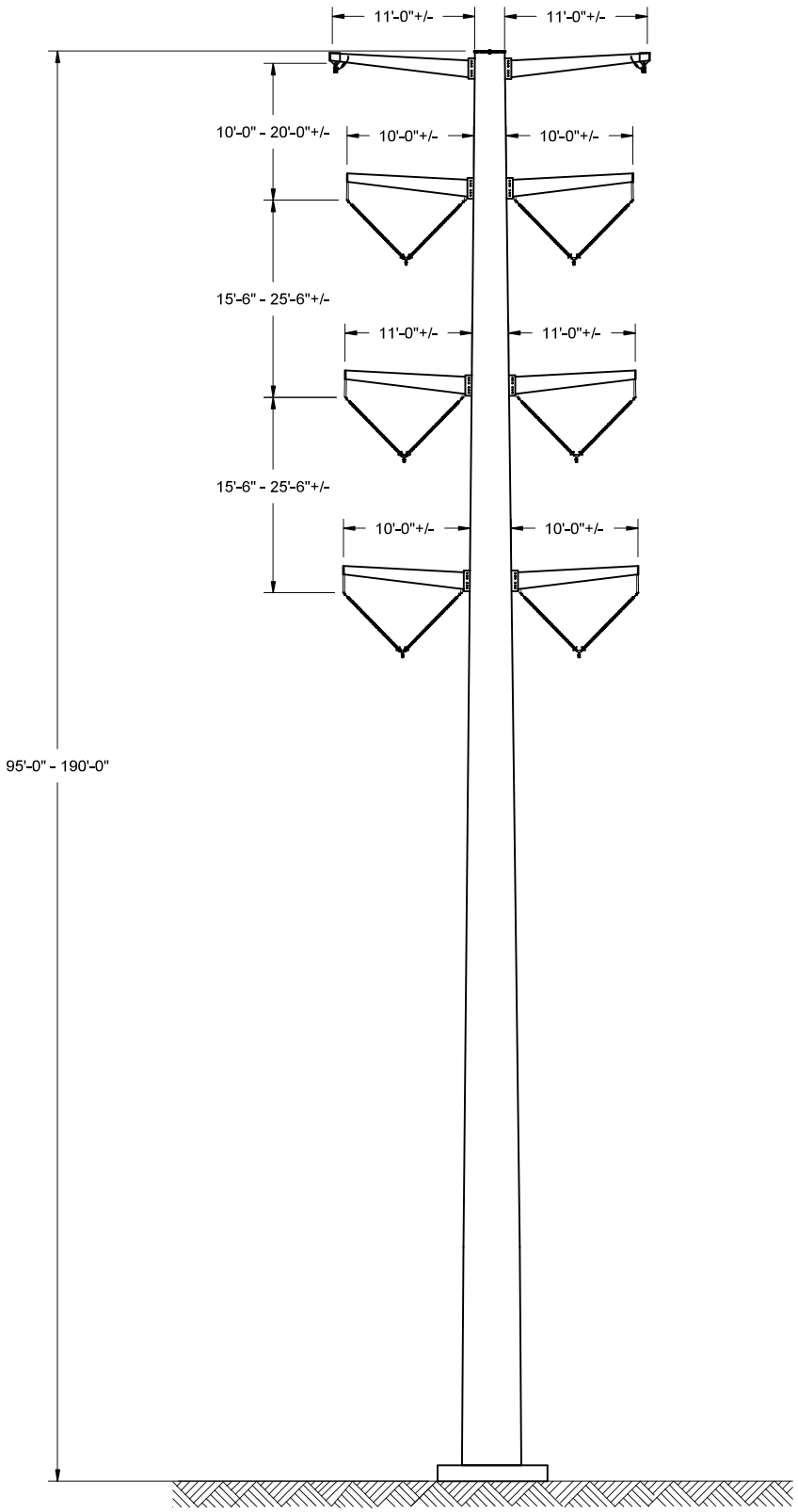
EXHIBIT 15

**PRELIMINARY - NOT FOR CONSTRUCTION**

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 16




MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

# 115KV SINGLE CIRCUIT 6–WIRE STEEL MONOPOLE TANGENT V–STRING

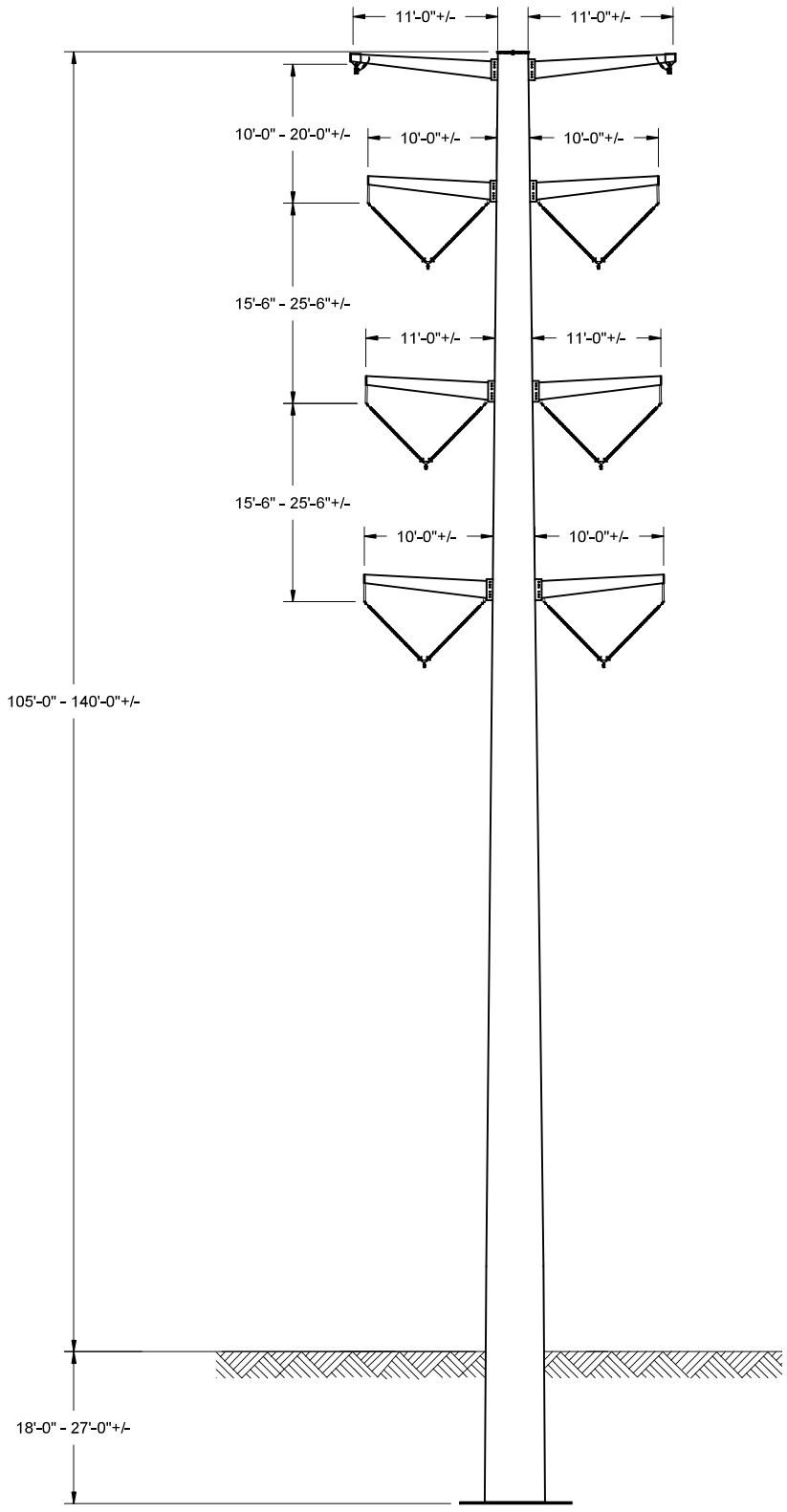
EXHIBIT 16

**PRELIMINARY - NOT FOR CONSTRUCTION**

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 17




MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

115KV SINGLE CIRCUIT 6–WIRE
STEEL MONOPOLE TANGENT V–STRING DIRECT EMBED

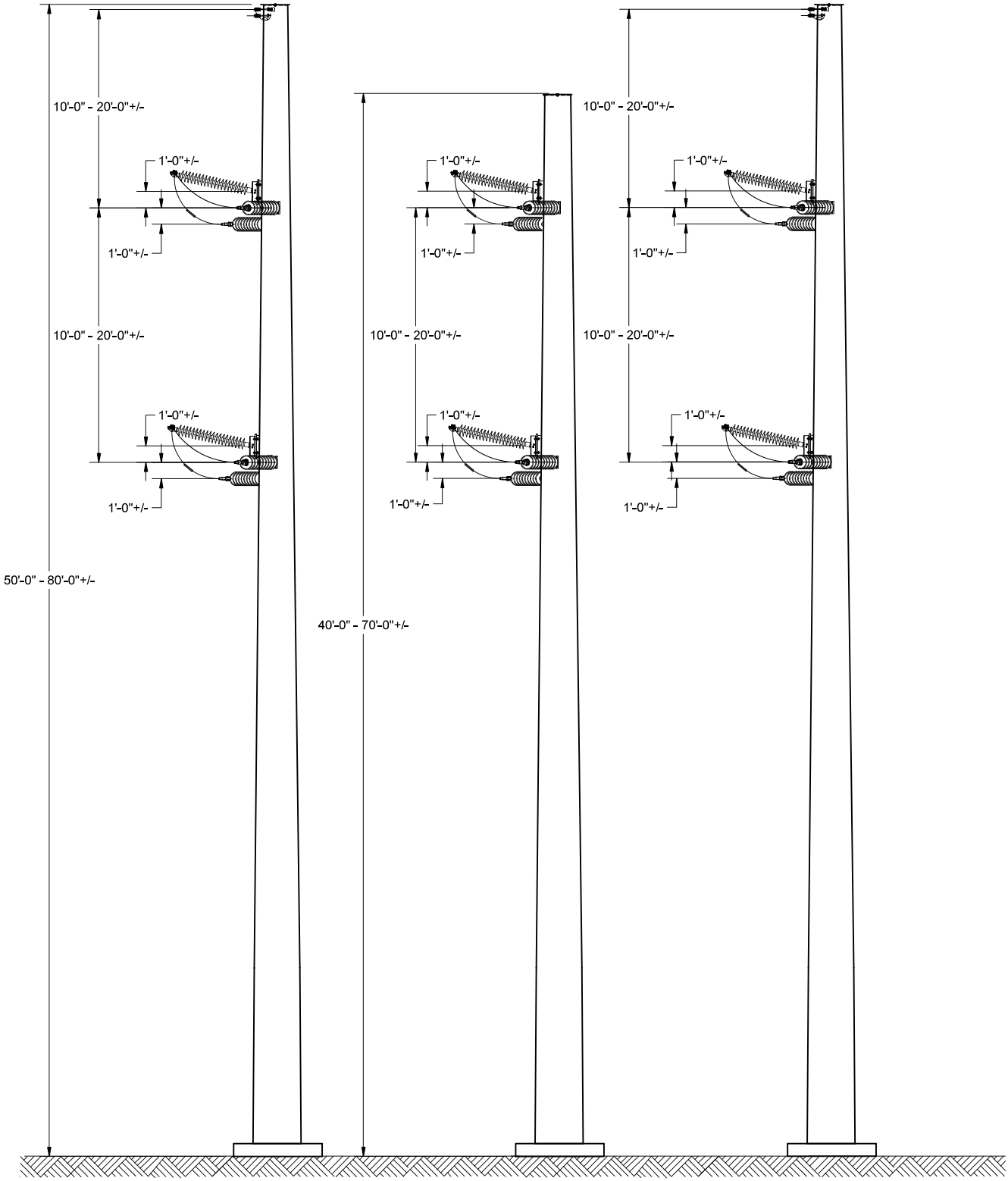
EXHIBIT 17

**PRELIMINARY - NOT FOR CONSTRUCTION**

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 18




MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

# 115KV SINGLE CIRCUIT 6–WIRE STEEL 3–POLE DEADEND

EXHIBIT 18

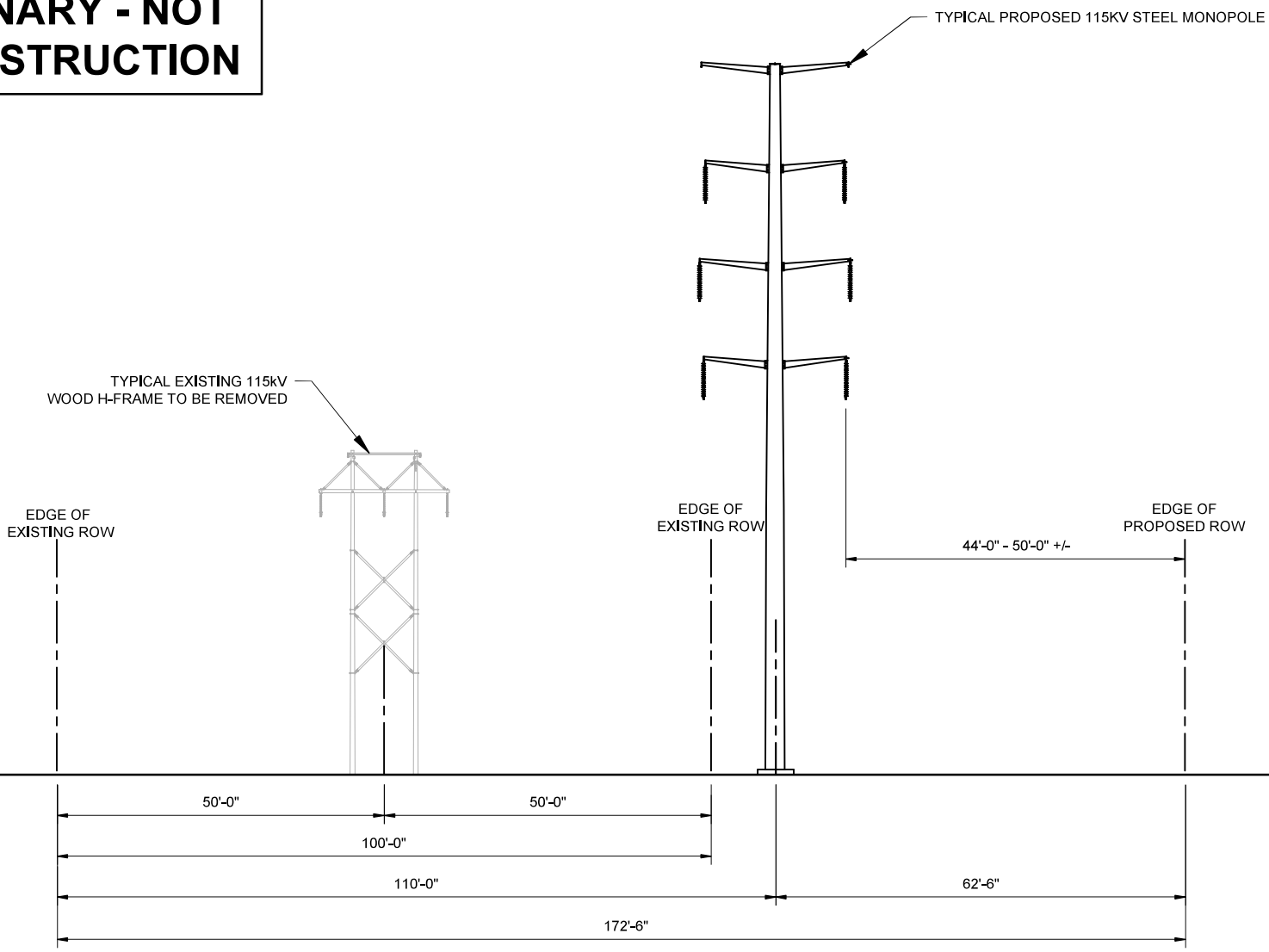
**PRELIMINARY - NOT FOR CONSTRUCTION**

SCALE: NTS

PAPER SIZE: 8.5X11

# MAIT EXHIBIT 19

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL PARALLEL RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING WOOD H-FRAME AND 3 POLE STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED. DIFFERENT STRUCTURES ARE PRESENT AS SITE-SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

PAPER SIZE: 11X8.5

MAIT

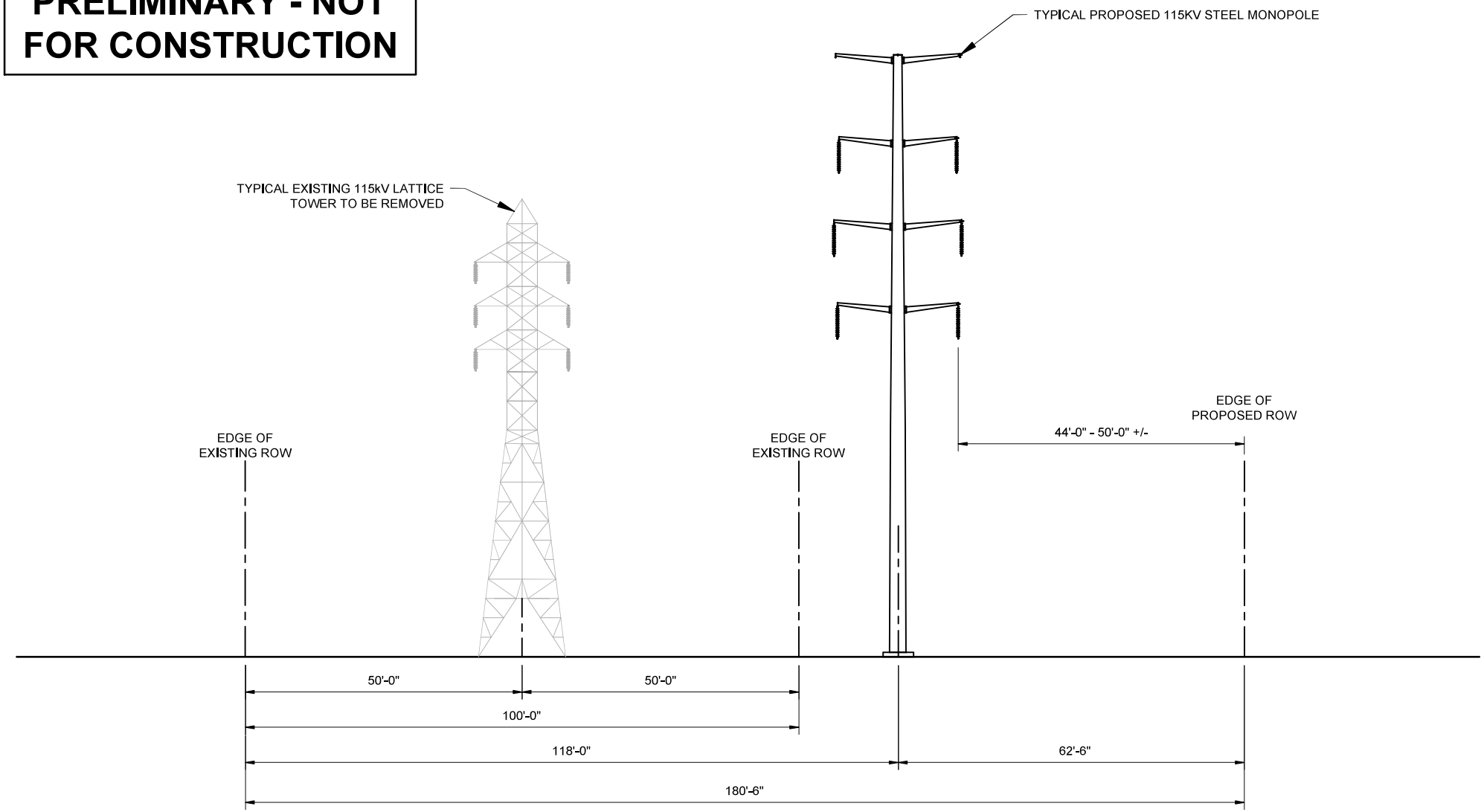
PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION OFFSET OF EXISTING WOOD POLE
TRANSMISSION LINE CENTERLINE WITH EXPANDED RIGHT OF WAY

EXHIBIT 19

# MAIT EXHIBIT 20

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL PARALLEL RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING LATTICE TOWERS STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED. DIFFERENT STRUCTURES ARE PRESENT AS SITE-SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

PAPER SIZE: 11X8.5

MAIT

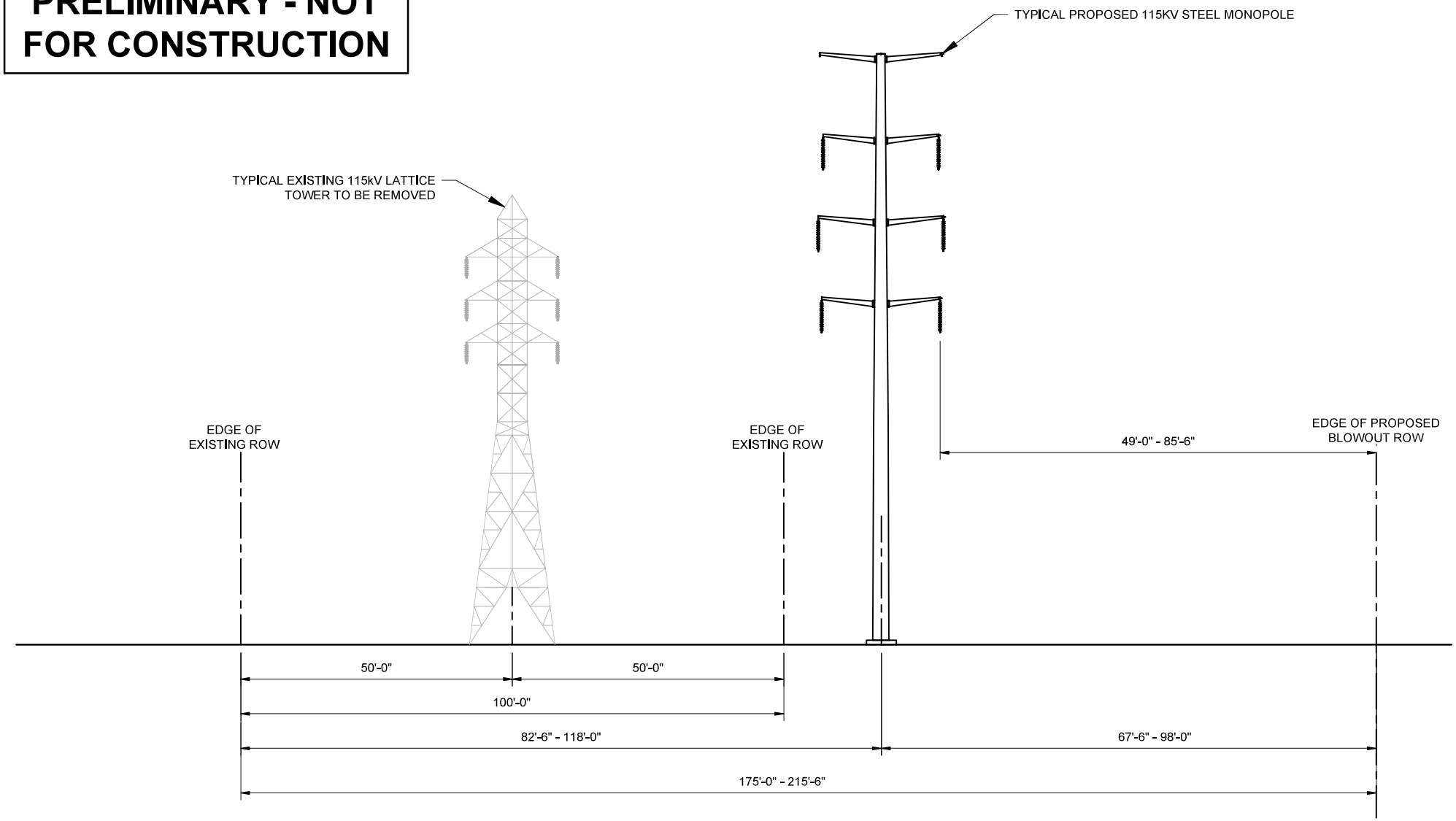
PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION OFFSET OF EXISTING LATTICE TOWER
TRANSMISSION LINE CENTERLINE WITH EXPANDED RIGHT OF WAY

EXHIBIT 20

# MAIT EXHIBIT 21

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL PARALLEL BLOWOUT EXPANDED RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING LATTICE TOWERS STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED DIFFERENT STRUCTURES ARE PRESENT AS SITE-SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

PAPER SIZE: 11X8.5

MAIT

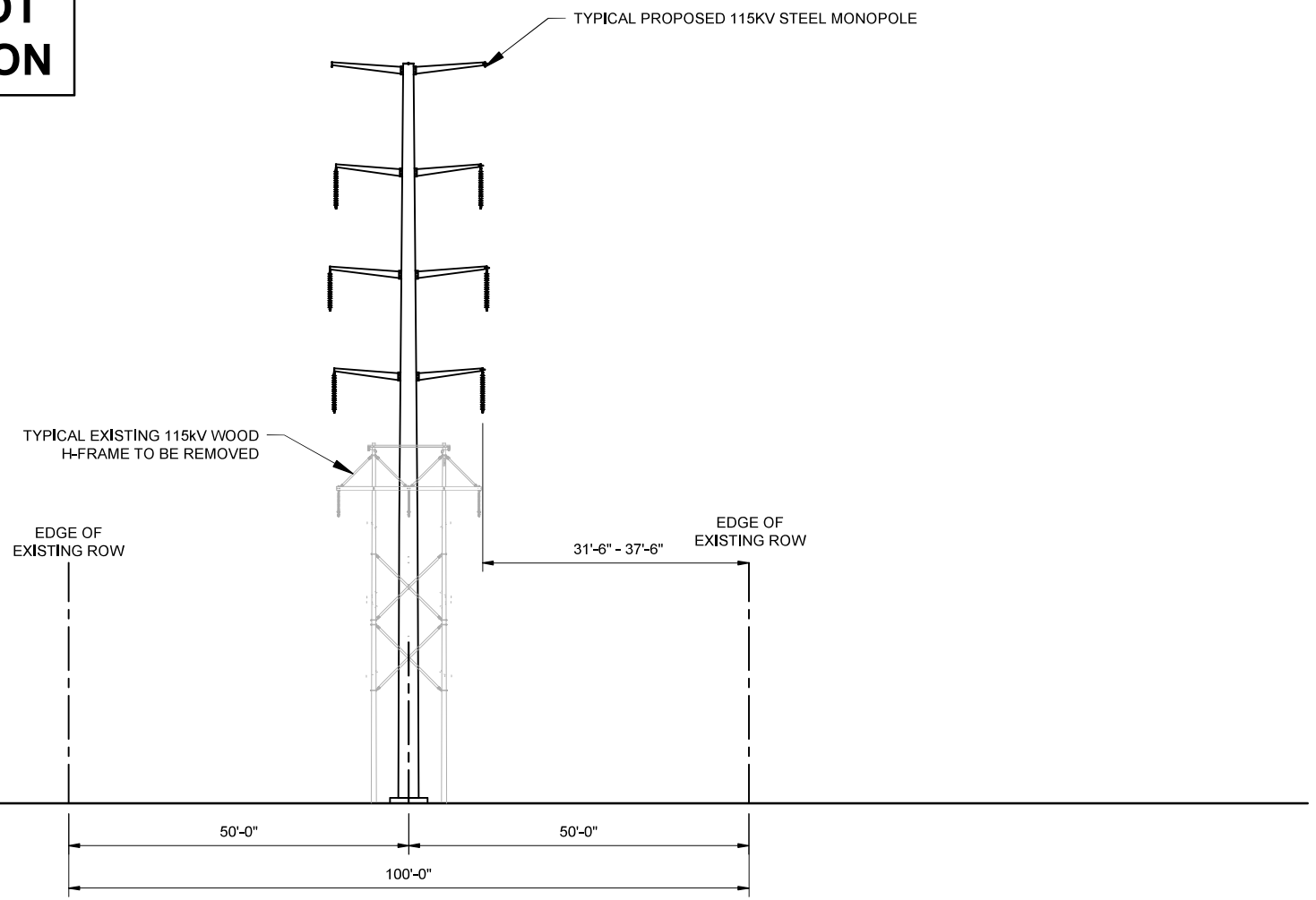
PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION OFFSET OF EXISTING LATTICE TOWER
TRANSMISSION LINE CENTERLINE WITH EXPANDED BLOWOUT RIGHT OF WAY

EXHIBIT 21

# MAIT EXHIBIT 22

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL EXISTING RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING WOOD H-FRAME AND 3 POLE STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED. DIFFERENT STRUCTURES ARE PRESENT AS SITE-SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

PAPER SIZE: 11X8.5

MAIT
MID-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

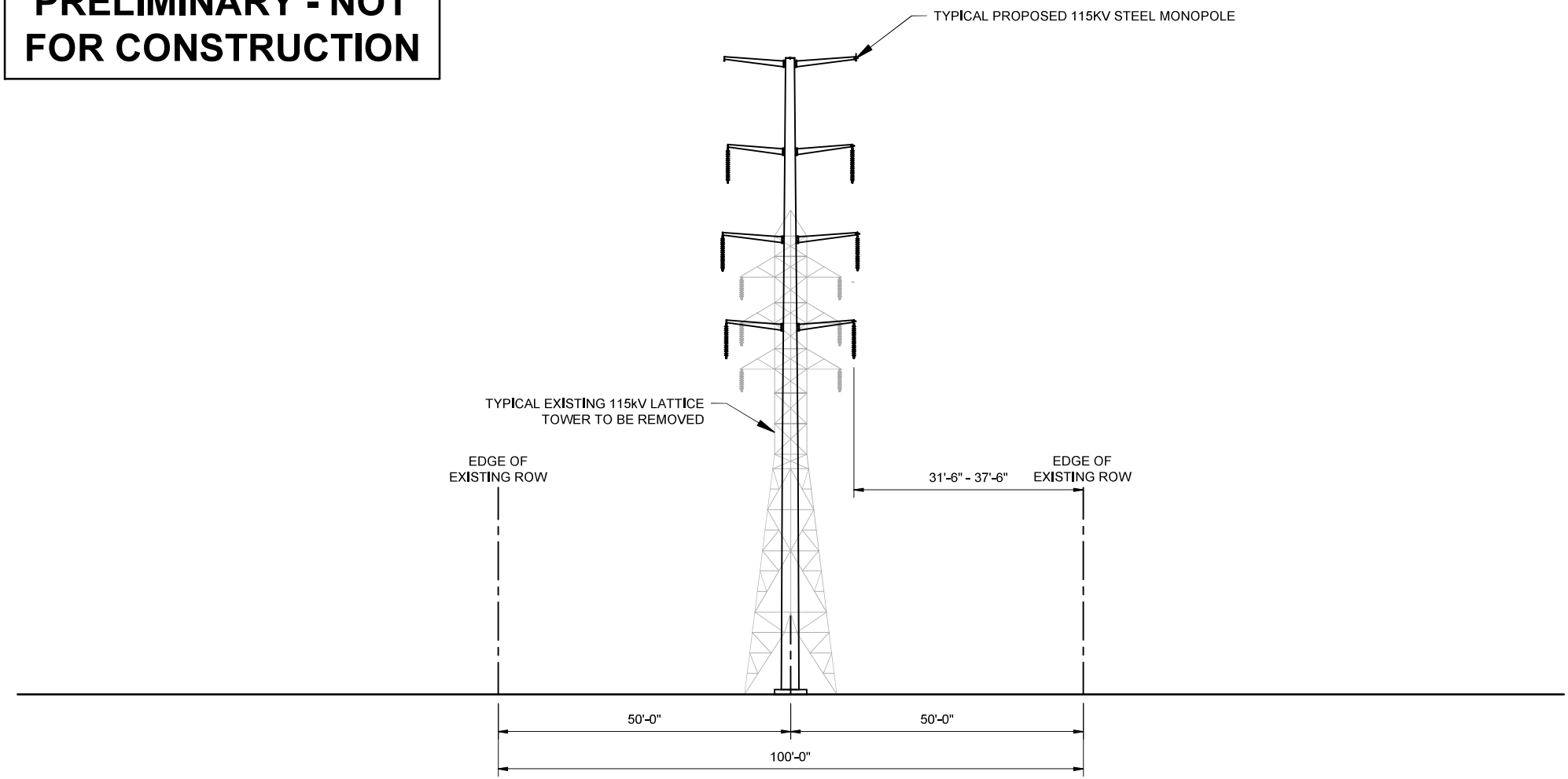
PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION ON EXISTING
WOOD POLE TRANSMISSION LINE CENTERLINE

EXHIBIT 22

# MAIT EXHIBIT 23

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL EXISTING RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING LATTICE TOWERS STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED. DIFFERENT STRUCTURES ARE PRESENT AS SITE -SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

PAPER SIZE: 11X8.5

MAIT

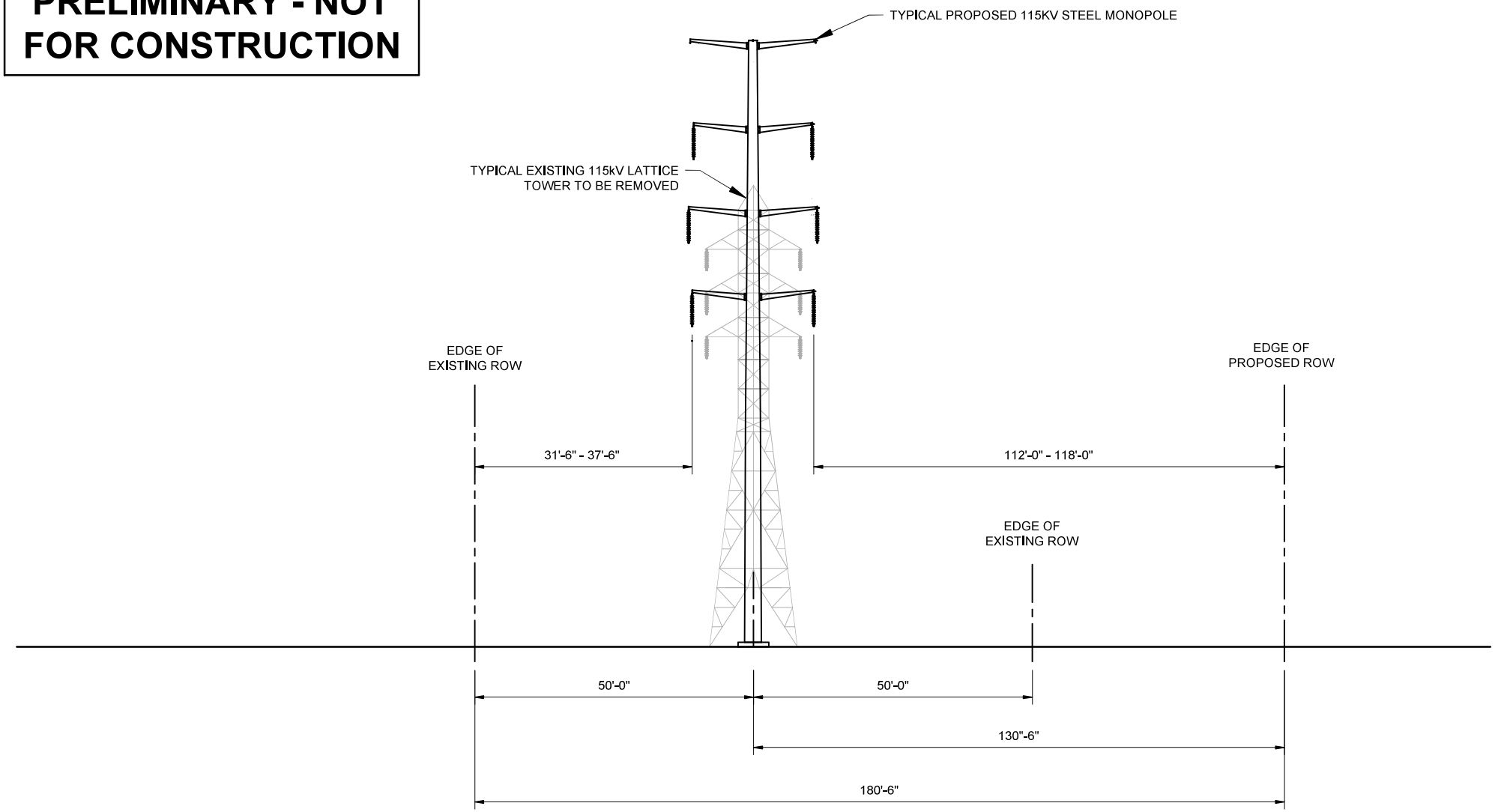
PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION ON EXISTING
LATTICE TOWER TRANSMISSION LINE CENTERLINE

EXHIBIT 23

# MAIT EXHIBIT 24

**PRELIMINARY - NOT FOR CONSTRUCTION**




NOTES:
1. EXHIBIT IS REPRESENTATIVE OF TYPICAL EXISTING RIGHT OF WAY CONSTRUCTION AT LOCATIONS WHERE EXISTING LATTICE TOWERS STRUCTURES ARE PRESENT. EXCEPTIONS ARE PRESENT RESULTING IN NARROW OR WIDER TOTAL ROW WIDTH.
2. TYPICAL PROPOSED SINGLE CIRCUIT 6-WIRE 115KV STEEL MONOPOLE TANGENT DISPLAYED. DIFFERENT STRUCTURES ARE PRESENT AS SITE -SPECIFIC CONDITIONS REQUIRE DIFFERENT CONFIGURATIONS.

**NOT TO SCALE

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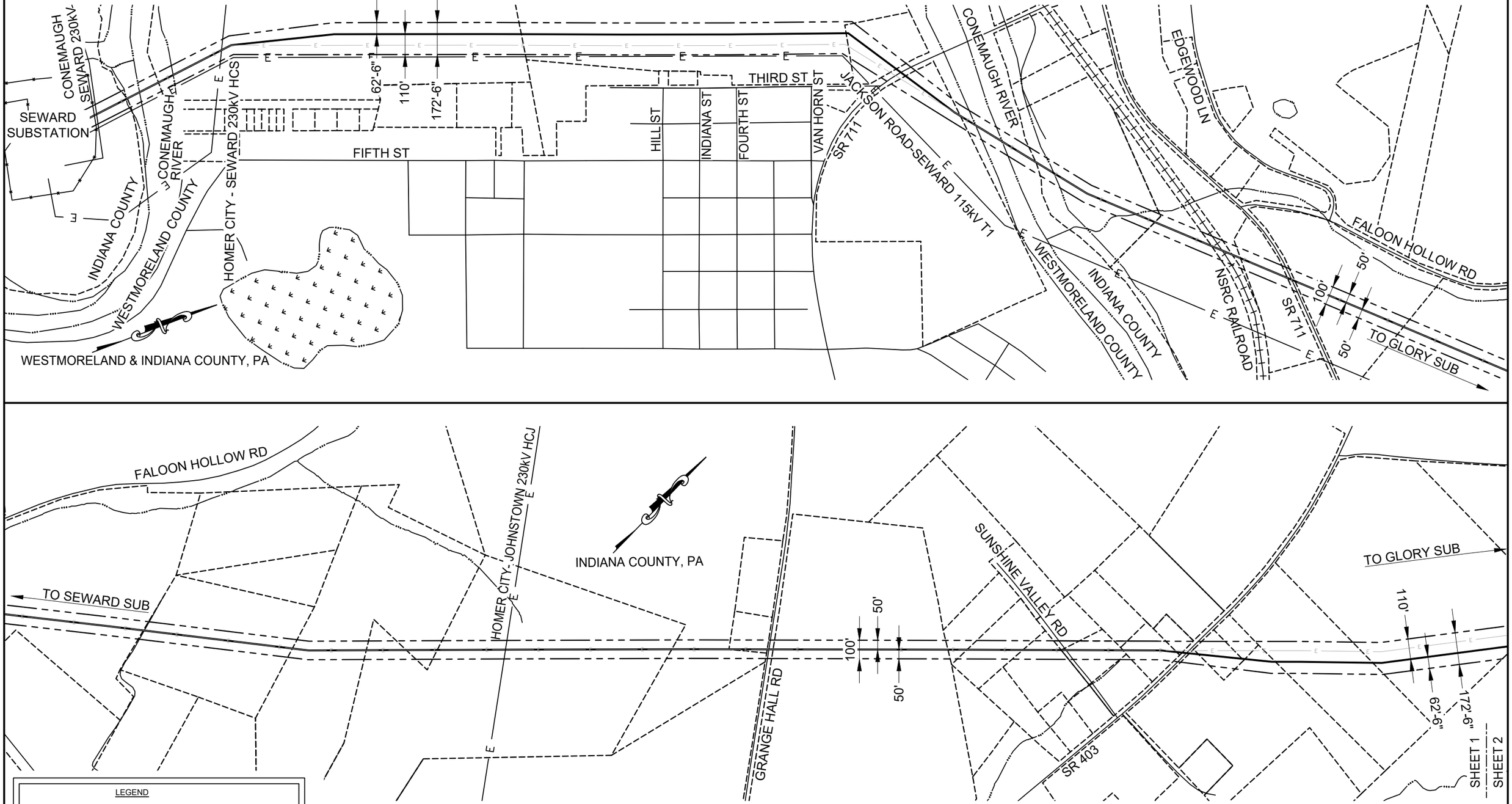
MAIT

PINEY–SEWARD 115kV
TRANSMISSION LINE REBUILD PROJECT

TYPICAL CROSS SECTION
PROPOSED CONSTRUCTION ON EXISTING LATTICE TOWER
TRANSMISSION LINE CENTERLINE WITH EXPANDED RIGHT OF WAY

EXHIBIT 24

# MAIT EXHIBIT 25




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

PAPER SIZE: 17X11

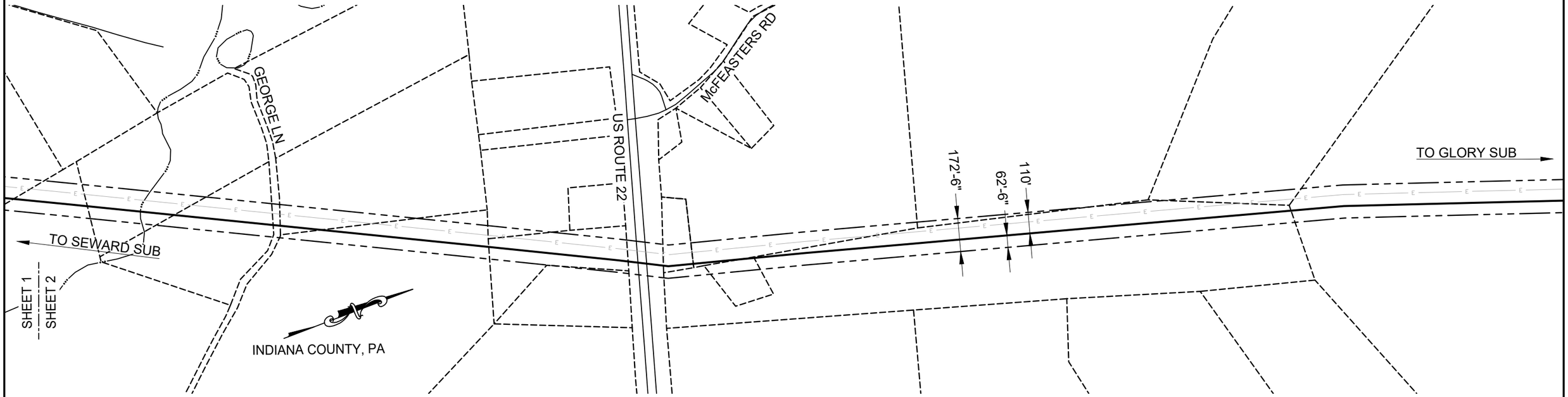
WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

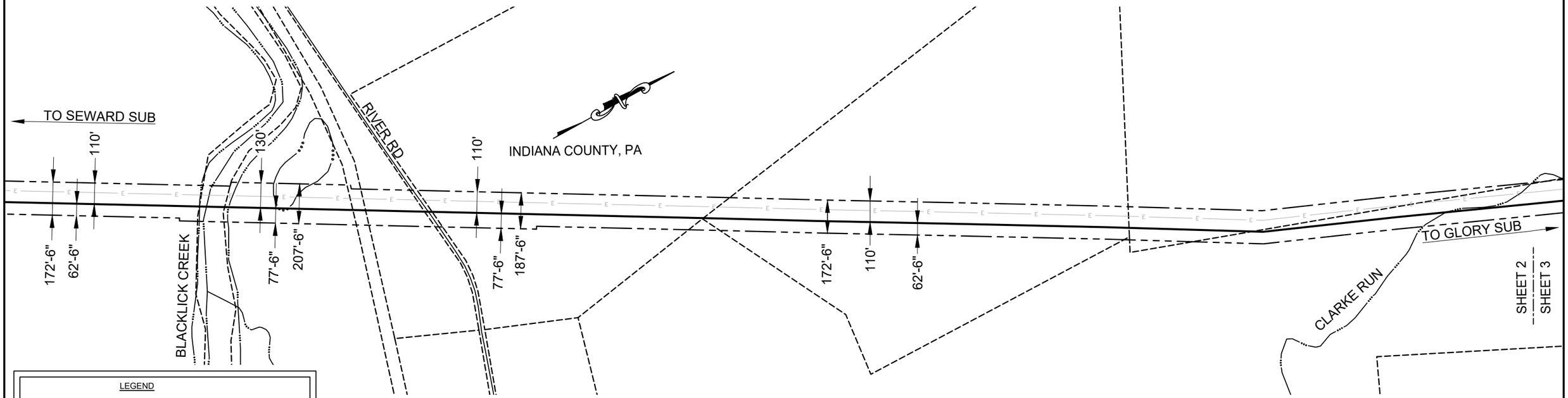
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 1 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 2 OF 23)

INDIANA COUNTY, PA

TO SEWARD SUB

86250'

55000'

31250'

SHEET 2

SHEET 3

CLARKE RUN

TO GLORY SUB

SR 403

INDIANA COUNTY, PA

TO SEWARD SUB

BARKLEY CHURCH RD

86250'

55000'

31250'

SR 403

65000'

TO GLORY SUB

SHEET 3

SHEET 4

PYER RD

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 3 OF 23)

STEWART HOLLOW RD

INDIANA COUNTY, PA

CAMERONS RD

TO SEWARD SUB

TO GLORY SUB

172'-6"

62'-6"

110'

SHEET 3

SHEET 4

UPPER LAUREL RD

SR 403

SR 403

SCHULTZ RD

SHORTCUT RD

INDIANA COUNTY, PA

172'-6"

62'-6"

110'

DEER LN

SHEET 4

SHEET 5

TO SEWARD SUB

TO GLORY SUB

SR 403

CHESTNUT LN

US ROUTE 422

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- E — EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 4 OF 23)

HEMCOCK RD

TO SEWARD SUB

SHEET 4

SHEET 5

COUNTRY MEADOWS LN

86251'-6"

55000'

31250'

MALLOY HOLLOW RD

187'-6"

110'

77'-6"

INDIANA COUNTY, PA

TO GLORY SUB

55000'

31250'

86250'

LITTLE YELLOW CREEK

CAMERON BOTTOM RD

TO SEWARD SUB

LITTLE YELLOW CREEK

INDIANA COUNTY, PA

86250'

55000'

31250'

SHEET 5

SHEET 6

TO GLORY SUB

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 5 OF 23)

PINETON RD

SR 403

86250'

55000'

31250'

TO SEWARD SUB

TO GLORY SUB

SHEET 5

SHEET 6

INDIANA COUNTY, PA

CONEMAUGH-JUNIATA 500kV 5005 LINE

JUNIATA-KEYSTONE 500kV 5004 LINE

100'

50'

50'

TOWER HILL RD

YELLOW CREEK

SR 553

GLORY SUBSTATION

GLORY STATION RD

SHEET 6

SHEET 7

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

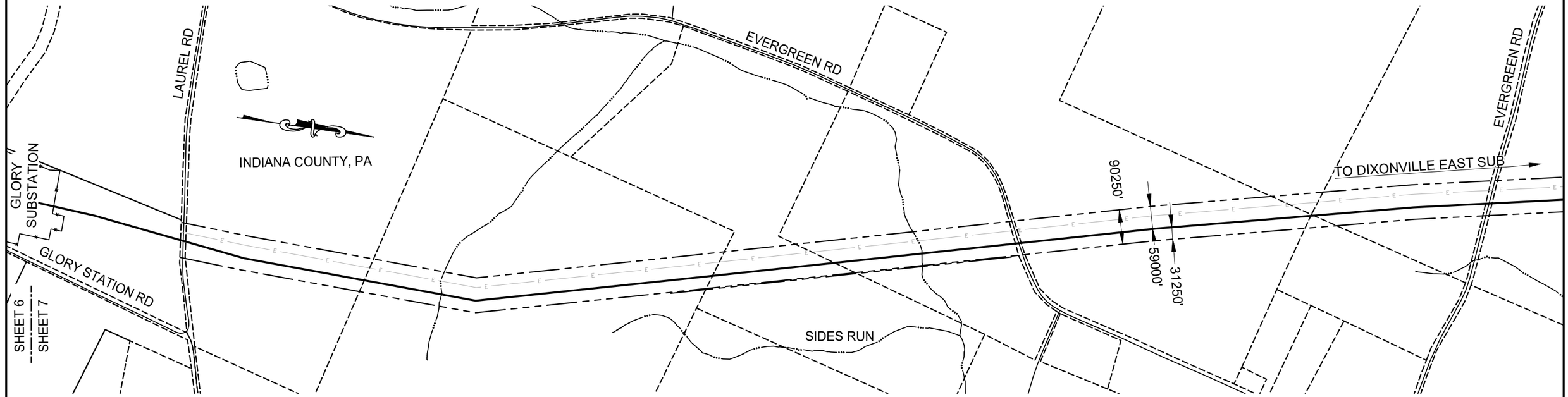
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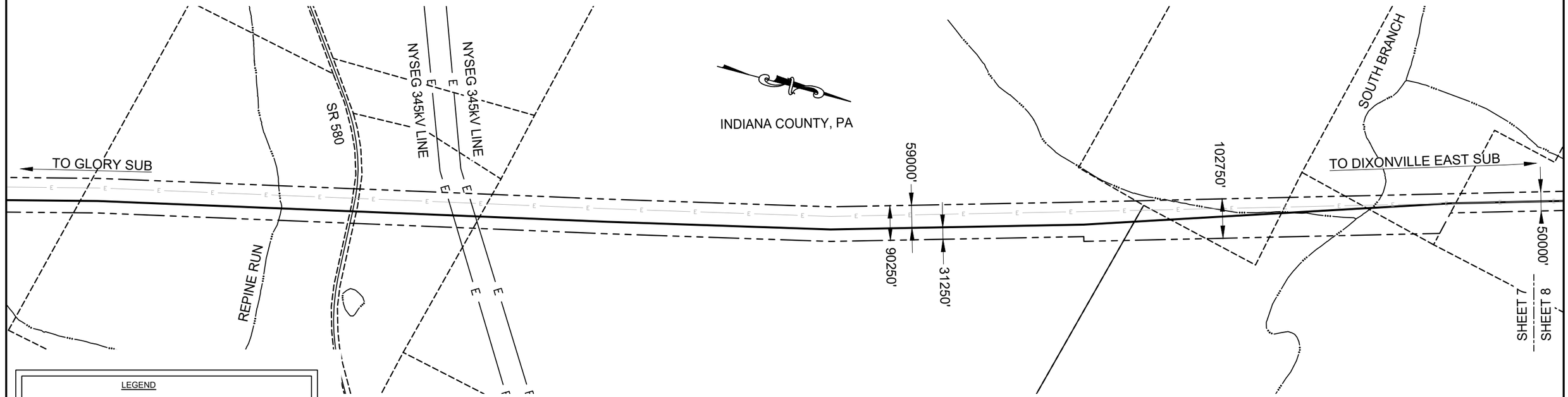
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 6 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

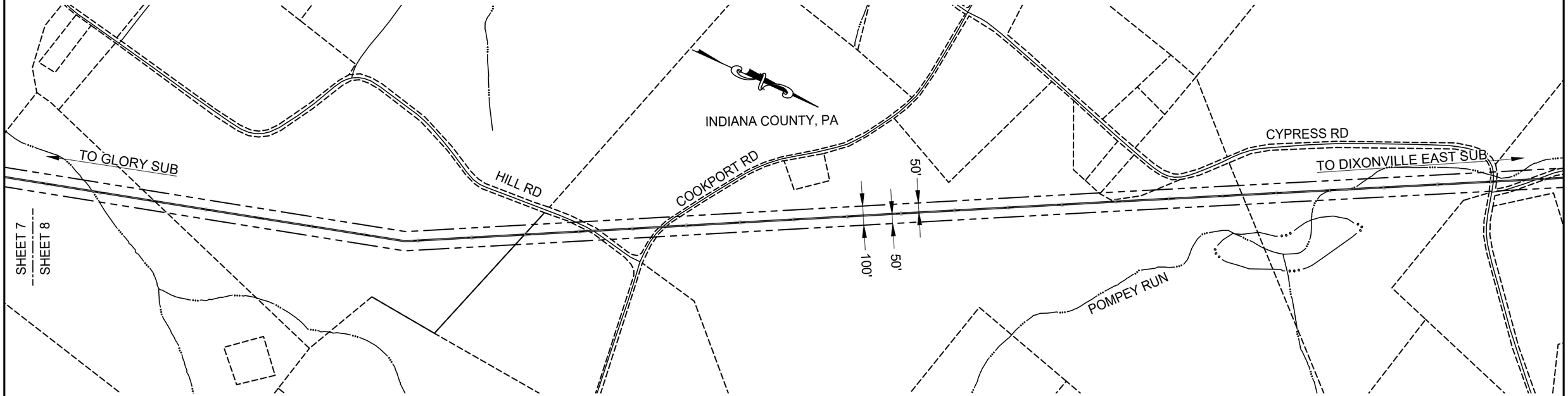
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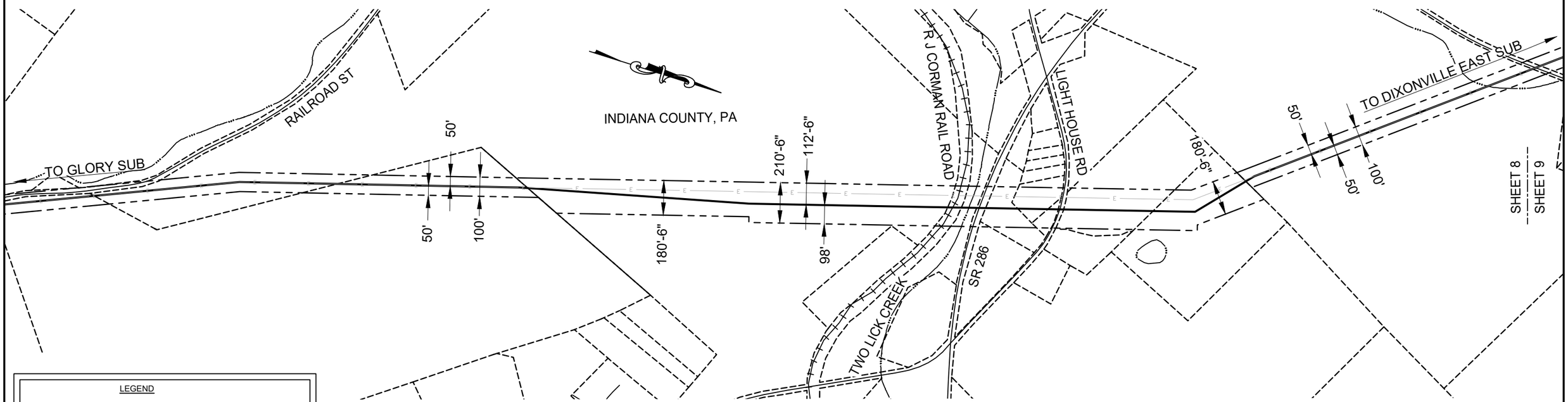
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 7 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- E — EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 8 OF 23)

SHEET 8
SHEET 9

INDIANA COUNTY, PA

TO GLORY SUB

100'
50'
50'

HOLLY RD

NORTH BRANCH

BEECH RD

RASPBERRY RD

87'-6"
175'
87'-6"

TO DIXONVILLE EAST SUB

RASPBERRY RD

PURCHASE LINE RD

INDIANA COUNTY, PA

60'

TO GLORY SUB

DIXONVILLE
EAST
SUBSTATION

50'
100'

SHEET 9
SHEET 10

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

PAPER SIZE: 17X11

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 9 OF 23)

DIXON RUN

ASH RD

INDIANA COUNTY, PA

DIXONVILLE EAST SUBSTATION

118'

200'-6"

82'-6"

180'-6"

118'

62'-6"

200'-6"

DIXON RUN

DIXONVILLE RD

TO TRADE CITY SUB

SHEET 9

SHEET 10

POPLAR RD

LORAINE RD

RAYNE RUN RD

INDIANA COUNTY, PA

TO DIXONVILLE EAST SUB

80'-6"

205'-6"

180'-6"

118'

62'-6"

190'-6"

118'

72'-6"

118'

180'-6"

62'-6"

TO TRADE CITY SUB

SHEET 10

SHEET 11

LORAINE RD

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 10 OF 23)

DECKERS POINT RD

TO DIXONVILLE EAST SUB

180'-6"

118'

62'-6"

SHEET 10

SHEET 11

PICKERING RUN

INDIANA COUNTY, PA

MILLER LN

RICHMOND RD

TO TRADE CITY SUB

HASTINGS RD

90250'

59000'

31250'

TO DIXONVILLE EAST SUB

25000'

65236'-6"

90250'

PICKERING RUN

OLSAON RD

INDIANA COUNTY, PA

TO TRADE CITY SUB

SHEET 11

SHEET 12

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 11 OF 23)

NORFOLK SOUTHERN RAIL ROAD

PICKERING RUN

INDIANA COUNTY, PA

JOHNSTON RD

POLLOCK RD

TO DIXONVILLE EAST SUB

TO TRADE CITY SUB

180'-6"

118'

62'-6"

100250'

59000'

41250'

GILGAL RD

PICKERING RUN

US ROUTE 119

SHEET 11

SHEET 12

POLLOCK RD

POLLOCK RD

POLLOCK RD

FRANKLIN RD

TO DIXONVILLE EAST SUB

TO TRADE CITY SUB

90250'

59000'

31250'

MUDLICK RUN

INDIANA COUNTY, PA

SHEET 12

SHEET 13

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 12 OF 23)

TO DIXONVILLE EAST SUB

180'-6"
118'
62'-6"

92'-6"
210'-6"
118'

62'-6"
118'
180'-6"

TO TRADE CITY SUB

SHEET 12
SHEET 13

SR 210

INDIANA COUNTY, PA

WHITAKER RD

GAHAGAN RD

INDIANA COUNTY, PA

WHITE OAK RD

LITTLE MAHONING CREEK

TO DIXONVILLE EAST SUB

100'
50'
50'

62'-6"
118'
180'-6"

TRADE CITY
SUBSTATION

BRINK RD

SHEET 13
SHEET 14

ALABRAN RD

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- E — EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

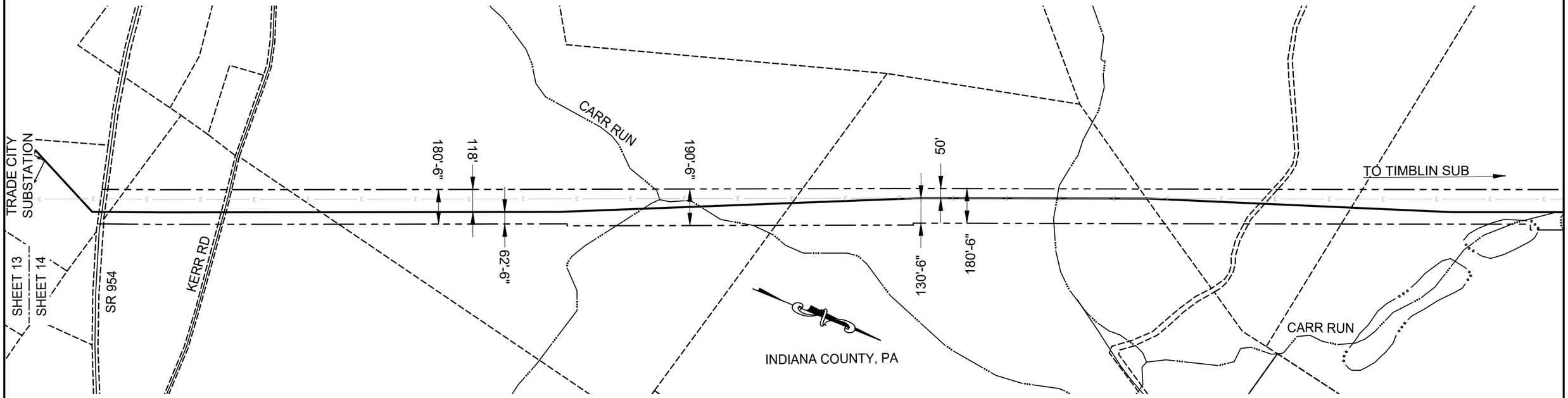
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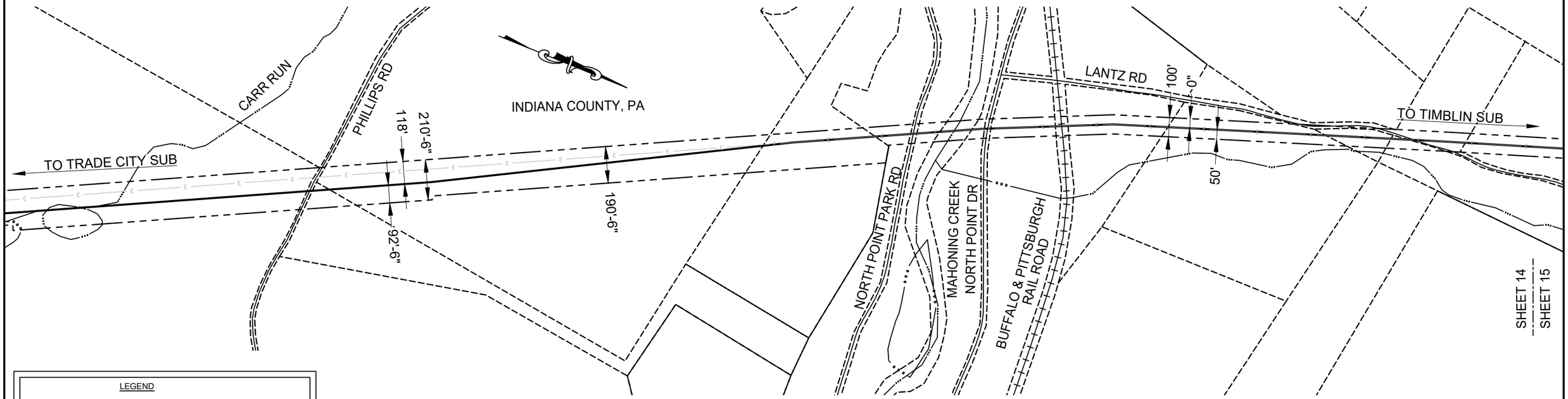
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 13 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

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MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 14 OF 23)

TO TRADE CITY SUB

50'
50'
100'

LANTZ RD

SHEET 14
SHEET 15

INDIANA COUNTY
JEFFERSON COUNTY

HUBER RD

180'-6"
118'
62'-6"

215'-6"

HAMILTON RUN

BARNETT HOLLOW RD

TO TIMBLIN SUB

180'-6"

INDIANA & JEFFERSON
COUNTY, PA

TO TRADE CITY SUB

50'
130'-6"
180'-6"

HAMILTON
PORTER RD

180'-6"
118'
62'-6"

PORTER RD

JEFFERSON COUNTY, PA

118'
190'-6"
72'-6"

TO TIMBLIN SUB

180'-6"
118'
62'-6"

SHEET 15
SHEET 16

KELSEY RD

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

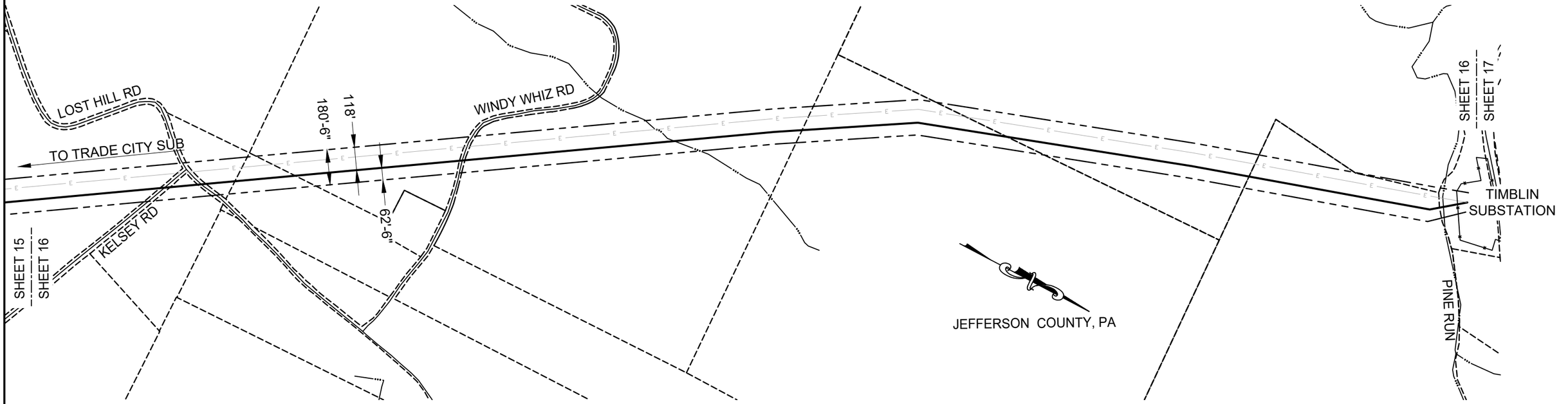
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MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 15 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 16 OF 23)

TIMBLIN SUBSTATION

PITTSBURGH & SHAWMUT RAIL ROAD

180'-6"
62'-6"
118'

210'-6"
92'-6"
118'

RINGGOLD TIMBLIN RD

ORCHARD RD

EAGLE RUN

REED RD

180'-6"
62'-6"
118'

TO PINEY SUB

SHEET 16

SHEET 17

JEFFERSON COUNTY, PA

TO TIMBLIN SUB

72'-6"
118'
190'-6"

SCHRECKENGOST RD

PAINTER RUN

SHERRY HOLLOW

180'-6"
118'
62'-6"

TO PINEY SUB

180'-6"
118'
62'-6"

SNYDER RD

SHEET 17

SHEET 18

JEFFERSON COUNTY, PA

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- E — EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

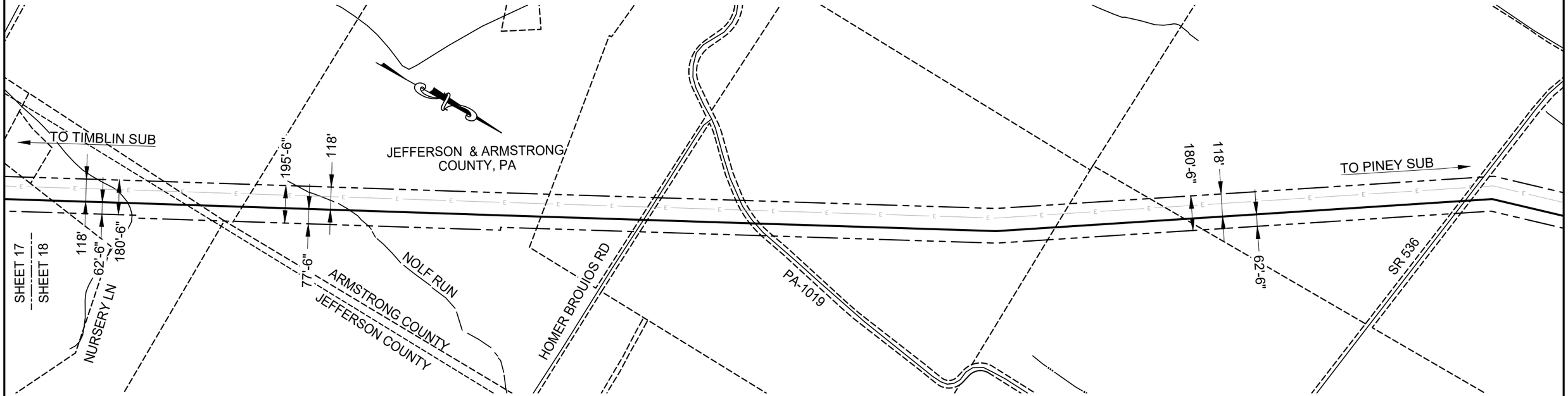
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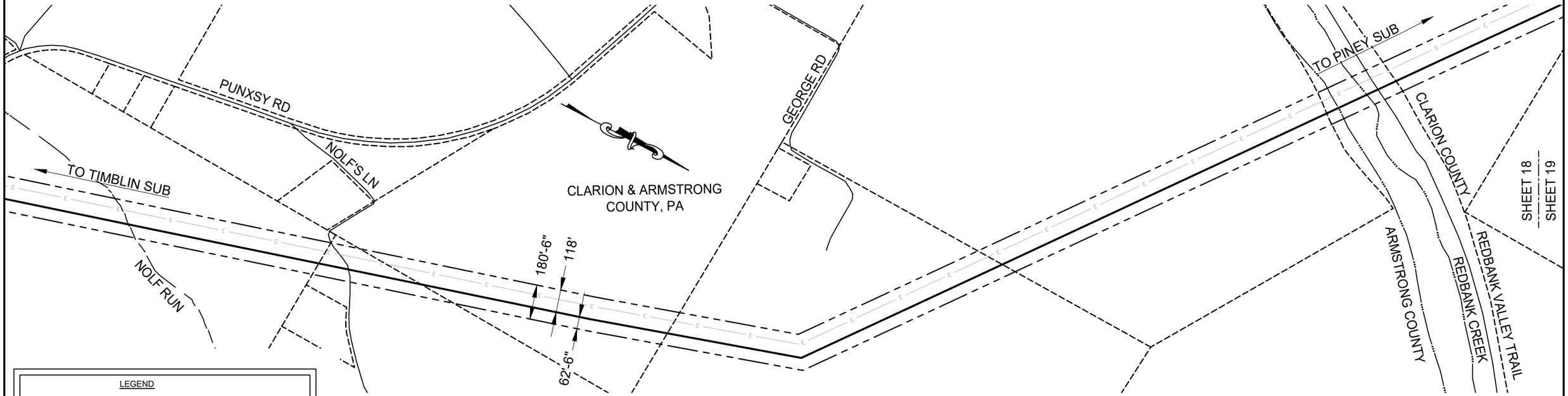
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 17 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 18 OF 23)

SHEET 18
SHEET 19

DAIRY RD

CLARION COUNTY, PA

TO TIMBLIN SUB

180'-6"
118'
62'-6"

SR 28

PINE CREEK

ARMSTRONG BROOKVILLE 138KV NBB

PINE RUN RD

195'-6"
77'-6"
118'

TO PINEY SUB

180'-6"
62'-6"
118'

FROST HILL RD

WINDMILL RD

CLARION COUNTY, PA

TO TIMBLIN SUB

180'-6"
118'
62'-6"
210'-6"
118'
92'-6"

180'-6"
118'
62'-6"

TRUITSBURG RD

TOWN RUN

TO PINEY SUB

SHEET 19
SHEET 20

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

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MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 19 OF 23)

SHEET 19
SHEET 20

TO TIMBLIN SUB

180'-6"
118'
62'-6"

TOWER RD

CLARION COUNTY, PA

WINDMILL RD

PUMPTOWN RD

TOWN RUN

180'-6"
62'-6"
118'

TO PINEY SUB

SR 66

CLARION COUNTY, PA

OLEAN TRAIL

TO TIMBLIN SUB

210'-6"
92'-6"
118'

180'-6"
62'-6"
118'

SCHOOL HOUSE RD

SWITZER RD

TO PINEY SUB

SHEET 20
SHEET 21

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 20 OF 23)

SHEET 20
SHEET 21

TO TIMBLIN SUB

SLOAN RUN

STONY RD

118'

62'-6"

180'-6"

CLARION COUNTY, PA

SLOAN RUN

MCMAHAN RD

STONY RD

MCCLUNE RD

SMATHERS RD

TO PINEY SUB

PARSONS RUN

TO TIMBLIN SUB

62'-6"

180'-6"

118'

67'-6"

185'-6"

118'

62'-6"

180'-6"

118'

CLARION COUNTY, PA

SLOAN RUN

DEER HOLLOW RD

215'-6"

97'-6"

118'

CURLL RD

62'-6"

180'-6"

118'

TO PINEY SUB

SHEET 21
SHEET 22

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

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MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 21 OF 23)

SHEET 21
SHEET 22

KURNS RD

REIDS RUN

TO TIMBLIN SUB

62'-6"
118'
180'-6"

67'-6"
185'-6"
118'

CLARION COUNTY, PA

62'-6"
118'
180'-6"

185'-6"
67'-6"
118'

REIDS RUN

180'-6"
62'-6"
180'-6"

TO PINEY SUB

E

BURMA - RIDGEWAY 138KV

S REIDSBURG RD

TIMBER BRIDGE RD

PINEY CREEK

E REIDSBURG RD

TO TIMBLIN SUB

180'-6"
62'-6"
118'

OLD TOWN RD

SR 68

CLARION COUNTY, PA

RAPP RD

100'
50'
50'

TO PINEY SUB

SHEET 22
SHEET 23

LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

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PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

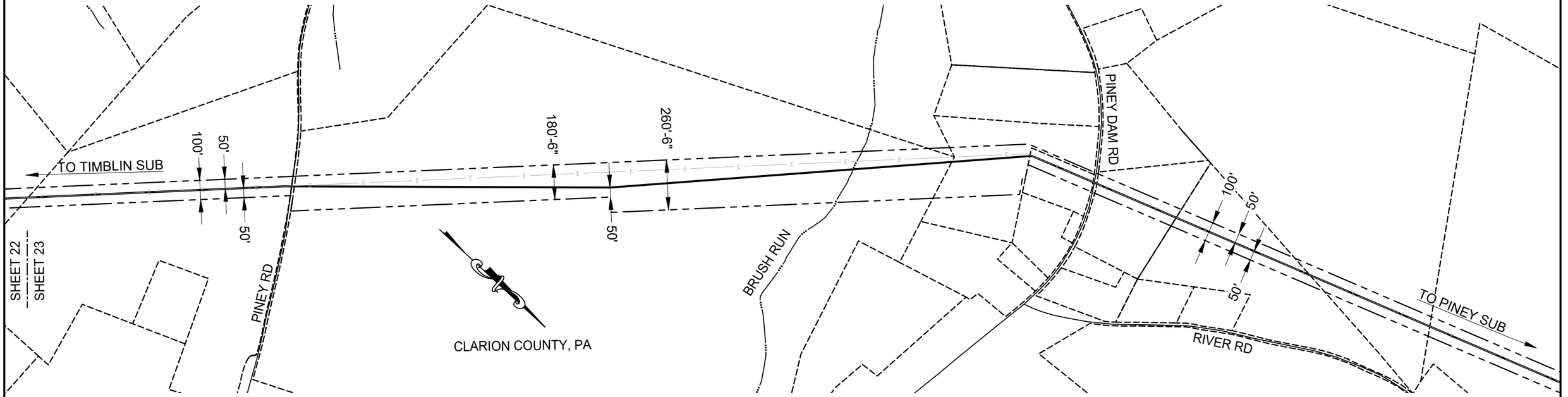
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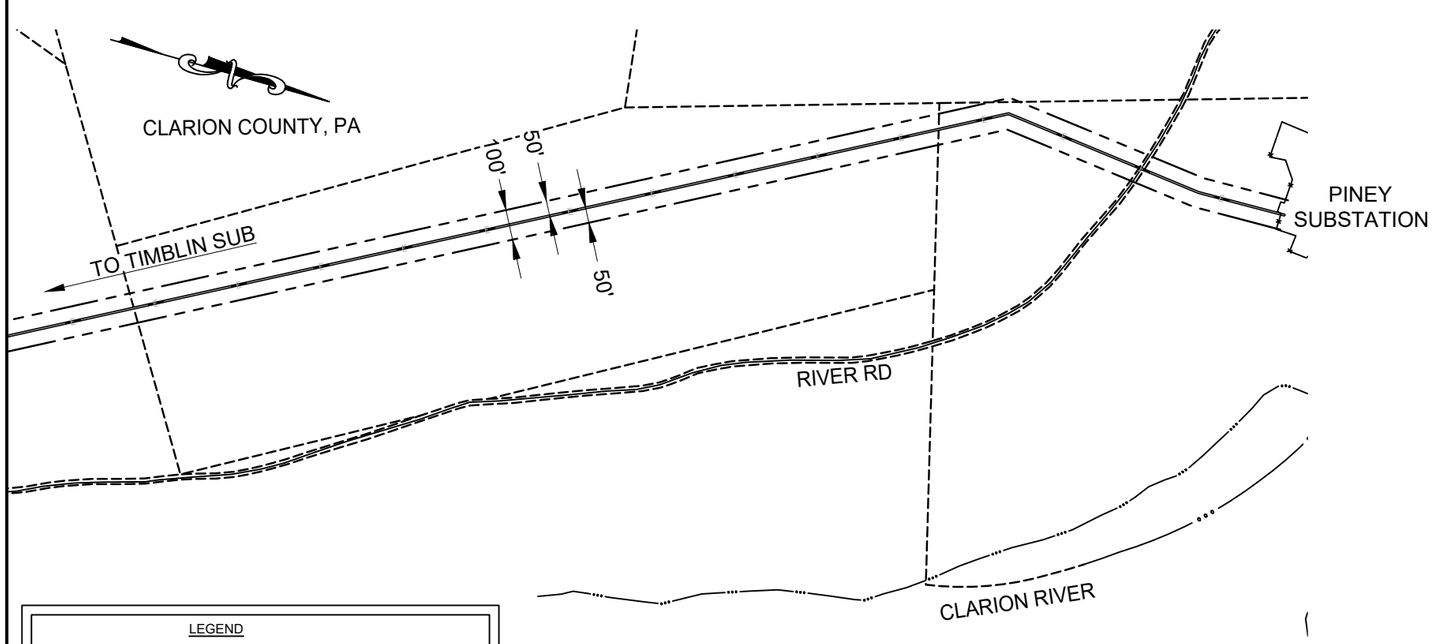
MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 22 OF 23)




LEGEND

- SUBSTATION FENCE
- EXISTING 115kV LINE TO BE REMOVED
- PROPOSED 115kV TRANSMISSION LINE
- RIGHT-OF-WAY
- EXISTING TRANSMISSION LINE
- ROADWAY
- RIVER/STREAM/CREEK
- WETLAND
- RAILWAY
- COUNTY BOUNDARY
- PROPERTY LINE

WETLAND DATA SOURCE: PUBLICLY AVAILABLE COUNTY DATA
PROPERTY DATA SOURCE: FIRSTENERGY ONETOUCH

PAPER SIZE: 17X11

MAIT

PINEY–SEWARD 115kV TRANSMISSION LINE REBUILD PROJECT

GENERAL LAYOUT

EXHIBIT 25 (SHEET 23 OF 23)

# MAIT EXHIBIT 26

MAINTAINING A
SAFE AND RELIABLE

# TRANSMISSION SYSTEM



VEGETATION MANAGEMENT FOR NEW
TRANSMISSION CONSTRUCTION PROJECTS

FirstEnergy®

Transmission lines are considered the “superhighway” of the electric grid, moving large amounts of energy across our region from where it is generated to where it is needed.

Safely operating the power grid is a cornerstone of delivering reliable and affordable energy to our customers. An easement gives FirstEnergy the right to build, maintain and safely operate transmission lines, which includes removing trees and managing vegetation. The width of a transmission line right-of-way (ROW) varies according to the voltage of the lines and the easement rights originally negotiated with property owners. An easement agreement with a property owner remains in place even if the property is transferred or sold to a new owner.

## ENSURING SERVICE RELIABILITY

Unless properly maintained by FirstEnergy, trees have the potential to come in contact with power lines and other electric facilities and cause power outages, especially during severe weather. We’re aware that tree trimming and tree removal can sometimes be a sensitive issue for property owners, but the work must be done to comply with reliability mandates established by the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and state public utility commissions.

FirstEnergy employees and forestry contractors follow strict safety precautions and are committed to managing vegetation in ways that have a minimal impact on the environment.

Creating and sustaining compatible, stable and low-growing habitat on the ROW is a key component of a successful vegetation management program. A properly maintained transmission line corridor should include a diverse mixture of grasses, low-growing shrubs and other ground cover preferred by birds, deer and other wildlife to promote a thriving habitat. A well-managed ROW provides food and cover wildlife need to survive, and the electric service reliability our customers require.

FirstEnergy’s policy regarding transmission lines includes the removal of all trees, regardless of height, to the edge of the ROW. This may include removing trees where pruning was completed.

We also inspect areas adjacent to the ROW. Trees that are dead, dying, diseased, structurally defective, leaning or significantly encroaching the ROW may be removed if they pose a danger of falling into or near a transmission line. Strict vegetation management practices are followed for new transmission projects as well as scheduled maintenance work.

**A properly maintained transmission line corridor should include a diverse mixture of grasses, low-growing shrubs and other ground cover preferred by birds, deer and other wildlife to promote a thriving habitat.**

## NEW TRANSMISSION CONSTRUCTION PROJECTS

FirstEnergy's *Energizing the Future* program is a long-term transmission initiative that involves upgrading and modernizing the grid to meet the future demands of our customers and communities.

This initiative includes the construction of new transmission lines as well as the rebuilding of existing lines. These projects require the removal of vegetation in the ROW to ensure proper clearance for overhead lines. Vegetation also is frequently removed in areas where construction activities occur. In some cases, FirstEnergy may need to acquire tree-removal rights from property owners for projects that do not require additional ROW.

FirstEnergy's policy is to make every reasonable effort to notify property owners before vegetation management work begins along a new or existing transmission corridor. During construction projects, our contractors generally use tree-marking paint and flagging to identify trees and brush that require removal or pruning. Our crews attempt to make follow-up contact with property owners after trees are marked to address questions or concerns.



### MANUAL REMOVAL AND TRIMMING

For as long as there have been power lines, forestry personnel have used manual saws and bucket trucks to remove trees and limbs. Manual tree work requires a forestry professional to climb a tree and remove limbs or use a chainsaw to remove the tree at ground level. In recent years, the forestry industry has moved toward mechanical techniques to increase worker safety, improve crew efficiency and enhance quality.

### MECHANICAL REMOVAL

Qualified professionals determine the techniques and equipment used to get the job done based on site conditions and accessibility. Some of the tools commonly used during mechanical removal operations to cut, transport and stack trees include harvesting equipment, skidders, chippers, excavators, log trucks, bucket trucks and large brush-mowing equipment.

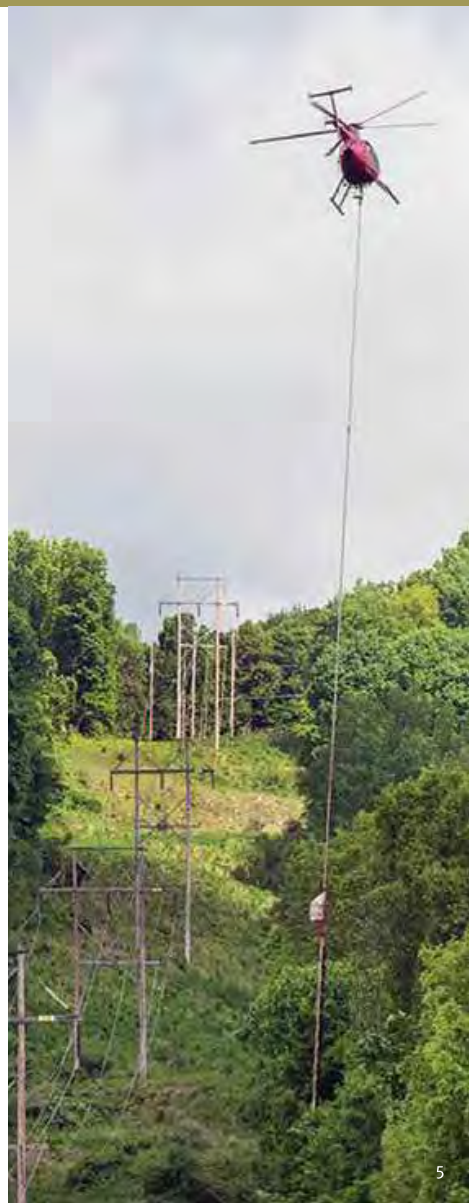
Construction matting is often installed in the work area to support equipment, protect underground infrastructure and minimize damage to private property and sensitive areas.

### AERIAL SAW

Manual tree trimming is limited by the reach of a bucket truck or a tree climber, which can make trimming the very top of the tree a challenge. Another way to trim along the edge of a ROW is by using helicopters equipped with an aerial saw, which consists of multiple 24-inch rotary blades powered by a motor suspended on a vertical boom beneath the helicopter. FirstEnergy has been safely using aerial tree trimming since 1988, in accordance with American National Standards Institute tree-pruning standards.

As the helicopter slowly flies along the ROW, the aerial saw trims trees and other vegetation efficiently and thoroughly. Tree limbs are neatly cut without tearing, and typically fall straight down, assisted by air blasts from the helicopter rotors.

The aerial saw eliminates the risk of injury to workers using bucket trucks or climbing trees near energized lines. It is most commonly used in remote areas or places inaccessible by vehicles. In addition, this method helps protect private land and roads from damage by heavy equipment during the course of the vegetation management work. The aerial saw can perform work quickly, trimming both sides of a 10- to 12-mile ROW in one week. It also is an effective tool to use in environmentally sensitive areas because it eliminates the use of heavy equipment to perform the work. This method is not typically used to trim trees in residential areas unless safety buffers are used.





## CLEAN UP

FirstEnergy contractors clean up debris following clearing, trimming or aerial saw work. Debris is removed from maintained yards, agricultural fields, access roads and environmentally sensitive areas. In unmaintained forested areas, debris is stacked in piles along the edge of the ROW. This practice is used where appropriate to minimize impacts associated with debris disposal, and also benefits the environment by leaving material for wildlife habitat and nutrient recycling.

## EPA-APPROVED HERBICIDE APPLICATION

Once the ROW is cleared of trees, it is important to take steps to prevent future growth of unwanted trees, shrubs and other incompatible plants. This is most effectively accomplished by using herbicides approved by the Environmental Protection Agency and authorized for use on utility ROW.

The EPA approves these products only after determining they will not adversely affect people, animals or the environment when properly applied. EPA-approved products have undergone significant testing. In fact, some of the products our contractors use are the same as those commonly used by homeowners to control weeds and other vegetation. Herbicide application is the preferred method to control immature trees or brush. Herbicide-control options are determined by terrain, brush height and density, and are designed to control only incompatible vegetation.

While mechanical methods such as cutting and mowing might appear to be less harmful compared with herbicide use, these methods have some disadvantages. For example, cutting and mowing vegetation may have the undesired effect of causing it to grow back thicker and fuller, requiring repeated and more frequent maintenance.

In subsequent years, once the preferred low-growing vegetation becomes dominant, less herbicide is needed for maintenance as incompatible species become less prevalent. Herbicide use also eliminates the need for much more frequent mechanical treatments, like tree trimming and mowing – meaning vegetation management crews are needed less often.

Herbicides also are important vegetation management tools to stop the spread of invasive plant species. Using herbicides helps control weeds and other nuisance plants from overtaking the ROW, and will stop the spread to adjacent areas, including private property.

Herbicides are applied by state-certified applicators, or under the supervision of a certified applicator. Herbicide application methods include individual cut-stump treatments directly applied to the stump; low-volume applications using a backpack spray kit; high-volume applications using off-road vehicles; and in some instances in remote areas and difficult terrain, the use of helicopters to apply an aerial spray. FirstEnergy vegetation managers and contractors are trained and certified in the use of herbicides.



**An EPA-registered herbicide is applied to a freshly-cut stump to prevent regrowth.**

# INSPECTING AND MAINTAINING TRANSMISSION CORRIDORS

Inspections are a key component of FirstEnergy's comprehensive vegetation management program.

Twice a year, helicopters fly low over our transmission line corridors to inspect the condition of the electrical equipment and monitor any ROW encroachments from trees, shrubs or other vegetation.

In addition to the inspections, most of FirstEnergy's transmission corridors are maintained on a five-year cycle, based on expected growth rates. In New Jersey and certain areas of Pennsylvania, the vegetation maintenance work is done every four years. If a helicopter inspection uncovers an issue with a leaning tree or fast-growing vegetation, the problem will be addressed immediately rather than waiting until the next regularly scheduled vegetation management cycle.

During regularly scheduled maintenance cycles, FirstEnergy contractors perform detailed inspections of the corridor and identify areas where tree trimming, tree removal and brush control are required. FirstEnergy's policy is to make every reasonable effort to notify property owners before vegetation management work takes place along a ROW. However, in the event of storms or other emergencies, advance notice may not always be possible.

FirstEnergy employs integrated vegetation management (IVM) techniques, which involve evaluating the ROW to identify incompatible vegetation, the timeframe for control and the evaluation and selection of control options. These options include manual operations, mechanical methods, and the selective use of EPA-approved herbicides. Site characteristics, environmental impact and safety are analyzed to determine the most effective control options. The goal of IVM is to create and sustain stable and compatible vegetation within and along the transmission corridor.

**Before**



**After**



## GUIDELINES FOR PLANTING ON RIGHTS-OF-WAY

Before planting shrubs or other vegetation in or near any ROW, please contact a member of FirstEnergy's transmission forestry staff to determine if the species is compatible.



Remember, it's important to select the right plant for the right location. Planting proper vegetation in and around a ROW can help provide a sustainable and compatible plant community. However, the vegetation must be limited to low-growing plants – such as grasses, herbs and shrubs – that are less than 5 feet high when fully grown. Vegetation also must be planted at least 10 feet away from any pole, tower or guy wire and should not hinder access to the transmission line.

**FirstEnergy foresters plant low-growing milkweed on a ROW as part of a demonstration project to encourage the growth of plant species that could help rejuvenate declining populations of bees, monarch butterflies and other pollinating insects.**

## FIRSTENERGY CUSTOMER SERVICE PHONE NUMBERS

During construction projects, FirstEnergy and its affiliates typically develop a project hotline number that can be used to reach the project team directly with questions or concerns. This number is generally provided to all property owners well in advance of construction. If customers need to contact FirstEnergy and a project hotline number is not available, these Customer Service numbers may be used.

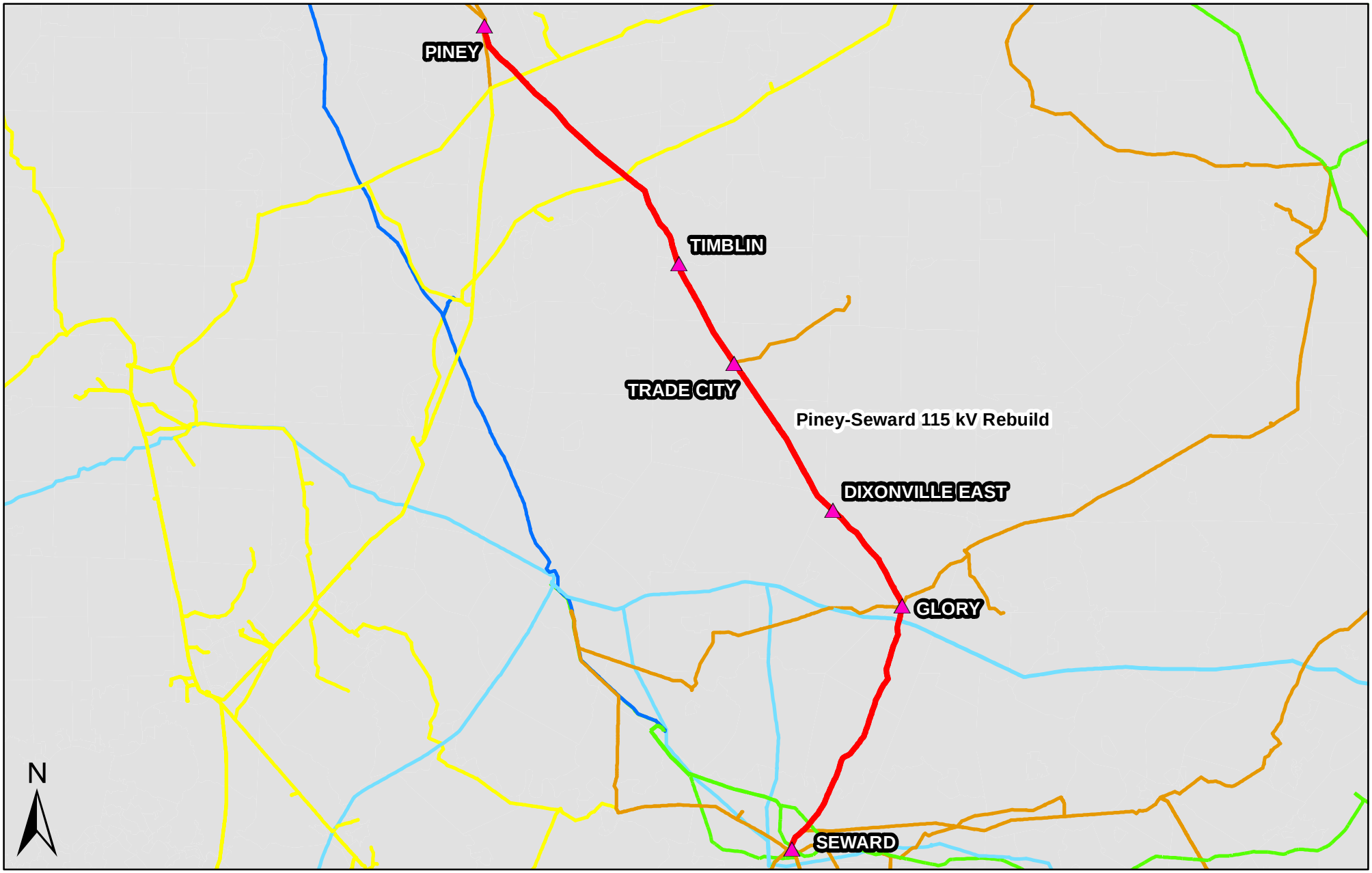
| | |
|---|---|
| THE ILLUMINATING COMPANY | 1-800-589-3101 |
| JCP&L | 1-800-662-3115 |
| MET-ED | 1-800-545-7741 |
| MON POWER | 1-800-686-0022 |
| OHIO EDISON | 1-800-633-4766 |
| PENELEC | 1-800-545-7741 |
| PENN POWER | 1-800-720-3600 |
| POTOMAC EDISON | 1-800-686-0011 |
| TOLEDO EDISON | 1-800-447-3333 |
| WEST PENN POWER | 1-800-686-0021 |

Information about FirstEnergy's tree trimming and vegetation management program for its transmission system is available online at www.firstenergycorp.com/help/brochures.html.




COMM8321-12-16-AI-CS
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# MAIT EXHIBIT 27




**LEGEND:**

*NOT TO SCALE*

- Existing Substation
- Proposed 115 kV Rebuild
- 115 kV
- 138 kV
- 230 kV
- 345 kV
- 500 kV

MAIT™
Mid-Atlantic Interstate Transmission, LLC
A FirstEnergy Company

**MAIT EXISTING TRANSMISSION SYSTEM PROJECT AREA**

**EXHIBIT 27 - PAGE 1 OF 1**

# MAIT EXHIBIT 28

# Penelec Transmission Zone: Supplemental Project
# Seward-Glory-Piney Rebuild

**Previously Presented : 05/25/2018**

**Problem Statement:**

*Equipment Material Condition, Performance and Risk*

- Enhance system reliability and performance.
- Upgrade equipment due to degraded equipment performance, material condition, and obsolescence.

*Operational Flexibility and Efficiency*

- Improve long-term overall system reliability and performance of the system.
- Improve operational flexibility during maintenance, outage, and restoration.
- Reduce amount of potential local load loss under contingency conditions

**Selected Solution:**

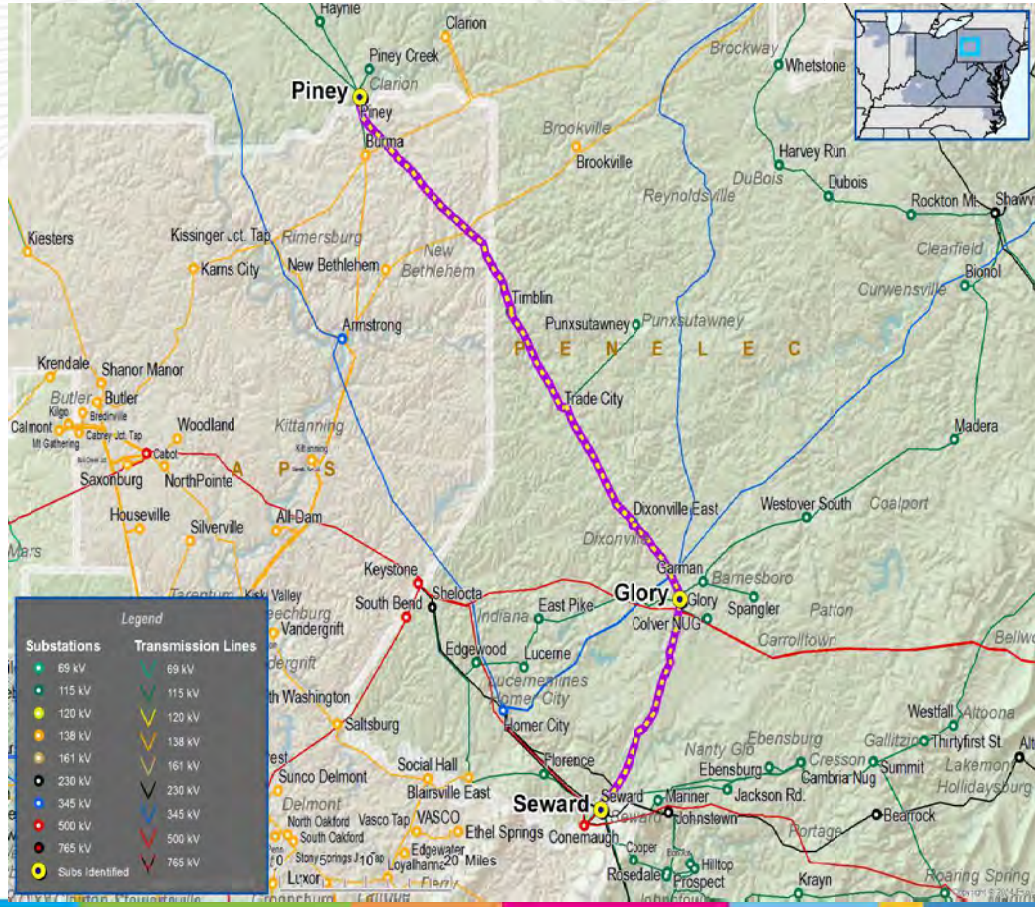
Rebuild Seward-Glory-Piney 115 kV line . **(S1672)**

- Rebuild ~66 miles of 115 kV line using double circuit 230 kV construction.
- Install 1033 ACSR conductor (six-wired) energized at 115 kV.

**Estimated Project Cost:** $150M - $200M (subject to detailed design)

**Expected In-Service:** 12/01/2023

**Status:** Conceptual



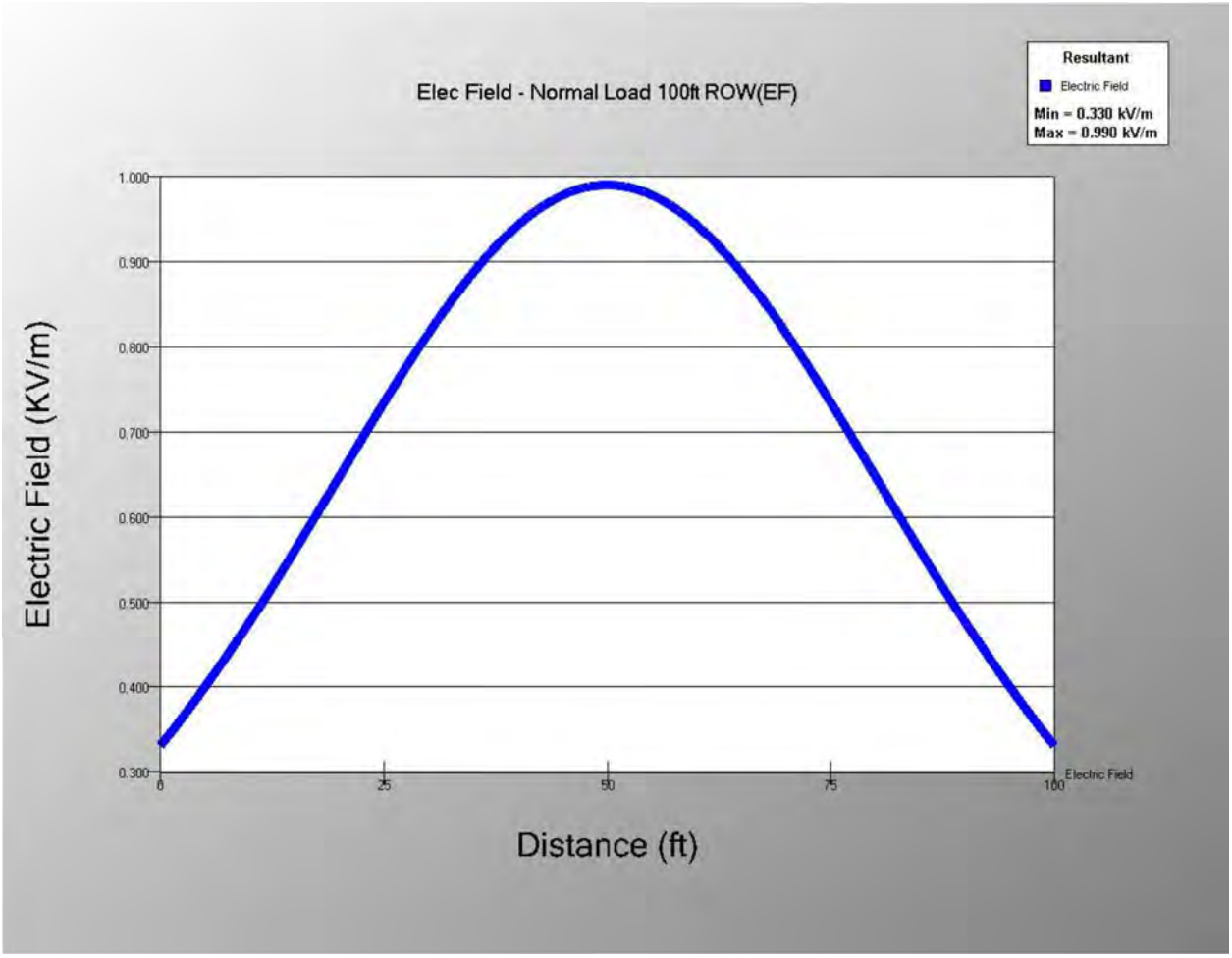


PJM©2018

# MAIT EXHIBIT 29

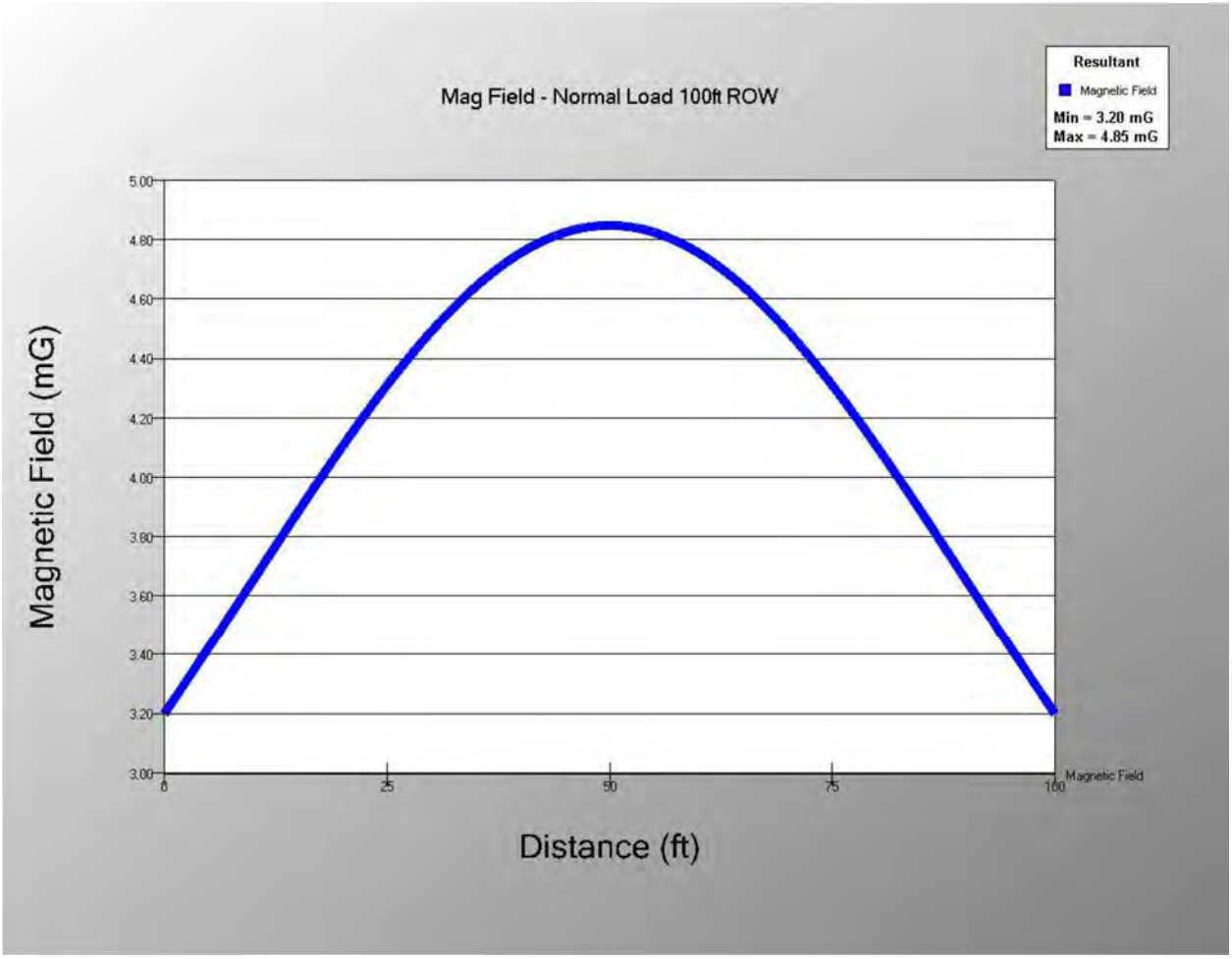
# Exhibit 29

## Piney-Timblin 115kV Transmission Line



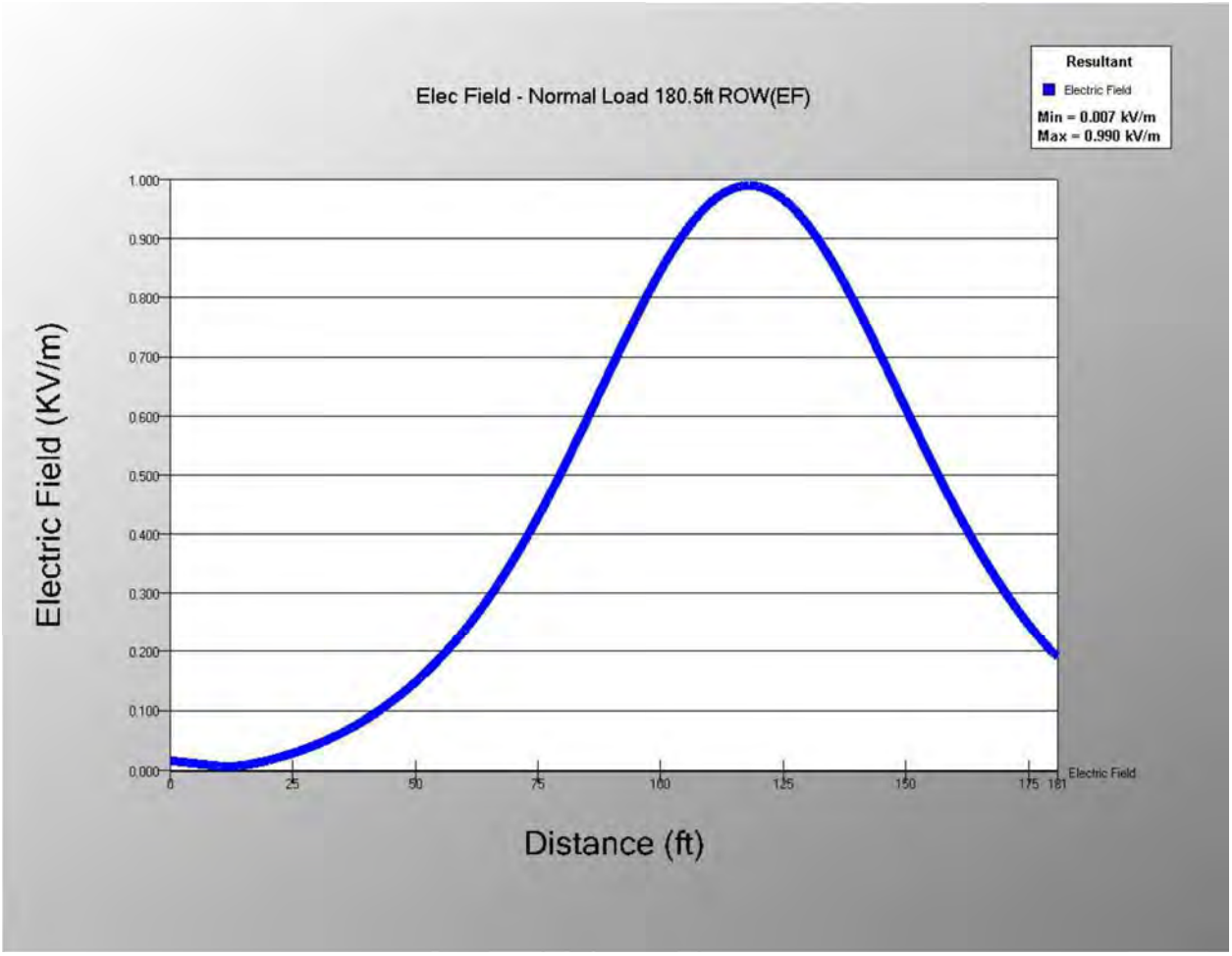
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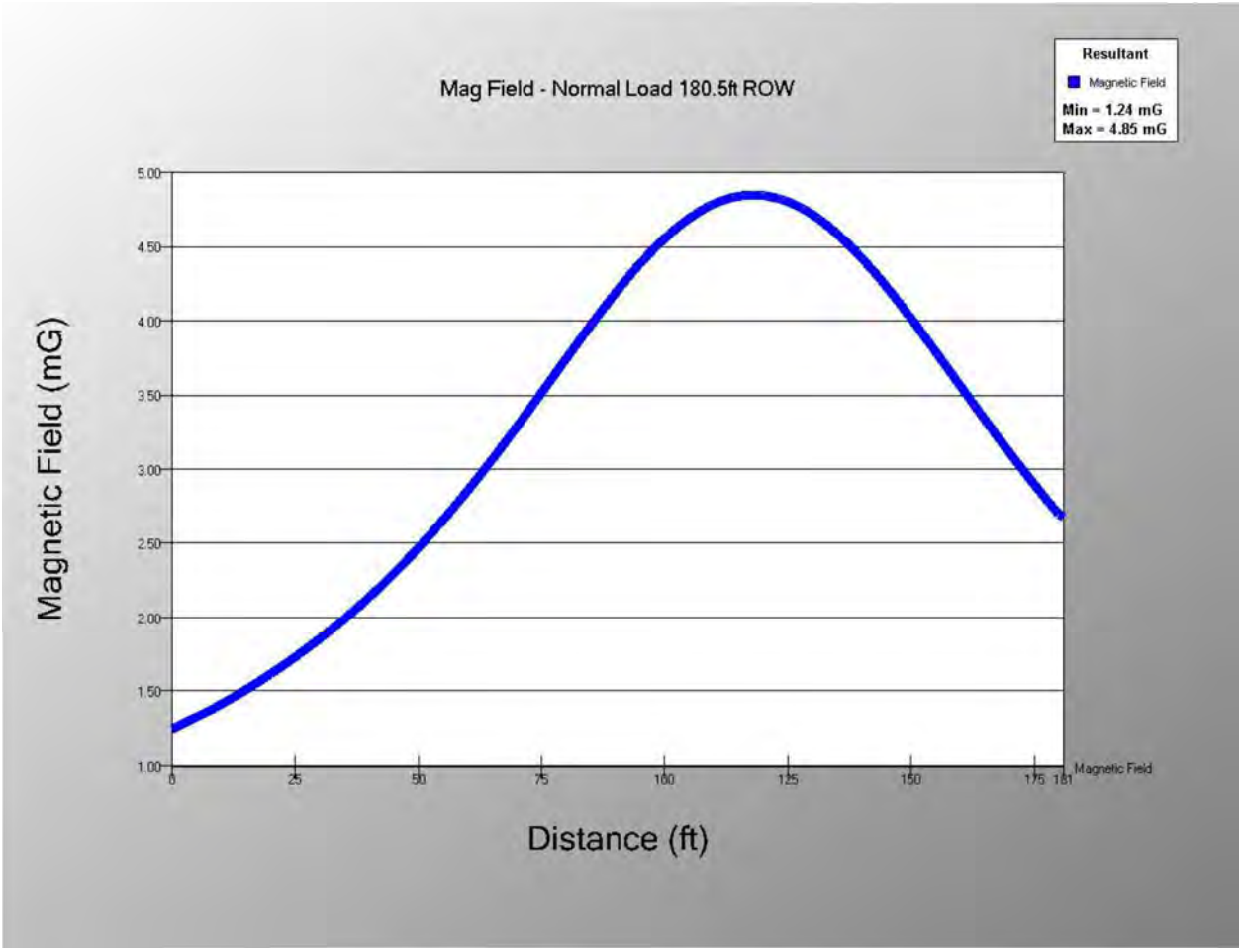
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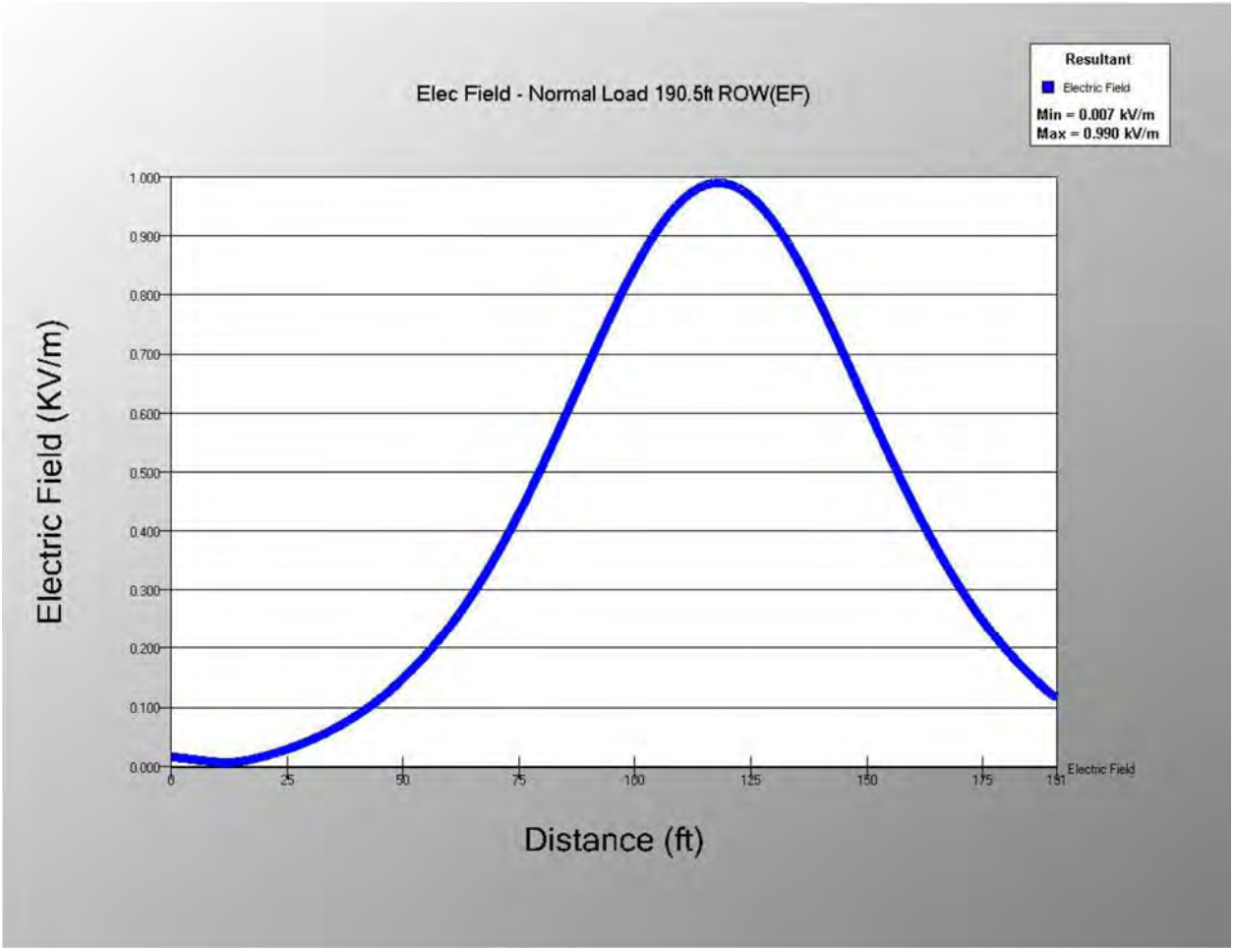
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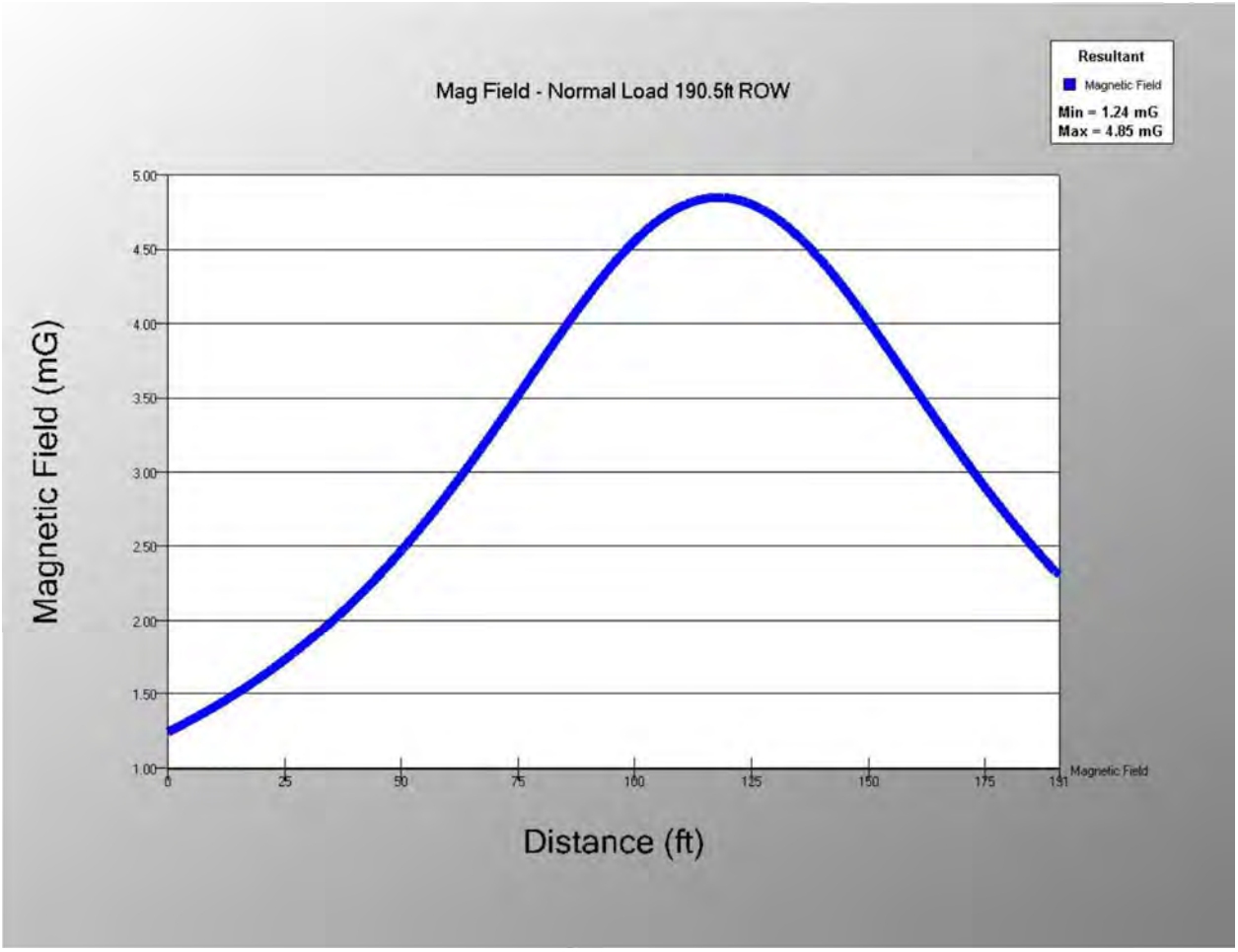
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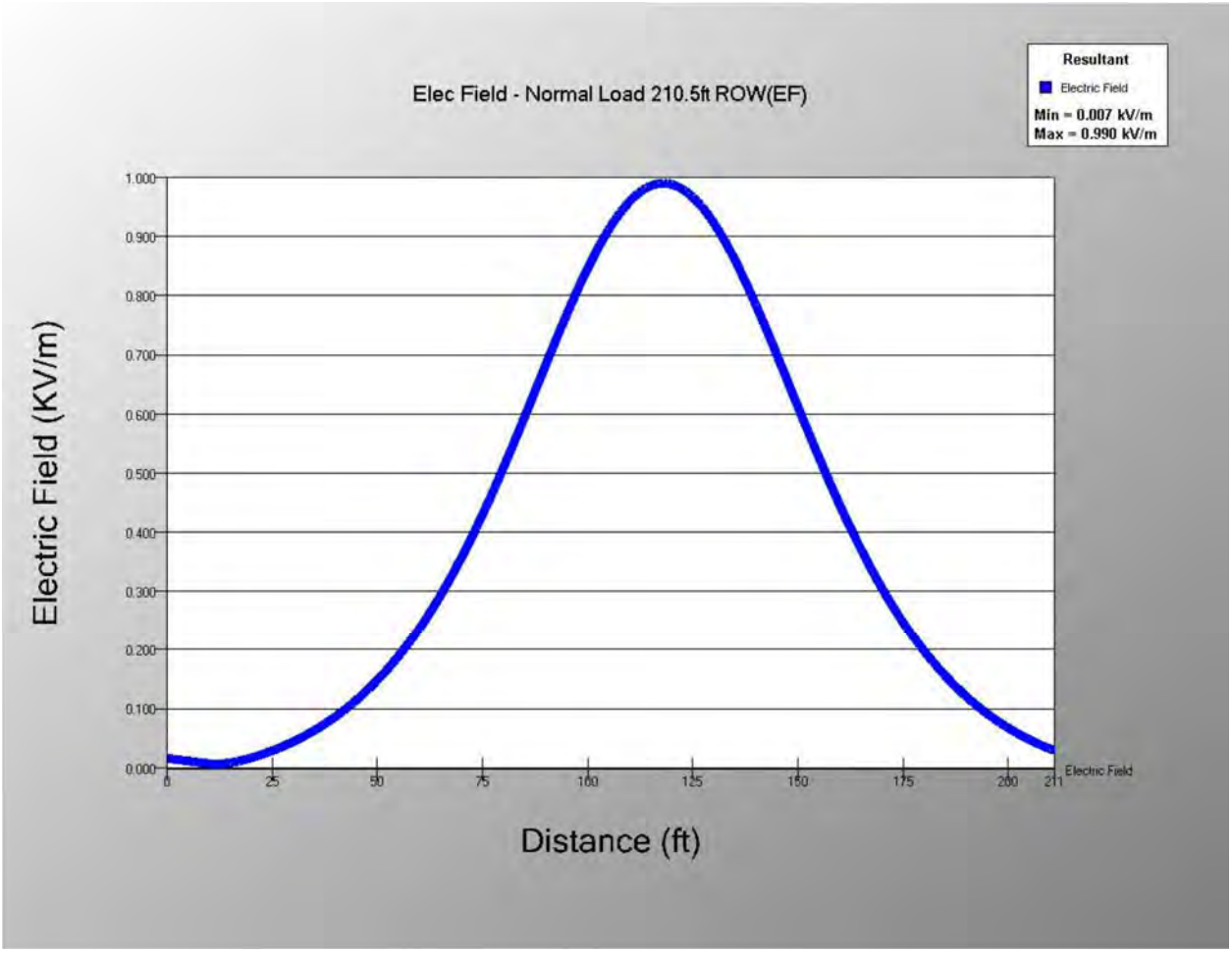
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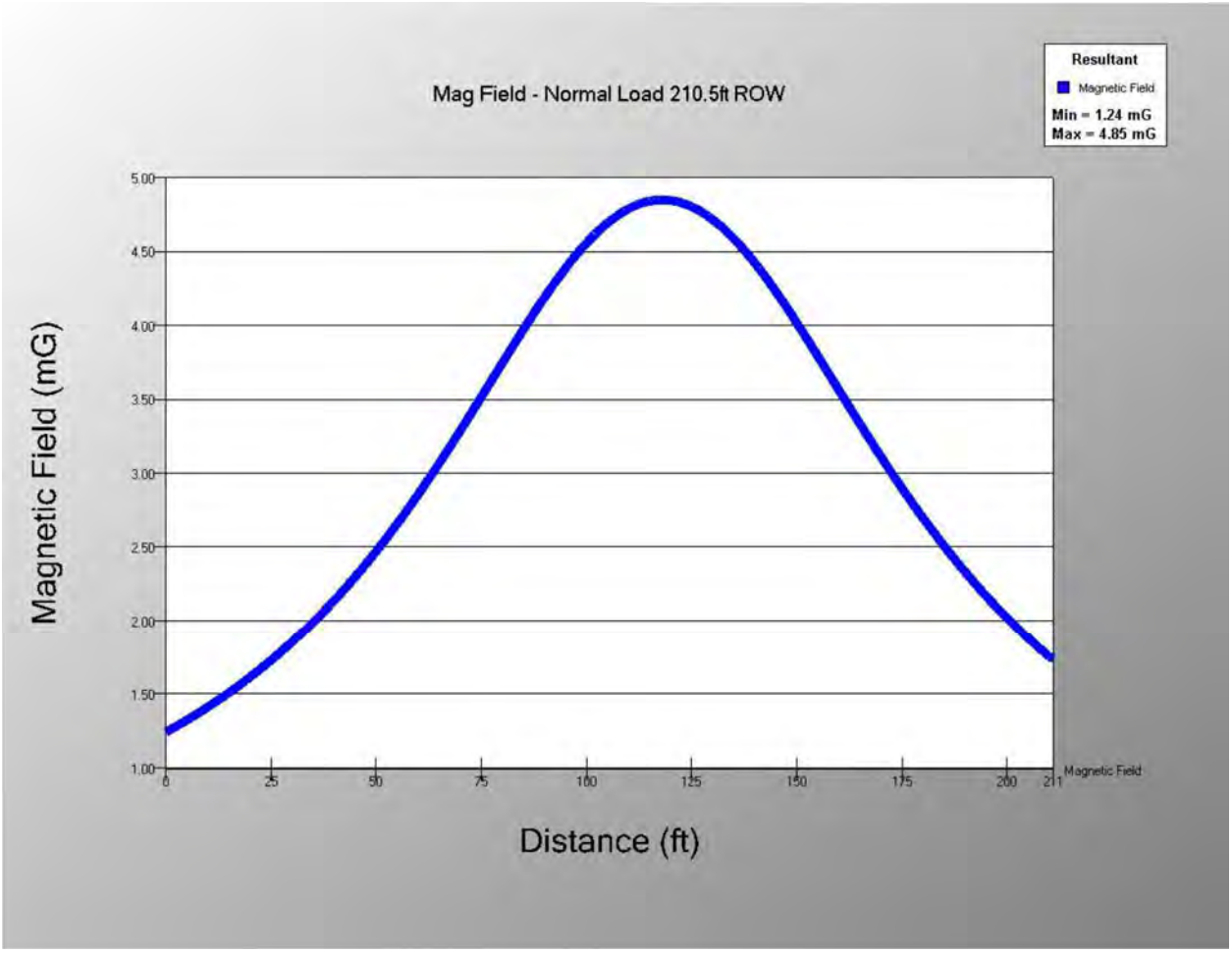
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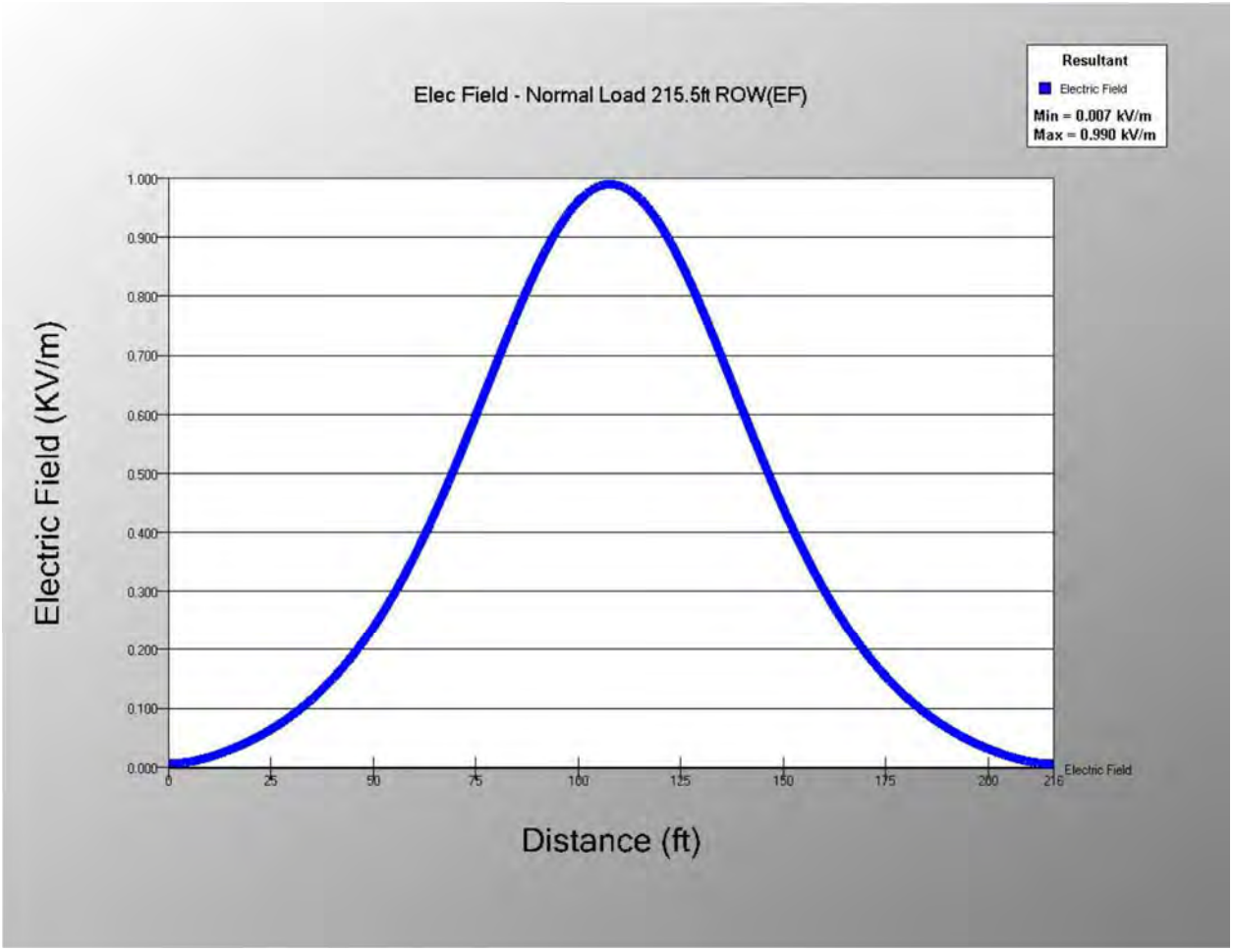
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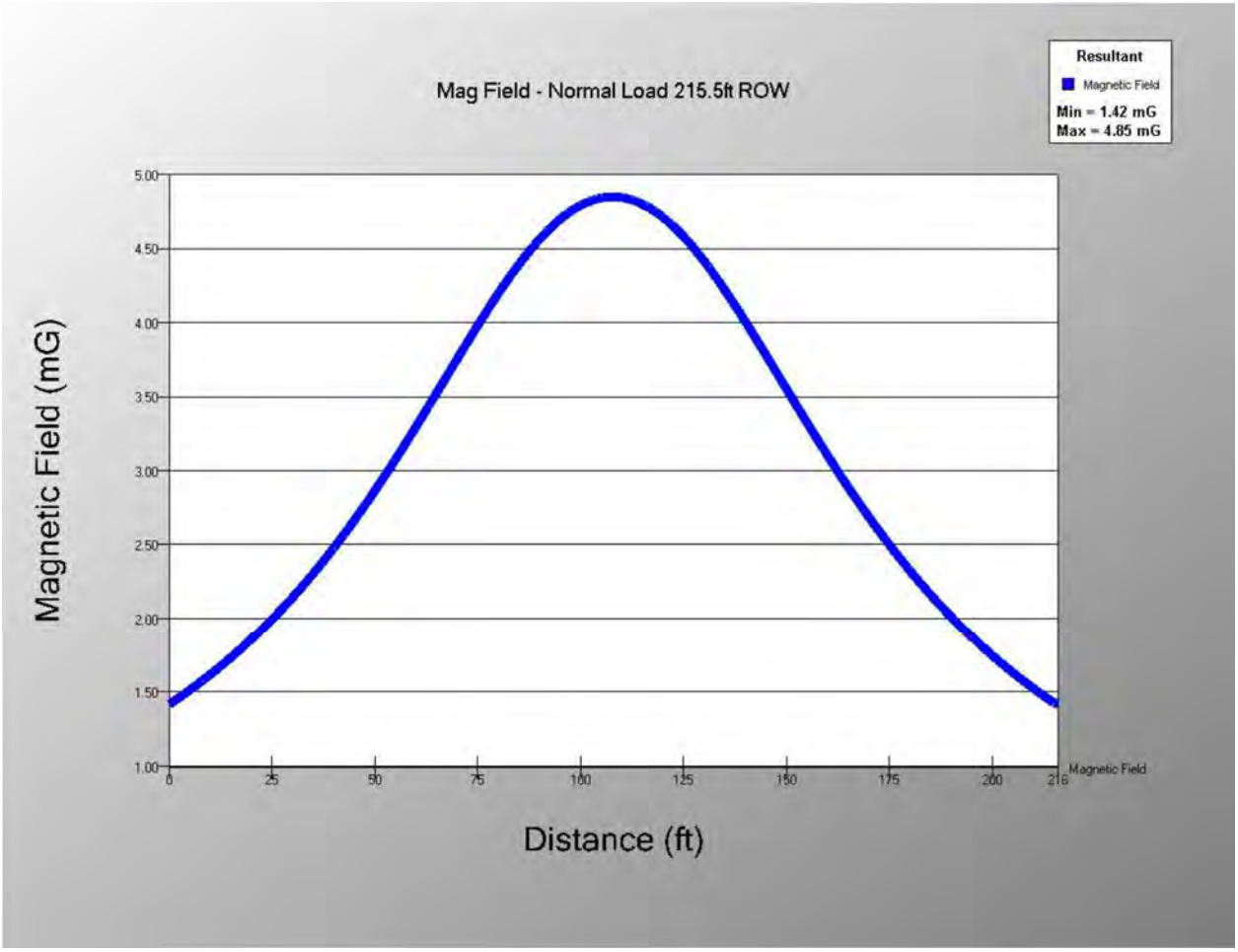
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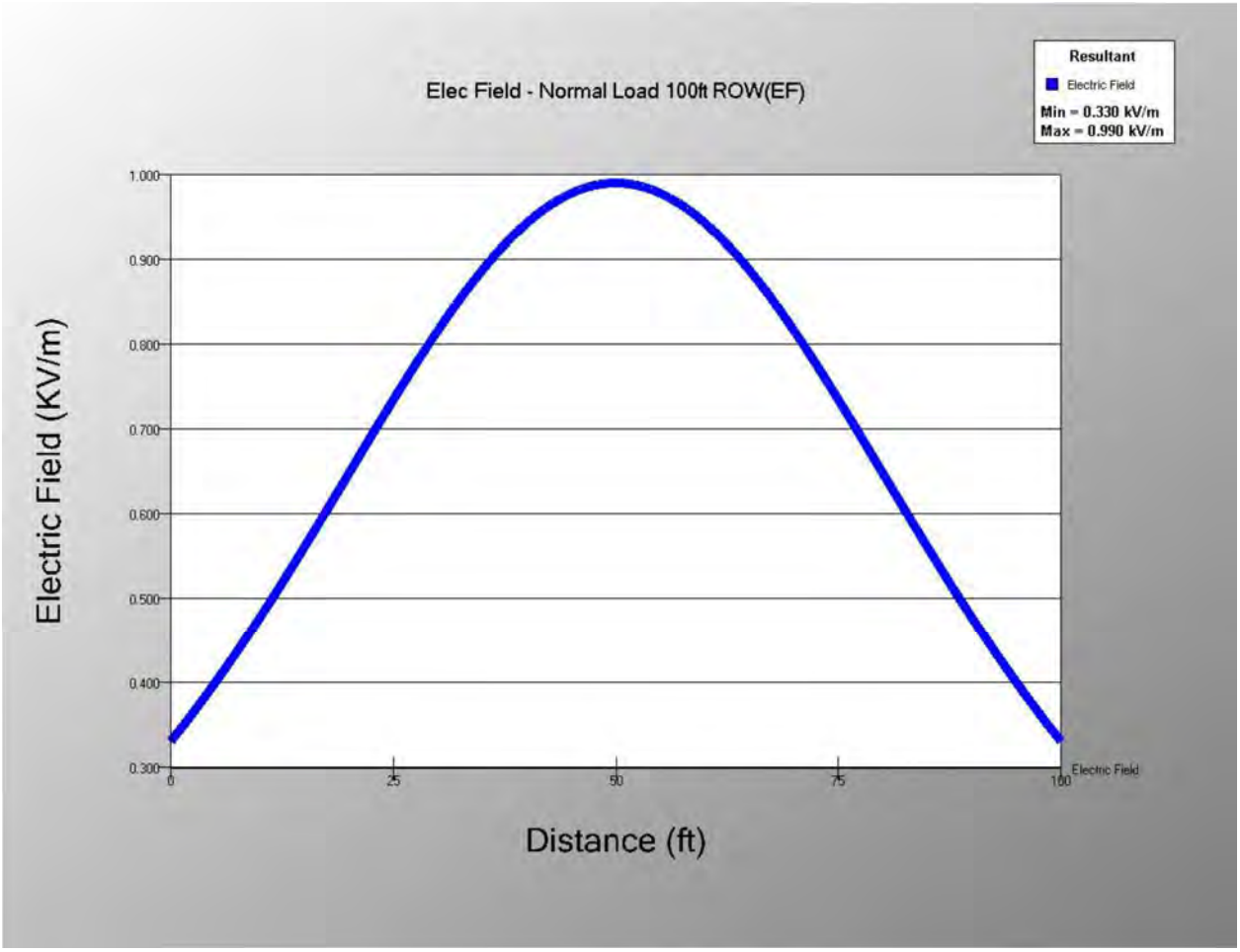
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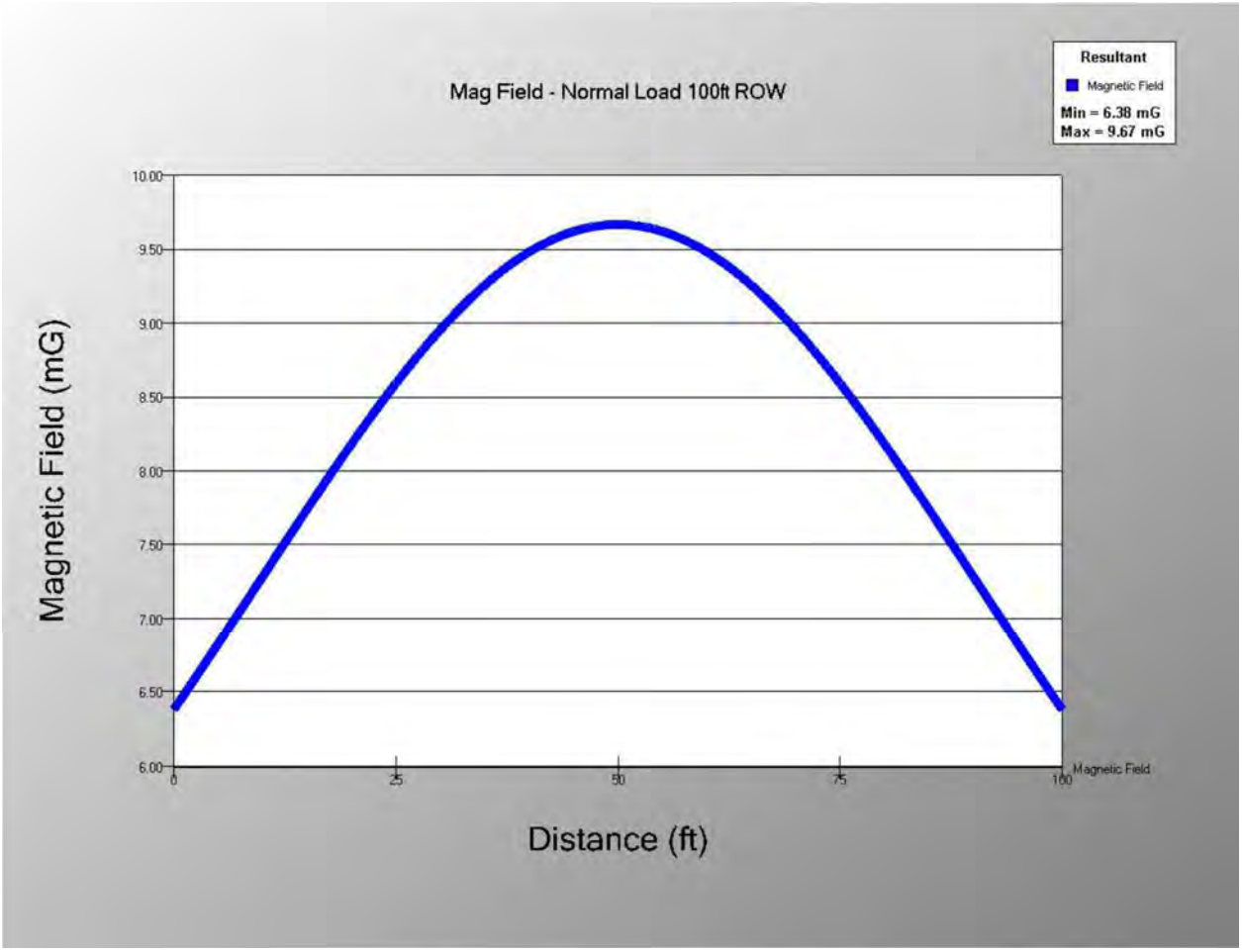
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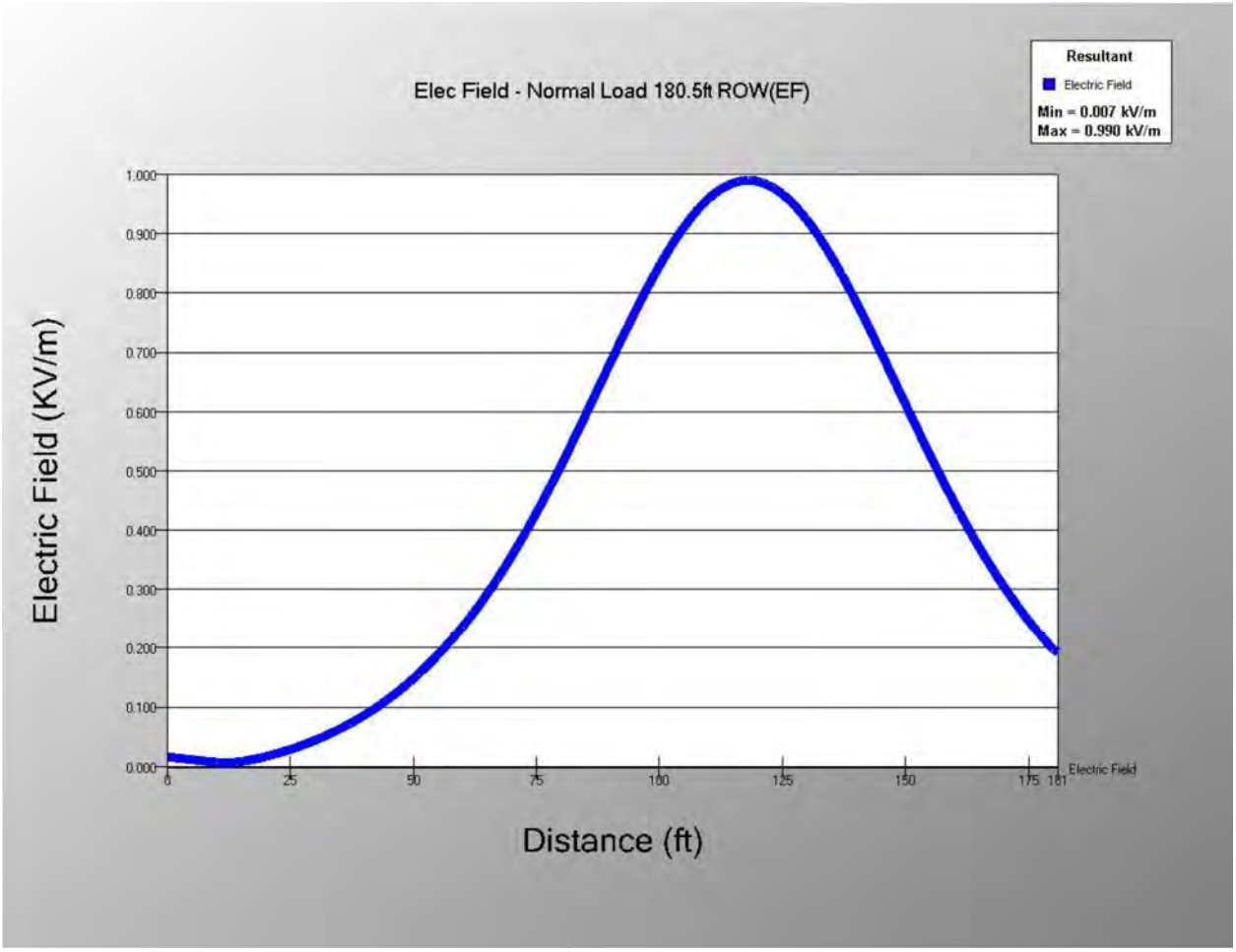
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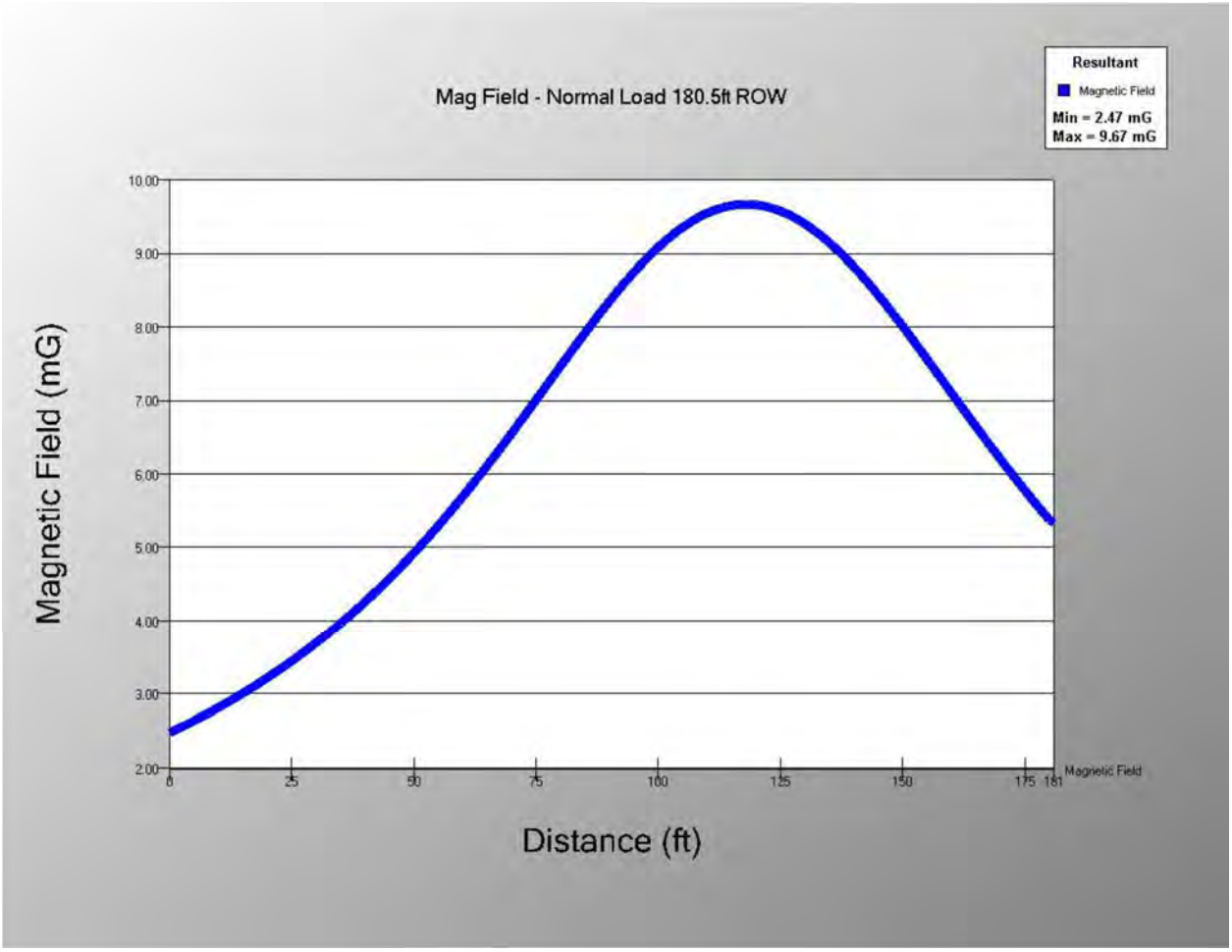
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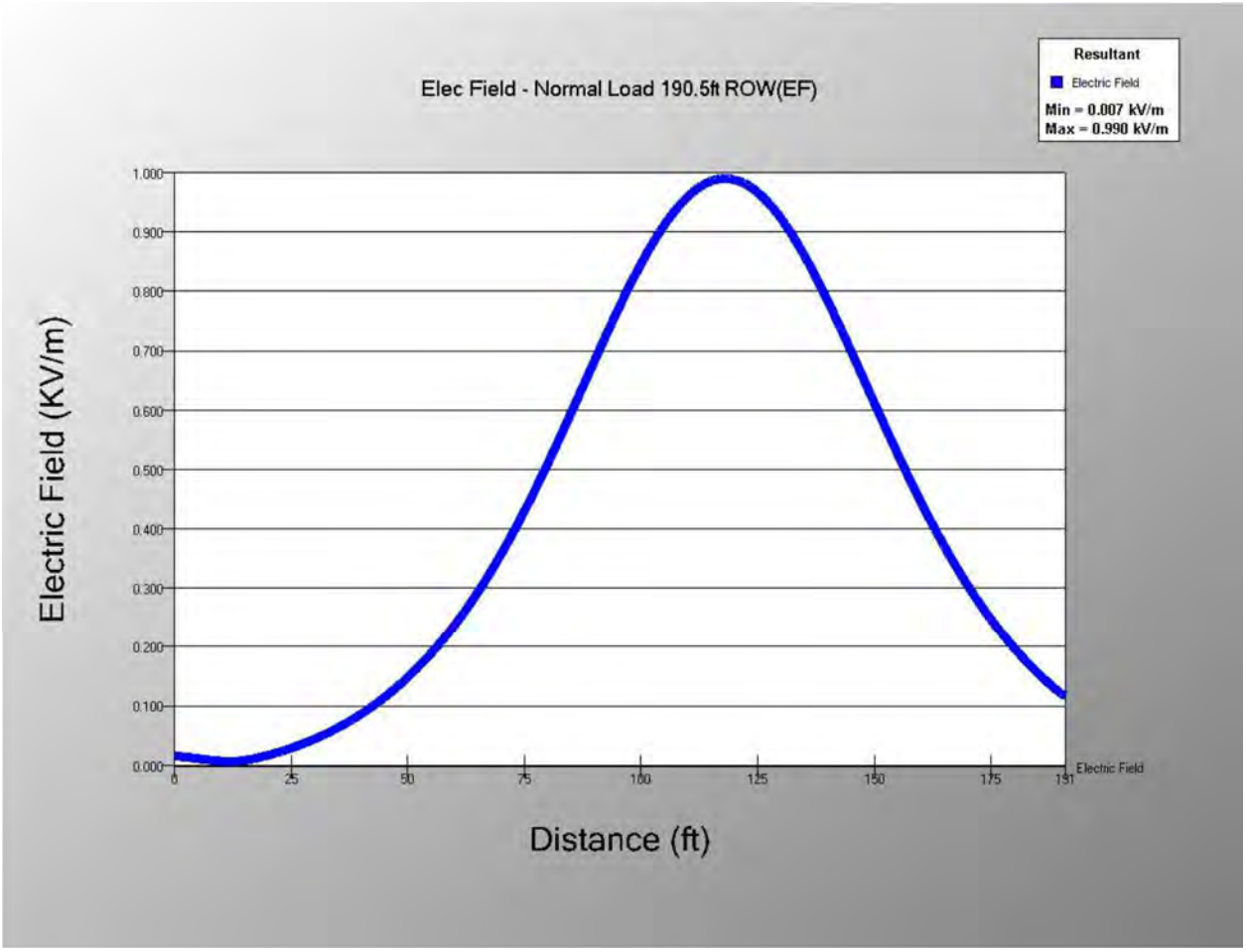
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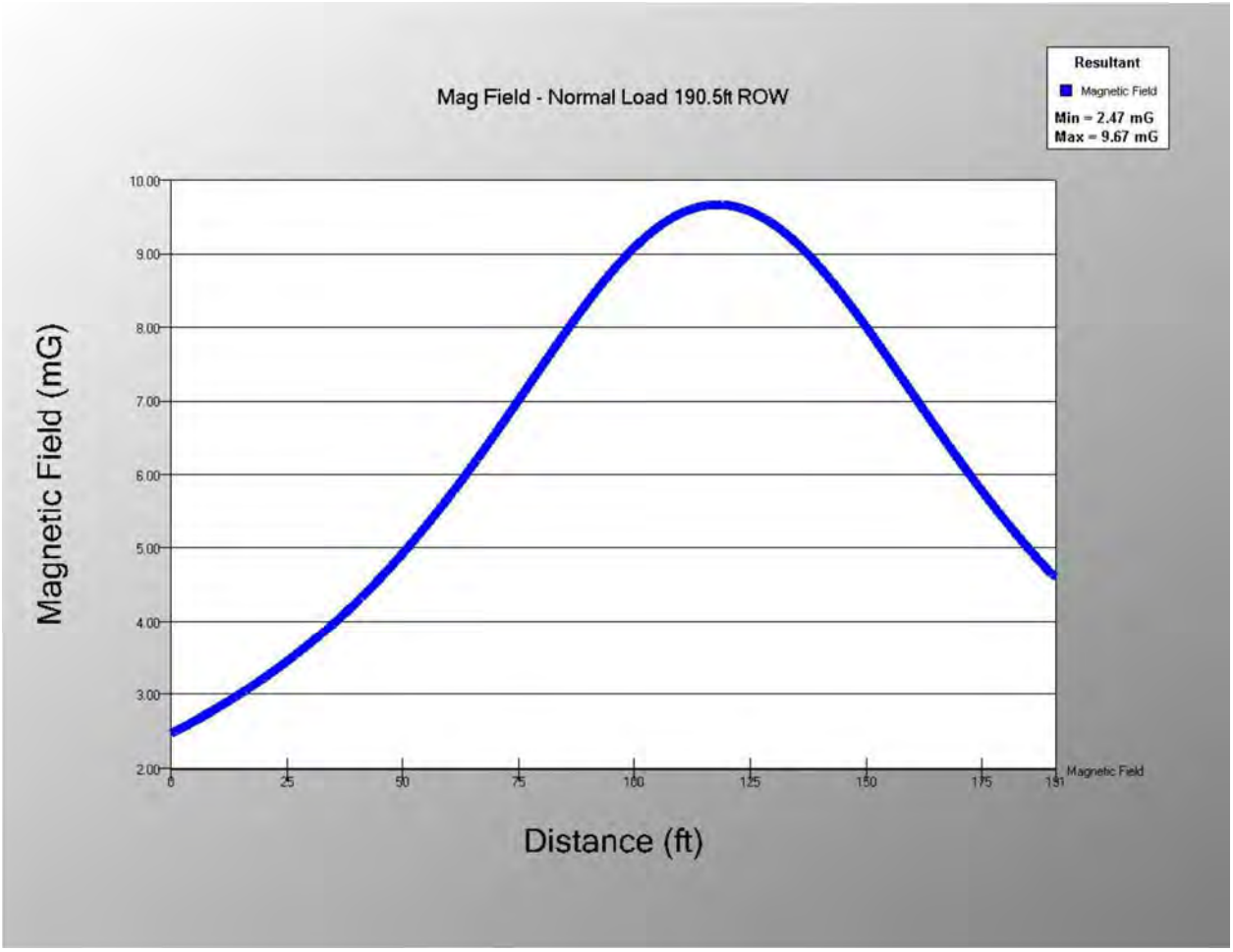
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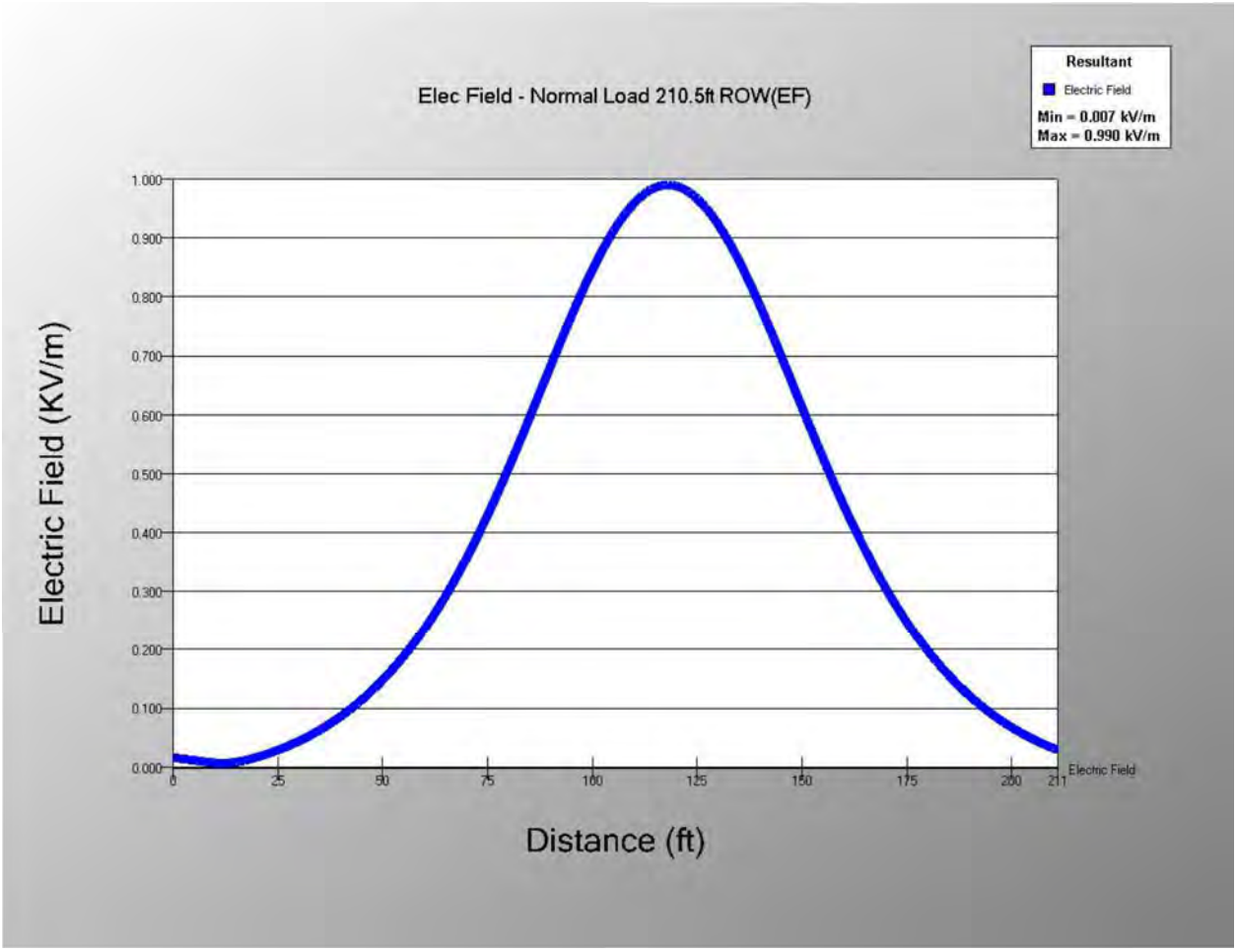
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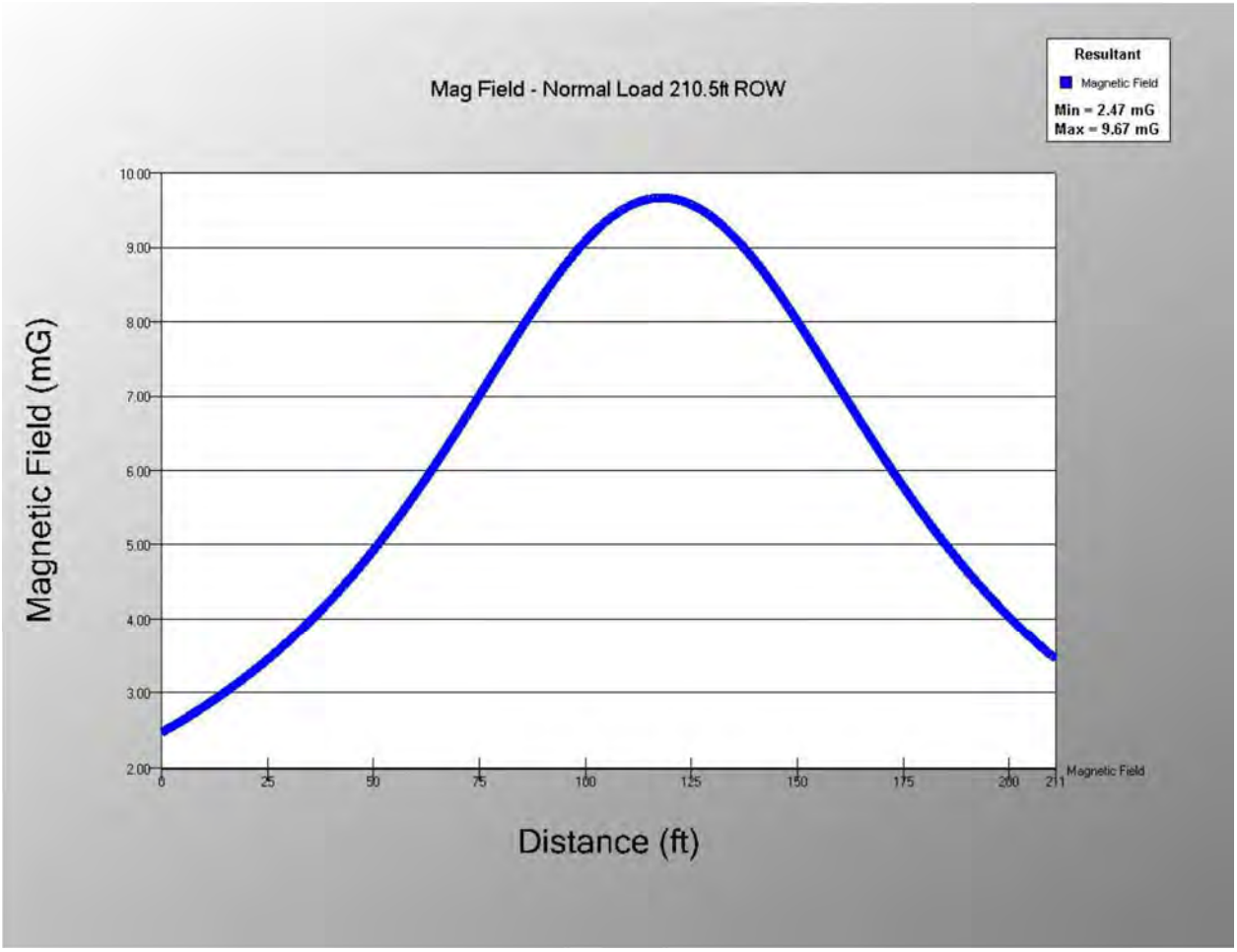
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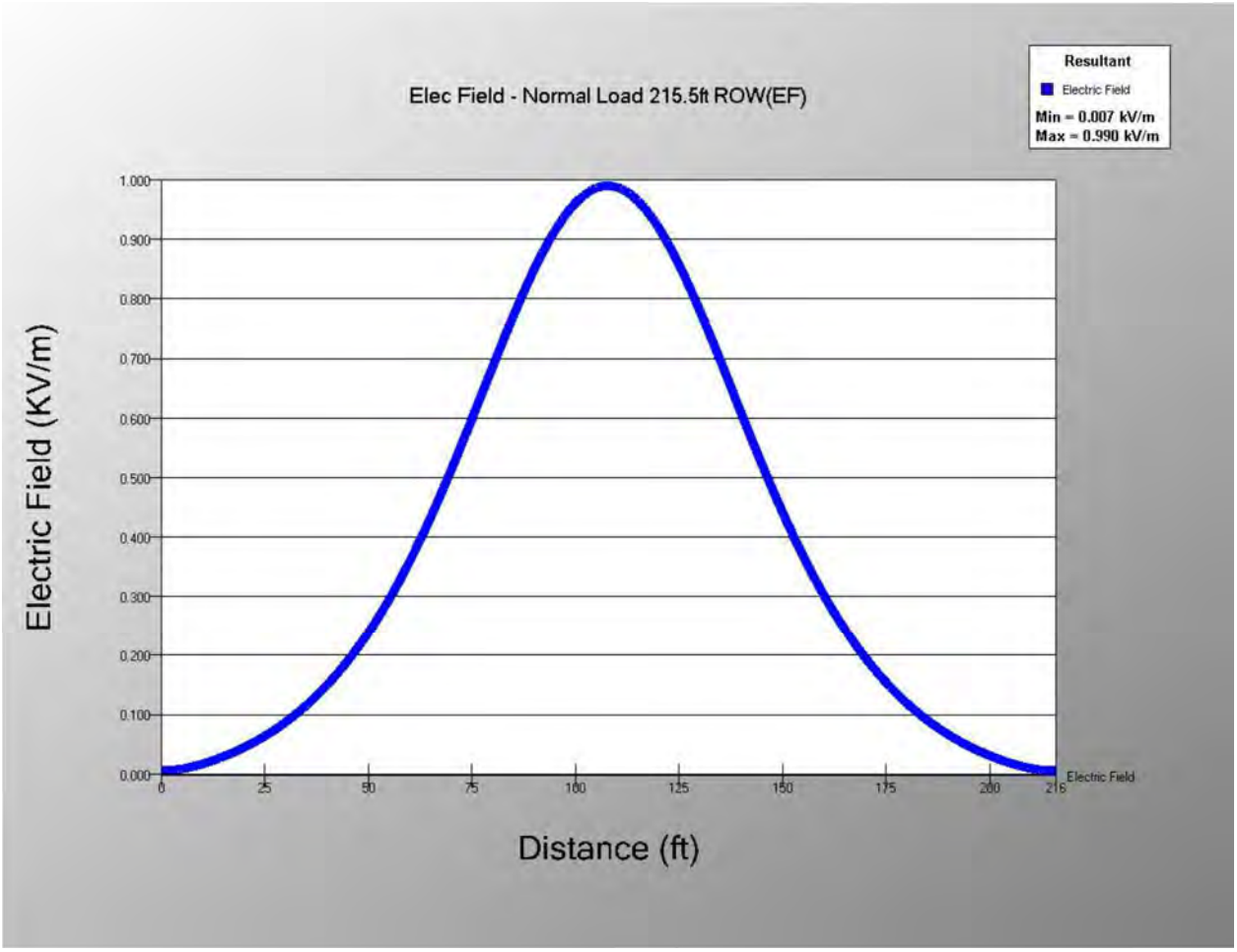
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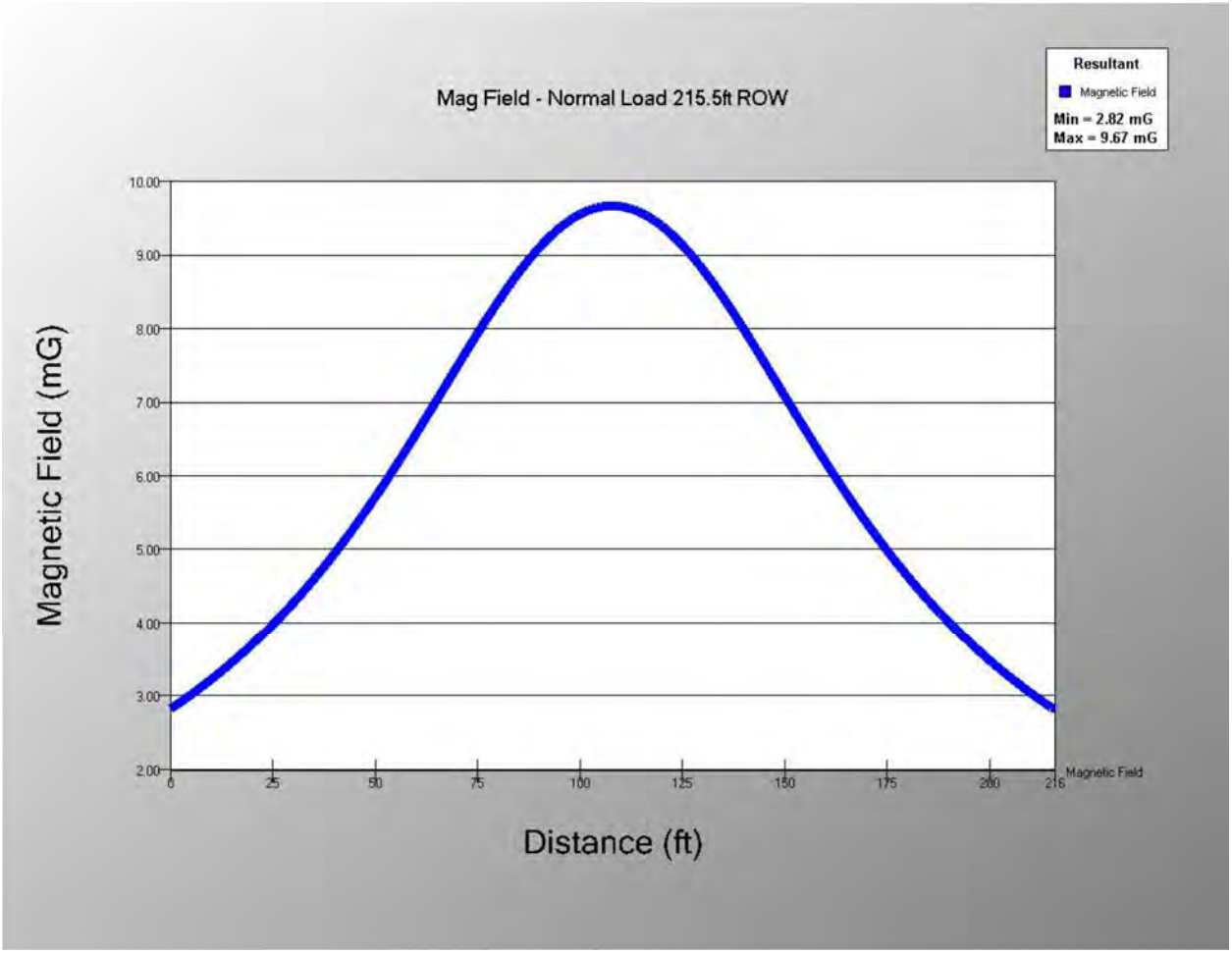
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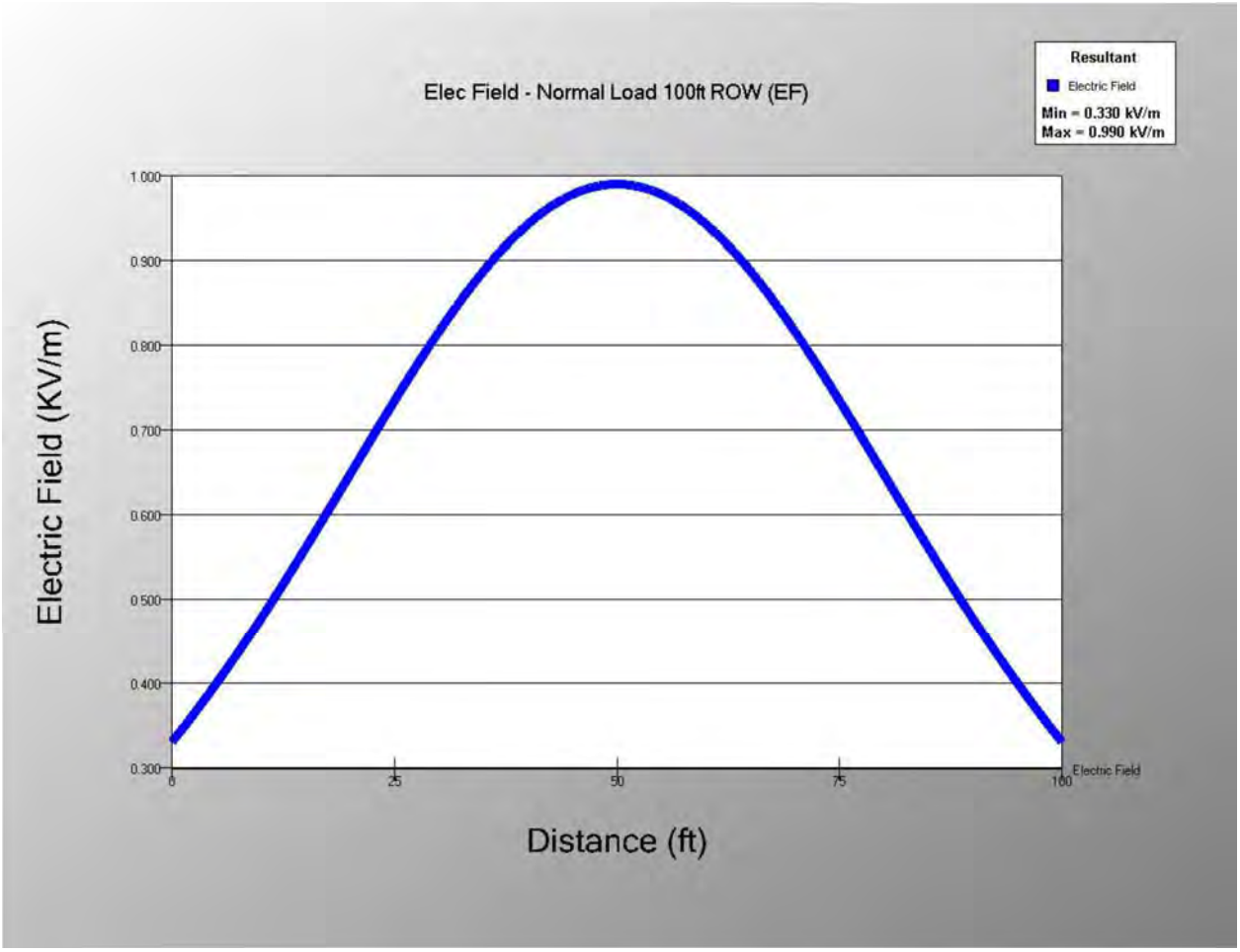
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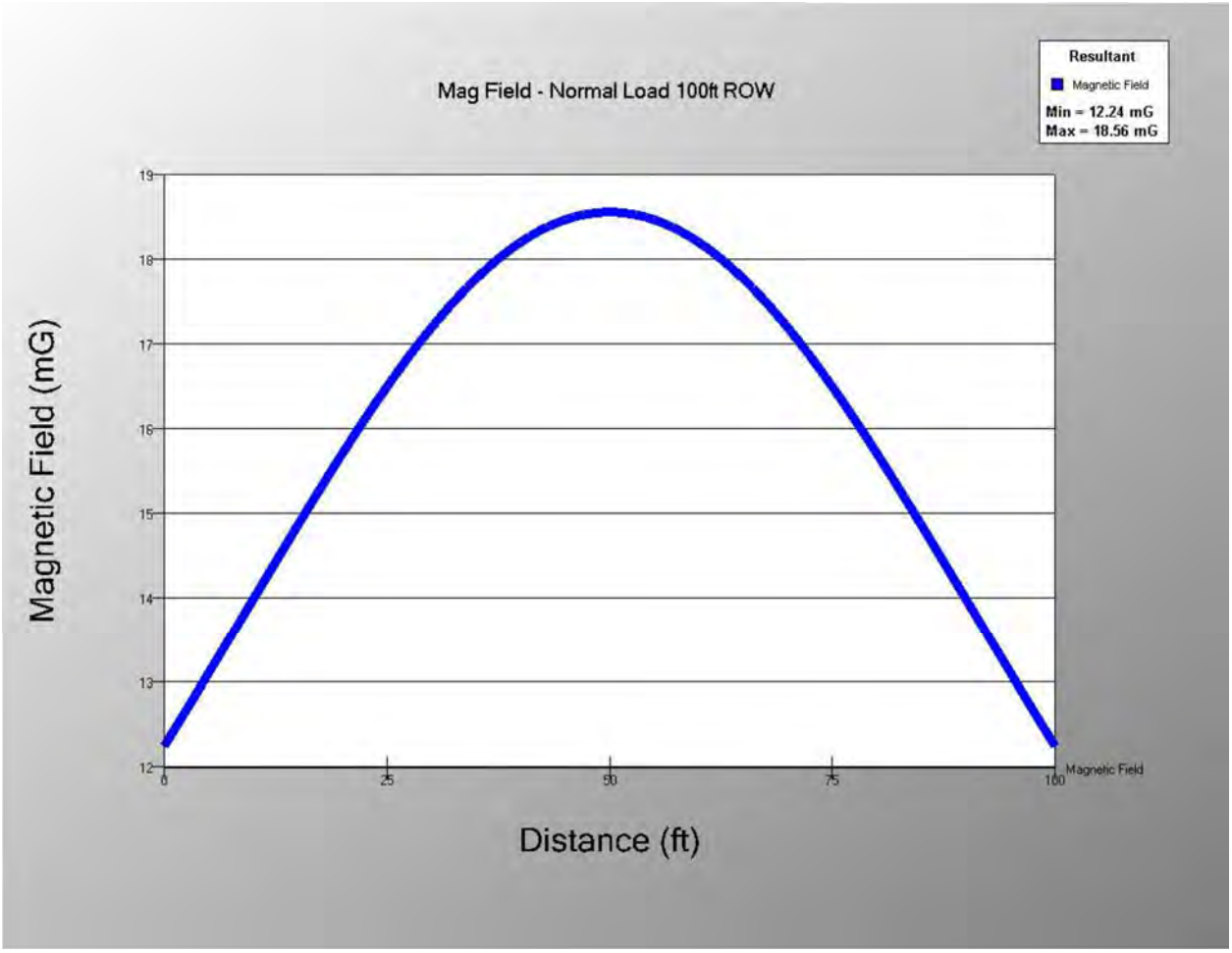
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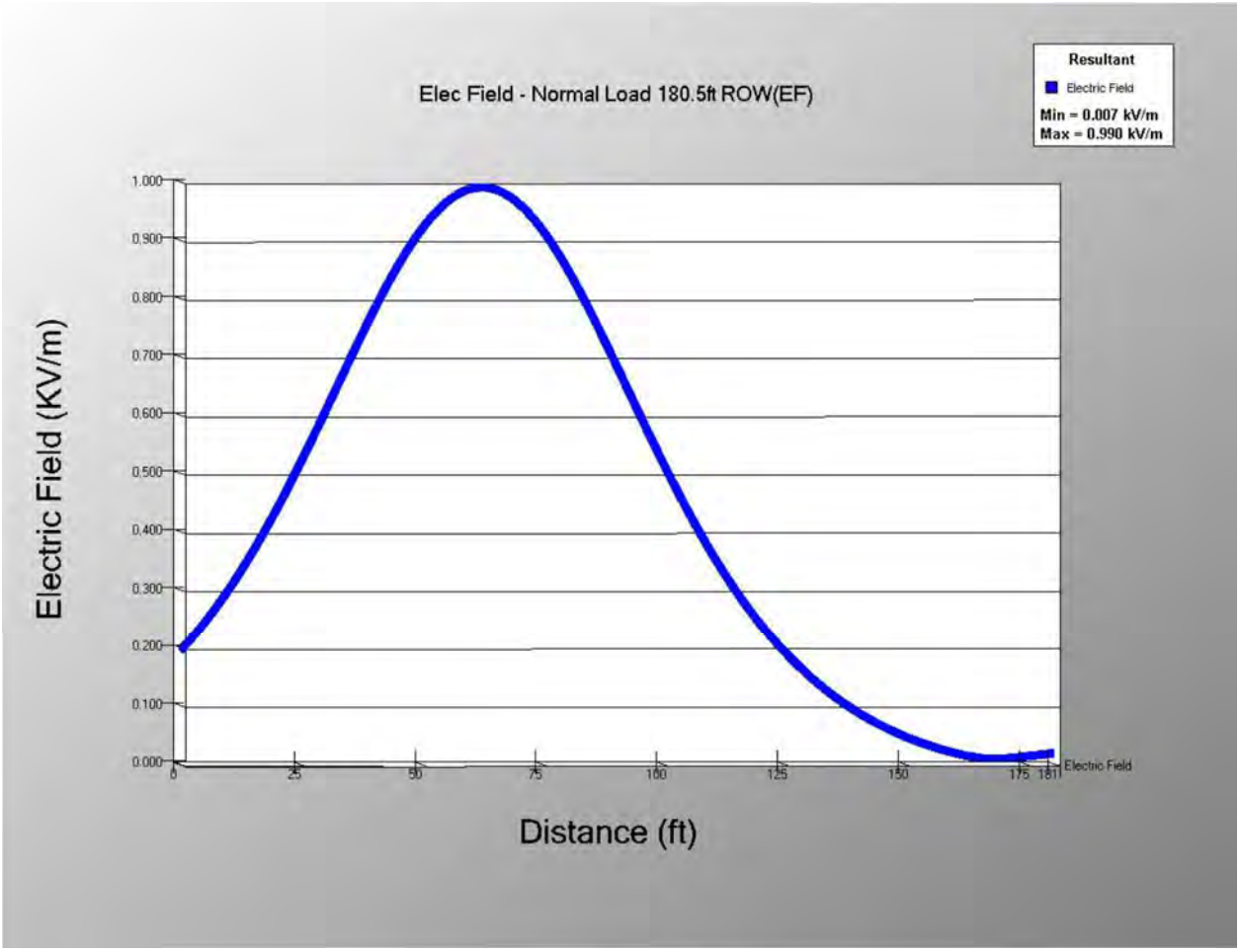
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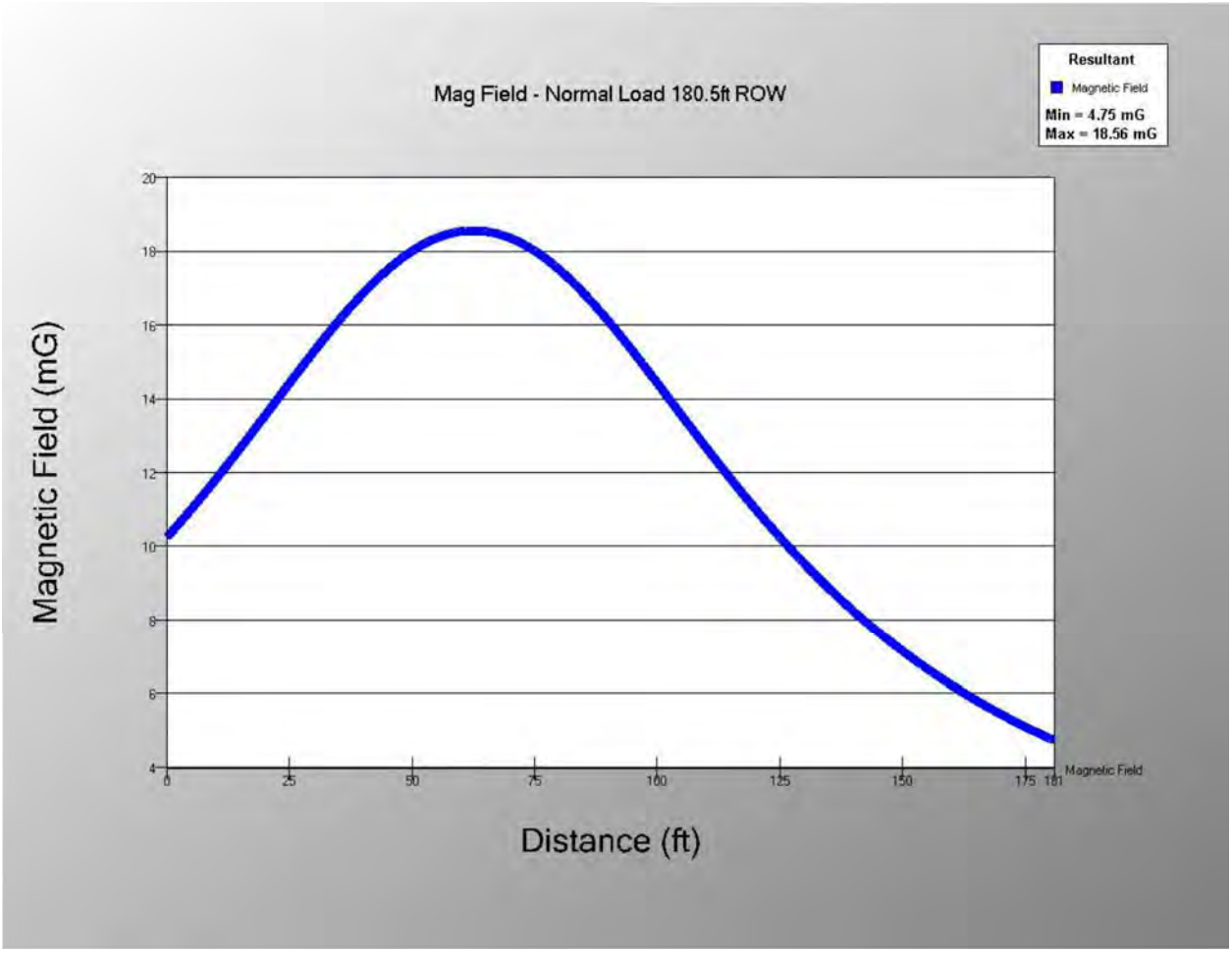
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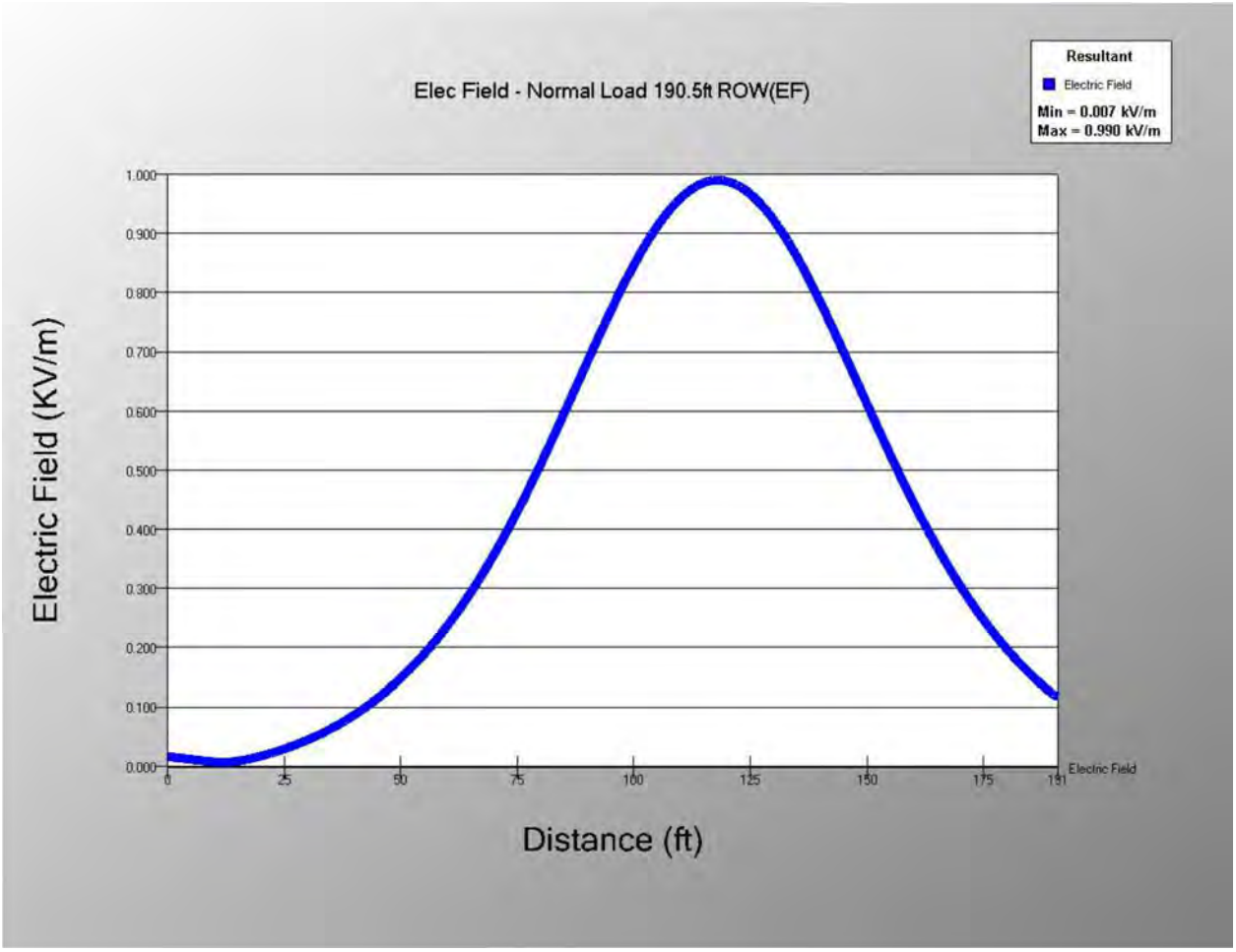
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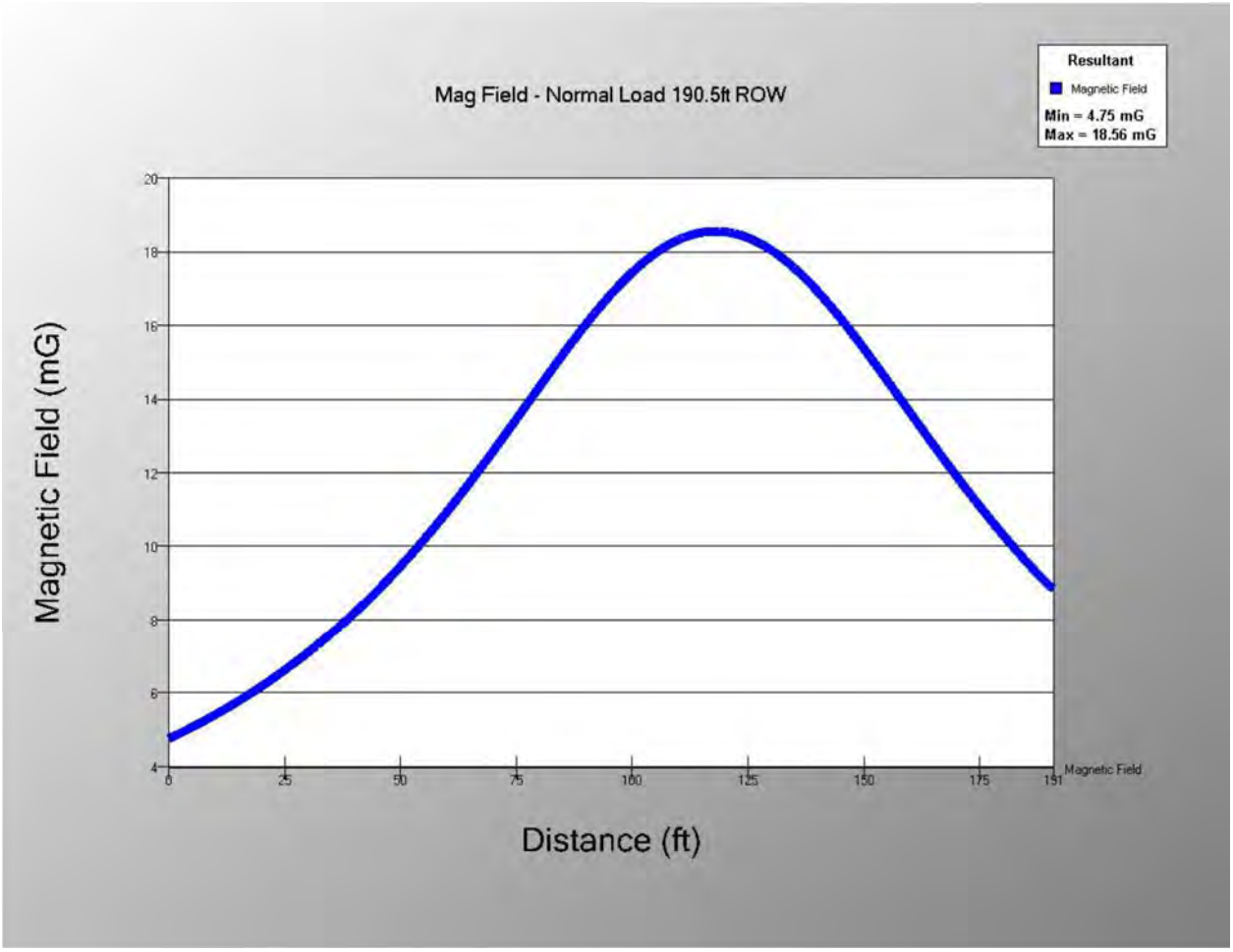
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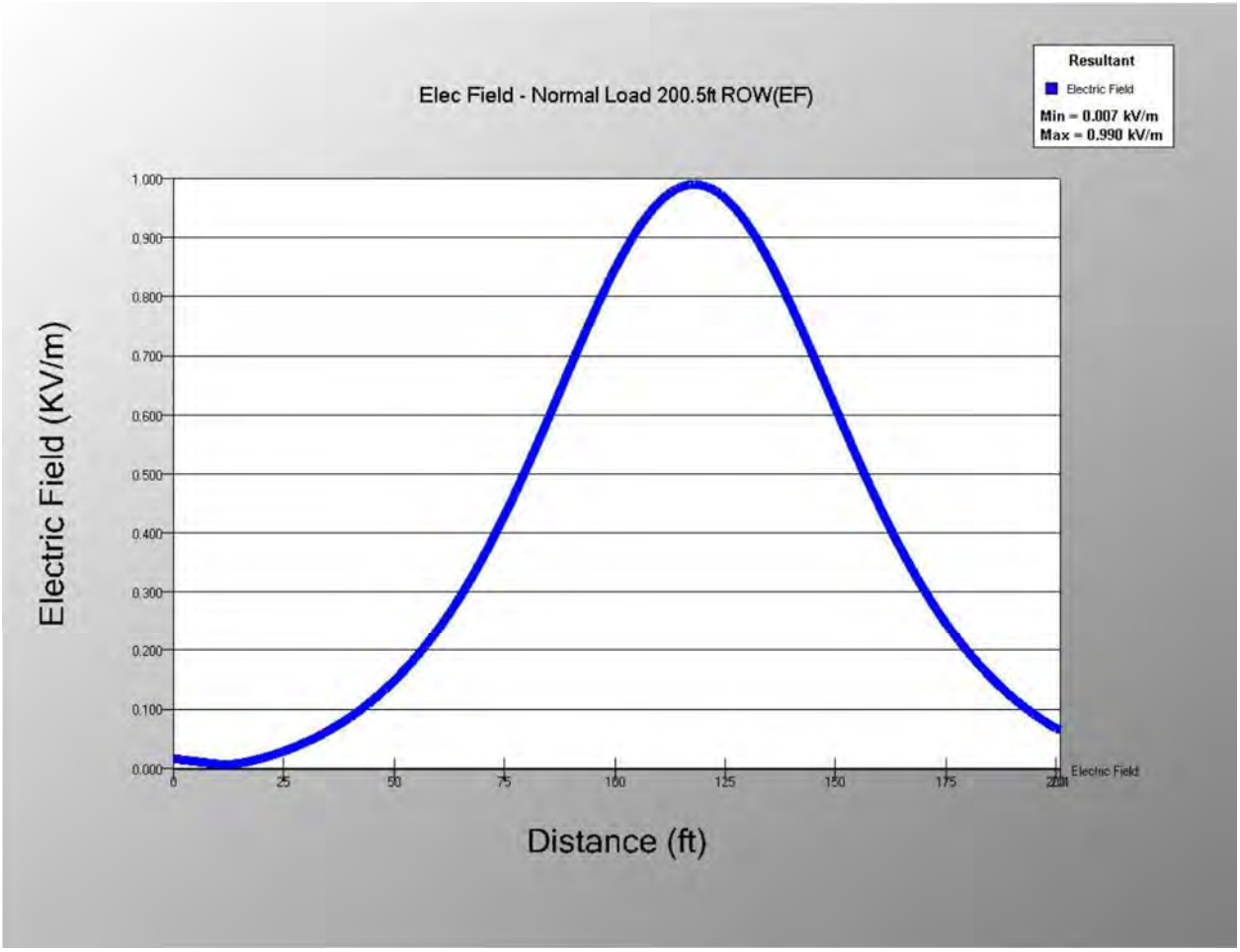
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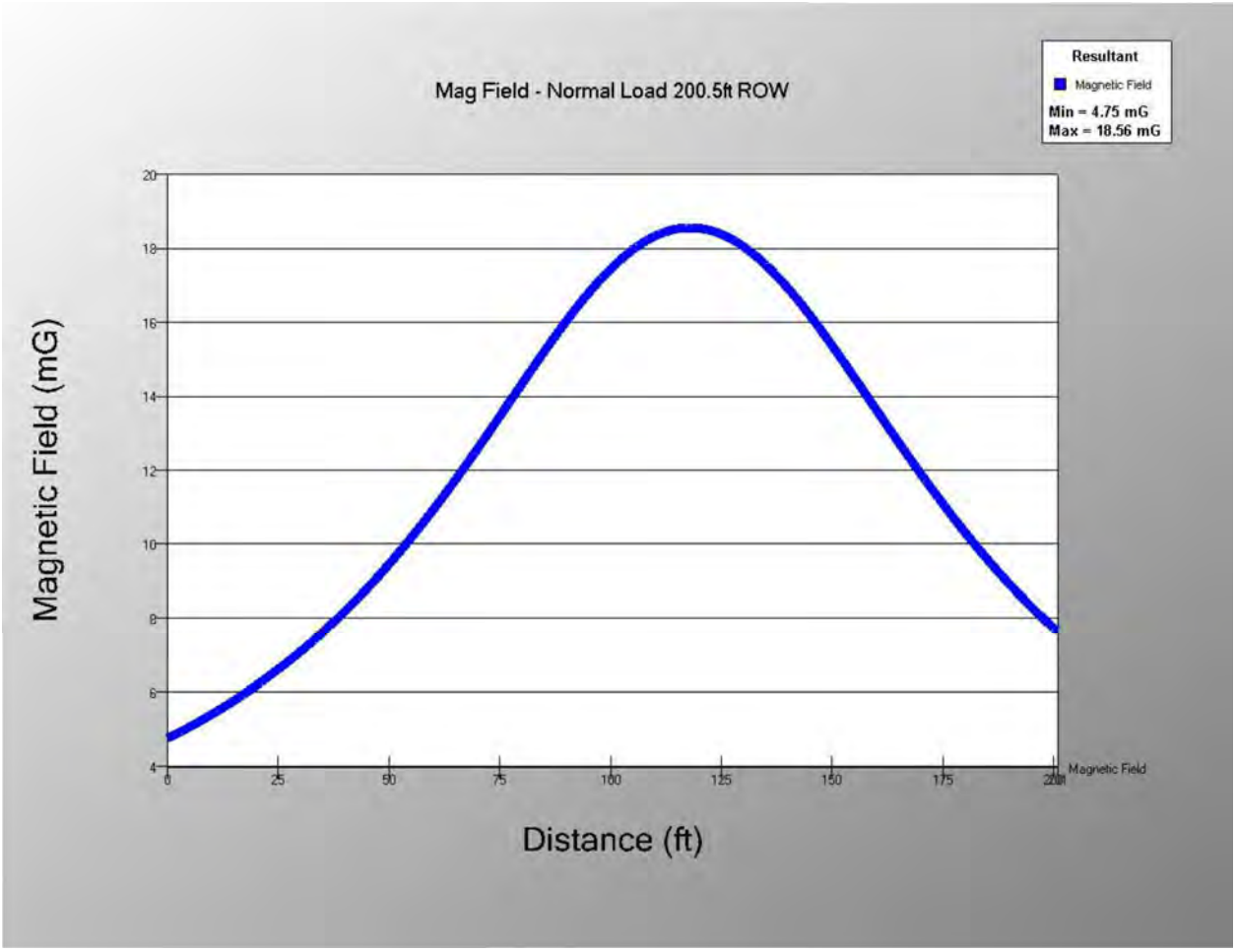
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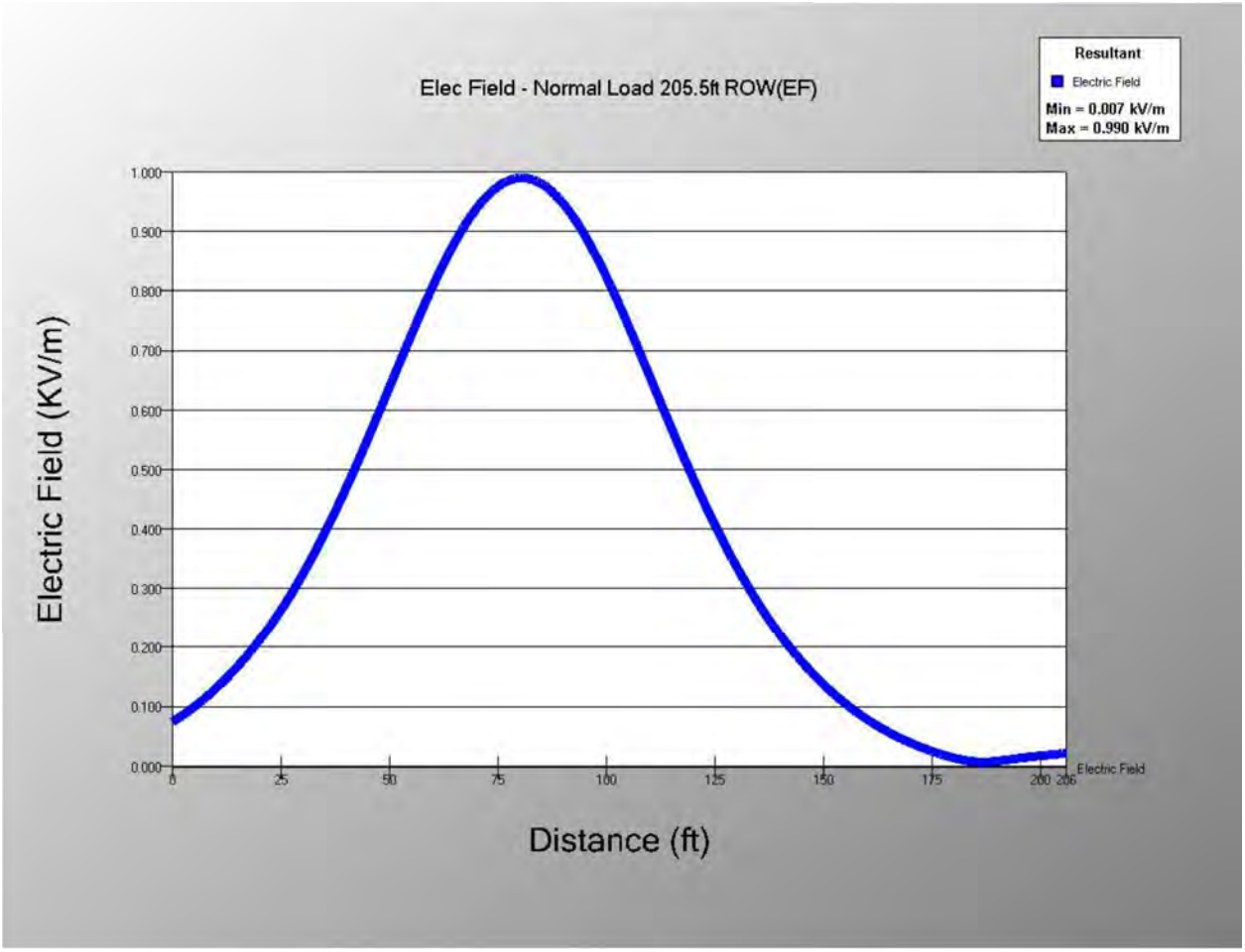
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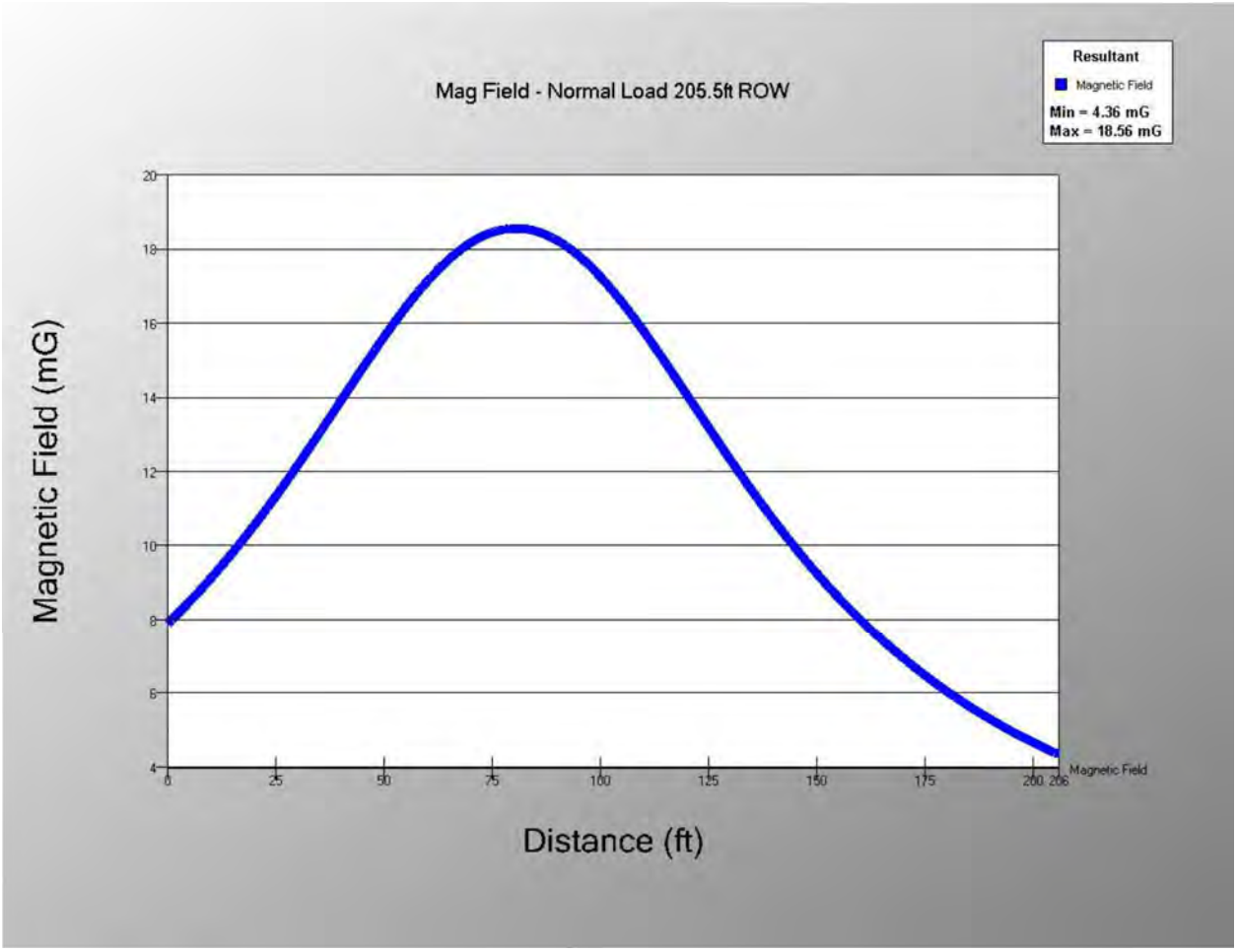
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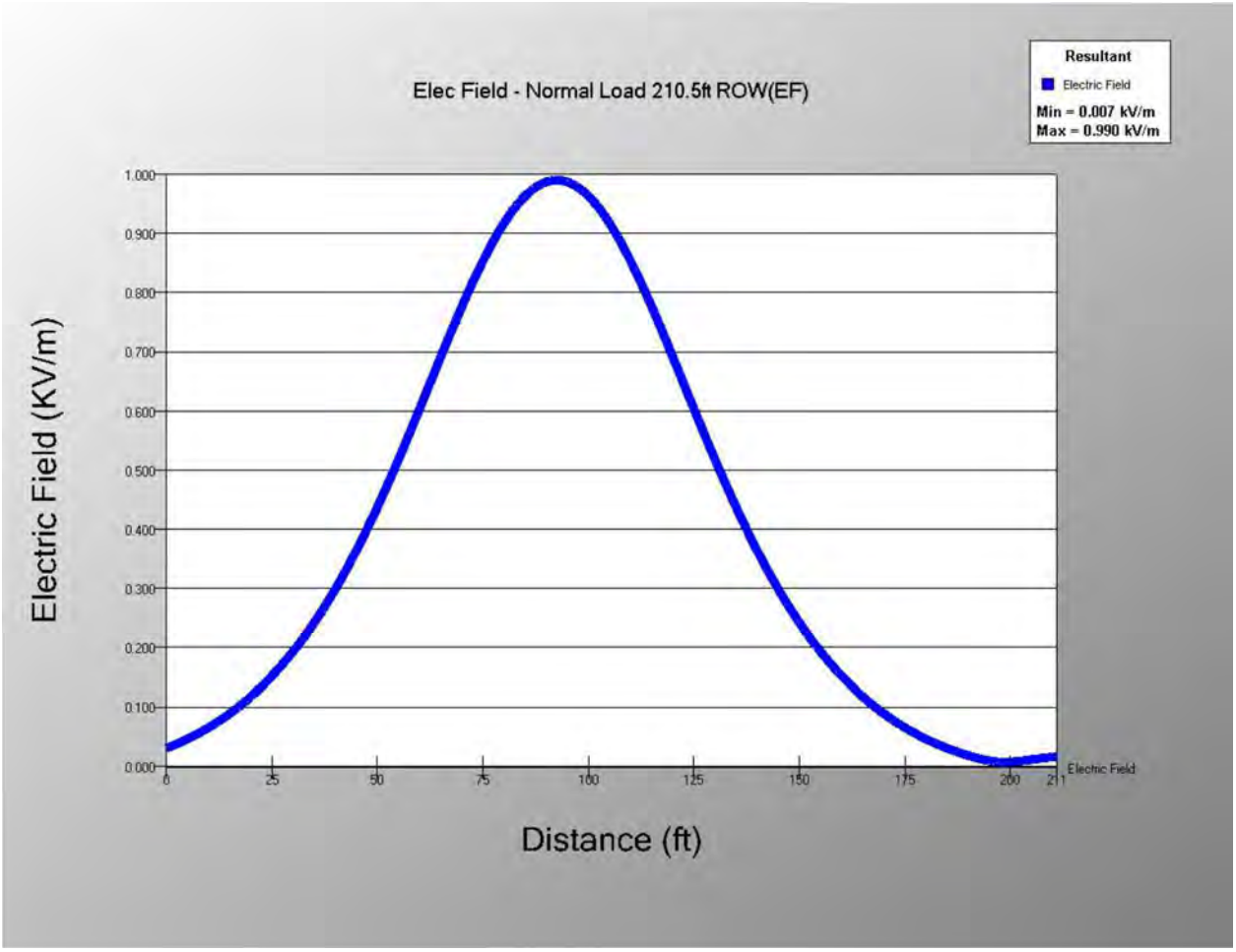
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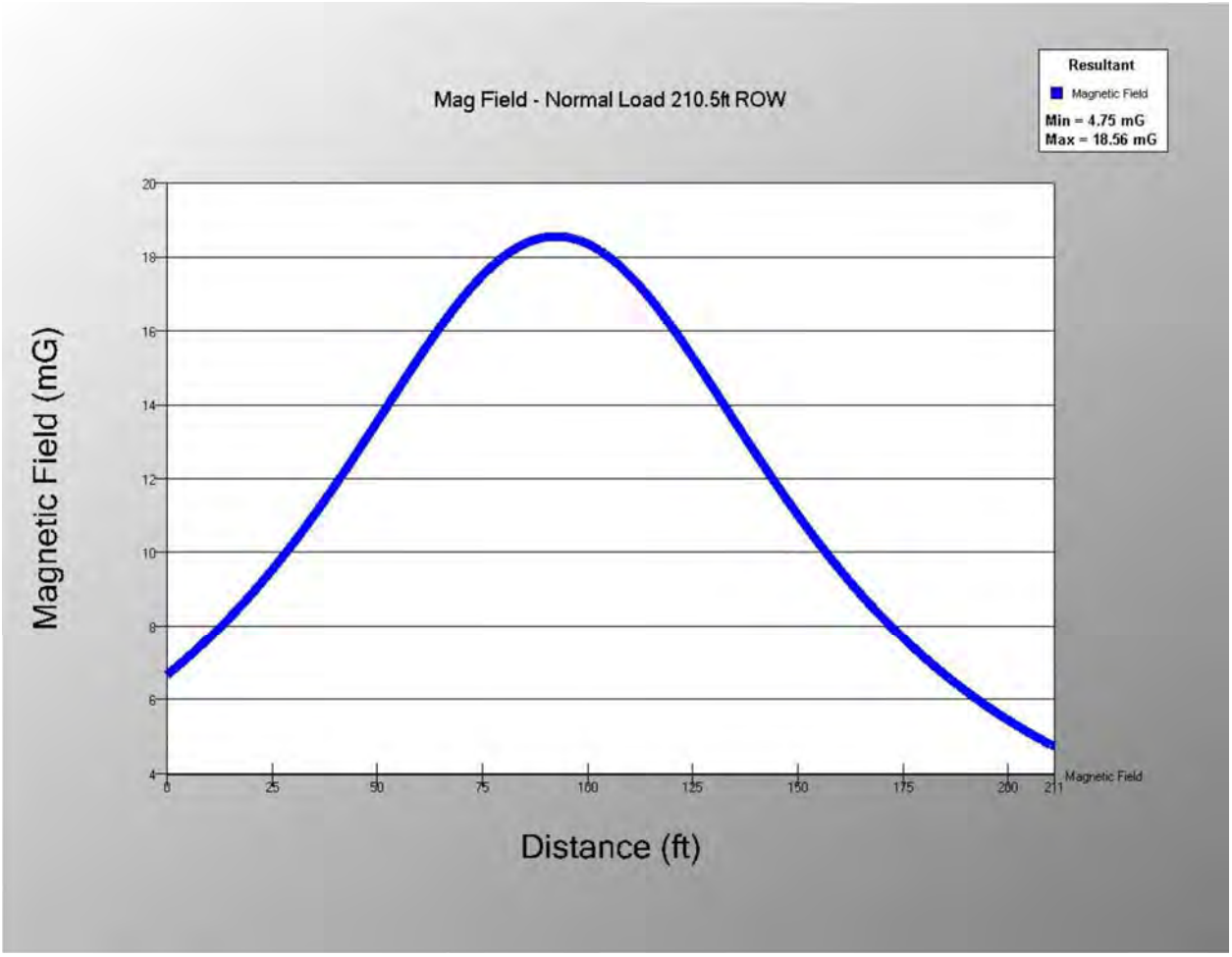
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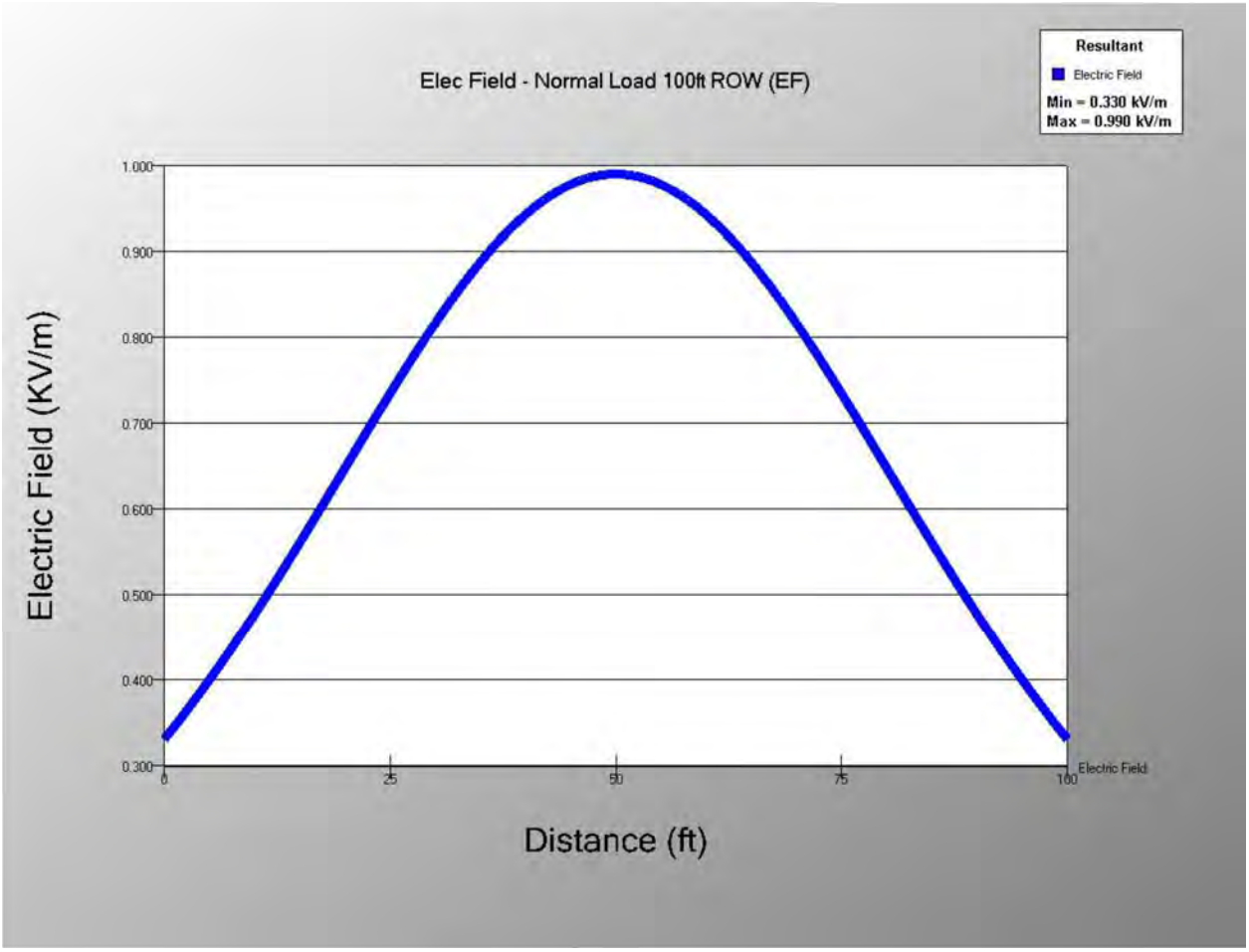
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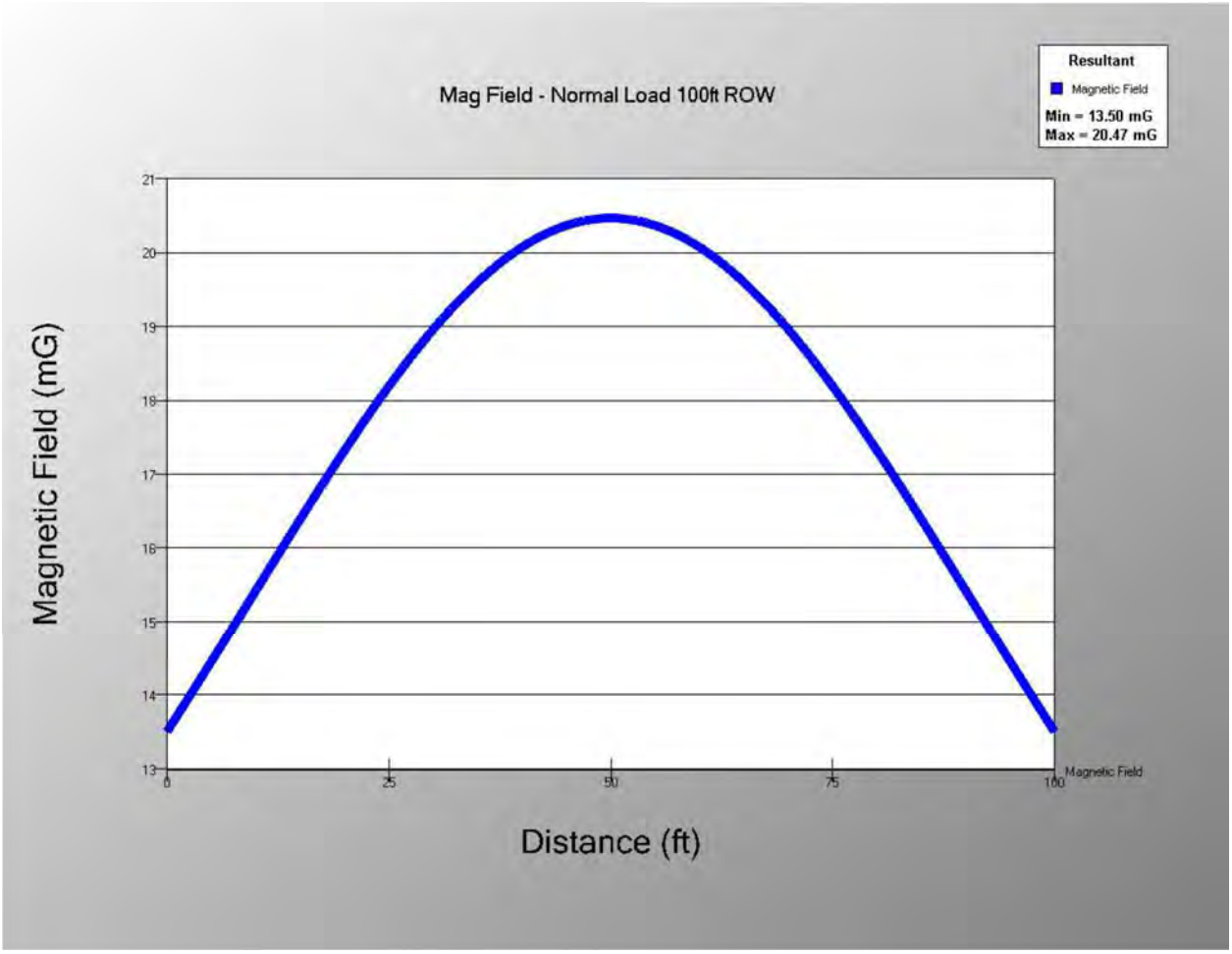
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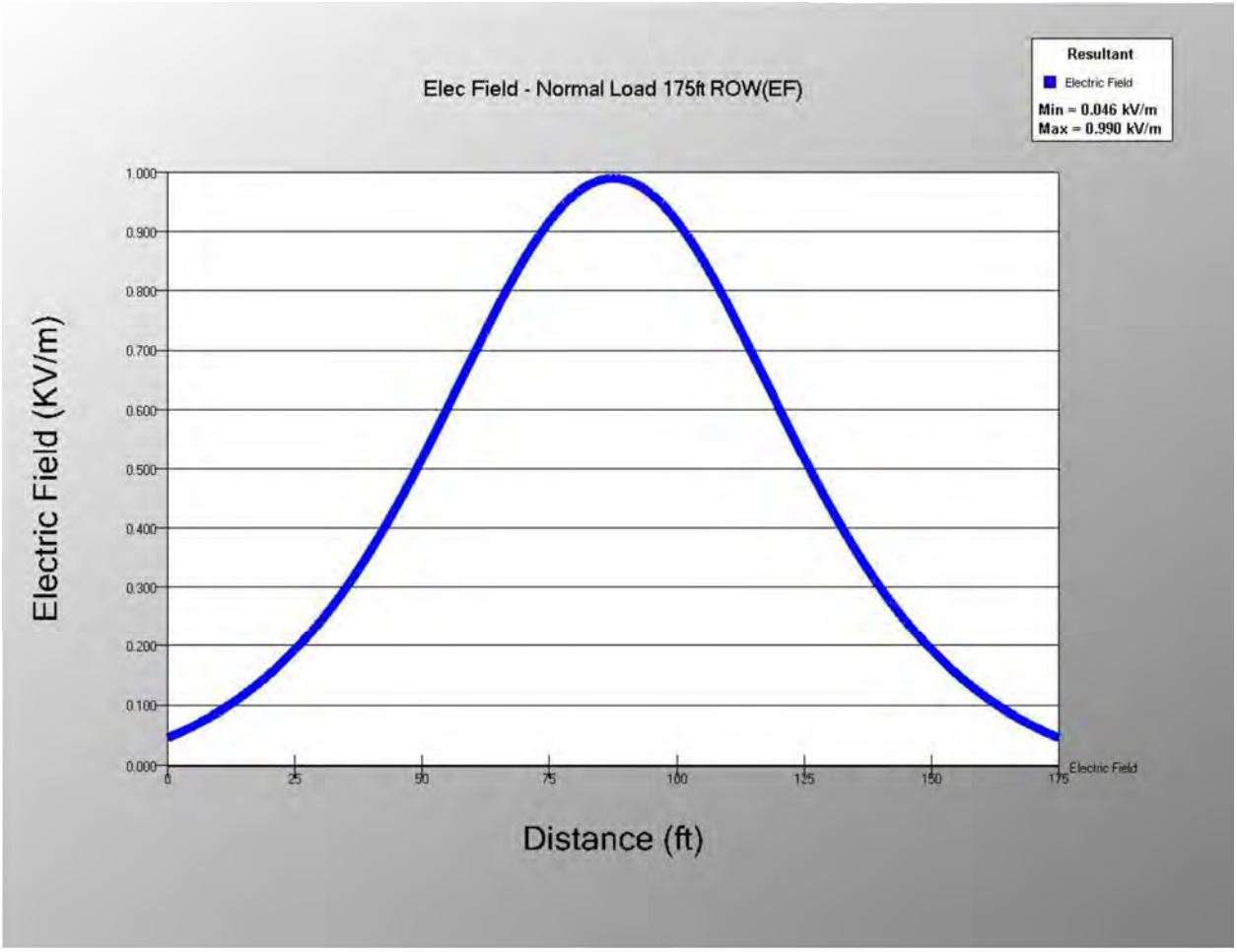
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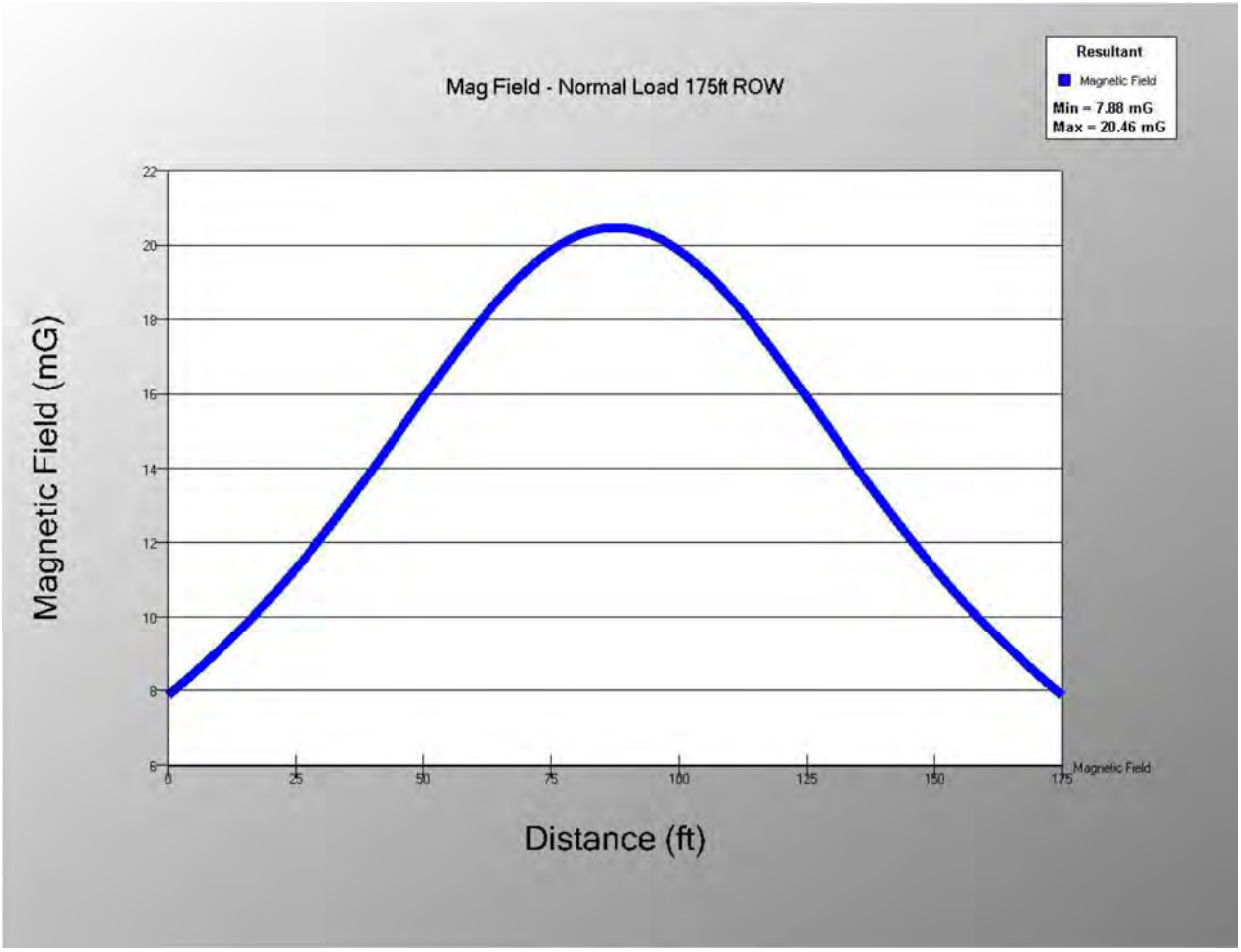
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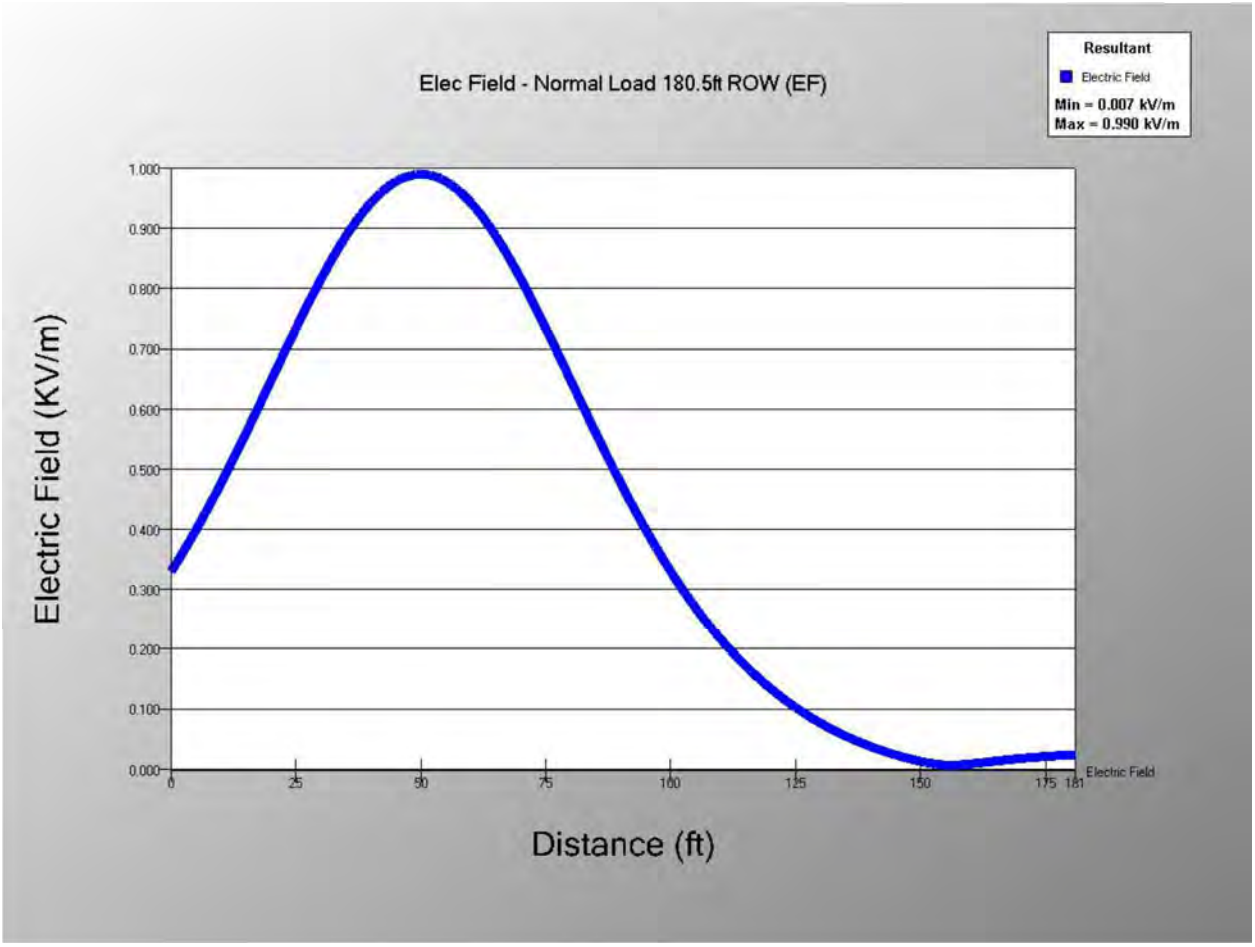
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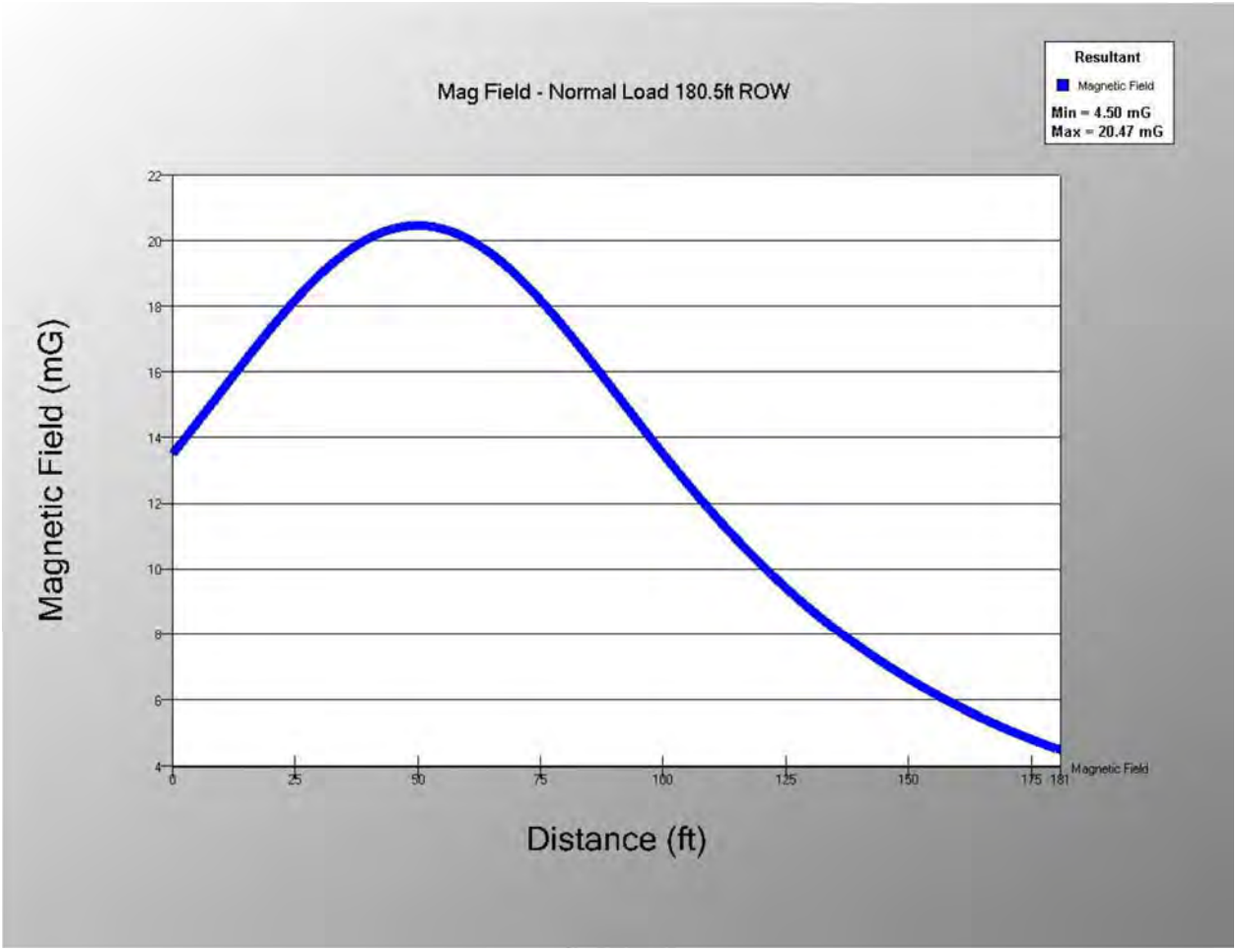
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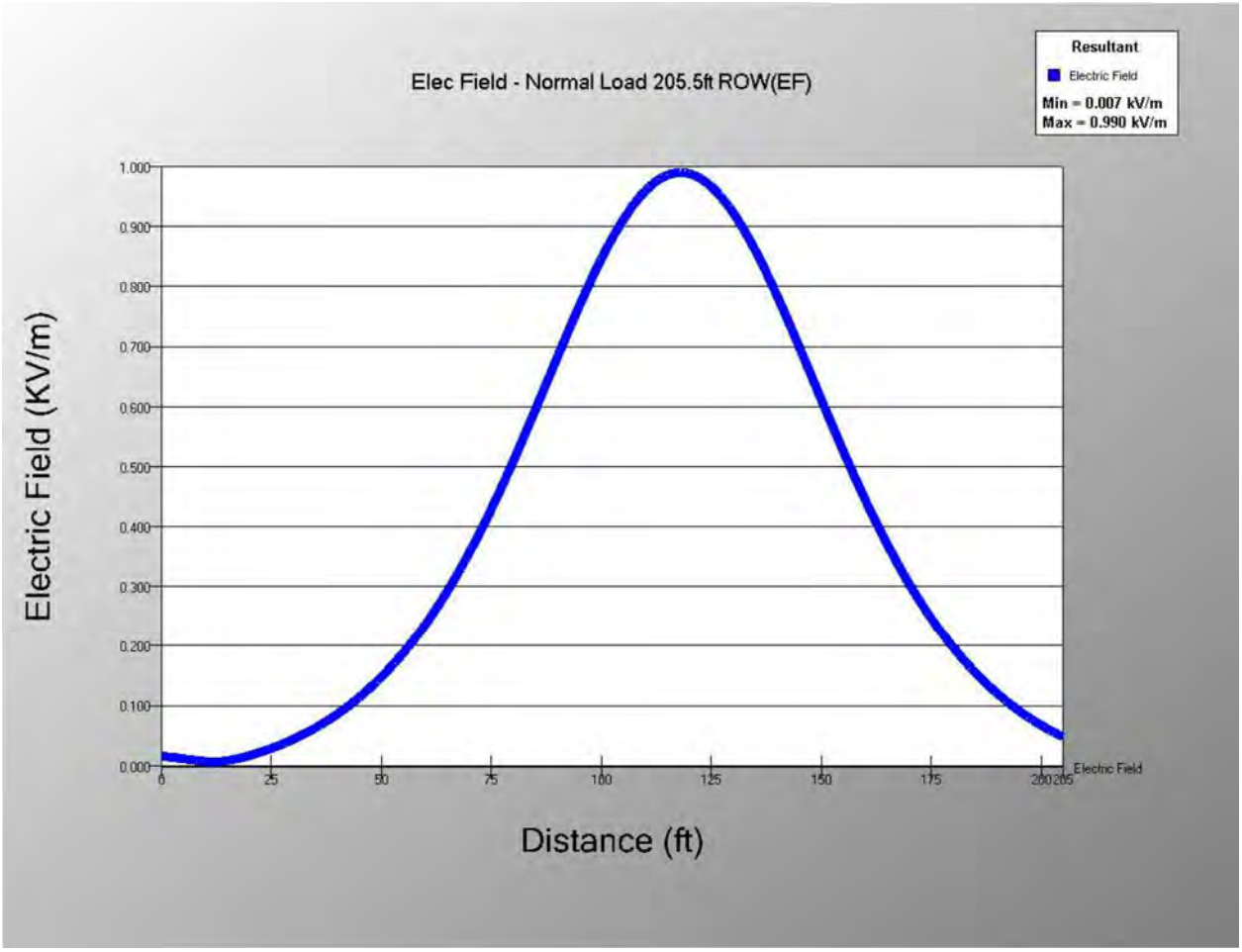
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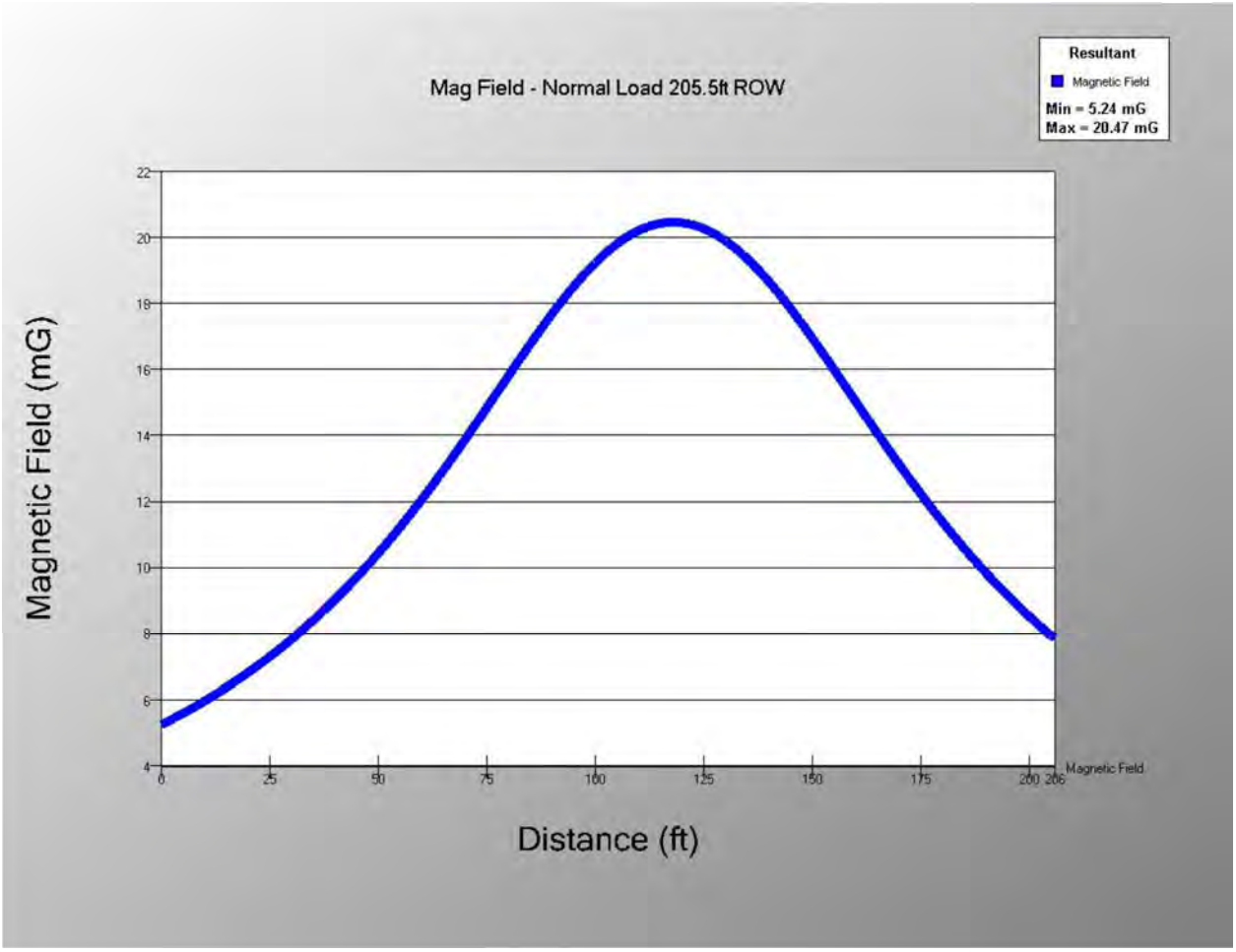
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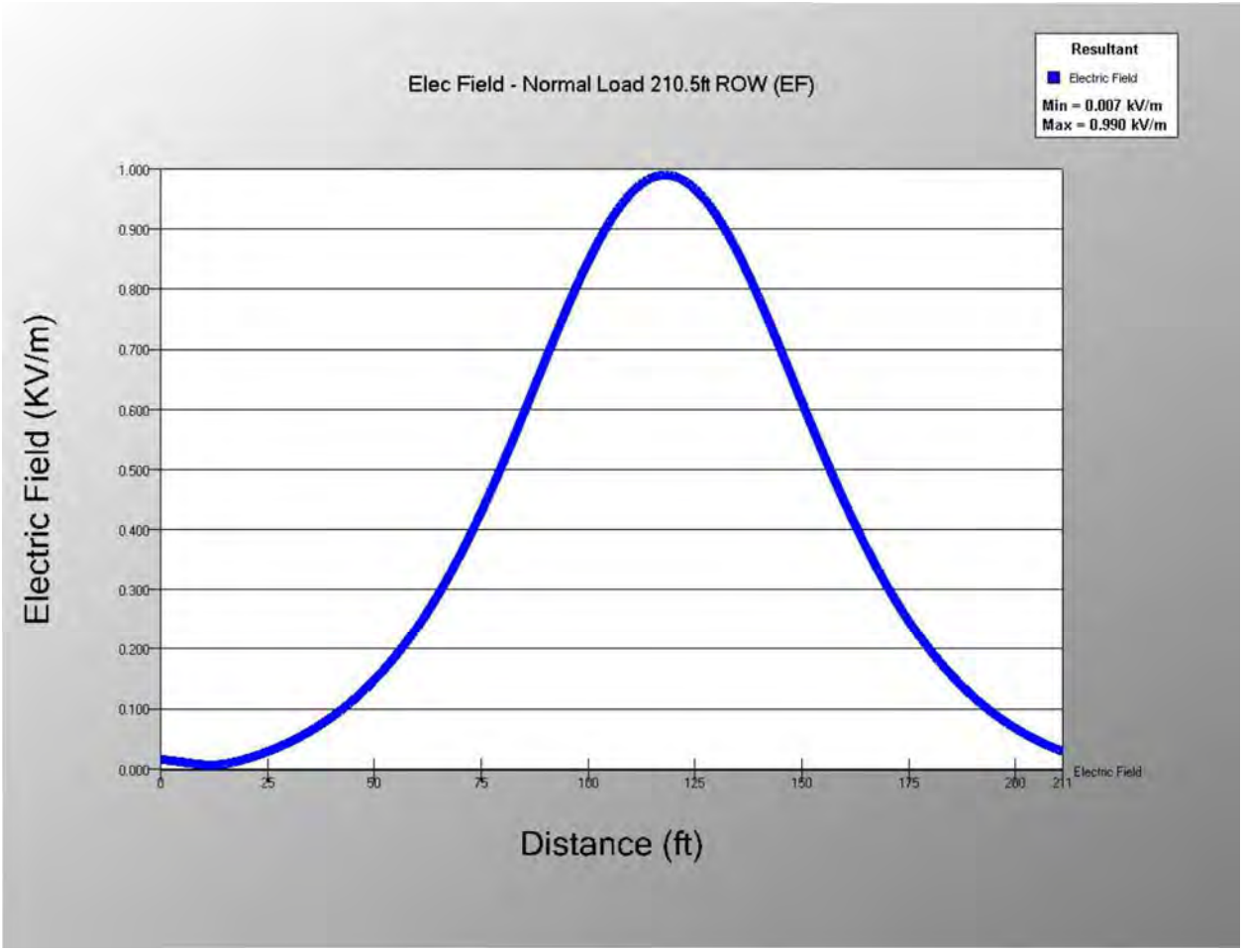
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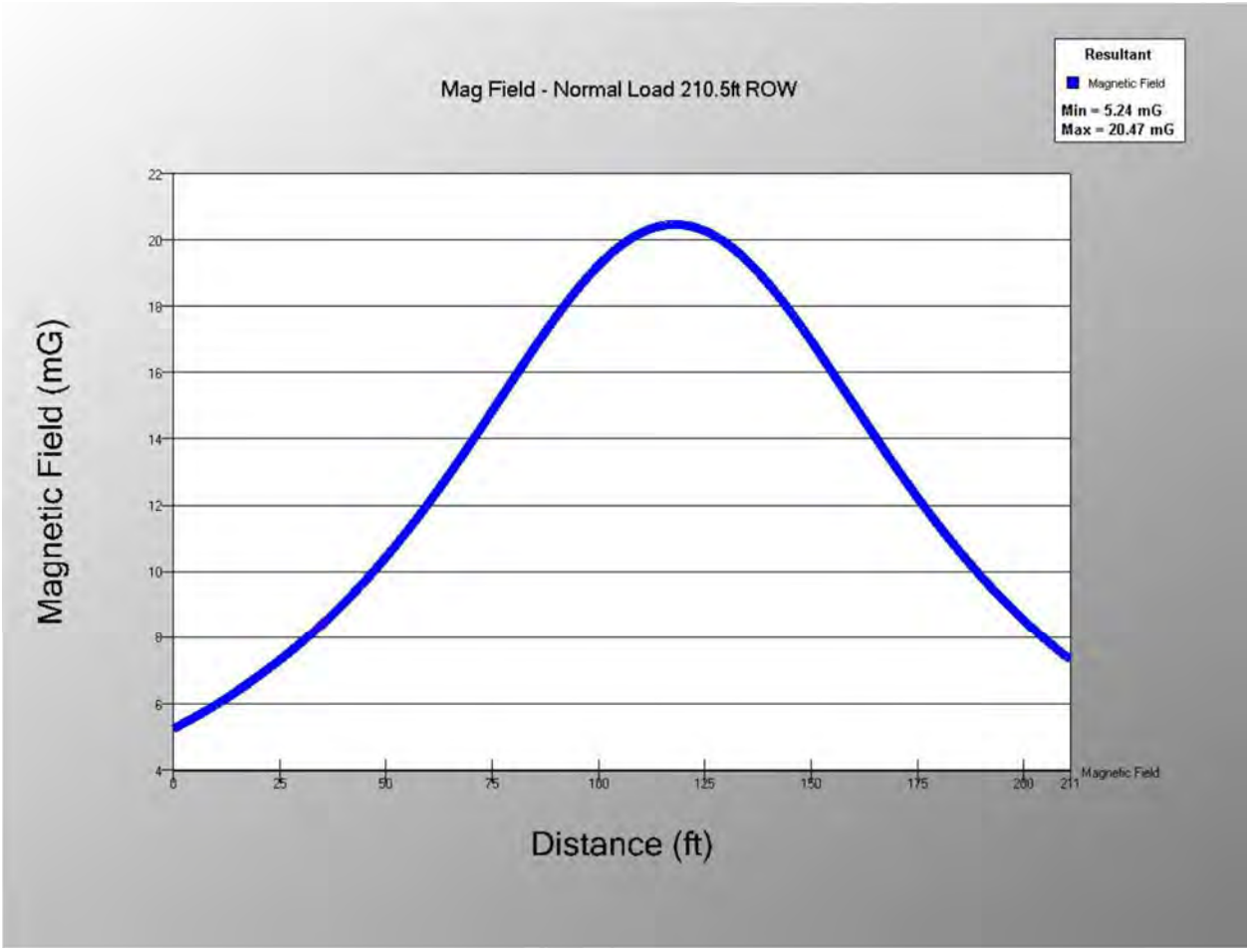
# Exhibit 29

## Dixonville East-Glory 115kV Transmission Line



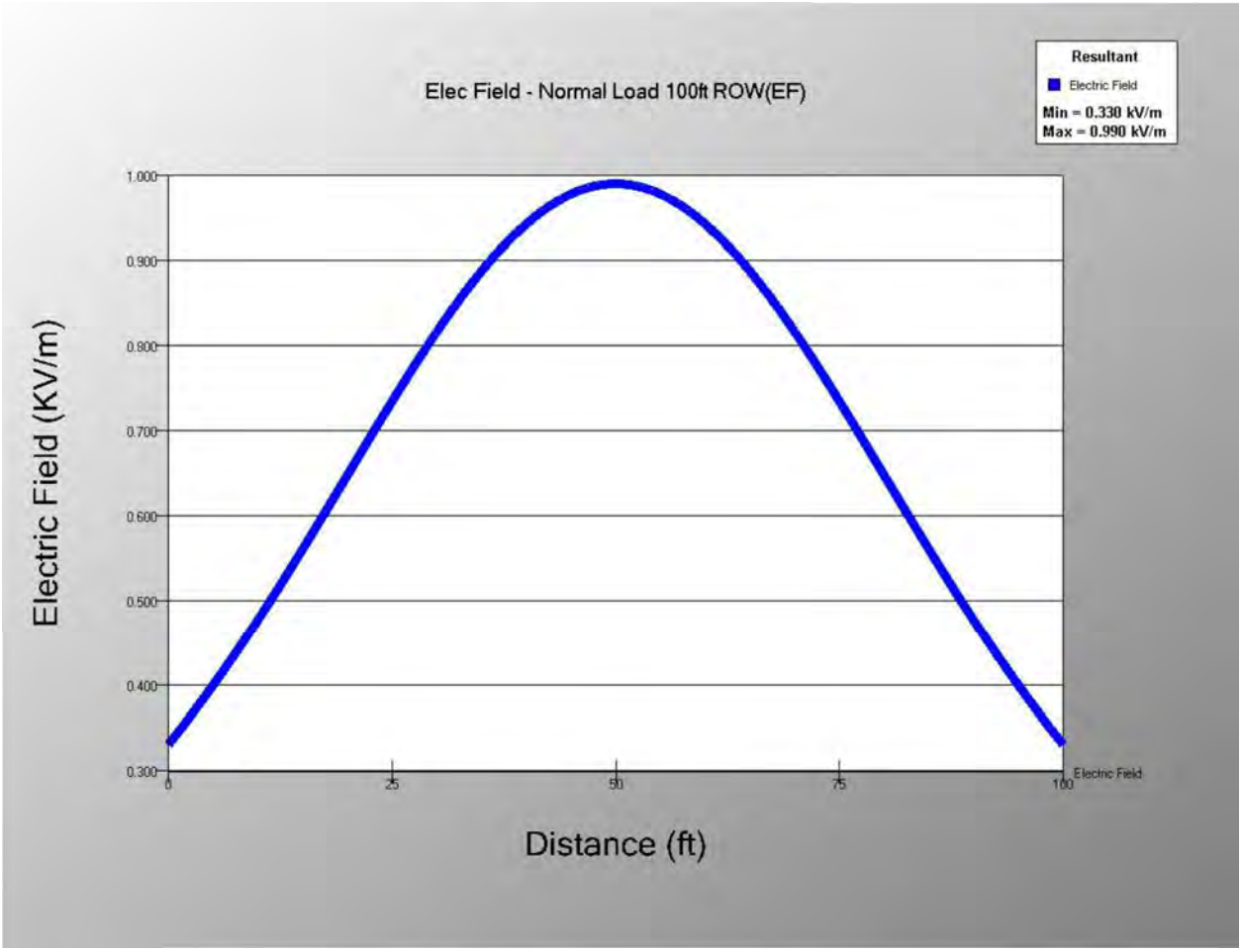
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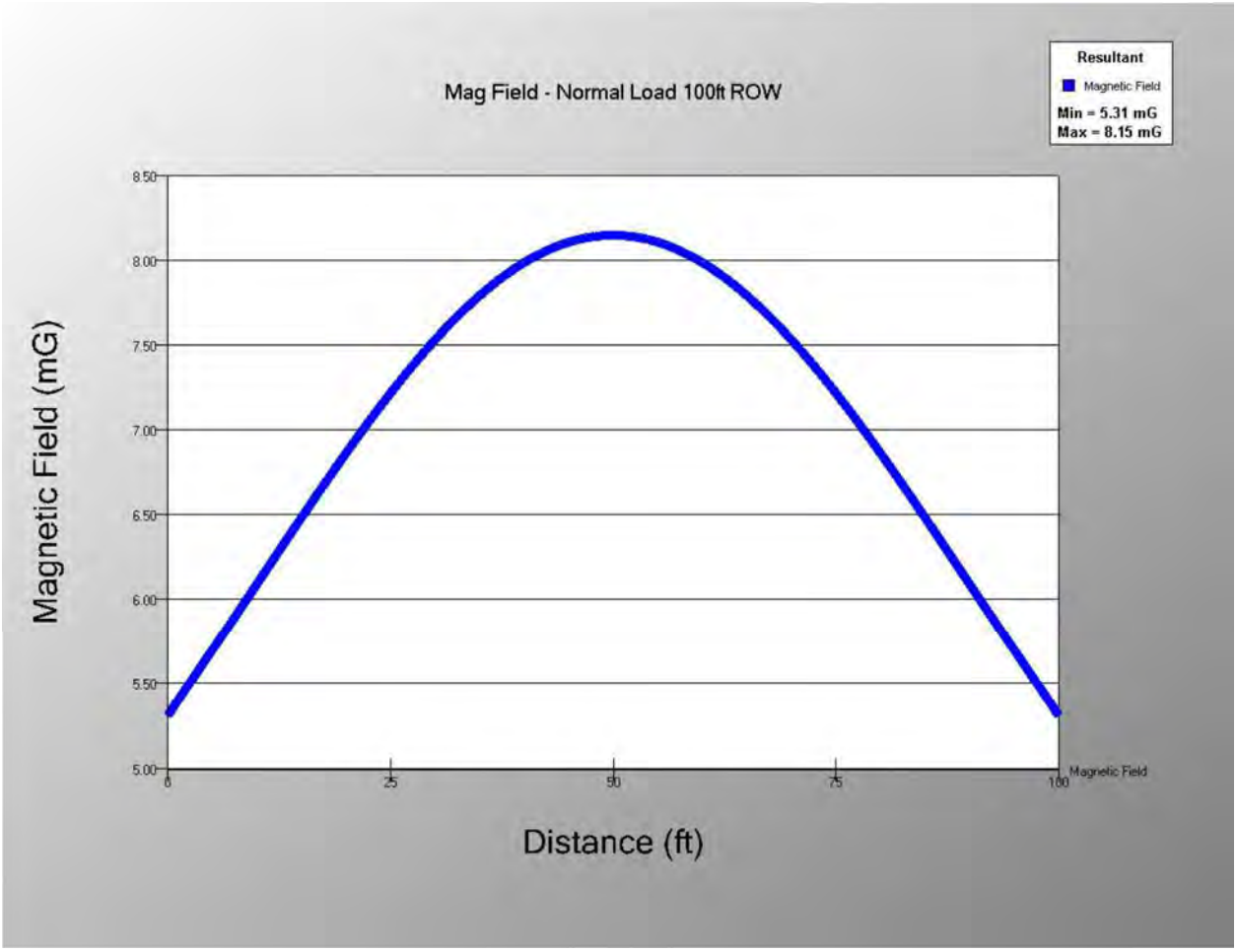
# Exhibit 29

## Glory-Seward 115kV Transmission Line



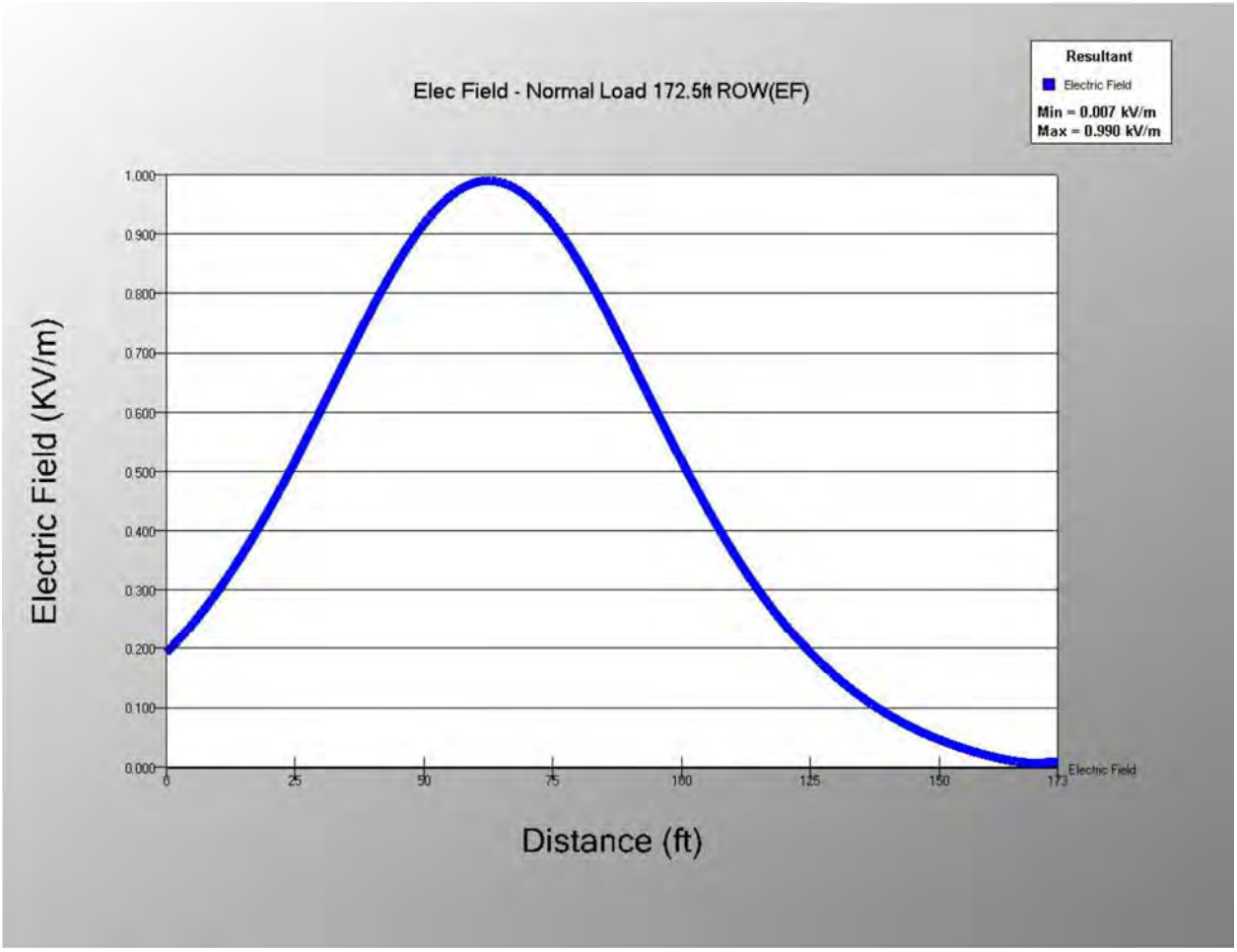
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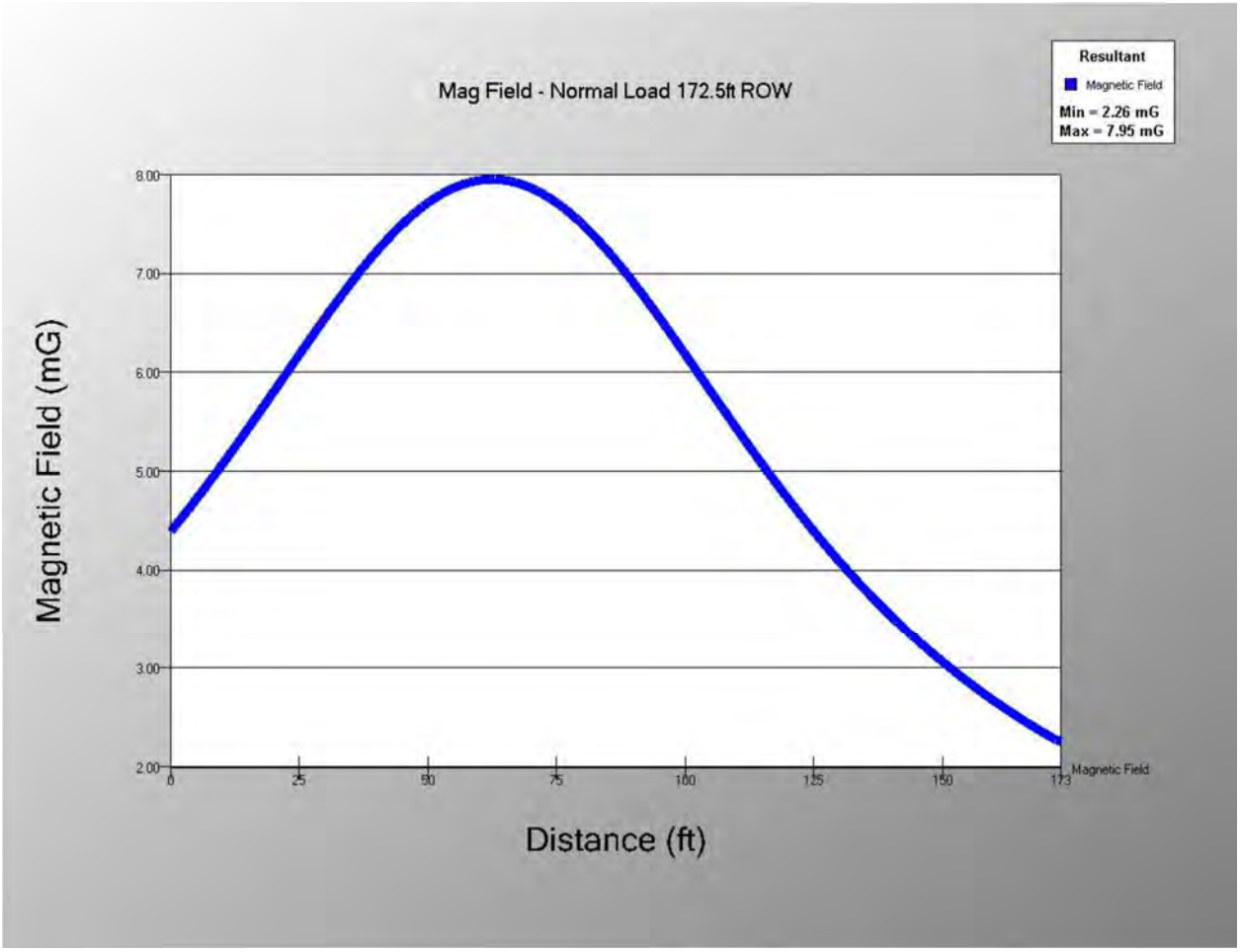
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## Glory-Seward 115kV Transmission Line



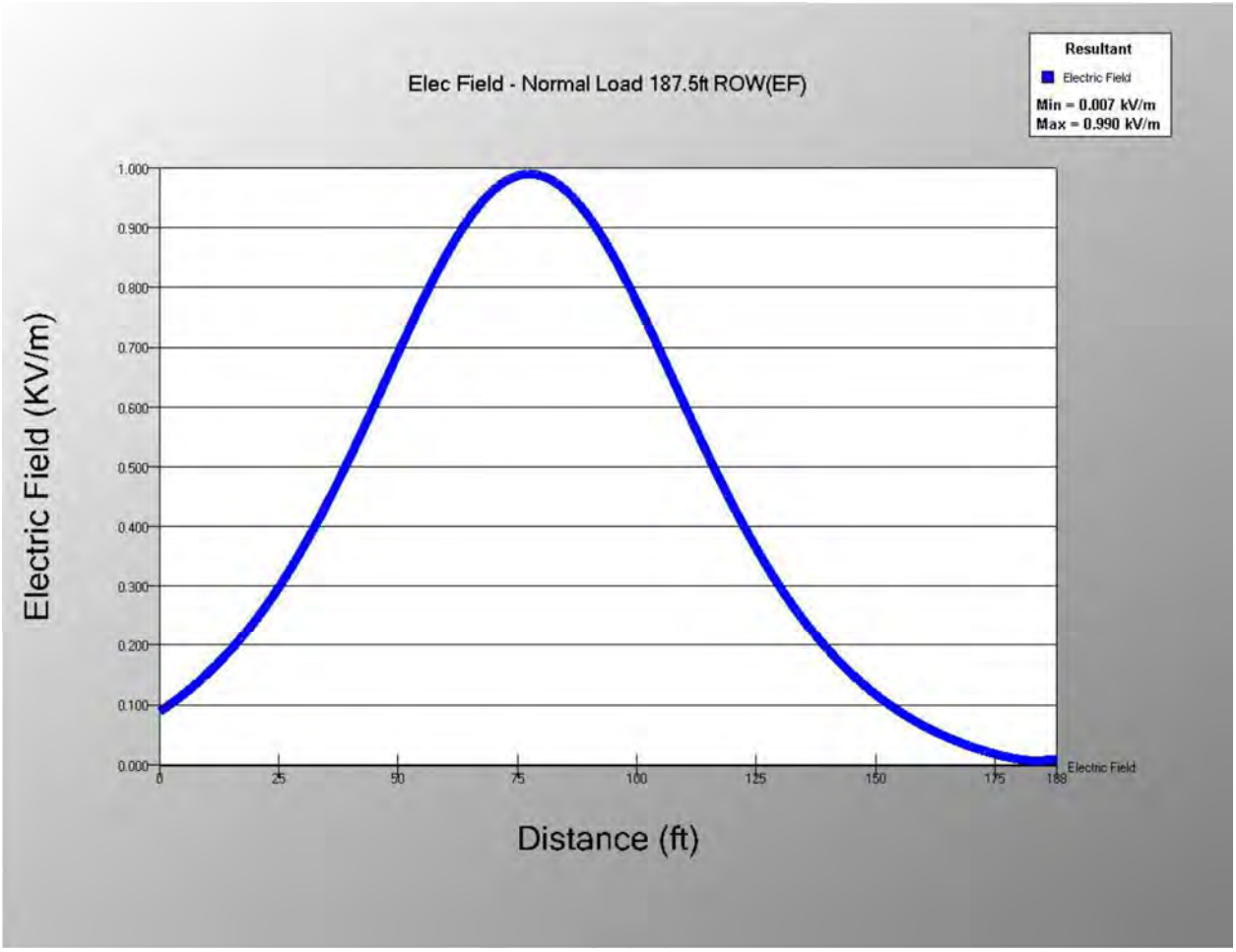
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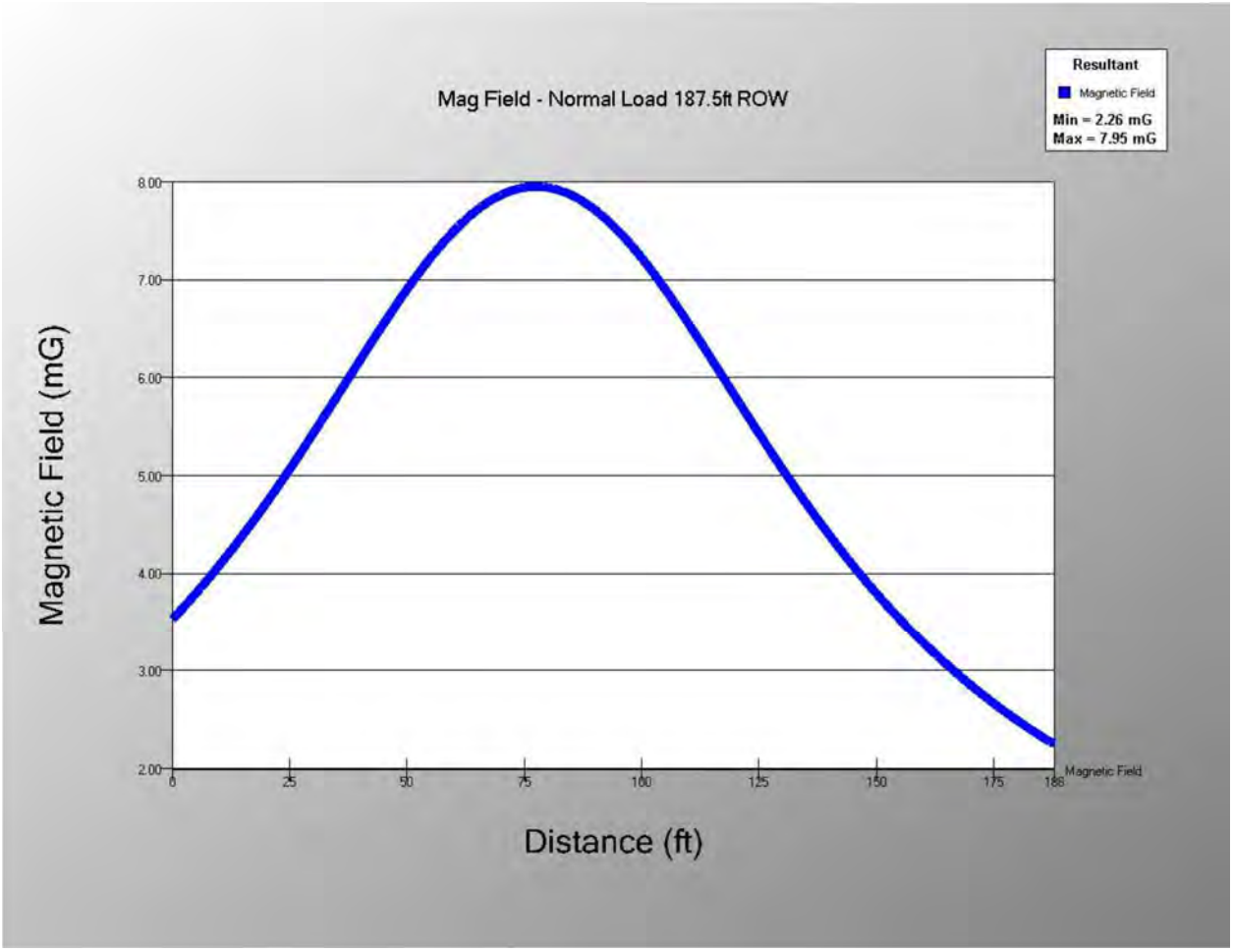
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## Glory-Seward 115kV Transmission Line



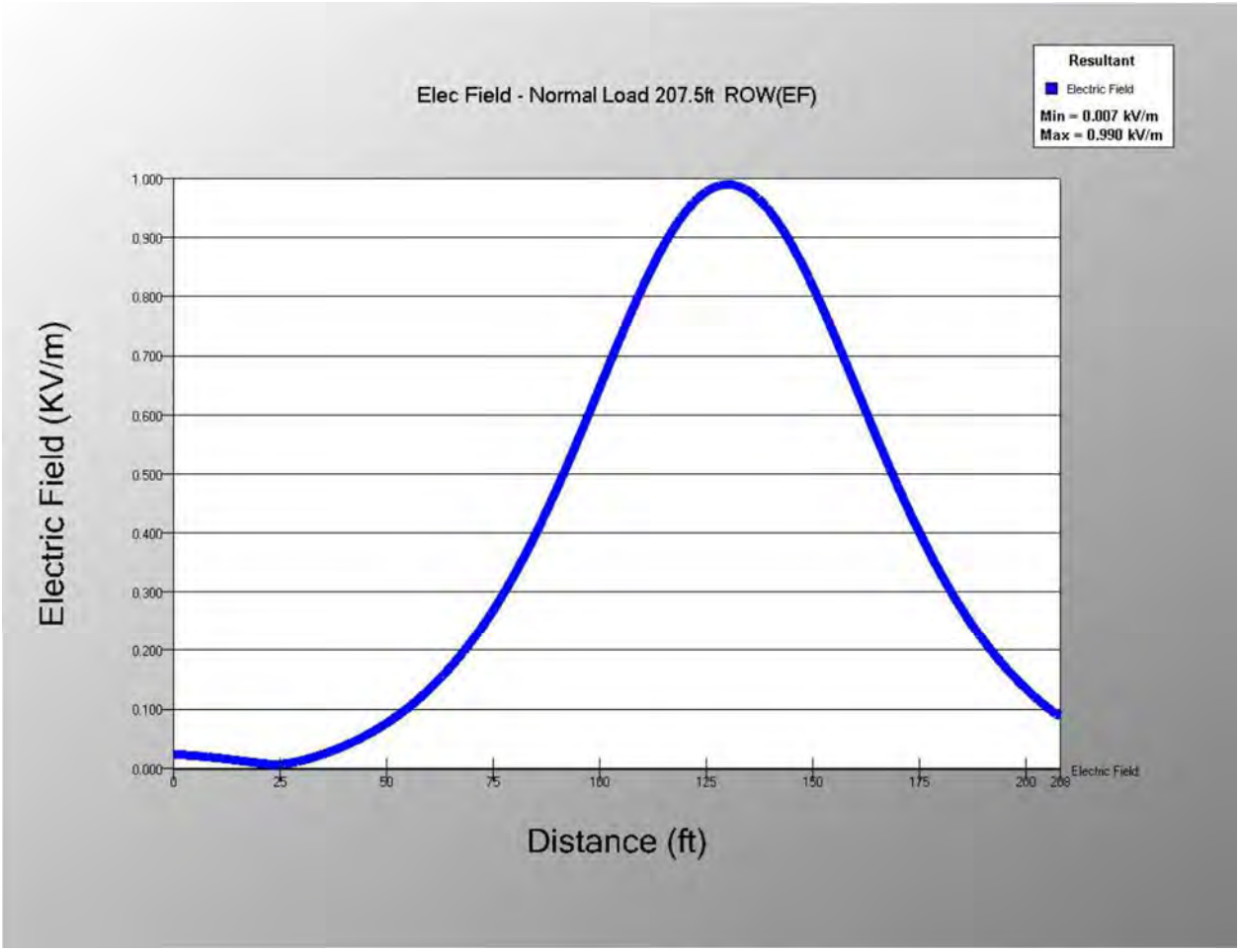
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## Glory-Seward 115kV Transmission Line



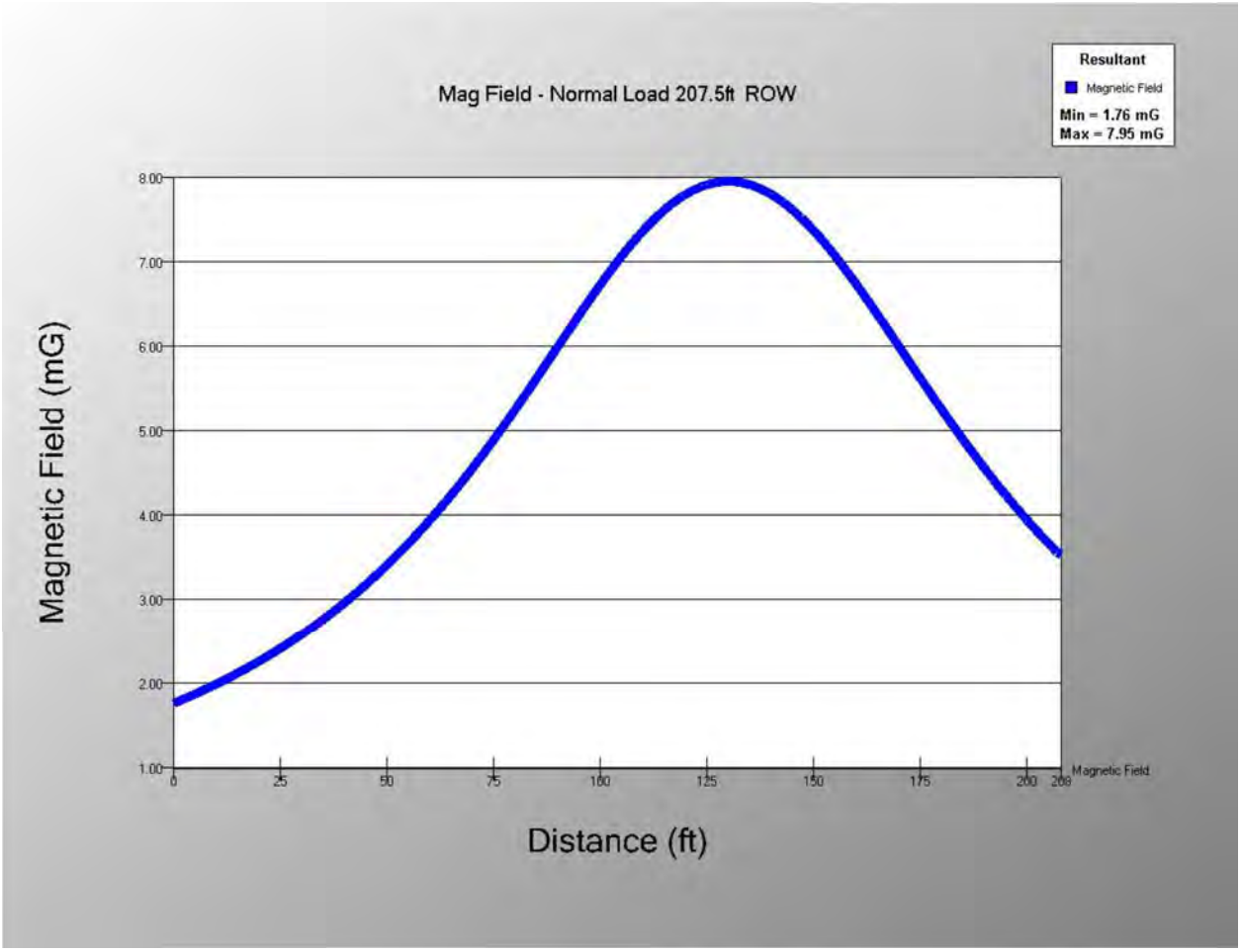
# Exhibit 29

## Glory-Seward 115kV Transmission Line



# Exhibit 29

## Glory-Seward 115kV Transmission Line



# MAIT EXHIBIT 30

| Station | Equipment Name | Actual Out | Duration (Hrs) | Outage Category | Outage Type | Initiating Cause | Initiating Sub-Cause | CI | CMI | SAIFI | SAIDI | CAIDI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GLORY | GLORY-SEWARD 115KV G1 LINE | 04/02/2020 5:58:40 PM | 21.86 | Unscheduled | Sustained | Vegetation | Fall-ins (outside ROW) (not due to Nat Dis or Human Error) | #N/A | | 0 | 0 | 0 |
| GLORY | GLORY-SEWARD 115KV G1 LINE | 11/15/2020 3:57:34 PM | 72.81 | Unscheduled | Sustained | Weather, excluding lightning | Weather induced fall-in (outside ROW) | | | 0 | 0 | 0 |

| Station | Equipment Name | Actual Out | Duration (Hrs) | Outage Category | Outage Type | Initiating Cause | Initiating Sub-Cause | CI | CMI | SAIFI | SAIDI | CAIDI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 07/12/2020 6:05:05 PM | 0.04 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | #N/A | | 0 | 0 | 0 |
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 08/23/2020 11:50:59 PM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 08/28/2020 11:43:25 AM | 0.05 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| TRADE CITY | GLORY-TRADE CITY 115KV GTC LINE | 02/16/2021 12:03:44 AM | 0.02 | Unscheduled | Sustained | Weather, excluding lightning | Ice | | | 0 | 0 | 0 |
| DIXONVILL | GLORY-TRADE CITY 115KV GTC LINE | 07/13/2021 5:04:58 PM | 2.75 | Unscheduled | Sustained | Power System Condition | Abnormal System Configuration | 1186 | 44178 | 0.002 | 0.076 | 37.2 |
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 12/15/2022 11:32:12 AM | 143.45 | Unscheduled | Sustained | Weather, excluding lightning | Ice | 718 | 8616 | 0.001 | 0.031 | 12.0 |
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 04/01/2023 2:13:51 PM | 0.32 | Unscheduled | Sustained | Weather, excluding lightning | Wind | #N/A | | 0 | 0 | 0 |
| TRADE CITY | GLORY-TRADE CITY 115KV GTC LINE | 07/01/2023 8:37:08 AM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| TRADE CITY | GLORY-TRADE CITY 115KV GTC LINE | 09/07/2023 12:35:03 PM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| GLORY | GLORY-TRADE CITY 115KV GTC LINE | 09/09/2023 7:33:50 AM | 0.02 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| TRADE CITY | GLORY-TRADE CITY 115KV GTC LINE | 01/15/2024 10:13:54 AM | 0.05 | Unscheduled | Sustained | Foreign Interference | Logging Activities | 758 | 1516 | 0.001 | 0.003 | 0 |
| DIXONVILL | GLORY-TRADE CITY 115KV GTC LINE | 02/28/2024 5:05:57 PM | 69.22 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | 758 | 3790 | 0.001 | 0.006 | 0 |

| Station | Equipment Name | Actual Out | Duration (Hrs) | Outage Category | Outage Type | Initiating Cause | Initiating Sub-Cause | CI | CMI | SAIFI | SAIDI | CAIDI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 01/12/2020 3:49:29 AM | 0.01 | Unscheduled | Sustained | Weather, excluding lightning | Wind | #N/A | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 01/12/2020 4:39:24 AM | 8.55 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 06/10/2020 10:55:00 PM | 4.73 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 07/19/2020 8:23:13 PM | 2.03 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 09/14/2020 6:55:58 AM | 0.07 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 11/15/2020 3:24:13 PM | 28.12 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 03/26/2021 8:23:52 AM | 1.01 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| TIMBLIN | PINEY-TIMBLIN 115KV P1 LINE | 07/07/2021 5:00:44 PM | 51.64 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 07/13/2021 5:04:58 PM | 2.70 | Unscheduled | Sustained | Unknown | Unknown After Exhaustive Patrol or Investigation | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 08/28/2021 4:14:23 PM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 10/16/2021 7:49:53 AM | 0.00 | Unscheduled | Sustained | Unknown | Unknown After Exhaustive Patrol or Investigation | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 10/13/2022 9:44:44 AM | 0.08 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 11/30/2022 11:01:11 AM | 0.00 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 12/15/2022 12:19:50 PM | 0.00 | Unscheduled | Sustained | Weather, excluding lightning | Ice | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 01/19/2023 8:55:45 PM | 0.00 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 03/25/2023 6:19:17 PM | 0.55 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 03/31/2023 11:47:04 PM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 04/01/2023 2:04:23 PM | 0.27 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 07/26/2023 10:20:48 PM | 0.00 | Unscheduled | Sustained | Lightning | Correlation - unknown magnitude/design criteria | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 07/15/2024 2:45:26 PM | 23.25 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |
| PINEY | PINEY-TIMBLIN 115KV P1 LINE | 12/29/2024 9:32:01 PM | 13.80 | Unscheduled | Sustained | Weather, excluding lightning | Wind | | | 0 | 0 | 0 |

| Station | Equipment Name | Actual Out | Duration (Hrs) | Outage Category | Outage Type | Initiating Cause | Initiating Sub-Cause | CI | CMI | SAIFI | SAIDI | CAIDI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TRADE CITY | TIMBLIN-TRADE CITY 115KV LINE | 06/19/2020 3:13:28 PM | 0.00 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | #N/A | | 0 | 0 | 0 |
| TIMBLIN | TIMBLIN-TRADE CITY 115KV LINE | 06/22/2020 2:36:01 PM | 0.00 | Unscheduled | Sustained | Failed AC Circuit Equipment | Insulator Failure | | | 0 | 0 | 0 |
| TRADE CITY | TIMBLIN-TRADE CITY 115KV LINE | 07/13/2021 5:04:58 PM | 2.70 | Unscheduled | Sustained | Power System Condition | Abnormal System Configuration | | | 0 | 0 | 0 |
| TIMBLIN | TIMBLIN-TRADE CITY 115KV LINE | 12/15/2022 12:19:50 PM | 0.00 | Unscheduled | Sustained | Power System Condition | Abnormal System Configuration | | | 0 | 0 | 0 |
| TIMBLIN | TIMBLIN-TRADE CITY 115KV LINE | 04/01/2023 2:09:15 PM | 0.00 | Unscheduled | Sustained | Weather, excluding lightning | Wind | 113 | 791 | 0.000 | 0.001 | 7.0 |
| TIMBLIN | TIMBLIN-TRADE CITY 115KV LINE | 04/01/2023 2:13:51 PM | 48.32 | Unscheduled | Sustained | Power System Condition | Abnormal System Configuration | 113 | 791 | 0.000 | 0.001 | 7.0 |