

Before the  
Pennsylvania Public Utility Commission

**INDEPENDENCE ENERGY  
CONNECTION PROJECT - EAST**

ATTACHMENTS IN SUPPORT OF THE  
**Certification Application**

Application Docket No. \_\_\_\_\_

Submitted by: Transource PA, LLC



December 2017

Before the  
Pennsylvania Public Utility Commission

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**TRANSOURCE PA, LLC  
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**ATTACHMENT 1**

**COMMISSION REGULATION CROSS-REFERENCE MATRIX**

**ATTACHMENT 1  
 PUC REGULATION CROSS-REFERENCE MATRIX**

Administrative Code Section or Statute*	PUC Regulation Requirement	Location
57.72	Form and content of application	
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
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.	Attachment 3
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.	Attachment 5
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.	Attachment 2
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Administrative Code Section or Statute*	PUC Regulation Requirement	Location
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.	Attachment 3
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.	Attachment 3
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.	Attachment 3
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.	Attachment 3
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.	Attachment 6
57.72(c)(12)	The estimated cost of construction of the proposed HV line, and the projected date for completion.	Attachment 2
57.72(c)(13)	The following exhibits:	
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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.	Attachment 4
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.	Attachment 4
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.	Attachment 2
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.	---
57.74(a)	(a) <i>Filing.</i> 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

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Administrative Code Section or Statute*	PUC Regulation Requirement	Location
57.74(b)	<p>(b) <i>Copies.</i> 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:</p> <ul style="list-style-type: none"> <li>(1) The chief executive officer, the governing body and the body charged with the duty of planning land use in each city, borough, town, township and county in which any portion of the HV line is proposed to be located.</li> <li>(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.</li> </ul> <p>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).</p>	Certification of Service
57.74(c)	<p>(c) <i>Notice.</i></p> <p>(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:</p> <ul style="list-style-type: none"> <li>(i) The Secretary of the Department of Transportation, Room 1200 Transportation and Safety Building, Harrisburg, Pennsylvania 17120.</li> <li>(ii) The Chairman of the Historical and Museum Commission, Post Office Box 1026, Harrisburg, Pennsylvania 17120.</li> <li>(iii) Other local, State or Federal agencies designated in § 57.72 (c)(11)(relating to form and content of application).</li> <li>(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).</li> </ul>	Notice of Filing

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Administrative Code Section or Statute*	PUC Regulation Requirement	Location
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) <i>Examination.</i> 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 within a county in which any part of the proposed HV will be located.	Attachment 9
57.74(e)	(e) <i>Additional notice.</i> The applicant shall provide an additional notice and shall serve such additional copies of the application without cost as the Commission may require.	---
Chapter 69	Interim guidelines require	
69.3102(a)	<p>(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:</p> <p>(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.</p> <p>(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.</p> <p>(3) Copies of all notices sent under § 57.91 (relating to disclosure of eminent domain power of electric utilities).</p>	Attachment 13

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Administrative Code Section or Statute*	PUC Regulation Requirement	Location
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.	Attachment 13
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.	At this time, no informal presentations are scheduled for after the Siting Application is filed.
69.3105(1)	<p>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:</p> <p>(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.</p>	Attachment 3
69.3105(2)	<p>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:</p> <p>(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.</p>	Attachment 5 and Statement Nos. 1 and 6

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<b>Administrative Code Section or Statute*</b>	<b>PUC Regulation Requirement</b>	<b>Location</b>
69.3105(3)	<p>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:</p> <p>(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 § 57.72(c)(10), the applicant should include the following information:</p> <ul style="list-style-type: none"> <li>(i) The environmental, historical, cultural and aesthetic considerations of each route.</li> <li>(ii) The proximity of these alternative routes to residential and nonresidential structures.</li> <li>(iii) The applicant’s consideration of relevant existing rights of way.</li> <li>(iv) The comparative construction costs associated with each route.</li> </ul>	Attachment 3
69.3106	<p>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.</p>	Attachment 6

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Administrative Code Section or Statute*	PUC Regulation Requirement	Location
69.3107(a)	<p>(a) <i>Interim guidelines for the use of herbicides and pesticides.</i> Applicants for transmission line siting authority should provide a detailed vegetation management plan that includes the following components:</p> <p>(1) A general description of the utility’s vegetation management plan.</p> <p>(2) Factors that dictate when each method, including aerial spraying, is utilized.</p> <p>(3) Vegetation management practices near aquatic and other sensitive locations.</p> <p>(4) Notice procedures to affected landowners regarding vegetation management practices.</p> <p>(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.</p>	Attachment 11
69.3107(b)	<p>(b) <i>Interim guidelines for Electromagnetic Field (EMF) impacts.</i> 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.</p>	Attachment 10

\*Pennsylvania Code 57.71 – 57.75 relates to “Commission Review of Siting and Construction of Electric Transmission Lines”. Pennsylvania Code 69.3101 – 69.3107 relates to “General Orders, Policy Statements, and Guidelines on Fixed Utilities”. Sections described within ATTACHMENT 1 pertain specifically to those items required to be included for an application filing.

**ATTACHMENT 2**

**NECESSITY STATEMENT**

**ATTACHMENT 2  
NECESSITY STATEMENT**

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**1.0 INTRODUCTION**

Transource Pennsylvania, LLC (“Transource PA”) seeks approval from the Pennsylvania Public Utility Commission (“Commission” or “PUC”) for the siting and construction of the Pennsylvania portion of the Furnace Run-Conastone 230 kV Transmission Line in portions of York County, Pennsylvania. The proposed Furnace Run-Conastone 230 kV Transmission Line is part of the Independence Energy Connection Project (“IEC Project”) approved by PJM Interconnection, L.L.C. (“PJM”) to alleviate transmission congestion constraints in Pennsylvania, Maryland, West Virginia, and Virginia.

The IEC Project approved by PJM involves: (i) construction of two new substations in Pennsylvania, the Rice Substation and the Furnace Run Substation; and (ii) construction of two new overhead double-circuit 230 kV interstate transmission lines, the Rice-Ringgold 230 kV Transmission Line and the Furnace Run-Conastone 230 kV Transmission Line. The new Furnace Run-Conastone 230 kV Transmission Line will be sited to extend approximately 15.8 miles, connecting the existing Conastone Substation located near Norrisville, Harford County, Maryland, and the new Furnace Run Substation to be located in York County, Pennsylvania. This transmission line project is referred to as the Independence Energy Connection-East Project (“IEC-East Project”) and is the subject of this Siting Application.<sup>1</sup>

Transource PA is obligated and responsible for the construction, ownership, maintenance, and operation of the Pennsylvania portion of IEC-East Project. Transource PA’s affiliate, Transource Maryland, LLC (“Transource MD”) is obligated and responsible for the construction, ownership, maintenance, and operation of the Maryland portion of the IEC-East Project.

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<sup>1</sup> The new Rice-Ringgold 230 kV Transmission Line will be sited to extend approximately 29 miles, connecting the existing Ringgold Substation located near Smithsburg, Washington County, Maryland, and the new Rice Substation to be located in Franklin County, Pennsylvania. This transmission line project is referred to as the Independence Energy Connection-West Project (“IEC-West Project”) and is the subject of a separately filed Siting Application.



The current estimated cost for the total IEC Project is approximately \$230 million. The estimated cost for the IEC-East Project is approximately \$98 million, which includes approximately \$52 million for substation work and approximately \$46 million for the new Furnace Run-Conastone 230 kV Transmission Line. Subject to the Commission's approval, construction of the IEC-East Project is scheduled to begin as soon as practicable following Commission approval to meet the required in-service date of June 1, 2020.

## **2.0 PROJECT NEED**

PJM is a FERC-approved Regional Transmission Organization charged with ensuring the reliable and efficient operation of the electric transmission system under its functional control, and coordinating the transmission of electricity in all or parts of thirteen states, including Pennsylvania, and the District of Columbia. In order to ensure reliable transmission service, PJM prepares an annual Regional Transmission Expansion Plan ("RTEP"). PJM's RTEP process is currently set forth in Schedule 6 of PJM's Amended and Restated Operating Agreement ("Schedule 6").<sup>2</sup> The RTEP is an annual planning process that encompasses a comprehensive series of detailed analyses to ensure electric power continues to flow reliably to customers under stringent reliability planning criteria. PJM Manual 14B outlines the RTEP process and reliability criteria used for this process.<sup>3</sup>

In addition to the reliability analysis, PJM's RTEP includes a Market Efficiency Analysis to identify congestion on electric transmission facilities that has economic or wholesale market effects, as well as potential improvements to electric transmission economic efficiencies. The

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<sup>2</sup> Schedule 6 governs the process by which PJM's members rely on PJM to prepare an annual regional plan for the enhancement and expansion of the transmission facilities to ensure long-term, reliable electric service consistent with established reliability criteria. In addition, Schedule 6 addresses the procedures used to develop the RTEP, the review and approval process for the RTEP, the obligation of transmission owners to build transmission upgrades included in the RTEP, and the process by which interregional transmission upgrades will be developed.

<sup>3</sup> PJM Manual 14B is voluminous and publicly available at: <http://www.pjm.com/~media/documents/manuals/m14b.ashx>.

electric transmission needs identified in this analysis stem from the fact that the PJM transmission grid provides the means for generators to participate in a competitive wholesale market to supply electricity, both capacity and energy, to customers in PJM's geographic footprint no matter where in this area the electrical load is located.

The electric transmission infrastructure needs identified by the PJM Market Efficiency Analysis are addressed by market efficiency transmission projects, which are aimed specifically at improving electric transmission economic efficiencies and alleviating electric transmission constraints that have an economic impact on PJM's wholesale energy or capacity markets. When PJM's Market Efficiency Analysis identifies a need to relieve congestion on electric transmission facilities, PJM opens a Long Term Proposal Window, to solicit the submittal of potential solutions (*i.e.*, market efficiency projects) to address those needs.

PJM's solicitation of market efficiency project submittals through its Long Term Proposal Window is a competitive process consistent with FERC Order No. 1000.<sup>4</sup> Potential solutions are evaluated using two criteria: first, the project must address the congestion identified in the Market Efficiency Analysis; and, second, the project benefits must exceed the costs by at least 25 percent. In addition, the project must meet PJM's congestion criteria and not create additional unacceptable congestion elsewhere on the system. Project benefits are measured by comparing the defined benefit metric with and without the proposed project for a 15-year study period. In this case, the benefit metric used was Net Load Payments for Benefitting Zones.<sup>5</sup>

The market efficiency projects that are selected through PJM's Long Term Proposal Window are presented to stakeholders and recommended to the PJM Board of Managers ("PJM Board") for approval. If approved, such market efficiency projects are included in the RTEP as Baseline Projects.

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<sup>4</sup> A summary of FERC Order No. 1000 is available at: <http://www.ferc.gov/industries/electric/indus-act/trans-plan.asp>.

<sup>5</sup> The economic benefit/cost ratio threshold test is set forth in PJM Manual 14B, Attachment E, available at: <http://www.pjm.com/~media/documents/manuals/m14b.ashx>.

Importantly, pursuant to Schedule 6 of PJM’s Amended and Restated Operating Agreement, after the PJM Board approves a proposed market efficiency project, the successful project proponent is obligated to complete the project once PJM and the successful entity execute a Designated Entity Agreement, which specifically designates the entity or entities having construction responsibility for the project.

In October 2014, PJM opened a Long Term Proposal Window (“2014/15 RTEP Long Term Proposal Window”) to solicit proposals to address, among other things, transmission congestion in Pennsylvania, Maryland, West Virginia, and Virginia.<sup>6</sup>

In response to the 2014/15 RTEP Long Term Proposal Window, a total of 41 proposals were submitted and 11 projects were deemed competitive and underwent further scenario testing. Transource Energy, the parent of Transource PA, submitted “Project 9A.” The IEC-Project is a major component of Project 9A. Additional sensitivity analysis, which included variations in load forecast, fuel prices and important generator assumptions, further reduced the number of competitive projects to four proposals. Many of the scenarios were performed based on PJM stakeholder feedback. PJM’s analysis consisted of approximately 23,000 hours of computation time.

After extensive evaluation and review with stakeholders, PJM selected Project 9A to address the needs identified in PJM’s 2014/15 RTEP Long Term Proposal Window because it provided the highest benefit-to-cost ratio, the most total congestion savings, and the most production cost

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<sup>6</sup> See PJM, LLC, “PJM RTEP - 2014/15 RTEP Long Term Proposal Window Problem Statement & Requirements Document,” Version 2 (Oct. 30, 2014), available at <https://www.pjm.com/~media/planning/rtep-dev/expand-plan-process/ferc-order-1000/rtep-proposal-windows/2014-15-rtep-long-term-proposal-window-problem-statement-and-requirements-document.ashx>.

savings.<sup>7</sup> On August 2, 2016, the PJM Board approved the Project 9A as Baseline Upgrade Numbers b2743 and b2752, which includes the IEC Project.<sup>8</sup>

On September 14, 2017, PJM reported the results of an update to its analysis. This report confirmed that Project 9A, which includes the IEC Project, continues to meet the criteria for inclusion in the RTEP as a baseline upgrade project.<sup>9</sup>

Although the primary benefits from the IEC Project relate to market efficiency and the reduction of congestion costs, the new transmission facilities associated with the IEC Project will also enhance the electrical strength and reliability of the transmission system by virtue of the new transmission facilities in the area that will be part of the interconnected transmission grid. The IEC Project will provide additional and alternative paths for electricity in the event of outages on other Pennsylvania transmission facilities. The IEC Project will also allow the interconnection of future reliability, generation, and load projects in the area.

### **3.0 PROPOSED SOLUTION**

The IEC Project approved by PJM involves: (i) construction of two new substations in Pennsylvania, the Rice Substation and the Furnace Run Substation; and (ii) construction of two new overhead double-circuit 230 kV interstate transmission lines, the Rice-Ringgold 230 kV

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<sup>7</sup> The recommendation of PJM staff to approve the IEC Project is available at: <http://www.pjm.com/~media/committees-groups/committees/teac/20160811/20160811-board-whitepaper-august-2016.ashx>.

<sup>8</sup> PJM's 2014/2015 RTEP Baseline Upgrade Numbers b2743 and b2752 also includes upgrades to the existing Conastone and Ringgold Substations in Maryland and reconductoring of the Conastone-Northwest double-circuit 230 kV line and the Ringgold-Catoctin 138 kV line in Maryland. The upgrades to these existing facilities will be the responsibility of the incumbent Maryland utilities. The upgrades to existing facilities, while not part of the IEC Project, are inter-dependent components of the solution approved by PJM.

<sup>9</sup> The September 14, 2017 PJM TEAC Market Efficiency Update is available at: <http://www.pjm.com/~media/committees-groups/committees/teac/20170914/20170914-market-efficiency-update.ashx>.

Transmission Line (IEC-West Project) and the Furnace Run-Conastone 230 kV Transmission Line (IEC-East Project).

Upon receipt of all necessary approvals, the new Furnace Run-Conastone 230 kV Transmission Line will extend approximately 15.8 miles (approximately 12.7 miles in Pennsylvania), connecting the existing Conastone Substation located near Norrisville, Harford County, Maryland, and the new Furnace Run Substation to be located in York County, Pennsylvania. This transmission line project is referred to as the IEC-East Project and is the subject of this Siting Application.

The new Rice-Ringgold 230 kV Transmission Line will extend approximately 28.8 miles (approximately 24.4 miles in Pennsylvania), connecting the existing Ringgold Substation located near Smithsburg, Washington County, Maryland, and the new Rice Substation to be located in Franklin County, Pennsylvania. This transmission line project is referred to as the IEC-West Project and is the subject of a separate Siting Application.

A map of the proposed and existing systems in the Project area is provided as **Appendix 2.1**. A one-line diagram of the proposed IEC-East Project is provided as **Appendix 2.2**.

The IEC-East Project, together with the IEC-West Project, will alleviate the transmission congestion constraints identified by PJM in Pennsylvania, Maryland, West Virginia, and Virginia. Both the IEC-East Project and the IEC-West Project are required to resolve the congestion problem identified in the 2014/15 RTEP Long Term Proposal Window.

On November 2, 2016, PJM and Transource Energy executed a Designated Entity Agreement. Pursuant to Schedule E of the Designated Entity Agreement, Transource PA is responsible for the construction, ownership, maintenance, and operation of the two new substations in Pennsylvania; and the Pennsylvania portion of the two new interstate transmission lines between Maryland and Pennsylvania contemplated in the IEC Project approved as PJM Baseline Upgrade Numbers b2743 and b2752. Under the same agreement, Transource PA's Maryland affiliate, Transource MD, is responsible for the construction, ownership, maintenance, and operation of the Maryland portion of the two new interstate transmission lines between Maryland and

Pennsylvania contemplated in the IEC Project approved as PJM Baseline Upgrade Numbers b2743 and b2752.

On November 14, 2016, the Designated Entity Agreement was filed with the FERC Commission in Docket No. ER17-349-000. FERC approved the Designated Entity Agreement on January 12, 2017.<sup>10</sup> A true copy of the Designated Entity Agreement is provided as **Appendix 2.3**.

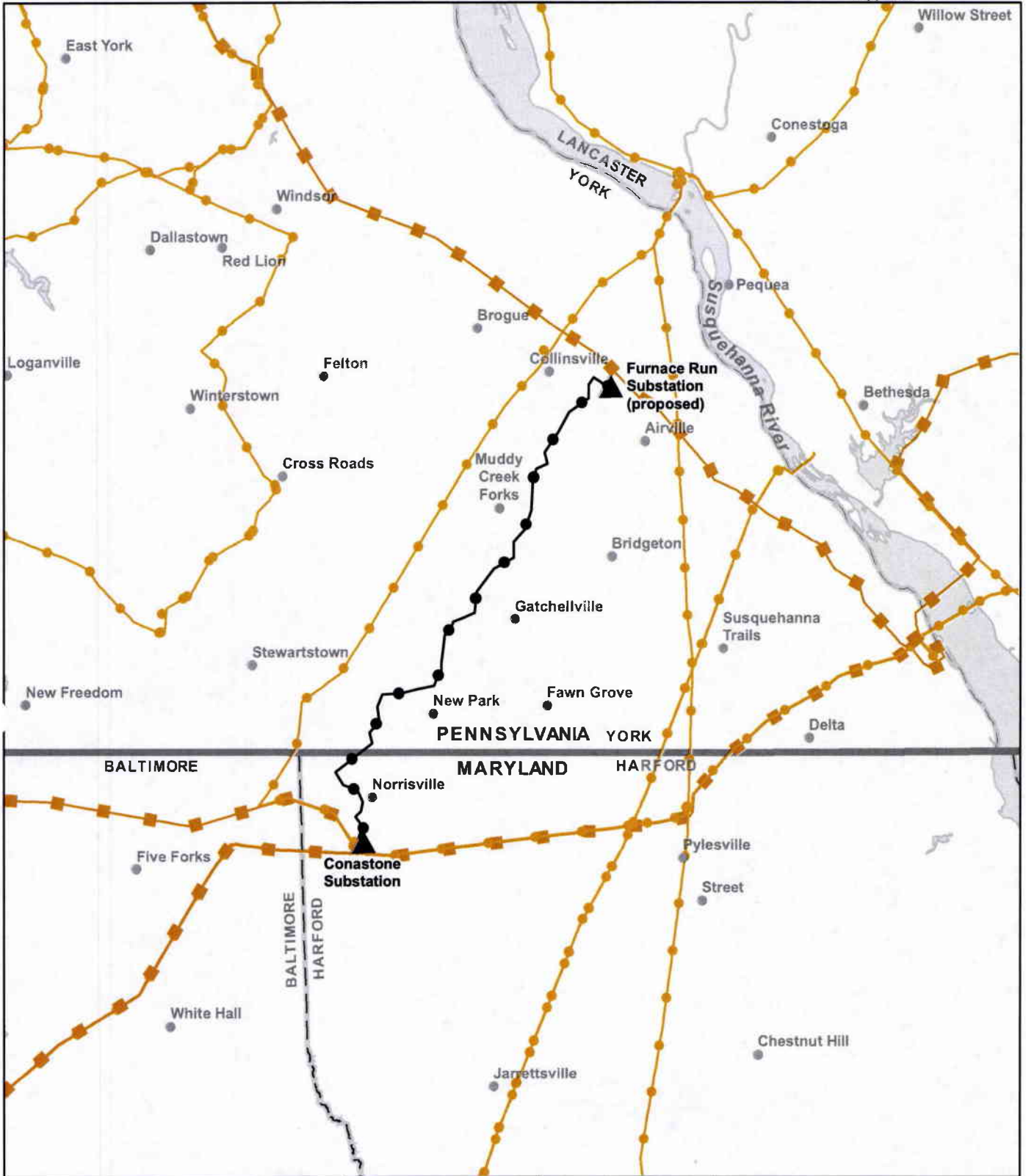
Pursuant to Schedule 6 of PJM's Amended and Restated Operating Agreement, and as stated in the Designated Entity Agreement, Transource PA and Transource MD are required to complete the IEC Project by June 1, 2020.

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<sup>10</sup> FERC's order approving the Designated Entity Agreement is available at: [https://elibrary.ferc.gov/idmws/file\\_list.asp?accession\\_num=20170112-3047](https://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20170112-3047)

**APPENDIX 2.1**

**Map of the Existing and Proposed Systems in the IEC-East Project Area**



▲ Substation

● Proposed Furnace Run - Conastone 230 kV Line

Existing Transmission Line

- Below 100kV
- 115kV - 230kV
- Greater than 345kV

Data Sources: AEP (2017), POWERmap (2012), ESRI (2011), NLCD Forest Cover (2011)

Coordinate System: UTM Zone 18N NAD 83

December 01, 2017

Pennsylvania

Maryland

**Project System Map**

Independence Energy Connection  
Furnace Run - Conastone  
230kV Transmission Line

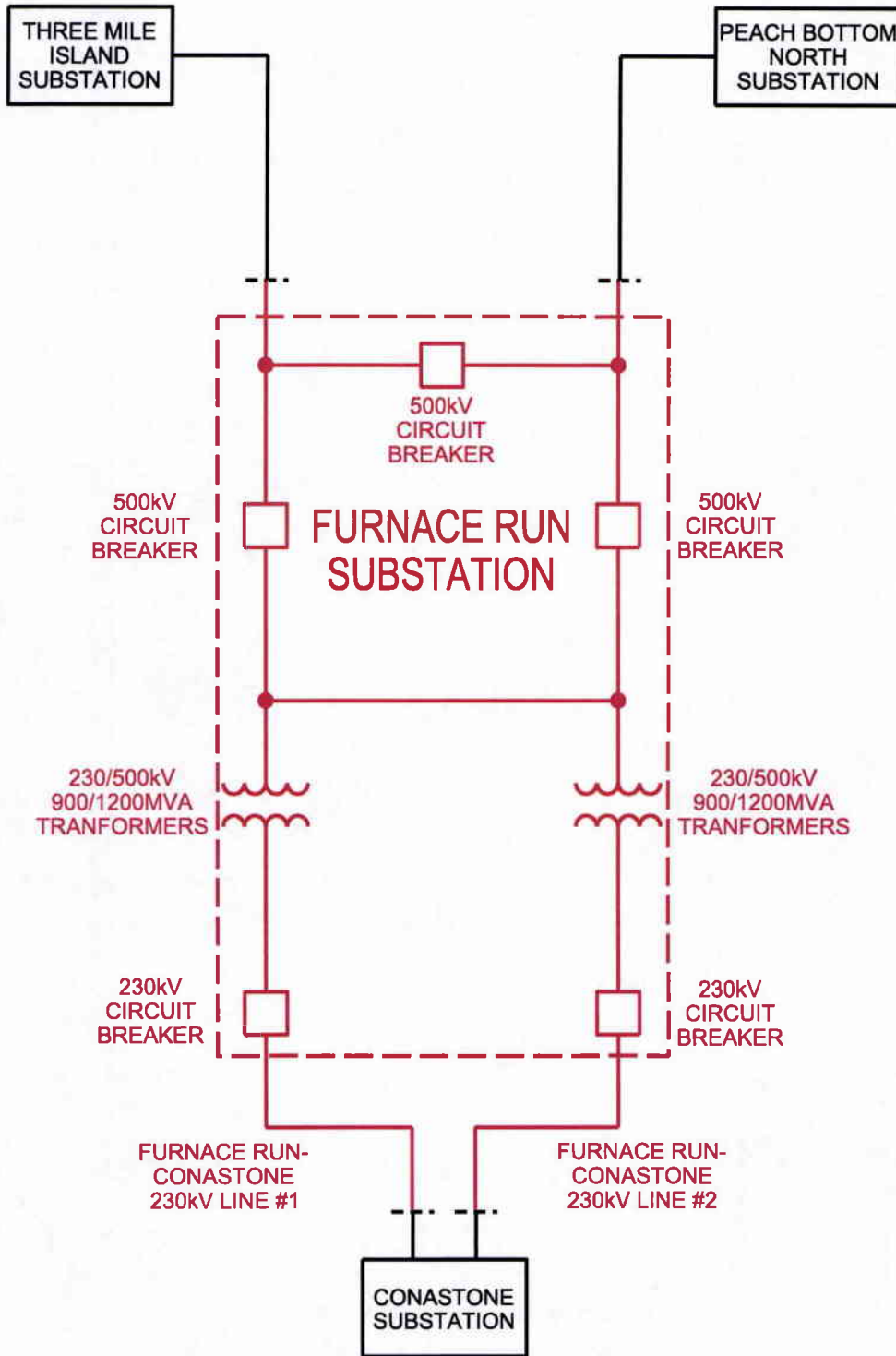
**TRANSOURCE**

0 1.25 2.5 3.75 5  
Miles



**APPENDIX 2.2**

**One-Line Diagram of the Proposed IEC-East Project**



**LEGEND**  
■ Transource Proposed Facilities

COPYRIGHT ©



project	92468
contract	TRANSOURCE
dwg. no.	FURNANCE RUN SLD
rev.	A

date 12/5/17  
 designed J. CLOUSE

**FURNANCE RUN SINGLE LINE DIAGRAM**

**APPENDIX 2.3**

**FERC-Approved Designated Entity Agreement**

**APPENDIX 2.3**

**FERC-Approved Designated Entity Agreement**

Service Agreement No. [ ]

**DESIGNATED ENTITY AGREEMENT**

**Between**

**PJM Interconnection, L.L.C.**

**And**

**Transource Energy, LLC, for itself and on behalf of  
Transource Maryland, LLC and Transource Pennsylvania, LLC**

**(PJM Upgrade Project b2743, b2752 Rice - Ringgold and Furnace Run - Conastone)**

Service Agreement No. [ ]

**DESIGNATED ENTITY AGREEMENT**

**Between**

**PJM Interconnection, L.L.C.**

**And**

**Transource Energy, LLC, for itself and on behalf of  
Transource Maryland, LLC and Transource Pennsylvania, LLC**

**(PJM Upgrade Project b2743, b2752 Rice - Ringgold and Furnace Run - Conastone)**

This Designated Entity Agreement, including the Schedules attached hereto and incorporated herein (collectively, "Agreement") is made and entered into as of the Effective Date between PJM Interconnection, L.L.C. ("Transmission Provider" or "PJM"), and Transource Energy, LLC ("Designated Entity" or "Transource"), referred to herein individually as "Party" and collectively as "the Parties."

**WITNESSETH**

WHEREAS, in accordance with FERC Order No. 1000 and Schedule 6 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. ("Operating Agreement"), Transmission Provider is required to designate among candidates, pursuant to a FERC-approved process, an entity to develop and construct a specified project to expand, replace and/or reinforce the Transmission System operated by Transmission Provider;

WHEREAS, pursuant to Section 1.5.8(i) of Schedule 6 of the Operating Agreement, the Transmission Provider notified Designated Entity that it was designated as the Designated Entity for the Project (described in Schedule A to this Agreement) to be included in the Regional Transmission Expansion Plan;

WHEREAS, pursuant to Section 1.5.8(j) of Schedule 6 of the Operating Agreement, Designated Entity accepted the designation as the Designated Entity for the Project and therefore has the obligation to construct the Project; and

NOW, THEREFORE, in consideration of the mutual covenants herein contained, together with other good and valuable consideration, the receipt and sufficiency is hereby mutually acknowledged by each Party, the Parties mutually covenant and agree as follows:

**Article 1 – Definitions**

**1.0 Defined Terms.**

All capitalized terms used in this Agreement shall have the meanings ascribed to them in Part I of the Tariff or in definitions either in the body of this Agreement or its attached Schedules. In

the event of any conflict between defined terms set forth in the Tariff or defined terms in this Agreement, including the Schedules, such conflict will be resolved in favor of the terms as defined in this Agreement.

**1.1 Confidential Information.**

Any confidential, proprietary, or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy, or compilation relating to the Project or Transmission Owner facilities to which the Project will interconnect, which is designated as confidential by the party supplying the information, whether conveyed verbally, electronically, in writing, through inspection, or otherwise, and shall include, but may not be limited to, information relating to the producing party's technology, research and development, business affairs and pricing, land acquisition and vendor contracts relating to the Project.

**1.2 Designated Entity Letter of Credit.**

Designated Entity Letter of Credit shall mean the letter of credit provided by the Designated Entity pursuant to Section 1.5.8(j) of Schedule 6 of the Operating Agreement and Section 3.0 of this Agreement as security associated with the Project.

**1.3 Development Schedule.**

Development Schedule shall mean the schedule of milestones set forth in Schedule C of this Agreement.

**1.4 Effective Date.**

Effective Date shall mean the date this Agreement becomes effective pursuant to Section 2.0 of this Agreement.

**1.5 Initial Operation.**

Initial Operation shall mean the date the Project is (i) energized and (ii) under Transmission Provider operational dispatch.

**1.6 Project.**

Project shall mean the enhancement or expansion included in the PJM Regional Transmission Expansion Plan described in Schedule A of this Agreement.

**1.7 Project Finance Entity.**

Project Finance Entity shall mean holder, trustee or agent for holders, of any component of Project Financing.

**1.8 Project Financing.**

Project Financing shall mean: (a) one or more loans, leases, equity and/or debt financings, together with all modifications, renewals, supplements, substitutions and replacements thereof, the proceeds of which are used to finance or refinance the costs of the Project, any alteration, expansion or improvement to the Project, or the operation of the Project; or (b) loans and/or debt issues secured by the Project.

**1.9 Reasonable Efforts.**

Reasonable Efforts shall mean such efforts as are consistent with ensuring the timely and effective design and construction of the Project in a manner, which ensures that the Project, once placed in service, meets the requirements of the Project as described in Schedule B and are consistent with Good Utility Practice.

**1.10 Required Project In-Service Date.**

Required Project In-Service Date shall mean the date the Project is required to: (i) be completed in accordance with the Scope of Work in Schedules B this Agreement, (ii) meet the criteria outlined in Schedule D of this Agreement and (iii) be under Transmission Provider operational dispatch.

**Article 2 – Effective Date and Term**

**2.0 Effective Date.**

Subject to regulatory acceptance, this Agreement shall become effective on the date the Agreement has been executed by all Parties, or if this Agreement is filed with FERC for acceptance, rather than reported only in PJM's Electric Quarterly Report, upon the date specified by FERC.

**2.1 Term.**

This Agreement shall continue in full force and effect from the Effective Date until: (i) the Designated Entity executes the Consolidated Transmission Owners Agreement; and (ii) the Project (a) has been completed in accordance with the terms and conditions of this Agreement, (b) meets all relevant required planning criteria, and (c) is under Transmission Provider's operational dispatch; or (iii) the Agreement is terminated pursuant to Article 8 of this Agreement.



### **Article 3 – Security**

#### **3.0 Obligation to Provide Security.**

In accordance with Section 1.5.8(j) of Schedule 6 of the Operating Agreement, Designated Entity shall provide Transmission Provider a letter of credit as acceptable to Transmission Provider (Designated Entity Letter of Credit) or cash security in the amount of \$5,550,000, which is three percent of the estimated cost of the Project. Designated Entity is required provide and maintain the Designated Entity Letter of Credit, as required by Section 1.5.8(j) of Schedule 6 of the Operating Agreement and Section 3.0 of this Agreement. The Designated Entity Letter of Credit shall remain in full force and effect for the term of this Agreement and for the duration of the obligations arising therefrom in accordance with Article 17.0.

#### **3.1 Distribution of Designated Entity Letter of Credit or Cash Security.**

In the event that Transmission Provider draws upon the Designated Entity Letter of Credit or retains the cash security in accordance with Sections 7.5, 8.0, or 8.1, Transmission Provider shall distribute such funds as determined by FERC.

### **Article 4 – Project Construction**

#### **4.0 Construction of Project by Designated Entity.**

Designated Entity shall design, engineer, procure, install and construct the Project, including any modifications thereto, in accordance with: (i) the terms of this Agreement, including but not limited to the Scope of Work in Schedule B and the Development Schedule in Schedule C; (ii) applicable reliability principles, guidelines, and standards of the Applicable Regional Reliability Council and NERC; (iii) the Operating Agreement; (iv) the PJM Manuals; and (v) Good Utility Practice.

#### **4.1 Milestones.**

##### **4.1.0 Milestone Dates.**

Designated Entity shall meet the milestone dates set forth in the Development Schedule in Schedule C of this Agreement. Milestone dates set forth in Schedule C only may be extended by Transmission Provider in writing. Failure to meet any of the milestone dates specified in Schedule C, or as extended as described in this Section 4.1.0 or Section 4.3.0 of this Agreement, shall constitute a Breach of this Agreement. Transmission Provider reasonably may extend any such milestone date, in the event of delays not caused by the Designated Entity that could not be remedied by the Designated Entity through the exercise of due diligence, or if an extension will not delay the Required Project In-Service Date specified in Schedule C of this Agreement; provided that a corporate officer of the Designated Entity submits a revised Development Schedule containing revised milestones and showing the Project in full operation no later than the Required Project In-Service Date specified in Schedule C of this Agreement.

#### **4.1.1 Right to Inspect.**

Upon reasonable notice, Transmission Provider shall have the right to inspect the Project for the purposes of assessing the progress of the Project and satisfaction of milestones. Such inspection shall not be deemed as review or approval by Transmission Provider of any design or construction practices or standards used by the Designated Entity.

#### **4.2 Applicable Technical Requirements and Standards.**

For the purposes of this Agreement, applicable technical requirements and standards of the Transmission Owner(s) to whose facilities the Project will interconnect shall apply to the design, engineering, procurement, construction and installation of the Project to the extent that the provisions thereof relate to the interconnection of the Project to the Transmission Owner(s) facilities.

#### **4.3 Project Modification.**

##### **4.3.0 Project Modification Process.**

The Scope of Work and Development Schedule, including the milestones therein, may be revised, as required, in accordance with Transmission Provider's project modification process set forth in the PJM Manuals, or otherwise by Transmission Provider in writing. Such modifications may include alterations as necessary and directed by Transmission Provider to meet the system condition for which the Project was included in the Regional Transmission Expansion Plan.

##### **4.3.1 Consent of Transmission Provider to Project Modifications.**

Designated Entity may not modify the Project without prior written consent of Transmission Provider, including but not limited to, modifications necessary to obtain siting approval or necessary permits, which consent shall not be unreasonably withheld, conditioned, or delayed.

##### **4.3.2 Customer Facility Interconnections And Transmission Service Requests.**

Designated Entity shall perform or permit the engineering and construction necessary to accommodate the interconnection of Customer Facilities to the Project and transmission service requests that are determined necessary for such interconnections and transmission service requests in accordance with Parts IV and VI, and Parts II and III, respectively, of the Tariff.

#### **4.4 Project Tracking.**

The Designated Entity shall provide regular, quarterly construction status reports in writing to Transmission Provider. The reports shall contain, but not be limited to, updates and information specified in the PJM Manuals regarding: (i) current engineering and construction status of the Project; (ii) Project completion percentage, including milestone completion; (iii) current target Project or phase completion date(s); (iv) applicable outage information; and (v) cost expenditures

to date and revised projected cost estimates for completion of the Project. Transmission Provider shall use such status reports to post updates regarding the progress of the Project.

#### **4.5 Exclusive Responsibility of Designated Entity.**

Designated Entity shall be solely responsible for all planning, design, engineering, procurement, construction, installation, management, operations, safety, and compliance with applicable laws and regulations associated with the Project, including but not limited to obtaining all necessary permits, siting, and other regulatory approvals. Transmission Provider shall have no responsibility to manage, supervise, or ensure compliance or adequacy of same.

### **Article 5 – Coordination with Third-Parties**

#### **5.0 Interconnection Coordination Agreement with Transmission Owner(s).**

By the dates specified in the Development Schedule in Schedule C of this Agreement, Designated Entity shall execute or request to file unexecuted with the Commission: (a) an Interconnection Coordination Agreement; and (b) an interconnection agreement among and between Designated Entity, Transmission Provider, and the Transmission Owner(s) to whose facilities the Project will interconnect.

#### **5.1 Connection with Entities Not a Party to the Consolidated Transmission Owners Agreement.**

Designated Entity shall not permit any part of the Project facilities to be connected with the facilities of any entity which is not: (i) a party to Consolidated Transmission Owners Agreement without an interconnection agreement that contains provisions for the safe and reliable interconnection and operation of such interconnection in accordance with Good Utility Practice, and principles, guidelines and standards of the Applicable Regional Reliability Council and NERC or comparable requirements of an applicable retail tariff or agreement approved by appropriate regulatory authority; or (ii) a party to a separate Designated Entity Agreement.

### **Article 6 – Insurance**

#### **6.0 Designated Entity Insurance Requirements.**

Designated Entity shall obtain and maintain in full force and effect such insurance as is consistent with Good Utility Practice. The Transmission Provider shall be included as an Additional Insured in the Designated Entity's applicable liability insurance policies. The Designated Entity shall provide evidence of compliance with this requirement upon request by the Transmission Provider.

**6.1 Subcontractor Insurance.**

In accord with Good Utility Practice, Designated Entity shall require each of its subcontractors to maintain and, upon request, provide Designated Entity evidence of insurance coverage of types, and in amounts, commensurate with the risks associated with the services provided by the subcontractor. Bonding and hiring of contractors or subcontractors shall be the Designated Entity's discretion, but regardless of bonding or the existence or non-existence of insurance, the Designated Entity shall be responsible for the performance or non-performance of any contractor or subcontractor it hires.

**Article 7 – Breach and Default**

**7.0 Breach.**

Except as otherwise provided in Article 10, a Breach of this Agreement shall include:

- (a) The failure to comply with any term or condition of this Agreement, including but not limited to, any Breach of a representation, warranty, or covenant made in this Agreement, and failure to provide and maintain security in accordance with Section 3.0 of this Agreement;
- (b) The failure to meet a milestone or milestone date set forth in the Development Schedule in Schedule C of this Agreement, or as extended in writing as described in Sections 4.1.0 and 4.3.0 of this Agreement;
- (c) Assignment of this Agreement in a manner inconsistent with the terms of this Agreement; or
- (d) Failure of any Party to provide information or data required to be provided to another Party under this Agreement for such other Party to satisfy its obligations under this Agreement.

**7.1 Notice of Breach.**

In the event of a Breach, a Party not in Breach of this Agreement shall give written notice of such Breach to the breaching Party, and to any other persons, including a Project Finance Entity, if applicable, that the breaching Party identifies in writing prior to the Breach. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach.

**7.2 Cure and Default.**

A Party that commits a Breach and does not take steps to cure the Breach pursuant to Section 7.3 shall be in Default of this Agreement.

### **7.3 Cure of Breach.**

The breaching Party may: (i) cure the Breach within thirty days from the receipt of the notice of Breach or other such date as determined by Transmission Provider to ensure that the Project meets its Required Project In-Service Date set forth in Schedule C; or, (ii) if the Breach cannot be cured within thirty days but may be cured in a manner that ensures that the Project meets the Required Project In-Service Date for the Project, within such thirty day time period, commences in good faith steps that are reasonable and appropriate to cure the Breach and thereafter diligently pursue such action to completion.

### **7.4 Re-evaluation if Breach Not Cured.**

In the event that a breaching Party does not cure a Breach in accordance with Section 7.3 of this Agreement, Transmission Provider shall conduct a re-evaluation pursuant to Section 1.5.8(k) of Schedule 6 of the Operating Agreement. If based on such re-evaluation, the Project is retained in the Regional Transmission Expansion Plan and the Designated Entity's designation for the Project also is retained, the Parties shall modify this Agreement, including Schedules, as necessary. In all other events, Designated Entity shall be considered in Default of this Agreement, and this Agreement shall terminate in accordance with Section 8.1 of this Agreement.

### **7.5 Remedies.**

Upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to: (i) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof; (ii) suspend performance hereunder; and (iii) exercise such other rights and remedies as it may have in equity or at law. Upon Default by Designated Entity, Transmission Provider may draw upon the Designated Entity Letter of Credit. Nothing in this Section 7.5 is intended in any way to affect the rights of a third-party to seek any remedy it may have in equity or at law from the Designated Entity resulting from Designated Entity's Default of this Agreement.

### **7.6 Remedies Cumulative.**

No remedy conferred by any provision of this Agreement is intended to be exclusive of any other remedy and each and every remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or otherwise. The election of any one or more remedies shall not constitute a waiver of the right to pursue other available remedies.

### **7.7 Waiver.**

Any waiver at any time by any Party of its rights with respect to a Breach or Default under this Agreement, or with respect to any other matters arising in connection with this Agreement, shall not be deemed a waiver or continuing waiver with respect to any other Breach or Default or other matter.

## **Article 8 – Early Termination**

### **8.0 Termination by Transmission Provider.**

In the event that: (i) pursuant to Section 1.5.8(k) of Schedule 6 of the Operating Agreement, Transmission Provider determines to remove the Project from the Regional Transmission Expansion Plan and/or not to retain Designated Entity's status for the Project; (ii) Transmission Provider otherwise determines pursuant to Regional Transmission Expansion Planning Protocol in Schedule 6 of the Operating Agreement that the Project is no longer required to address the specific need for which the Project was included in the Regional Transmission Expansion Plan; or (iii) an event of force majeure, as defined in section 10.0 of this Attachment KK, or other event outside of the Designated Entity's control that, with the exercise of Reasonable Efforts, Designated Entity cannot alleviate and which prevents the Designated Entity from satisfying its obligations under this Agreement, Transmission Provider may terminate this Agreement by providing written notice of termination to Designated Entity, which shall become effective the later of sixty calendar days after the Designated Entity receives such notice or other such date the FERC establishes for the termination. In the event termination pursuant to this Section 8.0 is based on (ii) or (iii) above, Transmission Provider shall not have the right to draw upon the Designated Entity Letter of Credit or retain the cash security and shall cancel the Designated Entity Letter of Credit or return the cash security within thirty days of the termination of this Agreement.

### **8.1 Termination by Default.**

This Agreement shall terminate in the event a Party is in Default of this Agreement in accordance with Sections 7.2 or 7.4 of this Agreement. Upon Default by Designated Entity, Transmission Provider may draw upon the Designated Entity Letter of Credit or retain the cash security.

### **8.2 Filing at FERC.**

Transmission Provider shall make the appropriate filing with FERC as required to effectuate the termination of this Agreement pursuant to this Article 8.

## **Article 9 – Liability and Indemnity**

### **9.0 Liability.**

For the purposes of this Agreement, Transmission Provider's liability to the Designated Entity, any third-party, or any other person arising or resulting from any acts or omissions associated in any way with performance under this Agreement shall be limited in the same manner and to the same extent that Transmission Provider's liability is limited to any Transmission Customer, third-party or other person under Section 10.2 of the Tariff arising or resulting from any act or

omission in any way associated with service provided under the Tariff or any Service Agreement thereunder.

#### **9.1 Indemnity.**

For the purposes of this Agreement, Designated Entity shall at all times indemnify, defend, and save Transmission Provider and its directors, managers, members, shareholders, officers and employees harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demands, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third-parties, arising out of or resulting from the Transmission Provider's acts or omissions associated with the performance of its obligations under this Agreement to the same extent and in the same manner that a Transmission Customer is required to indemnify, defend and save Transmission Provider and its directors, managers, members, shareholders, officers and employees harmless under Section 10.3 of the Tariff.

### **Article 10 – Force Majeure**

#### **10.0 Force Majeure.**

For the purpose of this section, an event of force majeure shall mean any cause beyond the control of the affected Party, including but not restricted to, acts of God, flood, drought, earthquake, storm, fire, lightening, epidemic, war, riot, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which in any foregoing cases, by exercise of due diligence, it has been unable to overcome. An event of force majeure does not include: (i) a failure of performance that is due to an affected Party's own negligence or intentional wrongdoing; (ii) any removable or remedial causes (other than settlement of a strike or labor dispute) which an affected Party fails to remove or remedy within a reasonable time; or (iii) economic hardship of an affected Party.

#### **10.1 Notice.**

A Party that is unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing within a reasonable time after the occurrence of the cause relied on.

#### **10.2 Duration of Force Majeure.**

A Party shall not be responsible for any non-performance or considered in Breach or Default under this Agreement, for any deficiency or failure to perform any obligation under this Agreement to the extent that such failure or deficiency is due to Force Majeure. A Party shall be excused from whatever performance is affected only for the duration of the Force Majeure and while the Party exercises Reasonable Efforts to alleviate such situation. As soon as the non-performing Party is able to resume performance of its obligations excused because of the

occurrence of Force Majeure, such Party shall resume performance and give prompt notice thereof to the other Party. In the event that Designated Entity is unable to perform any of its obligations under this Agreement because of an occurrence of Force Majeure, Transmission Provider may terminate this Agreement in accordance with Section 8.0 of this Agreement.

### **10.3 Breach or Default of or Force Majeure under Interconnection Coordination Agreement**

If either of the following events prevents Designated Entity from performing any of its obligations under this Agreement, such event shall be considered a Force Majeure event under this Agreement and the provisions of this Article 10 shall apply: (i) a breach or default of the Interconnection Coordination Agreement associated with the Project by a party to the Interconnection Coordination Agreement other than the Designated Entity; or (ii) an event of Force Majeure under the Interconnection Coordination Agreement associated with the Project.

## **Article 11 – Assignment**

### **11.0 Assignment.**

A Party may assign all of its rights, duties, and obligations under this Agreement in accordance with this Section 11.0. Except for assignments described in Section 11.1 of this Agreement that may not result in the assignment of all rights, duties, and obligations under this Agreement to a Project Finance Entity, no partial assignments will be permitted. No Party may assign any of its rights or delegate any of its duties or obligations under this Agreement without prior written consent of the other Party, which consent shall not be unreasonably withheld, conditioned, or delayed. Any such assignment or delegation made without such written consent shall be null and void. Assignment by the Designated Entity shall be contingent upon, prior to the effective date of the assignment: (i) the Designated Entity or assignee demonstrating to the satisfaction of Transmission Provider that the assignee has the technical competence and financial ability to comply with the requirements of this Agreement and to construct the Project consistent with the assignor's cost estimates for the Project; and (ii) the assignee is eligible to be a Designated Entity for the Project pursuant to Sections 1.5.8(a) and (f) of Schedule 6 of the Operating Agreement. Except as provided in an assignment to a Finance Project Entity to the contrary, for all assignments by any Party, the assignee must assume in a writing, to be provided to the other Party, all rights, duties, and obligations of the assignor arising under this Agreement. Any assignment described herein shall not relieve or discharge the assignor from any of its obligations hereunder absent the written consent of the other Party. In no circumstance, shall an assignment of this Agreement or any of the rights, duties, and obligations under this Agreement diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement. Any assignees that will construct, maintain, or operate the Project shall be subject to, and comply with the terms of this Agreement, the Tariff and the Operating Agreement.



## **11.1 Project Finance Entity Assignments**

### **11.1.1 Assignment to Project Finance Entity**

If an arrangement between the Designated Entity and a Project Finance Entity provides that the Project Finance Entity may assume any of the rights, duties and obligations of the Designated Entity under this Agreement or otherwise provides that the Project Finance Entity may cure a Breach of this Agreement by the Designated Entity, the Project Finance Entity may be assigned this Agreement or any of the rights, duties, or obligations hereunder only upon written consent of the Transmission Provider, which consent shall not be unreasonably withheld, conditioned, or delayed. In no circumstance, shall an assignment of this Agreement or any of the rights, duties, and obligations under this Agreement diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement.

### **11.1.2 Assignment By Project Finance Entity**

A Project Finance Entity that has been assigned this Agreement or any of the rights, duties or obligations under this Agreement or otherwise is permitted to cure a Breach of this Agreement, as described pursuant to Section 11.1.1 above, may assign this Agreement or any of the rights, duties or obligations under this Agreement to another entity not a Party to this Agreement only: (i) upon the Breach of this Agreement by the Designated Entity; and (ii) with the written consent of the Transmission Provider, which consent shall not be unreasonably withheld, conditioned, or delayed. In no circumstance, shall an assignment of this Agreement or any of the rights, duties, and obligations under this Agreement alter or diminish the rights of the Transmission Provider under this Agreement, the Tariff, or the Operating Agreement. Any assignees that will construct, maintain, or operate the Project shall be subject to, and comply with the Tariff and Operating Agreement.

## **Article 12 – Information Exchange**

### **12.0 Information Access.**

Subject to Applicable Laws and Regulations, each Party shall make available to the other Party information necessary to carry out each Party's obligations and responsibilities under this Agreement, the Operating Agreement, and the Tariff. Such information shall include but not be limited to, information reasonably requested by Transmission Provider to prepare the Regional Transmission Expansion Plan. The Parties shall not use such information for purposes other than to carry out their obligations or enforce their rights under this Agreement, the Operating Agreement, and the Tariff.

### **12.1 Reporting of Non-Force Majeure Events.**

Each Party shall notify the other Party when it becomes aware of its inability to comply with the provisions of this Agreement for a reason other than Force Majeure. The Parties agree to cooperate with each other and provide necessary information regarding such inability to comply,

including, but not limited to, the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. Notwithstanding the foregoing, notification, cooperation or information provided under this Section 12.1 shall not entitle the receiving Party to allege a cause of action for anticipatory Breach of this Agreement.

### **Article 13 – Confidentiality**

#### **13.0 Confidentiality.**

For the purposes of this Agreement, information will be considered and treated as Confidential Information only if it meets the definition of Confidential Information set forth in Section 1.1 of this Agreement and is clearly designated or marked in writing as “confidential” on the face of the document, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is “confidential.” Confidential Information shall be treated consistent with Section 18.17 of the Operating Agreement. A Party shall be responsible for the costs associated with affording confidential treatment to its information.

### **Article 14 – Regulatory Requirements**

#### **14.0 Regulatory Approvals.**

Designated Entity shall seek and obtain all required government authority authorizations or approvals as soon as reasonably practicable, and by the milestone dates set forth in the Development Schedule of Schedule C of this Agreement, as applicable.

### **Article 15 – Representations and Warranties**

#### **15.0 General.**

Designated Entity hereby represents, warrants and covenants as follows, with these representations, warranties, and covenants effective as to the Designated Entity during the full time this Agreement is effective:

##### **15.0.1 Good Standing**

Designated Entity is duly organized or formed, as applicable, validly existing and in good standing under the laws of its State of organization or formation, and is in good standing under the laws of the respective State(s) in which it is incorporated.

### **15.0.2 Authority**

Designated Entity has the right, power and authority to enter into this Agreement, to become a Party thereto and to perform its obligations hereunder. This Agreement is a legal, valid and binding obligation of Designated Entity, enforceable against Designated Entity in accordance with its terms, except as the enforceability thereof may be limited by applicable bankruptcy, insolvency, reorganization or other similar laws affecting creditors' rights generally and by general equitable principles (regardless of whether enforceability is sought in a proceeding in equity or at law).

### **15.0.3 No Conflict.**

The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of Designated Entity, or any judgment, license, permit, order, material agreement or instrument applicable to or binding upon Designated Entity or any of its assets.

## **Article 16 – Operation of Project**

### **16.0 Initial Operation.**

The following requirements shall be satisfied prior to Initial Operation of the Project:

#### **16.0.1 Execution of the Consolidated Transmission Owners Agreement**

Designated Entity has executed the Consolidated Transmission Owners Agreement and is able to meet all requirements therein.

#### **16.0.2 Execution of an Interconnection Agreement**

Designated Entity has executed an Interconnection Agreement with the Transmission Owner(s) to whose facilities the Project will interconnect, or such agreement has been filed unexecuted with the Commission.

#### **16.0.3 Operational Requirements**

The Project must meet all applicable operational requirements described in the PJM Manuals.

#### **16.0.4 Parallel Operation**

Designated Entity shall have all necessary systems and personnel in place to allow for parallel operation of its facilities with the facilities of the Transmission Owner(s) to which the Project is interconnected consistent with the Interconnection Coordination Agreement associated with the Project.

### **16.0.5 Synchronization**

Designated Entity shall have received any necessary authorization from Transmission Provider and the Transmission Owner(s) to whose facilities the Project will interconnect to synchronize with the Transmission System or to energize, as applicable, per the determination of Transmission Provider, the Project.

### **16.1 Partial Operation.**

If the Project is to be completed in phases, the completed part of the Project may operate prior to completion and Required Project In-Service Date set forth in Schedule C of this Agreement, provided that: (i) Designated Entity has notified Transmission Provider of the successful completion of the Project phase; (ii) Transmission Provider has determined that partial operation of the Project will not negatively impact the reliability of the Transmission System; (iii) Designated Entity has demonstrated that the requirements for Initial Operation set forth in Section 16.0 of this Agreement have been met for the Project phase; and (iv) partial operation of the Project is consistent with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice.

## **Article 17 – Survival**

### **17.0 Survival of Rights.**

The rights and obligations of the Parties in this Agreement shall survive the termination, expiration, or cancellation of this Agreement to the extent necessary to provide for the determination and enforcement of said obligations arising from acts or events that occurred while this Agreement was in effect. The Liability and Indemnity provisions in Article 9 also shall survive termination, expiration, or cancellation of this Agreement.

## **Article 18 – Non-Standard Terms and Conditions**

### **18.0 Schedule E – Addendum of Non-Standard Terms and Conditions.**

Subject to FERC acceptance or approval, the Parties agree that the terms and conditions set forth in the attached Schedule E are hereby incorporated by reference, and made a part of, this Agreement. In the event of any conflict between a provision of Schedule E that FERC has accepted and any provision of the standard terms and conditions set forth in this Agreement that relates to the same subject matter, the pertinent provision of Schedule E shall control.

## Article 19 – Miscellaneous

### 19.0 Notices.

Any notice or request made to or by any Party regarding this Agreement shall be made by U.S. mail or reputable overnight courier to the addresses set forth below:

Transmission Provider:  
PJM Interconnection, L.L.C.  
2750 Monroe Blvd.  
Audubon, PA 19403  
Attention: Manager, Infrastructure Coordination

Designated Entity:  
Transource Energy, LLC  
1 Riverside Plaza,  
Columbus, Ohio 43215-2372  
Attention: Antonio Smyth

### 19.1 No Transmission Service.

This Agreement does not entitle the Designated Entity to take Transmission Service under the Tariff.

### 19.2 No Rights.

Neither this Agreement nor the construction or the financing of the Project entitles Designated Entity to any rights related to Customer-Funded Upgrades set forth in Subpart C of Part VI of the Tariff.

### 19.3 Standard of Review.

Future modifications to this Agreement by the Parties or the FERC shall be subject to the just and reasonable standard and the Parties shall not be required to demonstrate that such modifications are required to meet the “public interest” standard of review as described in *United Gas Pipe Line Co. v. Mobile Gas Service Corp.*, 350 U.S. 332 (1956), and *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956).

### 19.4 No Partnership.

Notwithstanding any provision of this Agreement, the Parties do not intend to create hereby any joint venture, partnership, association taxable as a corporation, or other entity for the conduct of any business for profit.

**19.5 Headings.**

The Article and Section headings used in this Agreement are for convenience only and shall not affect the construction or interpretation of any of the provisions of this Agreement.

**19.6 Interpretation.**

Wherever the context may require, any noun or pronoun used herein shall include the corresponding masculine, feminine or neuter forms. The singular form of nouns, pronouns and verbs shall include the plural and vice versa.

**19.7 Severability.**

Each provision of this Agreement shall be considered severable and if for any reason any provision is determined by a court or regulatory authority of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement shall continue in full force and effect and shall in no way be affected, impaired or invalidated, and such invalid, void or unenforceable provision shall be replaced with valid and enforceable provision or provisions which otherwise give effect to the original intent of the invalid, void or unenforceable provision.

**19.8 Further Assurances.**

Each Party hereby agrees that it shall hereafter execute and deliver such further instruments, provide all information and take or forbear such further acts and things as may be reasonably required or useful to carry out the intent and purpose of this Agreement and as are not inconsistent with the terms hereof.

**19.9 Counterparts.**

This Agreement may be executed in multiple counterparts to be construed as one effective as of the Effective Date.

**19.10 Governing Law**

This Agreement shall be governed under the Federal Power Act and Delaware law, as applicable.

**19.11 Incorporation of Other Documents.**

The Tariff, the Operating Agreement, and the Reliability Assurance Agreement, as they may be amended from time to time, are hereby incorporated herein and made a part hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective authorized officials.

**Transmission Provider: PJM Interconnection, L.L.C.**

By: Suzanne Glatz Manager, Infrastructure Coordination 11/2/2016  
Name Title **Suzanne Glatz** Date

Printed name of signer: \_\_\_\_\_

**Designated Entity: Transource Energy, LLC for itself and on behalf of  
Transource Maryland, LLC and Transource Pennsylvania, LLC**

By: [Signature] PRESIDENT 10-26-16  
Name Title Date

Printed name of signer: ANTONIO F. SMITH

## SCHEDULE A

### Description of Project

#### Rice – Ringgold Line (b2743.5):

- Build new 230 kV double circuit overhead transmission line between the existing Ringgold Substation and the new Rice Substation; operated as a single circuit.

#### Rice Substation (b2743.1):

- Tap the existing Conemaugh - Hunterstown 500 kV line to tie in the new 500/230kV Rice Substation connecting to the new Rice - Ringgold 230 kV line.
- Install two 500/230 kV transformers, operated in parallel.

#### Furnace Run – Conastone Line (b2752.5):

- Build new 230 kV double circuit overhead transmission line between the existing Conastone Substation and the new Furnace Run Substation; operated as a single circuit.

#### Furnace Run Substation (b2752.1):

- Tap the existing Peach Bottom - Three Mile Island 500 kV line to tie in the new 500/230kV Furnace Run Substation connecting to the new Furnace Run - Conastone 230 kV line.
- Install two 500/230 kV transformers, operated in parallel.

*Note:* Work required to rebuild the Conastone - Northwest 230 kV line will be covered under a separate RTEP project. The work required to replace the Ringgold #3 and #4 230/138 kV transformers, to reconfigure the Ringgold bus, and to rebuild & reconductor the Ringgold - Catoclin 138 kV & replace terminal equipment at both ends of the circuit will also be covered under a separate RTEP project.

*Project Area Map:*





## **SCHEDULE B**

### **Scope of Work**

The new Rice – Ringgold Line will include approximately 27 miles of double-circuit 230 kV alternating current overhead transmission line configured in a six-wired arrangement (operated as a single circuit), rated at least 1660 MVA summer normal and summer emergency, between the existing Ringgold Substation and the new Rice Substation.

The new Rice Substation will tie into the existing Hunterstown – Conemaugh 500 kV line. The transmission line and substation remote-end work required to tie the existing Hunterstown – Conemaugh 500 kV line into the new Rice Substation will be performed by others, and not by Transource. The new Rice Substation will include:

- Two at least 900 MVA 500/230 kV transformers, operated in parallel.
- One 245 kV breaker in a single bus single breaker configuration.
- Three 500 kV breakers in a ring bus configuration.

The new Furnace Run – Conastone Line will include approximately 15 miles of new double-circuit 230 kV alternating current overhead transmission line configured in a six-wired arrangement (operated as a single circuit), rated at least 1800 MVA summer normal and 2400 MVA summer emergency, between the existing Conastone Substation and the new Furnace Run Substation.

The new Furnace Run Substation will tie into the existing Three Mile Island – Peach Bottom 500 kV line. The transmission line and substation remote-end work required to tie the existing Three Mile Island – Peach Bottom 500 kV line into the new Furnace Run Substation will be performed by others, and not by Transource. The new Furnace Run Substation will include:

- Two at least 900 MVA 500/230 kV transformers, operated in parallel.
- Two 245 kV breakers in a double breaker single bus configuration.
- Four 500 kV breakers in a ring bus configuration.

## SCHEDULE C

### Development Schedule

Designated Entity shall ensure and demonstrate to the Transmission Provider that it timely has met the following milestones and milestone dates and that the milestones remain in good standing:

<b>Milestones and Milestone Dates</b>
<b>Execute Interconnection Coordination Agreement.</b> On or before <u>May 31, 2017</u> , Designated Entity must execute the Interconnection Coordination Agreement with PECO or request the agreement be filed unexecuted.
<b>Execute Interconnection Coordination Agreement.</b> On or before <u>May 31, 2017</u> , Designated Entity must execute the Interconnection Coordination Agreement with Metropolitan Edison Company or request the agreement be filed unexecuted.
<b>Execute Interconnection Coordination Agreement.</b> On or before <u>May 31, 2017</u> , Designated Entity must execute the Interconnection Coordination Agreement with Baltimore Gas and Electric Company or request the agreement be filed unexecuted.
<b>Execute Interconnection Coordination Agreement.</b> On or before <u>May 31, 2017</u> , Designated Entity must execute the Interconnection Coordination Agreement with Pennsylvania Electric Company or request the agreement be filed unexecuted.
<b>Demonstrate adequate Project financing.</b> On or before <u>December 31, 2016</u> , Designated Entity must demonstrate that adequate project financing has been secured. Project financing must be maintained for the term of this Agreement.
<b>Submit application for any required certificate of convenience and necessity.</b> On or before <u>June 1, 2018</u> , Designated Entity must demonstrate that any applications for any required state or local certificate(s) of convenience and necessity have been submitted or such certificates have been ruled as not required by the applicable states or local governmental authorities.
<b>Acquisition of all necessary federal, state, county, and local site permits.</b> On or before <u>December 1, 2019</u> , Designated Entity must demonstrate that all required federal, state, county and local site permits have been acquired.
<b>Delivery of major electrical equipment.</b> On or before <u>December 1, 2019</u> , Designated Entity must demonstrate that all major electrical equipment has been delivered to the project site.

**Substantial Site Work Completed:** On or before January 31, 2020, Designated Entity must demonstrate that at least 20% of Project site construction is completed. Additionally the Designated Entity must submit updated ratings and the final project drawings to the Transmission Provider.

**Demonstrate required ratings.** On or before May 1, 2020, Designated Entity must demonstrate that the project meets all required electrical ratings.

**Required Project In-Service Date.** On or before June 1, 2020, Designated Entity must: (i) demonstrate that the Project is completed in accordance with the Scope of Work in Schedules B of this Agreement; (ii) meets the criteria outlined in Schedule D of this Agreement; and (iii) is under Transmission Provider operational dispatch.

## SCHEDULE D

### PJM Planning Requirements and Criteria and Required Ratings

#### Required Ratings\*

##### Rice – Ringgold Line (b2743.5):

- 1660 / 1660 MVA summer normal / emergency
  - Two 230kV circuits each with the following parameters:
    - $R = 0.0025299$  pu
    - $X = 0.0275589$  pu
    - $B = 0.114035$  pu

##### Rice Substation (b2743.1):

- Two 900 MVA 500/230 kV transformers

##### Furnace Run – Conastone Line (b2752.5):

- 1800 / 2400 MVA summer normal / emergency
  - Two 230kV circuits each with the following parameters:
    - $R = 0.00134928$  pu
    - $X = 0.0146981$  pu
    - $B = 0.0608184$  pu

##### Furnace Run Substation (b2752.1):

- Two 900 MVA 500/230 kV transformers

\* These parameters may be updated and are subject to evaluation by PJM.

## SCHEDULE E

### Non-Standard Terms and Conditions

#### Project Development

The Parties acknowledge and agree that Transource Energy, LLC may utilize its wholly owned subsidiaries, Transource Pennsylvania, LLC and Transource Maryland, LLC (the "Transource Subsidiaries"), to perform its obligations to design, engineer, procure, install, and construct the Project.

Transource Pennsylvania, LLC shall design, engineer, procure, install, construct, own, operate and maintain the portion of the Project to be located in the Commonwealth of Pennsylvania, and Transource Maryland, LLC shall design, engineer, procure, install, construct, own, operate, and maintain the portion of the Project to be located in the State of Maryland. Transource Energy, LLC shall provide the overall coordination for the Project work.

The Transource Subsidiaries shall obtain all necessary permits, siting, and other regulatory approvals to undertake their respective portions of the Project and shall perform their work in accordance with the terms of this Designated Entity Agreement.

In accordance with Sections 5.0, 16.0.1, and 16.0.2, of this Designated Entity Agreement:

- (a) Transource Energy, LLC, Transource Pennsylvania, LLC and Transource Maryland, LLC shall each execute the Consolidated Transmission Owners Agreement;
- (b) Transource Energy, LLC, Transource Pennsylvania, LLC and Transource Maryland, LLC shall each execute the Interconnection Coordination Agreement for the Project; and
- (c) The Transource Subsidiaries each shall execute interconnection agreements with Transmission Owners with whom their respective facilities will interconnect.

#### Project Cost

The Estimated Project Cost is \$197.1 million plus an escalation compounded adjustment of 3 percent per year to account for inflation as measured from the bid submission date of February 27, 2015 and the Project In-Service Date.

Consistent with the proposal submitted by Transource on February 27, 2015, Transource commits to the following terms and conditions relevant to the Project:

- (a) The Transource Subsidiaries shall be entitled to recover the FERC approved return on equity plus incentives on the costs incurred for the Project up to the Estimated Project Cost;

Service Agreement No. [ ]

- (b) The Transource Subsidiaries shall be entitled to recover the FERC approved return on equity on the costs incurred for the Project above the Estimated Project Cost, but shall forego any return on equity incentives approved by FERC (including the RTO participation adder) for the project cost portion that exceeds the Estimated Project Cost; and
- (c) The Transource Subsidiaries commit to an actual equity content of no greater than 50 percent for the Project, once permanent financing is in place. Transource shall be granted relief from this commitment if the capital market conditions do not remain normal and the Transource Subsidiaries do not have the ability to finance these transmission projects with the proposed capital structure.

**ATTACHMENT 3**

**SITING STUDY**

# Siting Study

## INDEPENDENCE ENERGY CONNECTION (EAST):

### Furnace Run-Conastone 230 kV Transmission Line Project

*Prepared for:*

Transource PA, LLC and Transource MD, LLC

1 Riverside Plaza

Columbus, Ohio 43215



*Prepared by:*

AECOM

625 West Ridge Pike, Suite E-100

Conshohocken, Pennsylvania 19428



December 2017



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**Key Terminology**

Alternative Routes	A combination of Study Segments that form routes that connect the Project Endpoints and will be used for analysis and comparison
Conceptual Routes	Initial routes for the project that adhere to a series of general siting and technical guidelines
Constraints	Specific areas that should be avoided, to the extent reasonably practicable, during the route development and site selection process, recognizing that it is not possible to completely avoid all constraints
Distribution Line	An electric line that delivers power from a substation to households and businesses
Opportunity Feature	Areas where the transmission line may have less potential impacts to area land uses and the natural and human environment
Project Endpoint	The project starting and ending point(s), which may include substations, switch stations, tap points, or other locations defined by the Company's planners and engineers
Proposed Route	The alignment on which the applicant/Siting Team proposes to construct a transmission line.
Project Study Area	The territory in which line route alternatives can be sited to feasibly meet the Project's functional requirements
Siting Team	A multidisciplinary team of experts that includes engineers, siting specialists, natural resource specialists, construction managers, and right-of-way agents
Study Segments	Study Segments are partial alignments that when combined form a complete route
Substation	Substations are facilities that transform electric power from high to low, or the reverse, and is composed of an enclosed assemblage of equipment, e.g., switches, circuit breakers, buses, and transformers, through which electric energy is passed for the purpose of switching or modifying its characteristics
Transmission Line	Electric line that moves bulk electric power from a generating plant to a substation or between substations

## ACRONYMS

ACEP	Agricultural Conservation Easement Program
amsl	Above Mean sea level
APE	Area of Potential Effect
ASA	Agricultural Security Areas
BG&E	Baltimore Gas and Electric
BLM	Bureau of Land Management
CFR	Code of Federal Regulation
COMAR	Code of Maryland Regulations
CRGIS	Cultural Resources Geographic Information System
CWF	Coldwater Fisheries
ESRI	Environmental Systems Research Institute
EU	Existing Use
EV	Exceptional Value
FAA	Federal Aviation Administration
FE	First Energy
FEMA	Federal Emergency Management Agency
FRPP	Farm and Ranch Lands Protection Program
GIS	Geographic information system
GPS	Global positioning system
HQ	High Quality
HQ-CWF	High Quality-Cold Water Fishery
IBA	Important Bird Area
IEC Project	Independence Energy Connection Project
kV	Kilovolt
MALPF	Maryland Agricultural Land Preservation Foundation
MALPP	Maryland Agricultural Land Preservation Program
MF	Migratory Fishes
MDA	Maryland Department of Agriculture
MDE	Maryland Department of Environment
MDNR	Maryland Department of Natural Resources
MDPSC	Maryland Public Service Commission

MERLIN	Maryland Environmental Resource and Land Inform
MET	Maryland Environmental Trust
MHT	Maryland Historical Trust
MRLC	Multi-resolution land characteristics
MRLP	Maryland Rural Legacy Program
NAI	Natural Area Inventories
NAIP	National Agricultural Imagery Project
NCED	National Conservation Easement Database
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NHD	National Hydrography Data set
NLCD	National Land Cover Database
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWPS	National Wilderness Preservation System
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
PAPUC	Pennsylvania Public Utility Commission
PDA	Pennsylvania Department of Agriculture
PECO	Philadelphia Electric Company
PEM	Palustrine Emergent
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine Forested
PGC	Pennsylvania Game Commission
PHMC	Pennsylvania Historic and Museum Commission
PJM	PJM Interconnection, LLC
POTC	Pennsylvania Ornithological Technical Committee
PSS	Palustrine Scrub Shrub
ROW	Right-of-way
SGL	State Game Land

SHPO	State Historic Preservation Office
SSPRA	Sensitive Species Project Review Area
SSURGO	Soil Survey Geographic Database
TEAs	Targeted Ecological Areas
TNC	The Nature Conservancy
T&E	Threatened and endangered (species)
Transource	Transource Energy
TSF	Trout Stocked Fishery
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WMA	Wildlife Management Areas
WWF	Warm Water Fisheries
YCALPB	York County Agricultural Land Preservation Board
YCPC	York County Planning Commission



## 1.0 PROJECT OVERVIEW

PJM Interconnection, LLC (PJM), the regional transmission operator solicited proposals in 2014 to solve an electrical congestion issue on the grid. Numerous transmission providers proposed solutions to solve the problem, and PJM evaluated each proposal to determine the best solution. In March 2016, PJM selected Transource Energy’s (Transource) proposal as the best solution to solve the problem. Transource’s proposal, the Independence Energy Connection Project (IEC Project), consists of two 230 kilovolt (kV) transmission lines, two new 500/230 kV substations, and several incumbent upgrades. The Rice-Ringgold 230 kV transmission line (IEC West Project) begins in Franklin County, Pennsylvania at the new Rice Substation and terminates at the existing Ringgold Substation in Washington County, Maryland (**Figure 1**). The Furnace Run–Conastone 230 kV transmission line (IEC East Project) begins at the new Furnace Run Substation in York County, Pennsylvania and terminates at the existing Conastone Substation in Harford County, Maryland. The focus of this siting study is on the IEC East Project. A similar report for the IEC West Project has also been developed.

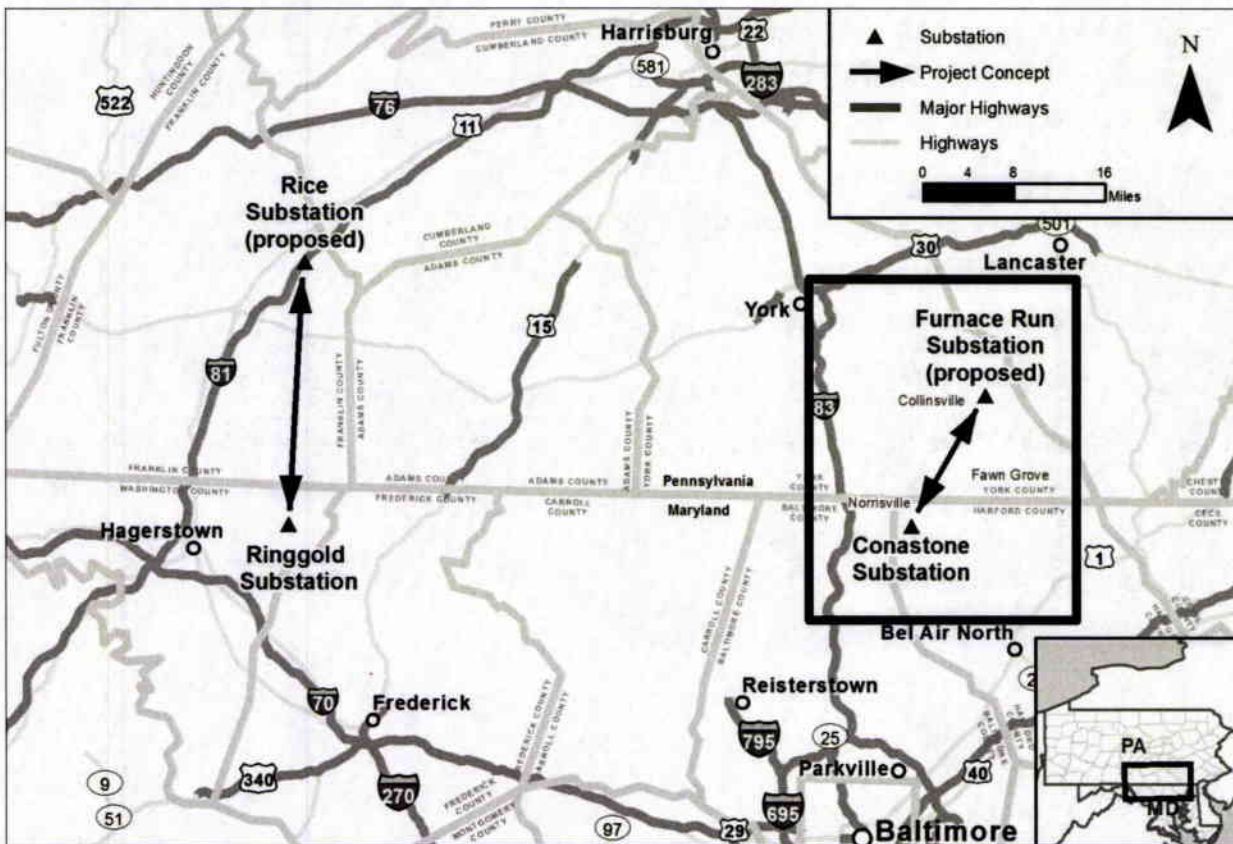


Figure 1: Project Location Map

## 1.1 Project Characteristics

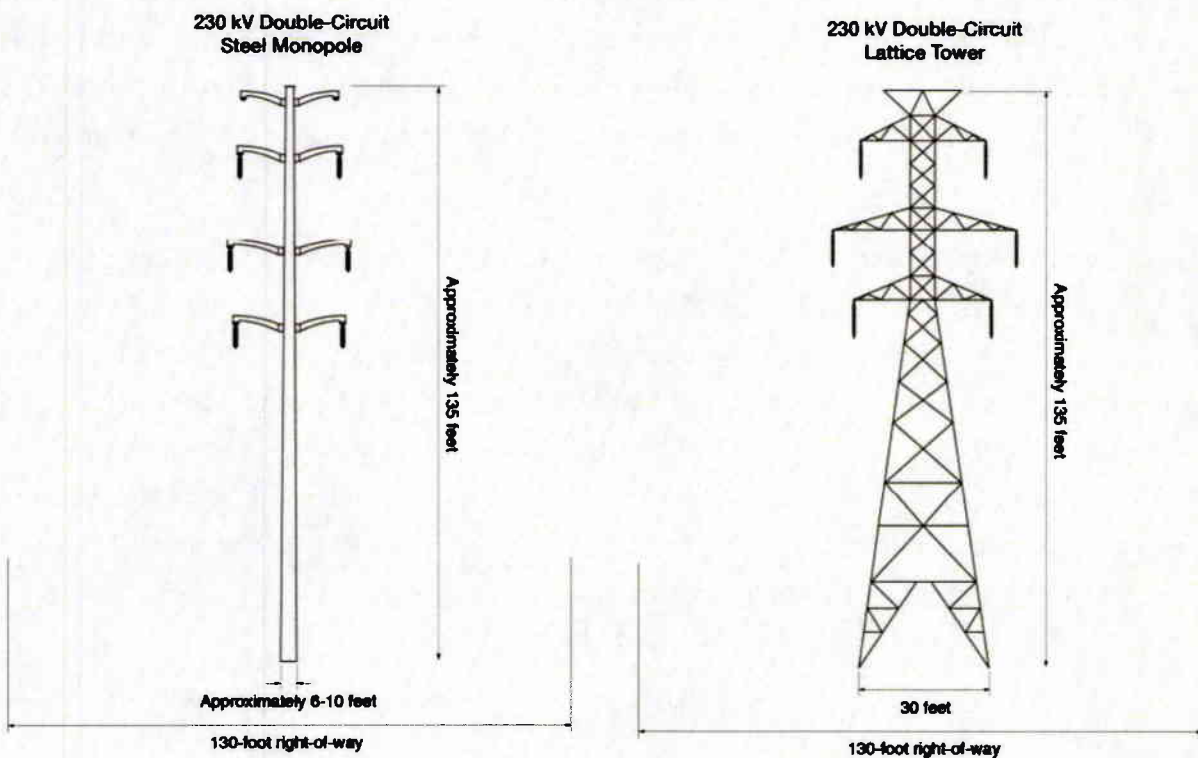
### 1.1.1 Project Endpoints

The IEC East Project involves the development of approximately 16 miles of 230 kV double-circuit overhead electric transmission line. The northern extent of the East Project will tap into the Philadelphia Electric Company's (PECO's) existing Three Mile Island-Peach Bottom 500 kV transmission line via two new 500 kV transmission lines, approximately 0.3 mile in length, to be constructed by PECO. These two 500 kV transmission lines will supply power to the proposed Furnace Run 500/230 kV Substation. The Furnace Run Substation will be located off Goram Road in Lower Chanceford Township, York County, Pennsylvania. The southern extent of the Project will connect to the existing Conastone 500/230/138 kV Substation (owned by Baltimore Gas and Electric [BG&E]) located near Norrisville in Harford County, Maryland. The identification of the location of the proposed Furnace Run Substation and the Project endpoints and are further detailed in Section 3.0.

### 1.1.2 Transmission Line and Substation Design and ROW Requirements

The IEC East Project requires new right-of-way with a typical width of 130 feet (**Figure 2**). Proposed structures vary in height, footprint, and type depending on location. However, the IEC West Project will generally be constructed using galvanized steel double-circuit monopoles. Galvanized steel double-circuit lattice towers may also be used as dictated by site and engineering constraints. The average height for the galvanized steel double-circuit structures is approximately 135 feet (**Figure 2**). Typical span lengths can range from approximately 950 feet; however, actual span lengths will vary depending on the location.

The Furnace Run 500/230 kV Substation will require approximately 40 acres to accommodate the substation facility, grading, and supporting stormwater controls. The Project will also require upgrades to BG&E's Conastone 500/230/138 kV Substation which currently serves the electric transmission network in the region. These upgrades will include construction of a new bay with additional transformers.



**Figure 2: Typical 230 kV Double-Circuit Monopole and Lattice Transmission Structures**

## 1.2 Project Timeline and Overview of Regulatory Approvals

PJM identified the need for the project in 2014, and selected Transource’s proposed solution in March of 2016. Transource contracted AECOM to assist with siting the IEC Project in August of 2016. The Siting Team initiated the transmission line siting process in the fall of 2016 with the identification and collection of relevant publicly available data. Federal and State agencies were contacted in January of 2017 to introduce the Project and obtain feedback and data. In addition, initial meetings were held with agencies, townships, counties, and elected officials to introduce the project and discuss potential constraints in the area.

Initial Study Segments were developed in early 2017 followed by field reviews of the Project Study Area to verify land use and modify Study Segments accordingly. The Study Segments were continually revised during this time as new data were collected from public sources, engineering input, agency coordination efforts, and field reviews.

The resultant network of Study Segments was presented at a series of public open houses in June 2017. The Study Segments were then re-evaluated based on public input, additional engineering review, and existing constraints and either further refined or eliminated from further consideration. The Revised Study Segments were then presented to the public during a

second round of open houses conducted in August 2017 to obtain further feedback. Following the second round of public open houses, the Revised Study Segments were again modified as necessary and compiled into complete Alternative Routes for analysis and comparison. The Proposed Route was identified through the analysis and comparison of these Alternative Routes.

This Siting Study was prepared during the fall of 2017 to support Transource's application to the Maryland Public Service Commission (MDPSC) and the Pennsylvania Public Utility Commission (PAPUC) for approval to construct the Proposed Route. The Siting Study describes the process used, information gathered, and analysis conducted to identify the Proposed Routes for the IEC Project. Concurrent with the MDPSC and PAPUC review process, other relevant state and federal permit applications will be prepared and submitted in 2018 to those regulatory agencies that will oversee the construction and permitting of the Project. Pending approval from the MDPSC, PAPUC, and other relevant regulatory agencies, construction of the Project is expected to begin in 2019 with an in-service date of June 2020.

### **1.3 Goal of the Siting Study**

The goal of the Siting Study is to identify and evaluate opportunities and constraints in the Project Study Area to facilitate the development of several Alternative Routes, evaluate potential impacts associated with these Alternative Routes, and identify a Proposed Route to be constructed to meet the Project need. The Proposed Route is the route that (1) reasonably minimizes adverse impacts on area land uses and the natural and cultural environment; (2) minimizes special engineering design requirements and unreasonable costs; and (3) can be constructed and operated in a timely, safe, and reliable manner.

## 2.0 ROUTE AND SITE DEVELOPMENT PROCESS

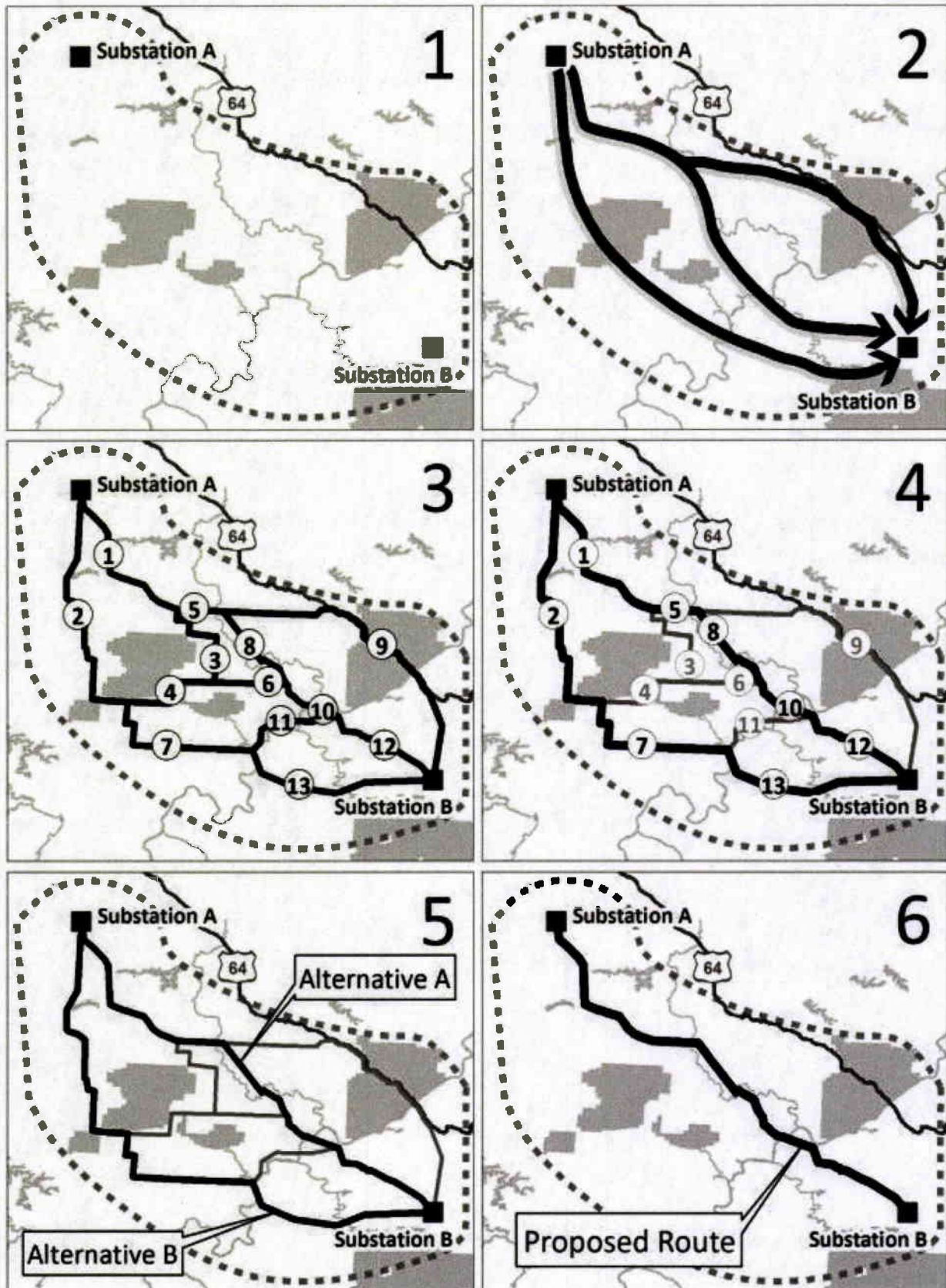
### 2.1 Route Development Process Summary/Methodology

The route development process is inherently iterative with modifications made throughout the siting analysis as a result of the identification of new constraints, input from agencies, landowners, and other stakeholders, periodic re-assessment of routes with respect to the siting criteria, and adjustments to the overall route network. As a result of the evolving nature of the route development process, the Siting Team Members (see **Section 2.2**) uses specific vocabulary to describe the routes at different stages of development.

Initial route development efforts start with the identification of large area constraints and opportunity features within the **Study Area**, which encompasses the endpoints of the Project and areas in between (**Figure 3, Step 1**). These areas are typically identified using a combination of readily available public data sources.

The Siting Team uses this information to first develop an array of **Conceptual Routes** for the Project adhering to a series of general siting and technical guidelines (**Step 2**). Where two or more of these Conceptual Routes intersect, **Study Segments** are formed between two common nodes or points of intersection. Together, the assemblage of Study Segments is referred to as the **Study Segment Network (Step 3)**.

As the route development process progresses, the Siting Team continues to evaluate new data and modifies, if necessary, the Study Segments included in the network to develop a **Refined Study Segment Network (Step 4)**. Eventually, complete **Alternative Routes** are developed by assembling the Study Segments that best meet the siting guidelines into individual routes for analysis (**Step 5**). Alternative Routes are assessed and compared with land uses, natural and cultural resources, and engineering and construction concerns. Ultimately, through a quantitative and qualitative analysis and comparison of the Alternate Routes, the Siting Team identifies a **Proposed Route (Step 6)** for submission to the MDPSC and PAPUC.



**Figure 3: Route Development Process Steps**

The above figure is for illustration purposes and does not reflect the actual study segments or alternative routes developed for the IEC Project.

## 2.2 Siting Team Members

A multi-disciplinary Siting Team was engaged throughout the siting process for the IEC Project. Team members were selected to bring a wide variety of experience to achieve a thorough review of all aspects of developing the Proposed Route. Members of the Siting Team have experience in transmission line siting, impact assessment for a wide variety of natural resources, cultural resources, and area land use types, as well as impact mitigation, transmission engineering and design, right-of-way acquisition, and construction.

The team worked together during the Siting Study to define the Project Study Area, develop siting criteria, identify siting constraints and opportunities, collect and analyze environmental and design data, solicit public input, consult with natural resource and permitting agencies, develop and revise the study segments, and analyze and report on the selection of a Proposed Route.

## 2.3 Data Collection

The following sources of information were used to develop data for the Siting Study. A detailed table of data sources is provided in **Appendix A**.

### 2.3.1 Geographic Information System (GIS) Data Collection

Aerial photography is an important tool in the siting process. The primary sources of aerial imagery used in the route identification, analysis, and selection effort for the Project include Maryland National Agricultural Imagery Program (NAIP) (2015) and Pennsylvania NAIP (2015), but also included review of on-line imagery provided by Google Earth, Bing Maps, United States Fish and Wildlife Service (USFWS) Wetland Mapper, Pennsylvania Department of Environmental Protection's (PADEP) EMapPA, and Maryland's Environmental Resource and Land Inform (MERLIN).

Updated information, such as the location of new residences and other constraints, was annotated to the photography by either paper maps (at the public meetings) that were transferred into the GIS, or digitized directly into the GIS as identified during field inspections. Existing paper and electronic maps were also examined as part of the siting process. These include U.S. Geological Survey (USGS) Geological Survey 7 ½ minute topographic quadrangle maps and state and county road maps in digital form.

The siting process made extensive use of information in existing GIS data sets that were obtained from many sources, including federal, state, and local governments. This information was obtained through official agency GIS data access websites, provided directly by government agencies, and created by the Siting Team by digitizing information from paper-based maps, aerial photo interpretation, interviews with stakeholders, and field inspections.

**Appendix A** presents a list of the GIS data sources used for this study. Field reconnaissance was conducted to verify certain features (e.g., locations of residential, commercial and industrial buildings).

### **2.3.2 Field Reviews**

Siting Team members conducted multiple field reviews across the Project Study Area. Prior to these reviews, field maps were generated that consisted of key siting features such as residences, parcel lines, places of worship, cemeteries, and natural resources (e.g., wetlands, streams, and floodplains). During these field reviews, team members confirmed the general land uses and evaluated the specific Study Segments by automobile from public roads and other points of public access. Field-verified features were added to the GIS database using laptops/tablets running GIS software supported by real-time Global Positioning System (GPS). This information, in conjunction with the public input, was used in the siting process to assist in the comparison of Study Segments and to create mapping to depict the opportunities and constraints.

### **2.3.3 Federal, State and Local Government Coordination**

The Siting Team initiated agency consultation in early 2017 by mailing letters to various federal, state, and local agencies and/or officials to inform them of the IEC Project and request data for the Siting Study. In addition, the Siting Team held numerous meetings with agencies, counties, townships, and officials during the siting process. A summary of the agencies contacted and a listing of meetings held, as well as copies of agency correspondence, are included as **Appendix B**. Transource will work with all applicable agencies and obtain all required jurisdictional permits and approvals, and comply with any conditions tied to these approvals.

## **2.4 Siting Guidelines**

### **2.4.1 General Guidelines**

The primary goal for this siting effort was to identify a Proposed Route for the Project that (1) reasonably minimizes adverse impacts on area land uses and the natural and cultural environment; (2) minimizes special engineering design requirements and unreasonable costs; and (3) can be constructed and operated in a timely, safe and reliable manner.

The following guidelines were considered for this effort, where reasonable and practicable:

- Consider parallel alignments along existing utility ROWs or other infrastructure, such as roadways and railroads.
- Maximize the distance from residential dwellings, schools, daycare facilities, hospitals, and other community facilities.



- Consider stakeholder input.
- Minimize visibility from federal and state listed scenic roadways and designated scenic resources.
- Minimize conflict with designated public resource lands, recreation lands, nature preserves, or other conservation areas.
- Minimize conflict with existing and approved future development and land uses.
- Minimize potential environmental and land use impacts by avoiding circuitous routes.
- Minimize new crossings of large wetland complexes, critical habitat, and other unique or distinct natural resources.
- Minimize habitat fragmentation and impacts on designated areas of biodiversity concern.
- Avoid crossing hazardous waste sites or sites with active mineral extraction activities.

#### **2.4.2 Technical Guidelines**

Technical guidelines are driven by the physical characteristics and engineering limitations of the structures and lines themselves, and the design criteria necessary to meet Transource design standards, North American Electric Reliability Corporation (NERC) reliability standards, National Electric Safety Code (NESC), and industry best practices for construction. The technical guidelines were informed by: (1) the technical expertise of engineers and other industry professionals responsible for the reliable, safe and economical construction, operation, and maintenance of electric system facilities; (2) NERC reliability standards as implemented by PJM; and (3) industry best practices.

The Siting Team considered the following technical guidelines during the siting process:

- Maintain a minimum of 115 feet of centerline to centerline separation when paralleling 138 kV or lower voltage transmission lines.
- Minimize crossings of existing transmission lines.
- Minimize crossing existing interstate and multi-lane highways and cross perpendicular, where feasible.
- Limit transmission line angles greater than 30 degrees.
- Limit areas across steep slopes (more than 20 percent slopes for angle structures and more than 30 percent slopes for tangent structures).

## 2.5 Public Involvement Process

### 2.5.1 Public Open House

Transource conducted two rounds of public open houses during different phases of the siting process to inform the public about the IEC Project and obtain information from landowners about their properties. The first round of open houses focused on a wide network of Study Segments with the goal to obtain information from the public to help modify, eliminate or add Study Segments. Following the first round of open houses and subsequent qualitative and quantitative analysis, the second round of open houses focused on a refined set of Study Segments. The dates of all the open houses are listed below.

#### First Round of Open Houses:

1. June 7, 2017 from 6pm-9pm at the North Harford High School, Pylesville, Harford County, Maryland; and
2. June 8, 2017 from 6pm-9pm at the Chanceford Township Community Building, Brogue, York County, Pennsylvania

#### Second Round of Open Houses:

1. August 9, 2017 from 6pm-9pm at the Norrisville Elementary School, White Hall, Harford County, Maryland; and
2. August 10, 2017 from 6pm-9pm at the Kennard-Dale High School, Fawn Grove, York County, Pennsylvania.

The public and property owners were notified about the time and location of the open house meetings through the following means:

1. Letters to property owners within 500 feet of the Study Segments
2. Automated phone calls to residences within 500 feet of the Study Segments,
3. Reminder postcards sent to these residences,
4. Newspaper notification placed in the York Record, York Dispatch, Delta Star, and Aegis,
5. A Project specific web site <http://beta.power-viz.com/transourceenergyprojects/IndependenceEnergyConnection/>, which was included in media venues and in letters to residents.

The open houses were set up with an open format where the public could attend at any time during the hours listed above. Each attendee was greeted by a Transource representative and given a guided tour through various boards that described Transource, the purpose and need of

the IEC Project, engineering considerations, the right-of-way process, and the siting process. After the guided tour, members of the Siting Team were available with large format maps, printed at a scale of 1 inch = 500 feet, to review individual properties and take comments. All attendees were given comment cards with unique identifying numbers. These numbers were noted on maps for the parcel(s) of each landowner. Attendees were encouraged to identify the location of their residences, places of business, property of concern, or other sensitive resources on the printed maps. After the public open house, handwritten comments from the maps were digitized and entered into a GIS database. In addition, all comment cards were entered into a database with the unique identifier so the comment and the parcel could easily be correlated.

A total of 174 people signed in at the first round of open houses and 276 people signed in at the second round of open houses for the Furnace Run-Conastone portion of the Project.

### **2.5.2 Project Website and Virtual Open House**

Transource also established an IEC Project website which was updated throughout the various phases of the siting process. The website provided access to a google-earth style aerial map where interested parties could zoom to a particular area of the IEC Project and review Study Segments (after the first round of open houses) or refined Study Segments (after the second round of open houses). In addition to reviewing the potential alignments of the Study Segments, landowners and members of the general public could submit comments or add points to the map to provide specific information about resources or structures on their property. These points were integrated into the GIS database and were reviewed as part of the siting process.

The IEC Project website also offered the public the ability to virtually review the printed materials presented at the open houses such as the explanatory boards and the large format maps. Transource monitored the comments provided through the website and provided answers to questions from the public. Over the course of the Project, over 428 comments were received through this venue.

For individuals without access to the internet, paper maps were mailed, upon request.

### **2.5.3 Consideration of Public Input**

In addition to the 256 comment cards submitted regarding the Project at the two sets of public open houses and the 428 comments received via the website, Transource also received an additional 442 comments on the Project through phone calls, emails, and letters and postcards received via U.S. mail. All of the comments were entered into the website database and categorized based on the topics addressed such as aesthetics, vegetation clearing, structure type, or land use. Data from all these input sources (e.g., open houses, comment cards,

website) were used to evaluate the Study Segments after each open house and assisted in the decision-making process toward identifying a Proposed Route.

## 3.0 ALTERNATIVE ROUTE IDENTIFICATION

### 3.1 Substation Siting

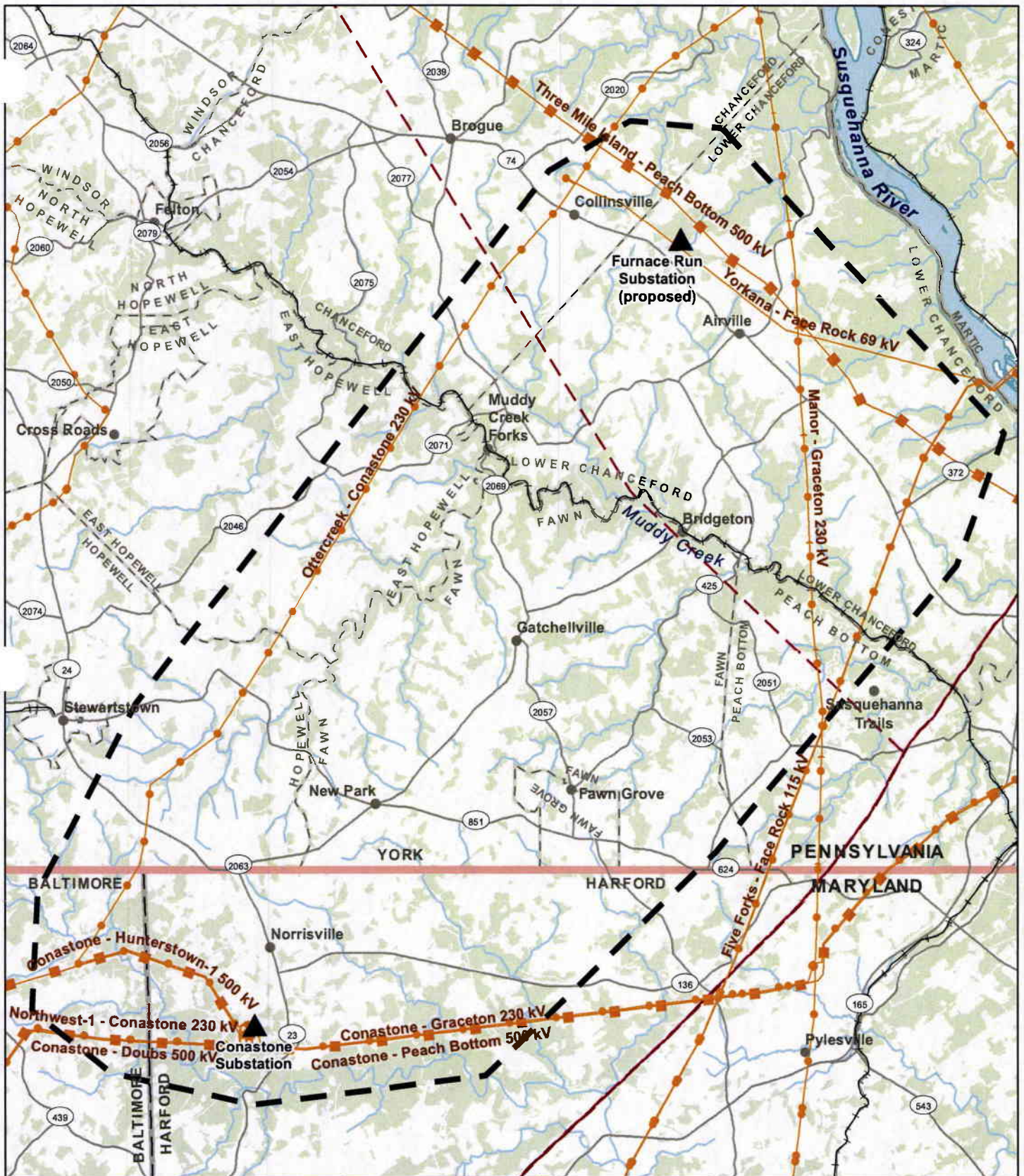
Transource's Siting Team, in conjunction with planners and engineers, conducted a separate substation review to determine the site of the proposed Furnace Run 500/230 kV Substation, to be located in York County, Pennsylvania. The Furnace Run Substation will be connected to the PECO-owned Three Mile Island-Peach Bottom 500 kV transmission line and will be the northern-most endpoint of the Project.

Early in the siting process, multiple locations for the Furnace Run Substation were evaluated. Locations in close proximity to the PECO Three Mile Island-Peach Bottom 500 kV transmission line were considered more favorable than sites further from this existing transmission line. Close proximity to the existing 500 kV reduces the length of 500 kV tap lines that will need to be constructed to the Furnace Run Substation. Other key considerations for siting the new substation included accessibility from adjacent established roadways, an unencumbered property from a conservation easement perspective, a large enough parcel to accommodate the substation and ancillary design features, generally level grade, favorable soil conditions for foundations, and ability to acquire the property.

### 3.2 Project Study Area Description

The Project Study Area is the territory in which transmission line route alternatives can be sited to feasibly meet the Project's functional requirements and, at the same time, minimize environmental impacts and Project costs. The boundaries of the Project Study Area were determined by the geographic area encompassing the proposed Furnace Run Substation and existing Conastone Substation and was intended to incorporate all reasonable Conceptual Routes between these connection points. Given these considerations, the Siting Team identified a Project Study Area encompassing approximately 95 square miles of southern York County, Pennsylvania and northern Harford County, Maryland (**Figure 4**). The Project Study Area is generally bounded by:

- PECO's Three Mile Island-Peach Bottom 500 kV transmission line to the north,
- PPL's Otter Creek-Conastone 230 kV Transmission Line to the west,
- PECO's Five Forks-Face Rock 115 kV Transmission Line to the east,
- PPL's Graceton-Manor 230 kV Transmission Line to the east,
- Conastone related transmission line corridors to the south, and
- Maryland State Route 165/ Pennsylvania State Route 74 to the east.



▲ Substation  
 -+ Railroad  
 · Road  
 - Stream  
 Existing Transmission Line  
 - Below 100kV  
 - 115kV - 230kV  
 - Greater than 345kV

- Gas Pipelines  
 - Study Area  
 - Forest Cover

Data Sources: AEP (2017), POWERmap (2012), ESRI (2011), NLCD Forest Cover (2011)

Coordinate System: UTM Zone 18N NAD 83

November 13, 2017



**Figure 4**  
**Project Study Area**

Independence Energy Connection  
Furnace Run - Conastone  
230kV Transmission Line

**TRANSOURCE**

0 0.5 1 1.5 2  
Miles

### 3.3 Constraints and Opportunities

One of the first steps in the process is for the Siting Team to define the major siting opportunities and constraints in the Project Study Area. *Constraints* are specific areas that should be considered, and where possible avoided, to the extent practicable during the route development and selection process. Siting *opportunities*, or ‘opportunity features,’ include other existing linear infrastructure and utility corridors, such as existing electric transmission networks, railroad corridors, and roads, that may reduce the overall impact of the line on area land uses (**Figure 4**). Opportunity features may also include non-linear features such as reclaimed mine lands or unused portions of industrial or commercial areas.

Alignments developed along opportunity features may lessen the overall impact of the new line. For example, siting a new transmission line next to an existing one typically can reduce the overall visual impact of the new line when compared to a non-parallel or ‘greenfield’ alignment. Paralleling a road right-of-way may reduce the fragmentation impacts of a new right-of-way cut through a heavily forested area. However, the benefits of these opportunity features have to be considered with respect to area land use and other associated effects. For example, if a parallel alignment requires frequent crossing of the existing line to avoid adjacent constraints, then additional aesthetic impacts from many tall crossing structures would need to be considered, as well as the potential for operational and construction impacts associated with outage planning, construction, and maintenance activities. Similarly, while paralleling roads may reduce fragmentation impacts in a heavily forested area, it may also place the line in closer proximity to houses along the road.

During the conceptual siting process, the Siting Team initially identifies a range of both large area and smaller site-specific constraints. Large area constraints may include densely populated residential areas, federal and state parks, airports, and mining operations. As the Siting Team develops specific siting alignments, smaller scale constraints are identified and avoided, where feasible. Examples of these more local constraints include individual homes, schools, recreational trails, and radio towers. The effect of these large and small scale constraints on routing options will vary based on the potential opportunities identified across the Project Study Area.

### 3.4 Conceptual Route Development

Working with the opportunities and constraints identified, and within the general and technical siting guidelines, the next step is developing potential Conceptual Routes, which are routes developed at a high level to avoid large area constraints or incorporate notable opportunity features in the Project Study Area.

Specific conceptual routes identified in the Project Study Area included primarily paralleling existing utility corridors, which were limited in number. Therefore, most conceptual routes included cross country, or greenfield, alignments. Constraints primarily consist of crossing Muddy Creek, congestion around Conastone Substation due to residential development, and small pockets of residential development throughout the Project Study Area.

### 3.5 Study Segments

#### 3.5.1 Description of Study Segments

The Siting Team developed a series of Study Segments based on the conceptual routes guidelines presented in **Section 2.0**. Study Segments are partial alignments developed based on the routing concepts (see **Figure 3**). As the siting effort evolved through the field review and open house phases, Study Segments were modified, removed, or added. These eliminations or adjustments were based on the likelihood of impacts on residential or commercial areas, agricultural operations, planned and future development, and sensitive environmental areas. **Figure 5** shows the resulting network of Study Segments evaluated by the Siting Team.

#### 3.5.2 Study Segment Evaluation Process

To evaluate and compare Study Segments, a table of factors was developed which focused on the potential impacts of the Project to the human/built environment, the natural environment, and engineering considerations. Examples of the human/built environment include factors such as proximity to residences, schools, or historic and cultural resources. The natural environment includes factors such as number of stream crossings or acres of forest clearing. Comparative factors for engineering include the number of transmission line crossings or sharp transmission line turns (greater than 30 degrees). The quantitative routing factors assessed are listed and defined in **Table 1 in Section 4.0** where these factors are further discussed.

To compare Study Segments, the Siting Team initiated an iterative side-by-side comparison of specific segments or group of segments that could connect particular points across the landscape. Relevant assessment factors for each of these comparative reviews varied across the Project Study Area as a result of the changing land use and topography. Throughout the Study Segment evaluation process, the entire collection of human/built, environmental, and engineering factors were considered together. The evaluation included both a quantitative and qualitative assessment recognizing that minimizing impacts to one constraint factor may increase impacts to others. The analysis sought to identify Study Segments that represent a best balance in reducing potential impacts across all of these factors.

The comparative analysis and public input allowed the Siting Team to identify Study Segments that minimized potential impacts as compared to other Study Segments that serve the same



purpose and function. In scenarios where the impacts would be significantly different, the Study Segment(s) with the greatest potential impacts were eliminated. In scenarios where the difference was less pronounced, all Study Segments were retained until they could be reviewed in the larger context, which was accomplished through combining several Study Segments that connect similar points.

### **3.5.3 Study Segment Development**

Development of the Study Segments initially focused on any potential conceptual alignments that could parallel existing infrastructure located within the Project Study Area. The only relatively direct (extending north-south) feature identified was the existing PPL Otter Creek-Conastone 230 kV Transmission Line that borders the western extent of the area. Efforts to parallel segments adjacent to this line were ultimately eliminated due to the presence of significant residential or farm structures that were located along this existing transmission line that prevented a reasonable parallel alignment. Specific road crossing areas were identified as particularly problematic due to the existing development along these roadways. These residential clusters further complicate any options to bypass around these structures. In areas where bypassing is feasible, the residential structures would be surrounded by two transmission line corridors. Two short segments were ultimately identified near the southern end of this transmission line but a practicable full parallel alignment could not be developed.

Two additional transmission lines were identified as potential parallel opportunities on the east side of the Project Area (Graceton-Manor 230 kV and Five Forks-Face Rock 115 kV). Ultimately, only short Study Segments were developed to parallel these transmission lines due to the overall direction of these lines.

Due to the limited availability of other linear features within the Project Study Area, the majority of the Study Segments developed for the Project extend across undeveloped lands. These segments were developed to maintain as direct an alignment as feasible, while maximizing distance to residential and farm structures and minimizing forested and topographically challenging areas.

### **3.5.4 Study Segment Analysis**

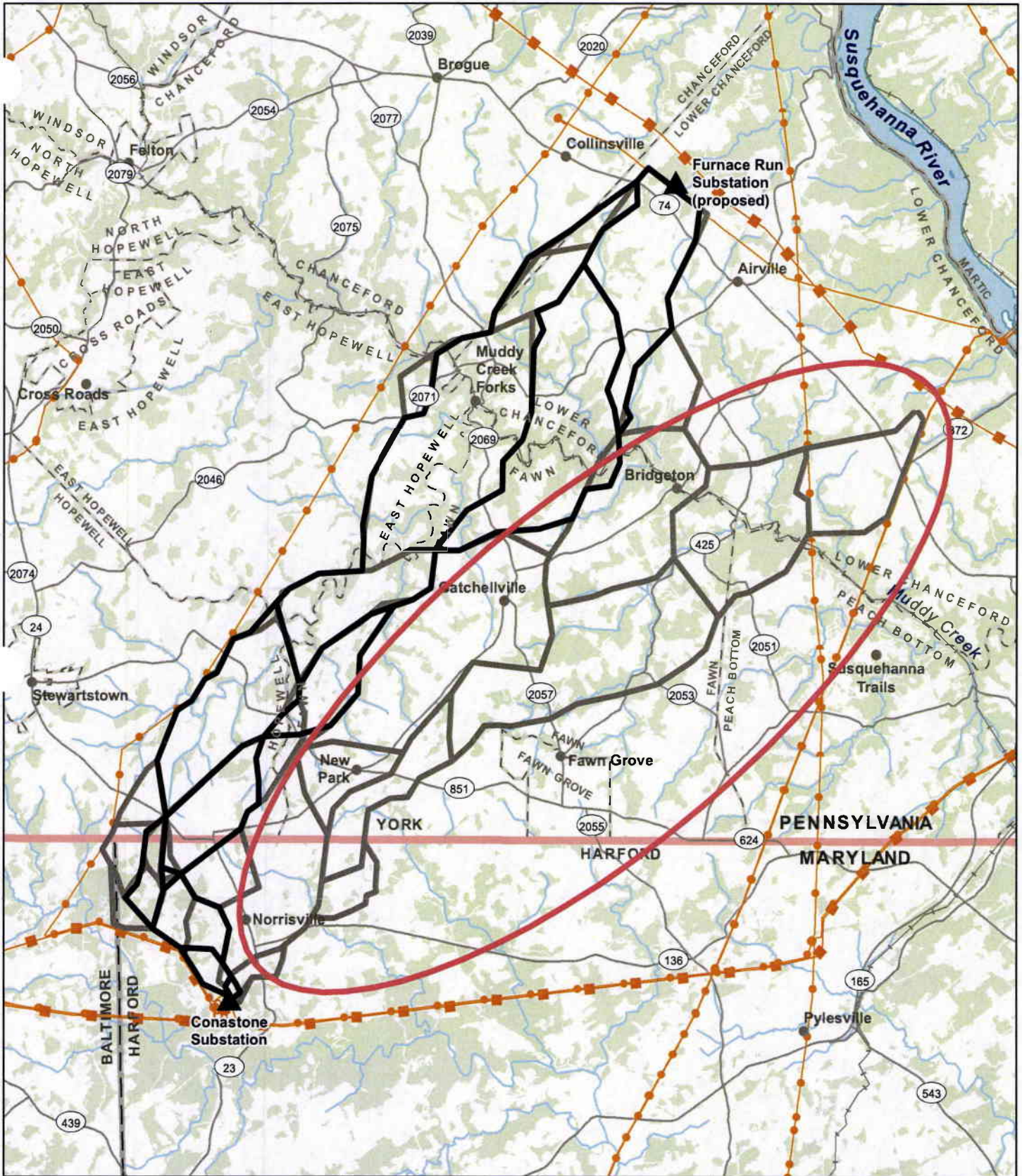
Early in the development of Study Segments, two substation sites for the proposed Furnace Run Substation were still under consideration. The two substation locations were several miles apart along the Three Mile Island-Peach Bottom 500 kV line. As noted in **Figure 5**, there were numerous Study Segments presented during the first public open house that encompassed this large area. Due to this situation, certain Study Segments were identified that would provide potential options to the westernmost substation, the easternmost substation, and some Study Segments were identified in the central area that could provide options to either location.

Development of all these Study Segments was conducted with the knowledge that the selection of the final substation site would result in the elimination of certain Study Segments.

After the first open house, the Siting Team reviewed all the comments submitted for the Project. In addition, a quantitative analysis was conducted for the factors listed in **Table 1**. Based on the combination of the public comments and the quantitative analysis, the Siting Team further refined, eliminated or added Study Segments to the network. Overall, the Study Segments connecting to the easternmost substation option resulted in significantly more potential human/built, environmental, and engineering concerns relative to the westernmost substation option. Specific concerns included extending through more densely populated sections of the Project Study Area, spanning a scenic byway in Maryland, crossing over tall transmission lines, and spanning Muddy Creek twice. These findings, in conjunction with feedback from the public regarding their concerns over these Study Segments, were factors in eliminating the easternmost substation site and the connecting Study Segments (circled area in **Figure 5**).

The refined Study Segments presented at the second open house (black lines in **Figure 5**) connected to the Furnace Run Substation site in western Lower Chanceford Township. After the second round of open houses, the Siting Team conducted another round of reviews to modify or eliminate Study Segments based on public comment and quantitative analysis. Types of modifications included increasing the distance from residential structures, reducing forest clearing, minimizing the angle of stream spans, or adjusting the alignment on agricultural land or local business operations. In a few cases, the Siting Team revised Study Segments with larger scale shifts to provide a more direct connection between other remaining segments to improve potential opportunities through the landscape. These refinements varied from moving a Study Segment to the edge of a field to changing the Study Segment's alignment across several parcels.

Upon completion of the Study Segment refinement process, these Study Segments were then used to develop the Alternative Routes.



▲ Substation  
 — 2nd Open House Segments  
 - - 1st Open House Segments (Eliminated)  
 [Red Outline] Study Area Eliminated  
 Existing Transmission Line  
 — Below 100kV  
 — 115kV - 230kV  
 — Greater than 345kV

— Road  
 — Stream  
 [Grey Box] Forest Cover

Data Sources: AEP (2017), POWERmap (2012), ESRI (2011), NLCD Forest Cover (2011)

Coordinate System: UTM Zone 18N NAD 83

November 14, 2017



**Figure 5**  
**Study Segments**

Independence Energy Connection  
Furnace Run - Conastone  
230kV Transmission Line

**TRANSOURCE**

0 0.5 1 1.5 2  
Miles

### 3.6 Alternative Routes

The Siting Team evaluated the resulting Study Segments to identify combinations that provided complete connection between the Furnace Run and Conastone Substations. These combinations were the basis for development of the Alternative Routes for the Project. Ultimately, three Alternative Routes were identified for a detailed comparative analysis to determine a Proposed Route. These Alternative Routes are described in the following sections and are shown in more detail in **Figure 6**.

#### 3.6.1 Alternative Route D (16.3 miles)

- Alternative Route D will exit from the west side of the Furnace Run Substation and extend for 0.4 mile west through portions of a forested area while paralleling an existing (Yorkana-Face Rock 69 kV) de-energized transmission line.
- Turning to the south for 0.3 mile, the route will cross over the de-energized line; traverse over agricultural lands, and cross Chanceford Road and Delta Road (SR 74).
- At this point, the route will extend for 3.0 miles to the southwest to Muddy Creek Forks Road. The route will cross primarily open agricultural lands, but would span the West Branch Toms Run (PADEP Trout Stocked Fishery [TSF] stream), two unnamed tributaries to this stream, Walker Road and Good Road, an evergreen tree farm, and several forested areas.
- After crossing Muddy Creek Forks Road, Alternative Route D extends southwest for 1.8 miles to Veach Road, crossing agricultural and forested lands, as well as spanning the North Branch of Muddy Creek (PADEP Cold Water Fishery [CWF] stream). Near the end of this section, the route crosses to the east side of High Rocks Road to bypass around the residential community along Sparklin Springs Lane.
- Turning to the south, the route extends for 2.3 miles across mostly open agricultural fields, but also crosses Muddy Creek Forks Road, Wheat Road, and travels through forested areas that border the South Branch of Muddy Creek and two of its tributaries (PADEP High Quality-Cold Water Fishery [HQ-CWF] stream) while also spanning these streams.
- At this point, Alternative Route D turns sharply to the west and bends to the southwest for 2.2 miles spanning again over the forest bordering South Branch of Muddy Creek and two more tributaries, as well as crossing Blue Ball Road, Lutz Road, and traversing open agricultural lands towards an intersection with an existing transmission line (Manor-Conastone 230 kV).

- The route will then parallel the east side of the existing transmission line south for 1.3 miles crossing Woolen Mill Road (SR 851), Kilgore Road, Leibs Creek (HQ-CWF), and traversing agricultural and forested lands. The alignment does bend to the east at one section to avoid a residential structure located adjacent to the existing line.
- Continuing south, Alternative Route D turns away from the existing transmission line and extends 2.0 miles across agricultural lands to the Pennsylvania/Maryland state line. This section spans Anderson Road, Spring Valley Road, and Barrens Road (SR 24).
- Alternative Route D continues south for 0.9 mile through predominantly forested lands that are in the Deer Creek watershed, a Maryland scenic waterway, crossing two unnamed tributaries to the is stream and Long Corner Road.
- Turning sharply to the southeast, the route extends for 2.1 miles to the Conastone Substation. Along this section, the route spans five tributaries to Deer Creek, traverses through predominantly forested lands, and parallels a portion of an existing transmission line (Conastone-Hunterstown-1 500 kV) that extends into the Conastone Substation. This route will pass within close proximity to homes along Long Corner Road.

### **3.6.2 Alternative Route E (15.8 miles) (the Proposed Route)**

- Alternative Route E exits from the west side of the Furnace Run Substation and extends for 0.4 mile west through portions of a forested area while paralleling the existing de-energized Yorkana-Face Rock 69 kV transmission line.
- Turning to the south for 0.2 mile, Alternative Route E will cross over the de-energized line, traverse over agricultural lands, and cross Chanceford Road and SR 74.
- After crossing SR 74, Alternative Route E continues to travel south across an agricultural field for another 0.3 mile. The route makes a turn to the southwest prior to reaching a forested area.
- Alternative Route E continues on this trajectory for approximately 0.6 mile and crosses Walker Road and East Branch Toms Run, which PADEP has identified as Trout Stocking Fishery (TSF).
- After the stream crossing, Alternative Route E extends to the south-southwest and travels approximately 1.2 miles. This section traverses agricultural fields, crosses Fulton Road, a wooded area, and Reed Road prior to making a turn to the southeast. This turn is necessary to avoid homes and structures on Good Road.

- Alternative Route E travels approximately 0.3 mile to the southeast, and then travels another 0.3 mile to the southwest, prior to turning back and continuing toward the southeast. This section is located within agricultural fields; crosses Stewart Road, then parallels Good Road before turning and heading south.
- Heading generally south for approximately 1.5 miles, Alternative Route E continues through agricultural fields with intermittent wooded areas. One stream is crossed, West Branch Toms Run, which is designated TSF, as well as Downs Road prior to reaching Zimmerman Road.
- Alternative Route E turns slightly southwest for approximately 0.4 mile crossing Zimmerman Road and a forested area that contains Muddy Creek (TSF) and its associated mapped wetlands.
- Reaching the edge of an agricultural field, the Proposed Route turns in a southerly direction for 0.4 mile, through a wooded area and another agricultural field. Within this field, the route makes a sharp turn to the southwest for 0.6 mile, crossing another wooded area, New Park Road, and additional agricultural fields.
- After the agricultural field Alternative Route E travels 0.7 miles across a wooded area with an unnamed stream designated as HQ-CWF, additional agricultural fields, and Orchard Road.
- Alternative Route E makes a slight turn, but continues travelling in a southwesterly direction for 0.8 miles. Another unnamed stream (HQ-CWF) is crossed prior to the crossing of Alum Rock Road.
- Alternative Route E continues in a southwesterly direction for 0.7 miles crossing Alum Rock Run (HQ-CWF) in a wooded area which includes state-mapped wetlands, turning in a southerly direction prior to crossing Cedar Valley Road.
- Alternative Route E continues in a southerly direction for 1.5 miles across agricultural fields, crossing Blue Ball Road, an unnamed HQ-CWF stream, Hollow Road, and additional agricultural fields.
- Alternative Route E turns sharply to the west within an agricultural field and extends for 1.3 miles toward a perpendicular crossing of a different unnamed HQ-CWF stream, followed by a crossing of Davis Road, another unnamed HQ-CWF stream, Woolen Mill Road, South Branch Muddy Creek (HQ-CWF), and agricultural fields.
- Alternative Route E crosses Woolen Mill Road (SR 851) and travels through open agricultural fields and over one unnamed HQ-CWF stream prior to turning south.

- Alternative Route E extends to the southwest for 1.3 miles crossing open fields, Hopewell Road, one unnamed HQ-CWF stream, then runs parallel to a tree line within an agricultural field before turning sharply (at a point just north of Marsteller Road (SR 2036) to the southwest.
- Approximately 0.2 miles after crossing Marsteller Road, Alternative Route E traverses the Pennsylvania/Maryland State Line.
- Travelling straight to the southwest for 0.8 mile, Alternative Route E crosses Island Branch stream as it continues to travel across agricultural fields, crossing Norrisville Road (MD 23), a wooded area, and additional agricultural fields before turning sharply to the southeast.
- After this turn, Alternative Route E travels 1.9 miles through open agricultural fields and the various wooded areas that are interspersed within these fields; an unnamed tributary to Deer Creek is crossed in this area as well as Church Lane. The route avoids residences to the east and west as it travels southeast.
- Prior to reaching Jolly Acres Road, the route extends for 0.4 mile as it turns southwest to parallel Jolly Acres Road, crosses Green Road, and then crosses Jolly Acres Road, before finally turning into the northeast corner of the Conastone Substation.

### **3.6.3 Alternative Route F (15.9 miles)**

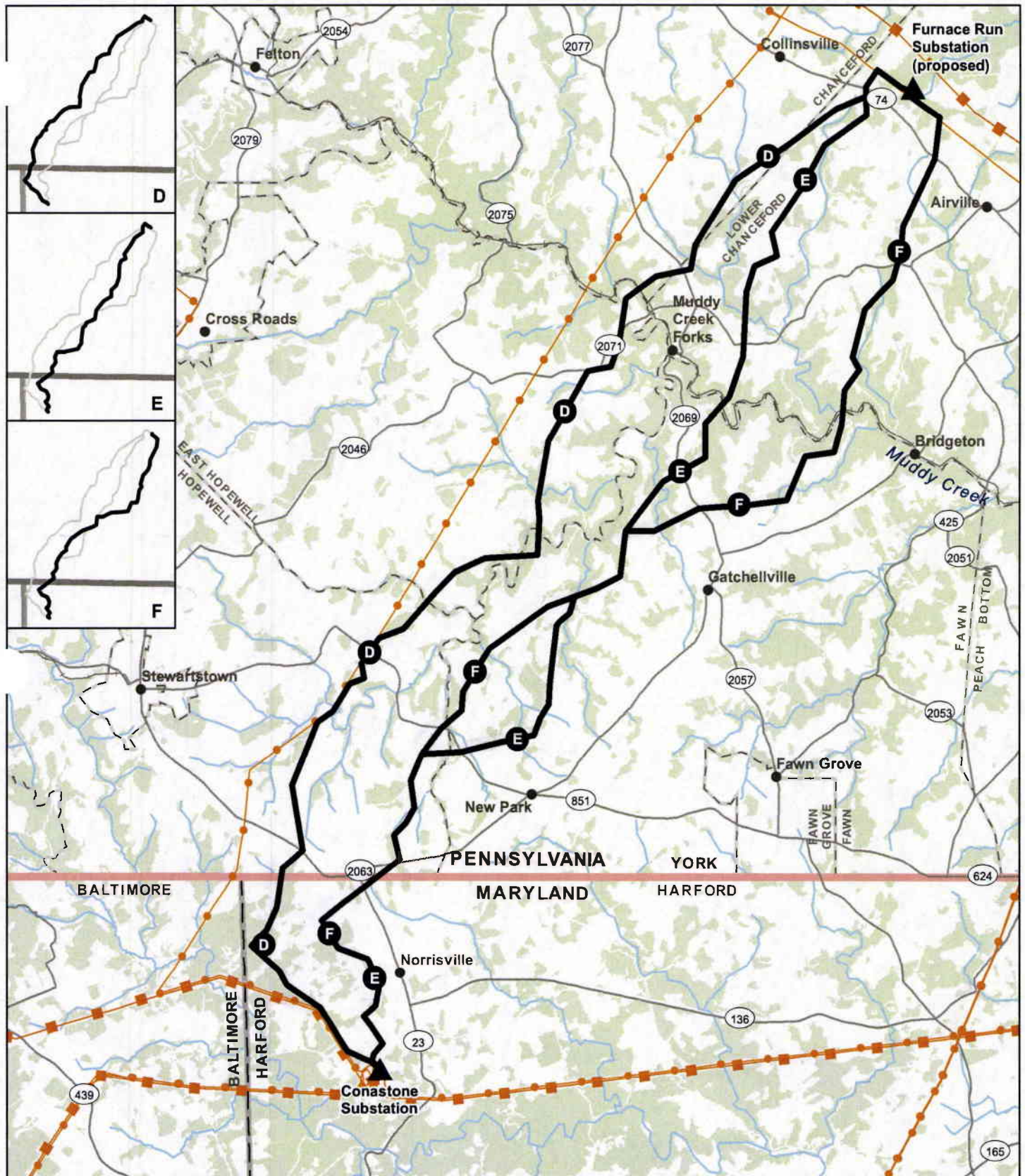
- Alternate Route F exits from the east side of the Furnace Run Substation travelling approximately 0.5 mile through a forested area that includes a crossing of Furnace Run (CWF); within the forested area, the route parallels the existing de-energized Yorkana-Face Rock 69 kV transmission line.
- For approximately 1.7 miles, Alternative Route F travels south, first crossing over the de-energized line, traversing agricultural lands, and crossing SR 74. This section of Alternative Route F crosses Orson Run (TSF) and then Fisher Road.
- After crossing Fisher Road, the route extends for 1.3 miles south to Kennedy Road, crossing Frosty Hill Road along a wooded area, and then turns southwest through the wooded area and across an unnamed TSF stream. After the stream crossing, the route continues travelling south and generally parallels the stream and wooded area while primarily staying within agricultural fields.
- At Kennedy Road, the route jogs to the east across forest and agricultural lands for 0.4 mile to Piney Hill Road.

- South of Piney Hill Road, the route extends 0.8 mile and enters a forested area adjacent to Muddy Creek (TSF), which it spans, and then enters additional forested areas on the south side of the stream prior to reaching an agricultural field and turning sharply to the west.
- The route follows the forest edge within the agricultural field for approximately 0.3 mile and then turns in a southerly direction for 0.5 mile where it crosses additional agriculture fields, Tyson Road, and an unnamed TSF stream.
- Alternative Route F takes a sharp turn to the west at the edge of an agricultural field. The route travels generally west-southwest for approximately 2.0 miles, and traverses wooded areas, fields, and several unnamed TSF and unnamed HQ-CWF streams. State-mapped wetlands are associated with the streams as well as within a wooded area that does not include a stream. This two-mile section also crosses Thorne Road, New Park Road, Orchard Road, and Peach Tree Road.
- Within an agricultural field just west of Peach Tree Road, Alternative Route F turns south for 0.5 mile across an open field and spans a forest-lined unnamed TSF tributary before turning southwest for 0.9 miles to extend across sections of agricultural and forested lands, spanning Alum Creek Road and Alum Rock Run (HQ-CWF), to reach Cedar Valley Road.
- After crossing Cedar Valley Road, the route continues in a southwest trajectory for 1.9 miles to Woolen Mill Road (SR 851), crossing predominantly open agricultural land and spanning the South Branch Muddy Creek (HQ-CWF) and an unnamed tributary.
- From Woolen Mill Road, Alternative Route F extends to the southwest for 1.8 miles crossing open fields, Hopewell Road, one unnamed HQ-CWF stream, then runs parallel to a tree line within an agricultural field before turning sharply (at a point just north of Marsteller Road (SR 2036) to the southwest.
- Approximately 0.2 miles after crossing Marsteller Road, the Proposed Route traverses the Pennsylvania/Maryland State Line.
- Travelling straight to the southwest for 0.8 mile, the Proposed Route crosses Island Branch stream as it continues to travel across agricultural fields, crossing Norrisville Road (MD 23), a wooded area, and additional agricultural fields before turning sharply to the southeast.
- After this turn, the Proposed Route travels 1.9 miles through open agricultural fields and the various wooded areas that are interspersed within these fields; an unnamed



tributary to Deer Creek is crossed in this area as well as Church Lane. The route avoids residences to the east and west as it travels southeast.

- Prior to reaching Jolly Acres Road, the route extends for 0.4 mile as it turns southwest to parallel Jolly Acres Road, crosses Green Road, and then crosses Jolly Acres Road, before finally turning into the northeast corner of the Conastone Substation.



- ▲ Substation
- Road
- Alternative Routes
- Stream
- Existing Transmission Line
- Forest Cover
- Below 100kV
- 115kV - 230kV
- Greater than 345kV

Data Sources: AEP (2017),  
 POWERmap (2012),  
 ESRI (2011),  
 NLCD Forest Cover (2011)

Coordinate System:  
 UTM Zone 18N  
 NAD 83

November 14, 2017



**Figure 6**  
**Alternative Routes**

Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSOURCE.** 230kV Transmission Line

0 0.5 1 1.5 2  
 Miles

## 4.0 ALTERNATIVE ROUTE COMPARISON

This section further discusses the Alternative Routes and provides a quantitative and qualitative analysis of potential impacts to the social landscape, the environment and cultural resources, and potential engineering considerations. The Alternative Routes were reviewed in detail and compared using a combination of information collected from GIS data sources, public and regulatory input, supporting documents, field review, and the collective knowledge and experience of the Siting Team.

The results of the comparative analysis completed for each of the factors listed in **Table 1** are documented within the respective section of the siting study.

Table 1: Quantitative Siting Factors	
<b>Human/Built Factors</b>	
<b>Number of parcels crossed by the ROW:</b>	Count of the number of parcels crossed by the ROW.
<b>Number of residences within 500 feet of the route centerline:</b>	Count of the number of residences within the ROW and within 100 feet, 250 feet and 500 feet of potential routes.
<b>Number of commercial buildings within 500 feet of the route centerline:</b>	Count of the number of commercial buildings within the ROW and within 100 feet, 250 feet and 500 feet of potential routes.
<b>Acres of pasture/rangeland crossed by the ROW:</b>	Area of pasture or range land crossed by the routes.
<b>Acres of cropland crossed by the ROW:</b>	Area of cropland crossed by the routes.
<b>Acres of conservation easements crossed:</b>	Private conservation easements crossed by the routes.
<b>Acres of county agricultural easement land crossed:</b>	Protected land crossed by the Project that is devoted to agricultural production.
<b>Number of archeological resources within the ROW and within 250 feet of centerline:</b>	Previously identified archeological resources.
<b>Number of historic architectural resources within the ROW, within 0.25 mile:</b>	Previously identified historic architectural resource sites and districts listed or eligible on the NRHP.
<b>Institutional uses (schools, places of worship and cemeteries) within 1000 feet (schools and places of worship) or 250 feet (cemeteries and hospitals) of the route centerline:</b>	Locations of cemeteries, churches, hospitals, parks, and schools.
<b>Environmental Factors</b>	
<b>Forest clearing within the ROW:</b>	Acres of forest within the ROW - digitized from aerial photography.
<b>Number of National Hydrography Data set (NHD) stream and waterbody crossings within the ROW:</b>	a count of the number of surface water features crossed, such as lakes, ponds, streams, rivers, springs and wells.

**Table 1: Quantitative Siting Factors**

<b>Acres of National Wetland Inventory (NWI) wetland crossings within the ROW:</b> The type and acreage of wetlands crossed by the routes.
<b>Acres of 100-year floodplain within the ROW:</b> Acres of 100-year floodplain within the ROW.
<b>Miles of public lands crossed by the route:</b> Miles of federal, state and local lands crossed by the ROW.
<b>Threatened, endangered, rare or sensitive species occurrence within the Project vicinity:</b> Known occurrences; locations of potential habitat based on land use.
<b>Karst topography within the ROW:</b> Represents areas of Dolomite or Limestone (karst-derived geology) crossed by the ROW.
<b>Acres of prime farmland soils within the ROW:</b> Percent of soil associations crossed by the ROW characterized as prime farmland.
<b>Engineering Factors</b>
<b>Route length:</b> Length of route in miles.
<b>Number of angled structures:</b> Anticipated number of angled structures over 30 degrees based on preliminary design.
<b>Number of road crossings:</b> Count of federal, state and local roadway crossings.
<b>Number of pipeline crossings:</b> Number of known pipelines crossed by the transmission ROW.
<b>Number of railroads crossings:</b> Number of railroads crossed by the transmission ROW.
<b>Number of transmission line crossings:</b> Number of high voltage (100 kV or greater) transmission lines crossed by the ROW.
<b>Distance of steep slopes crossed:</b> Miles of slope greater than 20 percent crossed by the routes.
<b>Length of transmission line parallel:</b> Miles of the route parallel to existing high voltage transmission lines.
<b>Length of pipeline parallel:</b> Miles of the route parallel to existing pipelines.
<b>Length of railroad or road parallel:</b> Miles of the route parallel to existing roadways.
<b>Airfield and heliports within 1 mile of the route centerline:</b> Distance from airfields and heliports.

#### 4.1 Natural Resources

Natural resources are an important consideration in the siting process. The Siting Team attempts to minimize impacts to the natural environment by minimizing the crossing of certain features such as wetlands, streams, forested areas and floodplains, which are often habitats for sensitive species. Natural resource impacts are assessed for potential effects to vegetation and habitat, surface waters, threatened and endangered species, and conservation and recreation

lands. Potential impacts discussed in this section are based on publically available maps and data, as well as consultation with federal and state agencies. A quantitative comparison of the natural resource considerations for the Alternative Routes is presented at the end of this section in **Table 6**, providing both a project total and state specific breakdown.

#### **4.1.1 Soil and Water Resources**

##### **Resource Characteristics**

##### **Physiographic Setting and Geology**

The Project Study Area is located within the Piedmont Upland Physiographic Section of the Piedmont Physiographic Province (Sevon 2000). The Piedmont Upland Physiographic Section is characterized by broad, rounded to flat-topped hills and shallow valleys with low to moderate relief. Elevations range throughout the area from 300 feet above mean sea level (amsl) along Muddy Creek to 860 feet amsl near Airville, Pennsylvania (PADCNR 2017a, Maryland 1967).

The regional geology of the Project Study Area is composed primarily of sedimentary rock units from the Late Precambrian period. The most dominant rock types are metabasalt, metarhyolite, and greenstone schist, and were formed by lava flows over 570 million years ago. This region does not contain a prevalence of karst features as depicted in **Figure 7a** (YCPC 2015, Reger 2008).

##### **Soils**

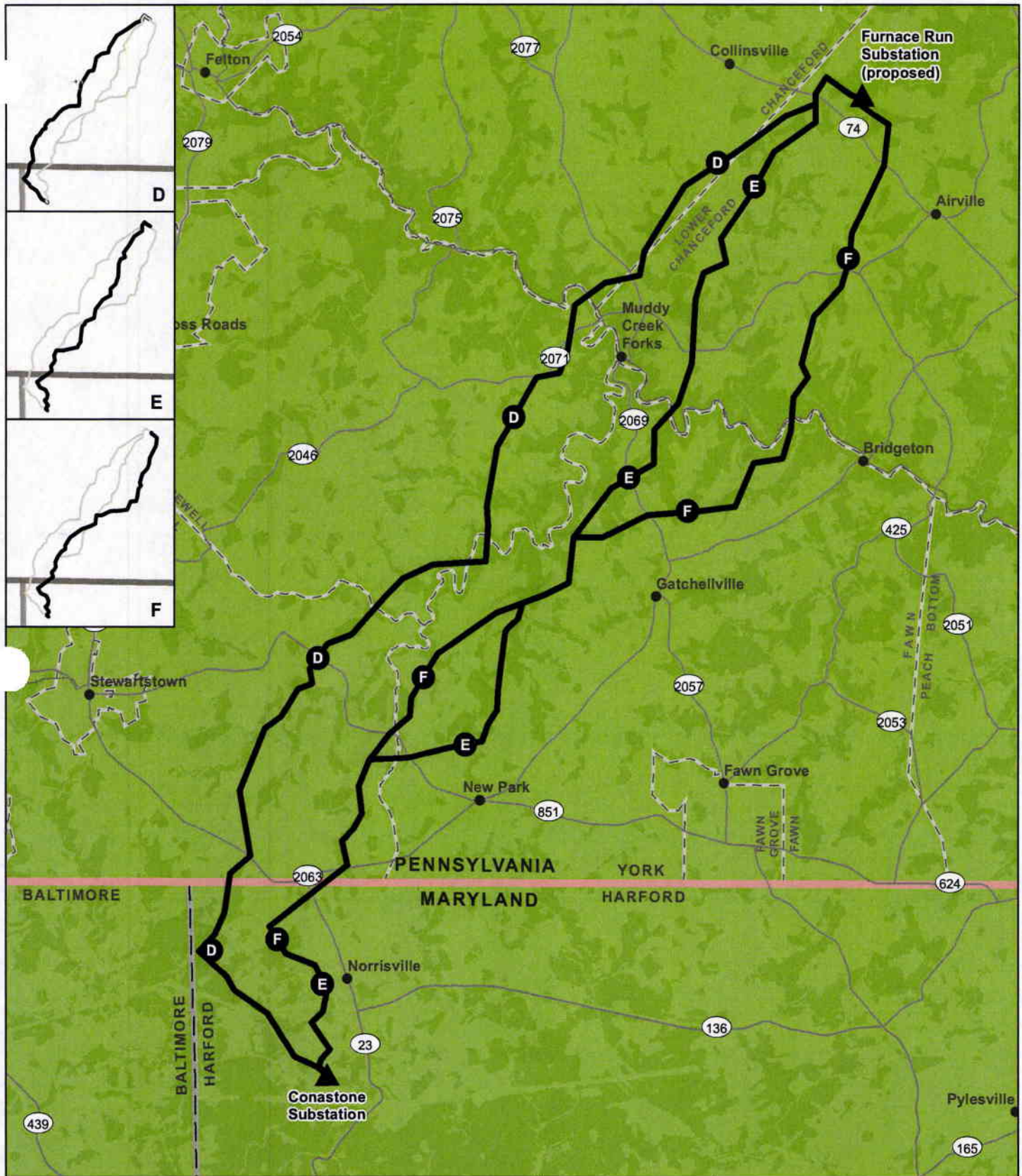
Within the Project Study Area, more than half of the soils are listed as Prime Farmland soils. In an effort to identify the extent and location of important farmland soils, the National Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA), has inventoried land that can be used for the production of the Nation's food supply. Important farmland soils vary in degree of productivity from prime farmland to unique farmland to farmland of statewide or local importance. Prime farmland is defined by the NRCS as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. These soils could be cultivated land, pastureland, forestland, or other land, that is not urban or built-up land or water areas (USDA/NRCS 2007, USDA/SCS 1975). Soil Resources are identified in **Figure 7b**.

##### **Alternative Route Comparison**

All of the Alternative Routes cross agricultural lands comprised of prime farmland soils. In general, long term impacts to agricultural operations will be localized to the structure locations with general farming operations continuing within the ROW. The Project will be designed to

allow typical farming vehicles to operate within the ROW. Although impact to prime or unique soils will be localized, Alternative Route E would cross the most acres of these soils, whereas Alternative Route D would cross the least. The range of difference between these two Alternative Routes is less than 20 acres over the Project area.

All temporary ground disturbances will be permitted through the appropriate state agency to ensure soils impacts are adequately addressed through the installation and maintenance of best management practices and restoration of disturbed areas. Aside from structure placement and of the few instances of permanent access roads, all other soil impacts will be temporary in nature and returned to preconstruction state; and therefore, not altering or decreasing the viability of soils in the Project area.



▲ Substation  
 — Road  
 — Alternative Routes  
 | Non-Limestone  
 □ Forest Cover

Data Sources: AEP (2017),  
 ESRI (2011),  
 NRCS STATSGO2 (2016),  
 NLCD Forest Cover (2011)

Coordinate System:  
 UTM Zone 18N  
 NAD 83

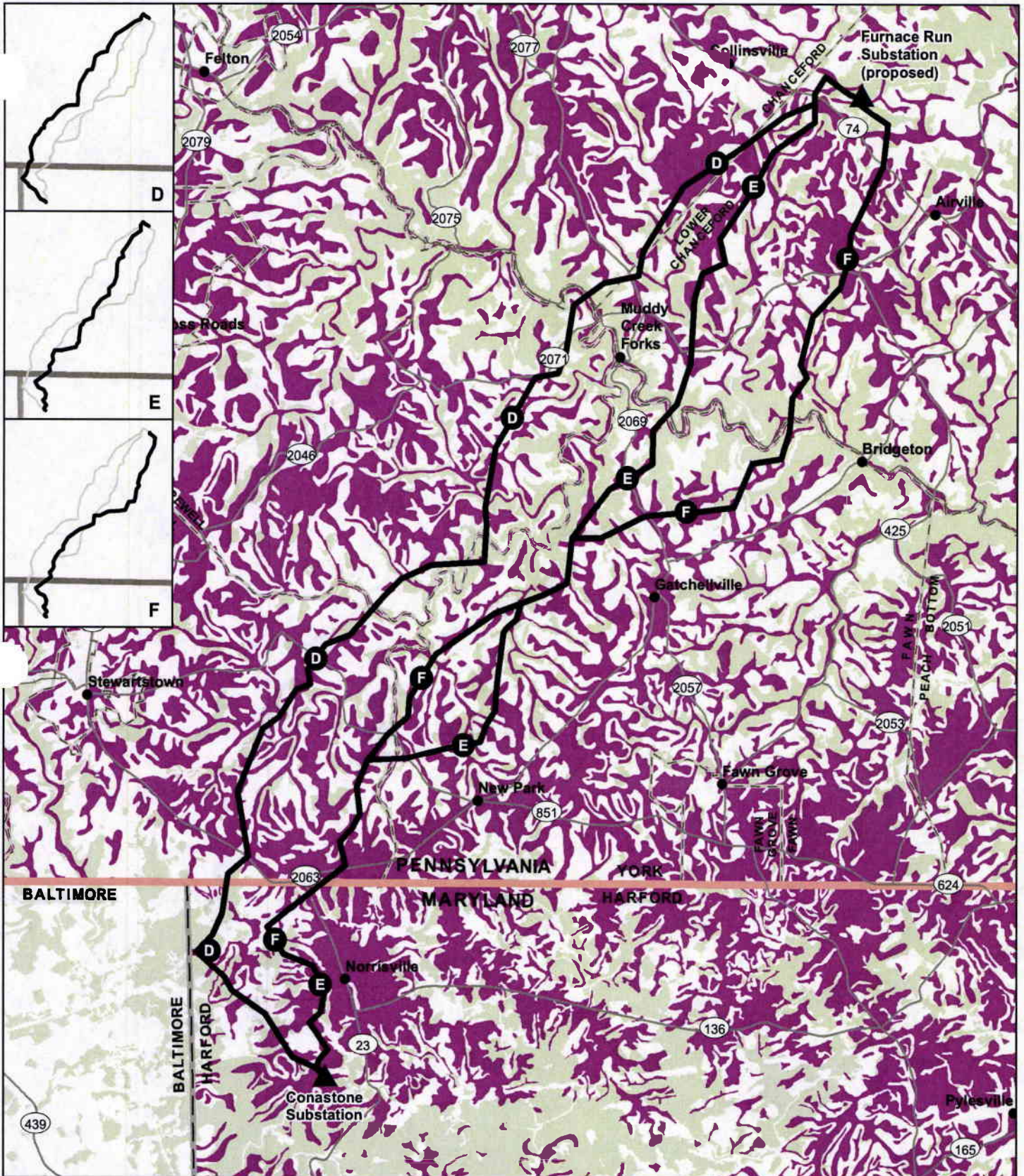
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**Figure 7a**  
**Karst**

Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line

0 0.5 1 1.5 2  
 Miles



▲ Substation  
 — Road  
 ■ Alternative Routes  
 ■ Prime Farmland  
 □ Forest Cover

Data Sources: AEP (2017),  
 ESRI (2011),  
 NRCS STATSGO2 (2016),  
 NLCD Forest Cover (2011)

Coordinate System:  
 UTM Zone 18N  
 NAD 83

November 14, 2017

Pennsylvania  
 Maryland

**Figure 7b**  
**Prime Farmland**

Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line

0 0.5 1 1.5 2  
 Miles



**Water Resources**

The most prominent water features in the region are the Susquehanna River, which runs to the east and northeast of the Project Study Area as well as Muddy Creek, a mid-size creek traversing west to east flowing across the entire Study Areas until it terminates at the Susquehanna River. The Project Study Area is located within the Lower Susquehanna River watershed (USGS Hydrologic Unit 02050306). Water Resources are identified in **Figures 8a and 8b**.

**Pennsylvania**

According to Pennsylvania Code, Title 25, *Water Quality Standards* (Chapter 93), PADEP has established narrative and numeric water quality criteria necessary to support a variety of protected water uses, which include protection uses for aquatic life (e.g., Cold Water Fishes [CWF], Warm Water Fishes [WWF], Trout Stocked Fishery [TSF], and Migratory Fishes [MF]) and special protection waters (e.g., High Quality [HQ] and Exceptional Value [EV]). PADEP assigns all streams in the Commonwealth a Designated Use, which is the water use goal for a particular stream segment, whether or not it is currently being attained. In contrast, a stream’s Existing Use is the use actually attained by existing water quality. PADEP’s antidegradation policy requires existing uses, and the level of water quality necessary to protect existing uses, to be maintained and protected. As such, the water quality of a stream segment with an existing use that exceeds its designated use may not be degraded below the water quality levels protective of that existing use (PADEP 2017).

Further, the PFBC provides additional protection (i.e., seasonal restrictions) to streams that support trout populations. Streams listed as Approved Trout Stream (stocked) (PFBC 2017a), Class A Wild Trout Waters (PFBC 2017b), Wilderness Trout Waters (PFBC 2017c), or Wild Trout Waters (Natural Reproduction) (PFBC 2017d) are also noted on **Table 2**.

**Table 2: Pennsylvania Water Quality Designations**

Stream Name	Chapter 93 Designated Use	Chapter 93 Existing Use	Special PFBC Designations
Muddy Creek	TSF, MF	N/A	Approved Trout Stream
South Branch Muddy Creek	HQ-CWF, MF	N/A	Approved Trout Stream Natural Reproduction
North Branch Muddy Creek	CWF, MF	N/A	Approved Trout Stream
West Branch Toms River	TSF, MF	N/A	N/A

Leibs Creek	HQ-CWF, MF	N/A	Natural Reproduction Approved Trout Stream
Table 2: Pennsylvania Water Quality Designations			
Stream Name	Chapter 93 Designated Use	Chapter 93 Existing Use	Special PFBC Designations
Bald Eagle Creek	TSF, MF	N/A	Natural Reproduction Approved Trout Stream
Rambo Run	EV	N/A	Class A Trout Water Natural Reproduction
UNT to Rambo Run	EV	N/A	Class A Trout Water Natural Reproduction
Orson Run	TSF, MF	N/A	Natural Reproduction

### *Maryland*

According to Code of Maryland Regulations (COMAR) Sections 26.08.02.02 and 26.08.02.02-1, MDE has established narrative and numeric water quality criteria necessary to support a variety of protected water uses, which include protection uses for aquatic life. These include:

- **Use Class I:** Water Contact Recreation, and Protection of Nontidal Warmwater Aquatic Life
- **Use Class I-P:** Water Contact Recreation, Protection of Aquatic Life, and Public Water Supply
- **Use Class II:** Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting
- **Use Class II-P:** Tidal Fresh Water Estuary – includes applicable Use II and Public Water Supply
- **Use Class III:** Nontidal Cold Water
- **Use Class III-P:** Nontidal Cold Water and Public Water Supply
- **Use Class IV:** Recreational Trout Waters
- **Use Class IV-P:** Recreational Trout Waters and Public Water Supply

MDE assigns all streams in the State a Use Class, which is the water use goal for a particular stream segment, whether or not it is currently being attained. A component of the designated use is the stream’s Existing Use (EU). The EU is the use actually attained by existing water quality. Both Federal and MDE’s State water quality standards require existing uses, and the level of water quality necessary to protect existing uses, to be maintained and protected (Code of Federal Regulations [CFR] Title 40 § 131.3 and § 131.12(a)). Use classes include consideration of existing conditions and potential uses which may be made possible by anticipated improvements in water quality (COMAR 2014a, COMAR 2014b, Legal 2015a, Legal 2015b, MDE 2017).

Maryland also assesses streams based on the Antidegradation Regulations provided in COMAR Sections 26.08.02.04, 26.08.02.04-1, and 26.08.02.04-2 (COMAR 2017c). These regulations classify streams based on two tiers:

- **Tier 1** specifies the minimum standard that must be met—support of balanced indigenous populations and support of contact recreation—this is often referred to as "fishable-swimmable."
- **Tier 2** protects water that is better than the minimum specified for that designated use.

In Maryland, the majority of the Project Study Area is encompassed within the Deer Creek drainage area, a state scenic designated waterway. The majority of these stream segments include sections assigned Use Class III-P. The only exception is Falling Branch, tributary to the Deer Creek, which is classified as Use Class IV-P. The majority of these stream segments are classified as Tier 1 features, except for Falling Branch, which is a Tier II Stream. However, the entire Project Study Area is within a Tier II Catchment, as portions of the Deer Creek outside of the Project Study Area are classified as Tier II Streams. These stream classifications are detailed within **Table 3**.

Table 3: Maryland Water Quality Designations			
Stream Name	Use Class	Antidegradation Tier	Antidegradation Catchment
Deer Creek	Use Class III-P	Tier I	Tier II Catchment – Assimilative Capacity Remaining
Ebaughs Creek	Use Class III-P	Tier I	Tier II Catchment – Assimilative Capacity Remaining
Island Branch	Use Class III-P	Tier I	Tier II Catchment – Assimilative Capacity Remaining
Falling Branch	Use Class IV-P	Tier II	Tier II Catchment – Assimilative Capacity Remaining

### **Wetlands**

Review of the USFWS National Wetlands Inventory (NWI) mapping indicates numerous small wetlands exist throughout the Project Study Area. These wetlands primarily exist next to streams and within floodplain areas as palustrine wetlands. Palustrine systems include all non-tidal vegetated wetlands and are further classified based on the dominant plant type. These classifications include palustrine emergent (PEM) herbaceous systems, palustrine scrub-shrub (PSS) systems, and palustrine forested (PFO) systems (USFWS 2017).

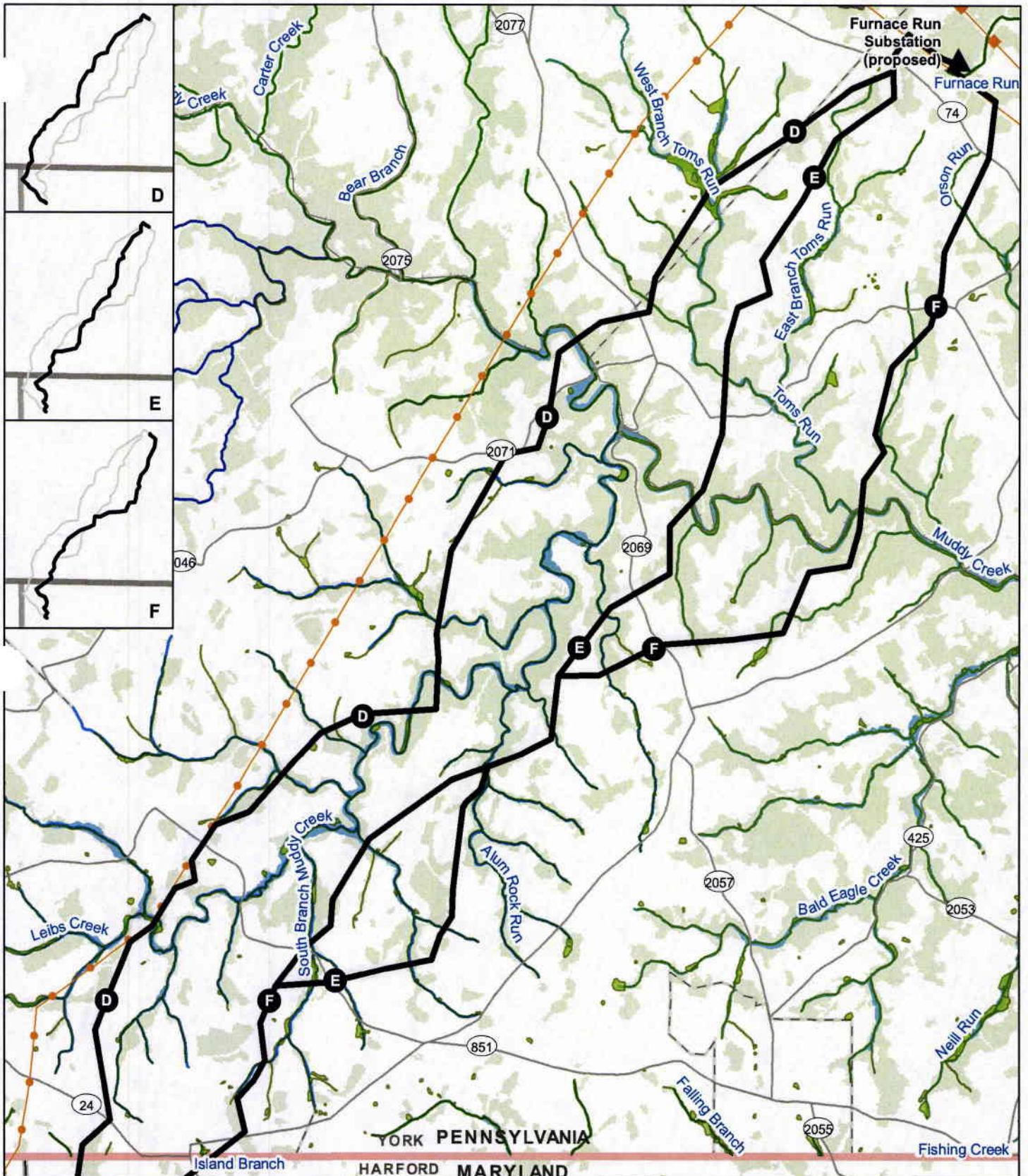
Maryland has also identified specific nontidal wetlands within the state that exhibit exceptional ecological and educational value. These Wetlands of Special State Concern are the best

examples of Maryland's nontidal wetland habitats and are designated for special protection under the State's nontidal wetlands regulations. Many of these special wetlands contain the last remaining populations of native plants and animals that are now considered rare and threatened (MDNR 2017a). There are no Wetlands of Special State Concern located within the Project Study Area.

### ***Floodplains***

The 100-year floodplains are areas adjacent to streams which would be inundated by a flood elevation that has a 1-percent chance of being equaled or exceeded each year. The Federal Emergency Management Agency (FEMA) delineates the extent of most 100-year floodplains. Floodplains are located primarily along main branch named streams within the Project Study Area (FEMA 2017).

Streams, wetlands, and floodplains within the Project Study Area are identified in **Figures 8a (Pennsylvania) and 8b (Maryland) – Water Resources**.



- ▲ Substation
- Alternative Routes
- 1. 93 Designated Use
  - Exceptional Value
  - High Quality-CWF
  - Trout Stocking
  - Warm Water Fishes
  - Cold Water Fishes
  - 100-Year Floodplain
- NWI Wetland
- Road
- Forest Cover

Data Sources: AEP (2017), ESRI (2011), PADEP (2017), USFWS (2009), FEMA (2016), NLCD Forest Cover (2011)

Coordinate System:  
UTM Zone 18N  
NAD 83

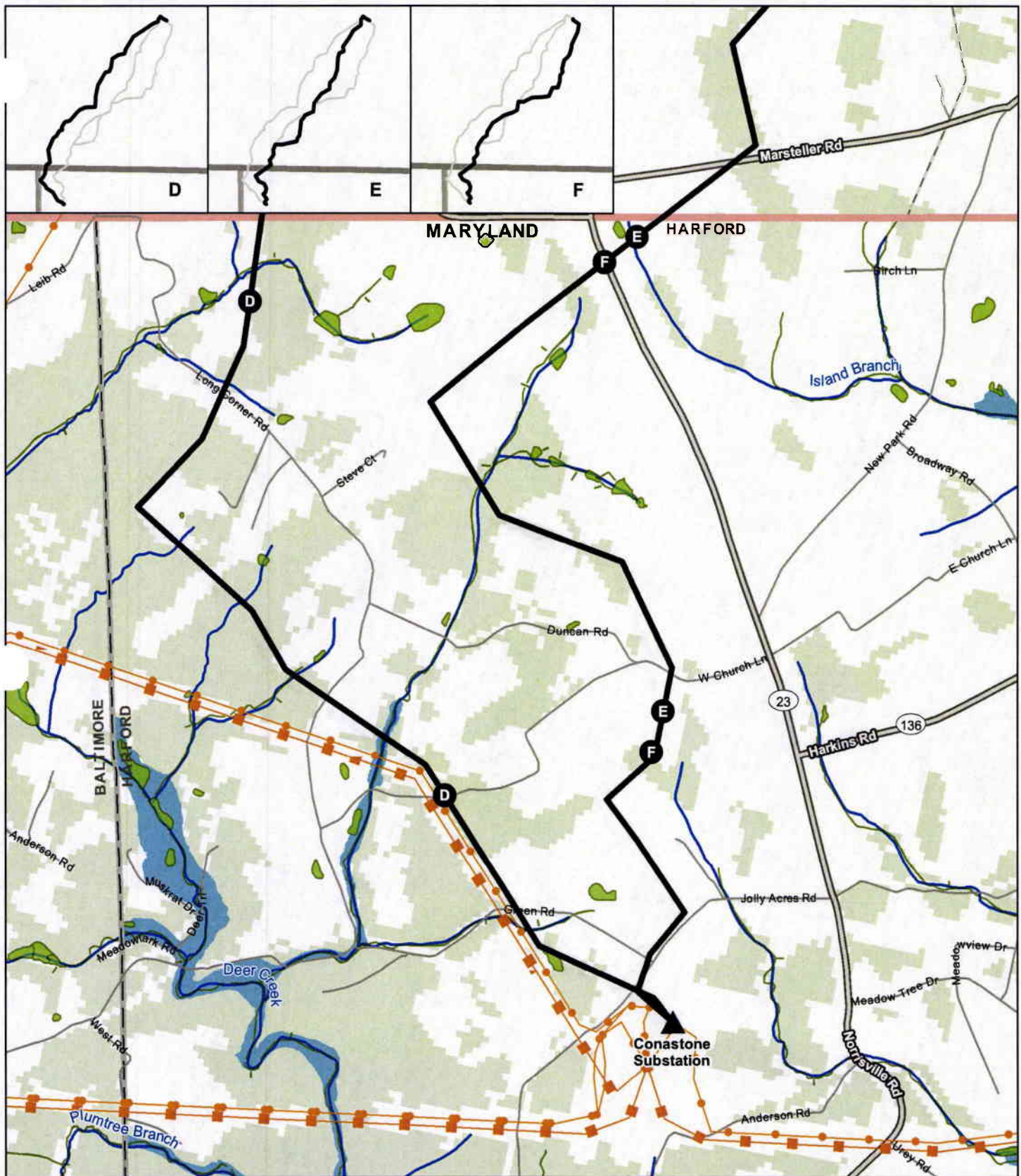
November 14, 2017



**Figure 8a**  
**Water Resources (PA)**

Independence Energy Connection  
Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line

0 0.5 1 1.5 2  
Miles



- Substation
- Alternative Routes
- 100-Year Floodplain
- Major Road
- Local Road
- Class III-P: Nontidal Cold Water and Public Water Supply
- Forest Cover
- DNR Wetlands

Data Sources: AEP (2017), ESRI (2011), MDE (2016), DNR (2002), USFWS (2009), FEMA (2015), NLCD Forest Cover (2011)

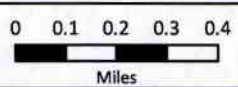
Coordinate System:  
UTM Zone 18N  
NAD 83

November 14, 2017



**Figure 8b**  
**Water Resources (MD)**

Independence Energy Connection  
Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line



## Alternative Route Comparison

In Pennsylvania, all of the Alternative Routes would be required to span portions of Muddy Creek because the watershed of this stream bisects the Project Study Area from west to east. The stream east of the village of Muddy Creek Forks, located at the confluence of the South Branch and North Branch Muddy Creek, is classified by PADEP as a TSF and the North Branch is classified as a CWF. Both of these stream classifications involve relatively limited permitting protection due to their average water and habitat quality. The South Branch, and a main tributary, Leibs Creek, are classified as HQ due to their above average water quality and are thereby eligible for special protection. Both of these HQ streams are also considered Wild Trout Waters by the PFBC, which provides additional protective measures. Due to the general northeast to southwest alignment of the Alternative Routes, most span Muddy Creek east of Muddy Creek Forks, but then are guided into the South Branch and Leibs Creek sub-watersheds, as they are located near the Pennsylvania/Maryland border and need to be crossed to reach the Conastone Substation. Based on preliminary engineering, impacts to Muddy Creek and the surrounding riparian areas may be minimized as the valley is deep and the trees along the stream may be well below the span and hence the required clearing limits for the transmission line.

In Maryland, the Project enters the Deer Creek watershed, which is listed as a Tier I stream by MDNR, but is also located within a Tier II Catchment, as portions of the Deer Creek watershed outside of the Project Study Area are classified as Tier II Streams. Deer Creek is also classified as a state scenic river, which provides special protection to the main stream as well as all its tributaries. The main stream flows south of the Conastone Substation, but its tributaries extend north to the Pennsylvania/Maryland border.

Alternative Route E would cross the least number of streams as this option extends along the high points in these watersheds. Alternative Route F has similarly low values, but does cross a few more streams as it pushes further to the east over Muddy Creek relative to Alternative Route E. The maximum stream crossing value is by Alternative Route D, which is the westernmost alternative and positioned to extend across portions of the North Branch and South Branch watersheds and across the most Deer Creek tributaries.

Alternative Route F would have the fewest special protection stream crossings because the alignment is located along the upper portion of the South Branch watershed. The Alternative Routes with the most special protection crossings would be Alternative Routes D and E, which extend through central portions of the South Branch watershed. Permitting requirements will be more stringent in special protection watersheds and the route with the fewest stream

crossings which would minimize the level of permitting.

Impacts to wetlands by the Alternative Routes are limited due to the few wetland resources in the Project Study Area. In most cases, the transmission line alignment can be engineered to span over the wetland areas thus having limited effect on PEM or PSS wetlands. PFO wetlands however, would be affected by the removal of the trees within the 130 foot ROW. No permanent structures or other sources of fill are anticipated in any wetland but the use of timber matting for temporary access road crossings may be required in certain situations. Overall, Alternative Route E and F would cross the least wetland area, including the fewest forested wetlands while Alternative Route D would cross the most wetland areas and affect the most forested wetlands.

Floodplains in the Project Study Area are also relatively limited due to the generally steep narrow valleys of the Muddy Creek and Deer Creek watersheds, which confines the widths of the floodplains. Placement of a transmission line structure within a floodplain area would need to be approved by the state regulatory agencies as changes to the hydrology of floodwaters may affect properties downstream. The area adjacent to a stream corridor is also considered by the state regulatory agencies as a riparian buffer to the stream that provides water quality protection and habitat area, thus clearing the trees in a floodplain area may also be considered an impact due the loss of these functions. As with wetlands, the alignment of the transmission line can typically be engineered to span floodplain areas, with the potential impact being constrained to the clearing trees. Alternative Route F crosses the least floodplain area and would result in a limited riparian buffer impact. Alternative Route D would cross the most floodplain areas and have the most riparian buffer impact.

Wetland and floodplain impacts will be minimized to the best extent practicable by spanning these resources where feasible. Streams will always be spanned by the transmission line but some minor crossings may be required for permanent or temporary access roads. These stream access road crossings will be avoided where possible, but where deemed required will be designed and permitted under the direction of the federal and state agencies.

#### **4.1.2 Wildlife Habitat and Sensitive Species**

##### **Resource Characteristics**

Typical wildlife species found within the Project Study Area include those found in wetlands, forested habitats, and open/agricultural lands. These habitats contain a diverse population of amphibians, fish, reptiles, birds and mammals. Common mammals within these habitats include raccoon (*Procyon lotor*), opossum (*Didelphia virginiana*), fox (*Vulpes vulpes*), skunk



(*Mephitis mephitis*), porcupine (*Erethizon dorsatum*), and white-tailed deer (*Odocoileus virginianus*).

Important Bird Areas (IBA) are “designated by the Pennsylvania Ornithological Technical Committee (POTC), as the most critical regions in the Commonwealth for conserving bird diversity and abundance, and are the primary focus of Audubon Pennsylvania’s conservation efforts” (Audubon Pennsylvania Birds Conservation 2017). While the Project Area is located in proximity to the Lower Susquehanna River Gorge - Conowingo/Muddy Creek IBA, which fringes the Susquehanna River, the Project Study Area does not encroach into this IBA.

The Project Study Area contains a diverse range of habitat, and therefore, has the potential to host a number of different types of threatened and endangered species. The following habitat areas may include species of plants; birds; fish; mammals; bats; insects and spiders; reptiles and amphibians; and mussels:

- North Branch Muddy Creek Natural Area (PA)
- Big Branch Sensitive Species Project Review Area (MD)
- Falling Branch Sensitive Species Project Review Area (MD)
- Island Branch Sensitive Species Project Review Area (MD)

A review of the PADCNr and MDNR Natural Heritage Program Databases will be conducted during the permitting process to determine the potential presence of threatened and endangered (T&E) species along the Proposed Route. Specifically, the Pennsylvania review of the Natural Heritage Program Databases would evaluate for federal (USFWS) and state (PADCNr, PFBC and PGC) listed species. In Maryland, an initiation letter would be submitted to MDNR and USFWS to commence Project specific consultation. Within both states, further coordination with these federal and state agencies will be required to obtain specific T&E species data.

Based on review of the *Natural Areas Inventory of York County, Pennsylvania* (The Nature Conservancy, 2004) and the MDNR *List of Rare, Threatened, and Endangered Species of Harford County* (MDNR 2016), the protected species listed in **Table 4** may be located in the Project Study Area.

**Table 4: Threatened and Endangered Species**

Species Name	Scientific Name	Status	Habitat Type
<b>AMPHIBIANS</b>			
Bog turtle	<i>Glyptemys muhlenbergii</i>	Federally Endangered	Spring fed Emergent Wetlands
<b>FISH</b>			
Maryland darter	<i>Etheostoma sellare</i>	Federally Endangered	Freshwater Streams
<b>MAMMALS</b>			
Northern long-eared bat	<i>Myotis septentrionalis</i>	Federally Threatened	Mature Forests and Stream Corridors
<b>PLANTS</b>			
Cranefly orchid	<i>Tipularia discolor</i>	Rare (PA)	Open Forests and Woodlands
Downy lobelia	<i>Lobelia puberula</i>	Endangered (PA)	Emergent Wetlands
Lance-leaved loosestrife	<i>Lysimachia lanceolata</i>	Threatened (MD); Endangered (PA)	Open Woodlands and Wetlands
Lobed spleenwort	<i>Asplenium pinnatifidum</i>	Endangered (MD); Rare (PA)	Rock outcrops
Umbrella magnolia	<i>Magnolia tripetala</i>	Threatened (PA)	Upland Woods

**Natural Areas - Pennsylvania**

Natural Areas in York County are surveyed by the Pennsylvania Science Office of The Nature Conservancy and are outlined in the Natural Area Inventories (NAI) of York County. The NAI provides maps and detailed information concerning locations of known outstanding natural

features, flora, fauna, and geology in York County, Pennsylvania. These sites represent good examples of rare habitat that support an uncommon diversity of plant and wildlife habitat (Nature Conservancy 2004). **Table 5** below provides a list of the Natural Areas within the Project Study Area in York County, Pennsylvania. These areas are illustrated in **(Figure 9)**.

**Table 5: Natural Areas within the Project Study Area - Pennsylvania**

Name	Description	Proximity to Alternative Routes
<i>Bald Eagle Creek</i>	This site supports a population of a species of concern	0.5 mile south of Alternative Route F
<i>Highrock Outcrops</i>	A small population of a plant species of concern occurs on a partially vegetated xeric rock outcrop at this site	0.1 mile east of Alternative Routes D
<i>Leibs Creek Hollow</i>	This site supports a population of PA threatened plant species	0.6 mile west of Alternative Route D
<i>Muddy Creek Bluff</i>	This site supports a species which used to be tracked as a plant species of concern, but is no longer listed	0.3 mile east of Alternative Routes D
<i>Muddy Creek at Woodbine</i>	This site supports a population of a PA endangered plant species	2.9 miles east of Alternative Route F
<i>North Branch Muddy Creek</i>	The species of concern inhabiting these shallow wetlands require specific plant communities within a matrix of open canopied habitats	Crossed by all of the Alternative Routes
<i>Stewartstown Ravine</i>	This site supports woodlands with a population of a PA endangered plant species	0.8 mile west of Alternative Route D
<i>Southside Woods</i>	This site encompasses an area on both sides of the Muddy Creek, including a ravine along a tributary of the creek. This site has a locally significant woodland community	3.2 miles east of Alternative Route F
<i>West Bridgeton Woods</i>	This site consists of woods on dry rocky slopes and supports a state endangered animal species	0.1 mile east of Alternative Route F

### **Natural Areas - Maryland**

Natural Areas in Maryland are surveyed by MDNR. MDNR lists one natural area in Harford County, which exists outside of the Project Study Area (MDNR 2017d). Therefore, no Natural Areas are within the Project Study Area in Harford County, Maryland.

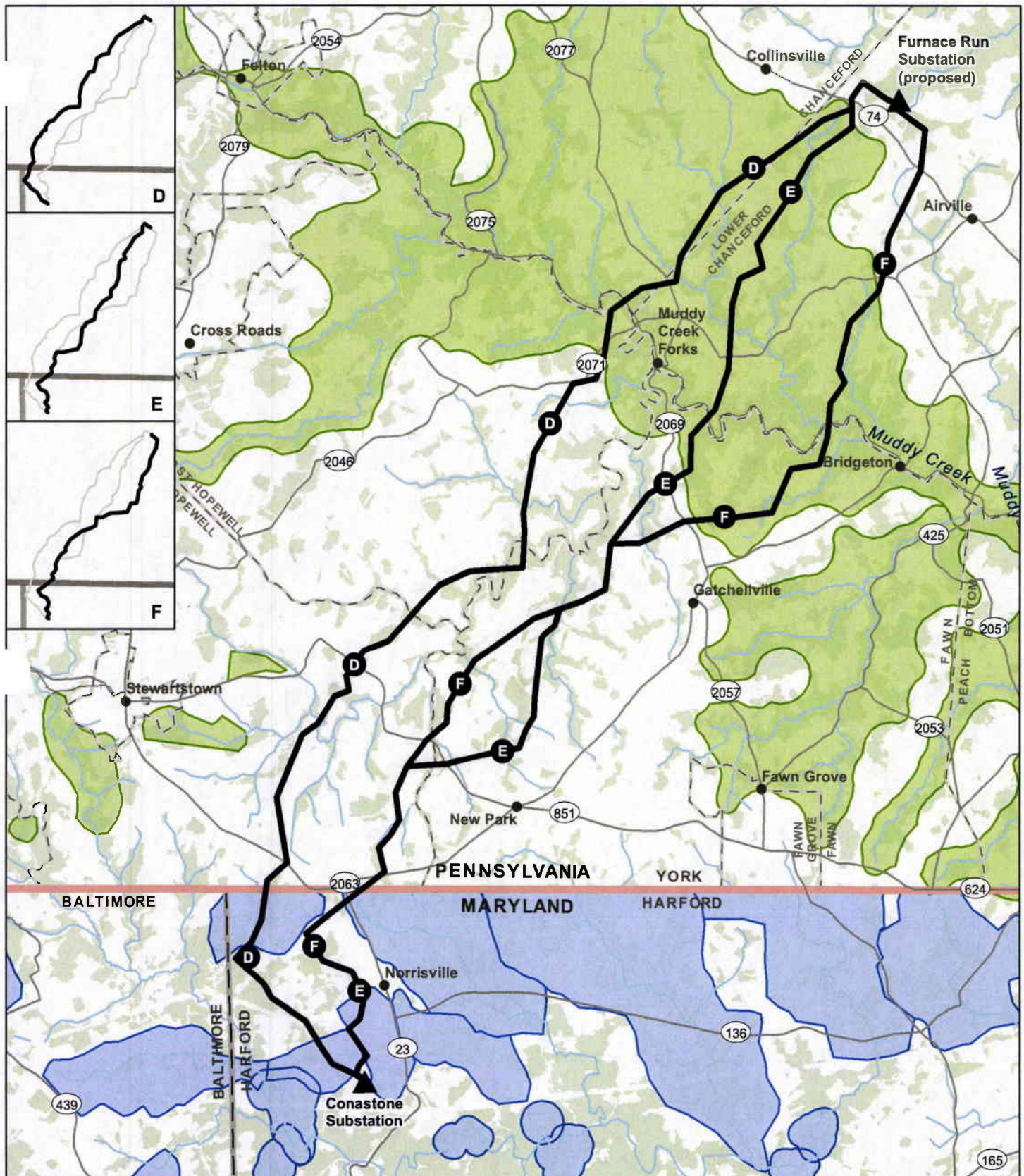
MDNR does provide potential T&E habitat information through its Sensitive Species Project Review Areas (SSPRA), which is a GIS based search website that illustrates polygons of potential habitat areas (MDNR 2016). These polygons are categorized by groups, with Group 1 habitat areas being focused on federally listed species, Group 2 being focused on state listed species, Group 3 being composed of species of concern to MDNR, and Group 4 being related to bald eagle nests. Review of the SSRPA data indicates that the area north of Conastone Substation to the Maryland state border contains a large area of habitat for federally listed species. These habitat polygons are buffered around many of the stream corridors connecting to Deer Creek. These habitat areas are illustrated in **(Figure 9)**.

### **Alternative Route Comparison**

While the potential for T&E species is known, whether the specific habitat will be impacted will not be known until after the Proposed Route alignment is field reviewed and habitat assessments are completed. The data used in the Siting Study provide information on identified natural areas that contain habitat to support some of these species and were used as guides for routing the Study Segments. As illustrated in **Figure 9**, avoiding potential T&E habitat around Muddy Creek and in northern Harford County is not feasible.

Crossing through TNC-identified natural areas in Pennsylvania or the sensitive species polygons in Maryland does not dictate that an impact will occur, however the potential of encountering T&E species or their habitat may be higher in these areas. Based on the analysis, Alternative Route E would extend the longest distance across the natural areas, while Alternative Route F would cross the least natural areas and is therefore the best option from a T&E avoidance perspective, though true impacts cannot be determined until habitat is assessed and identified.

All required federal and state agency consultations would be completed for the Proposed Route to determine final species habitat locations and requirement for species specific surveys. Coordination will ensure whether areas can be avoided, or where appropriate, timing restrictions applied to construction activities to avoid impact during breeding or roosting seasons.



▲ Substation  
 — Road  
 — Stream  
 — Alternative Routes  
 — MD Sensitive T&E Area  
 — Forest Cover  
 ■ PA Core Habitat of Biological Diversity Area

Data Sources: Western PA Conservancy (2014), PASDA (2015), MD DNR (2002, 2008, 2013), NLCD Forest Cover (2011)  
 Coordinate System: UTM Zone 18N NAD 83  
 November 14, 2017



**Figure 9 - Threatened and Endangered Habitat**  
 Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line  
 0 0.5 1 1.5 2 Miles

Table 6: Natural Resource Evaluation Criteria

Alternative Route	Unit	D	E	F
<b>General</b>				
Length	miles	<b>16.3</b> PA: 13.3 MD: 3.0	<b>15.8</b> PA: 12.7 MD: 3.1	<b>15.9</b> PA: 12.8 MD: 3.1
<b>Water Resources</b>				
Total streams crossed	count	<b>21</b> PA: 14 MD: 7	<b>13</b> PA: 11 MD: 2	<b>15</b> PA: 13 MD: 2
High/Exceptional/Special Protection streams crossed	count	<b>7</b> PA: 7 MD: 0	<b>8</b> PA: 8 MD: 0	<b>6</b> PA: 6 MD: 0
Riparian buffers crossed - Applicable to MD (25 foot buffer) - Not applicable to PA	acres	<b>1.1</b> PA: 0.0 MD: 1.1	<b>0.3</b> PA: 0.0 MD: 0.3	<b>0.3</b> PA: 0.0 MD: 0.3
Forested wetlands in the ROW (NWI)	acres	<b>2.2</b> PA: 1.8 MD: 0.4	<b>0.7</b> PA: 0.7 MD: 0.0	<b>0.7</b> PA: 0.7 MD: 0.0
PEM/PSS wetlands in the ROW (NWI)	acres	<b>0.4</b> PA: 0.4 MD: 0.0	<b>0.1</b> PA: 0.1 MD: 0.0	<b>0.1</b> PA: 0.1 MD: 0.0
FEMA-designated floodplain crossed by ROW	acres	<b>7.6</b> PA: 7.2 MD: 0.4	<b>4.1</b> PA: 4.1 MD: 0.0	<b>2.7</b> PA: 2.7 MD: 0.0
FEMA-designated floodway crossed by ROW	acres	<b>0</b>	<b>0</b>	<b>0</b>

**Table 6: Natural Resource Evaluation Criteria**

Alternative Route	Unit	D	E	F
<b>Geological, Topographical, and Soil Resources</b>				
Prime and unique farmland soil in the ROW [1]	acres	<b>98.6</b> PA: 83.3 MD:15.3	<b>115.1</b> PA: 89.0 MD: 26.1	<b>113.6</b> PA: 87.5 MD: 26.1
Karst topography in the ROW (represents acres of Dolomite or Limestone within a segment ROW (karst-derived geology)	acres	<b>0</b>	<b>0</b>	<b>0</b>
Other karst features (i.e., sinkholes, surface depressions, underground springs) in the ROW	count	<b>0</b>	<b>0</b>	<b>0</b>
<b>Wildlife and Habitat</b>				
Special natural areas crossed by the ROW	acres	<b>89.3</b> PA: 68.7 MD: 20.6	<b>96.2</b> PA: 76.4 MD: 19.8	<b>82.4</b> PA: 62.6 MD: 19.8

PA: and MD: = State specific impact breakdown.

[1] Prime farmland is land that has the best combination of physical and chemical characteristics for producing crops

## 4.2 Land Use

Potential land use impacts considered in the siting process included proximity of Alternative Routes to residential, commercial and industrial development, institutional uses (e.g., schools, places of worship, cemeteries, and hospitals), cultural resources, and overall land use of the area. A comparison of the land use considerations for the Alternative Routes is presented at the end of this section in **Table 8**. Land use within the Project Study Area is shown in **Figure 10**.

### 4.2.1 Agricultural and Forestry Resources

#### Resource Characteristics

##### Forestry

Upland forest communities once dominated the natural landscape within the Project Study Area. However, over time the natural land cover has become highly modified by agricultural and residential uses. Land use within the Project Study Area consists of agricultural, woodlands, residential, and limited commercial uses. Agricultural lands make up approximately half of the land use with pasture accounting for 20% and crop land accounting for 30%. Residential, commercial and industrial land uses account for approximately 15% of the area while woodlands make up the remaining 35%.

The forested areas are comprised of deciduous forest, evergreen forest, and mixed forest. Forests in this region are scattered, with concentrations along the steep slopes of Muddy Creek and Furnace Run (YCPC 2015). Forests in the region are comprised of two main types, Mixed Oak forests, which are dominated by tulip poplar, and mixed with oaks, hickories, maples, beech and eastern hemlock, and the Hemlock-Rhododendron association of the Mixed Oak Forest that occurs on the Piedmont along ravines of stream corridors. These forests are composed of sugar maple, American beech, white ash, eastern hemlock, tulip poplar, ironwood, maple-leaved viburnum, and witch hazel (Nature Conservancy 2004).

In both Pennsylvania and Maryland, forests are preserved within State and county agricultural preservation programs. In Maryland, additional protection to forests is given through the Maryland Forest Conservation Act in order to reduce the loss of forest cover due to development and improve water quality (MDNR 1997). In addition, Harford County, Maryland has instituted a Forest Conservation Ordinance in order to further protect forests by requiring mitigation for forest disturbance (Harford County, MD 2017).



## Alternative Route Comparison

Forest clearing concerns from an environmental perspective focus on fragmentation, which reduces the viability of a forest ecosystem through the possible introduction of invasive plant species and changes in the wildlife community dynamics. Trees are also specifically tied to the habitat requirements of specific T&E bat species, which use these features for roosting at night during the summer. Clearing trees may have a direct impact on potential bat habitat, thus the less tree clearing required the less possibility of creating a T&E impact. Tree clearing impacts were assessed by digitizing forested areas from recent aerial photography. Overall, the most tree clearing will be required on Alternative Route D, which is the longest option, and the least will be for Alternative Route E, which is the shortest. In Maryland, Alternative Routes F and E would have significantly less tree clearing than Alternative Route D.

## Agricultural Preservation

Agricultural land is a predominant characteristic of the land use in the Project Study Area with greater concentration on the flatter topography between the steep river valleys of the Muddy Creek and Deer Creek. Agricultural lands are predominantly used for row crops, as well as dairy farming. A number of orchards also exist across the Project Study Area. The majority of the agricultural lands are associated with single farm complexes that may consist of several hundred acres.

Within the Project Study Area, prime agricultural soils accounts for approximately 38% of the soils in York County, Pennsylvania (USDA, NRCS 2003), and approximately 39% of the soil in Harford County, Maryland (USDA, NRCS 2003). Both States and counties institute agricultural preservation programs in order to preserve agricultural uses of high quality farmland. Both Maryland and Pennsylvania offer agricultural preservation easement initiatives in order to preserve the integrity of the local farmland by preventing the development or improvement of a parcel for a purpose other than agricultural uses. **Figure 11** depicts those parcels that have agricultural easements traversed by the Alternative Routes.

### *Pennsylvania*

In Pennsylvania, the State easements may be managed by the county. In York County, agricultural easements are purchased at the county level and approved by the State. Farms within Agricultural Security Areas (ASA) may apply for easement purchase. ASAs are a State program whereby a number of adjacent participating farms join together to form an area consisting of a minimum of 250 acres in which participants receive special protection regarding local ordinances affecting farming activities, nuisance complaints, and review of farmland condemnation by state and local government agencies. A farm must be part of an ASA to

qualify for consideration in the Easement Purchase Program (PDA 2017, Ch. 183e). In York County, easements are purchased through the York County Agricultural Land Preservation Board (YCALPB). The YCALPB oversees the terms and conditions of the permitted agricultural activities, as well as restrictions that are established by an easement. Such restrictions include development of buildings and other structures, subdivision, rural enterprises, and soil and water conservation (York County 2017). Utilities are a permitted use within the YCALPB easements.

In the limits of the Project Study Area in York County, there are several specific agricultural easements that have an additional layer of oversight by the USDA/NRCS through the Agricultural Conservation Easement Program (ACEP), formerly referred to as the Farm and Ranch Lands Protection Program (FRPP).

### ***Maryland***

In Maryland, there are two ways to preserve farmland: easement donation and easement sale. Easements may be purchased by both state and county governments. Easements may be donated through the Maryland Environmental Trust (MET), which is a component of the MDNR. MET easements are highly customizable to the type of preservation applicable to the individual tract of land, and regulate the type of development permitted. This type of easement is considered a charitable donation that may be deducted from Federal income taxes (MDNR 2017b).

Easements in Maryland may be sold through a number of means. Harford County has instituted the Agricultural Land Preservation and Purchase of Development Rights Program, by which the county purchases the development rights to an agricultural property. Under this program, a farm must maintain the land in agricultural use or in a properly managed state for future agricultural use, may not develop the land for residential purposes except under certain provisions, must maintain a soil and water conservation plan, and establish an easement in perpetuity binding to the property deed. New agricultural buildings and structures are subject to review by the County, and if the property is 25 acres or more, and a forest stewardship plan must be implemented (Ecode 360 2017). An easement may also be sold through the Maryland Agricultural Land Preservation Foundation's (MALPF) Maryland Agricultural Land Preservation Program (MALPP), the Maryland Rural Legacy Program, or the GreenPrint Program. The MALPF is a part of the Maryland Department of Agriculture (MDA) and places restrictions on development on Prime Farmland and woodland, permanently preserving the property for agricultural use. MALPF will purchase an easement that will remain in perpetuity on the property deed (MDA 2017). The Maryland Rural Legacy Program (MRLP) is a part of the MDNR and provides funding to preserve large tracts of land through public-private partnerships in order to allow local land trusts and governments to enhance natural resources, agriculture,

forests and the environment. These easements protect the most ecologically valuable resources that impact the Chesapeake Bay and local waterways (MDNR 2017c). Easements may also be sold through the GreenPrint Program, which is an initiative of the MDNR that designates Targeted Ecological Areas (TEAs) that have high ecological value, and targets adjacent lands for acquisition and easements (MDNR 2017d).

In the limits of the Project Study Area in Harford County, the USDA/NRCS does not hold any agricultural FFRP easements.

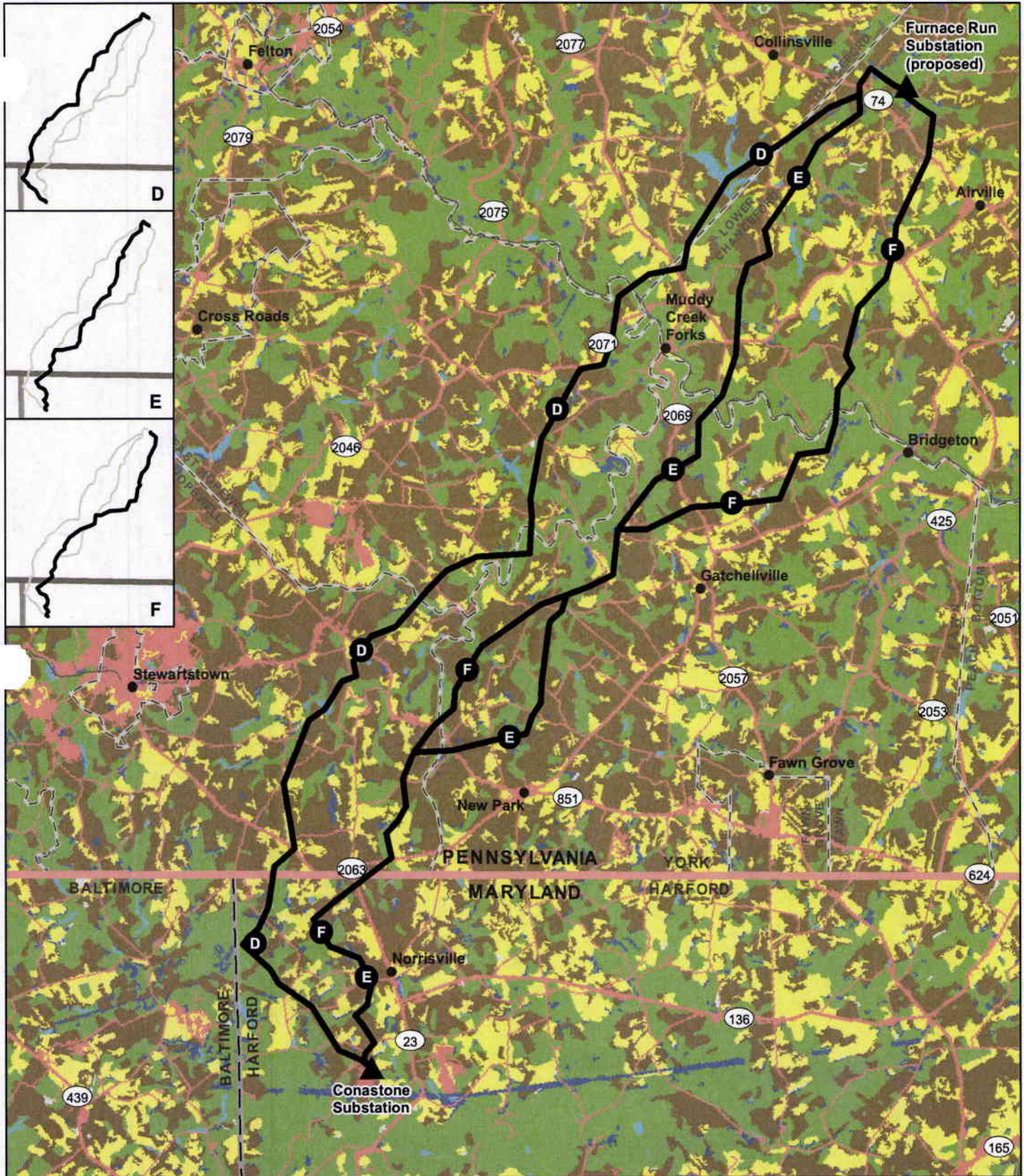
### **Alternative Route Comparison**

Agricultural lands are a dominant component of the landscape in the Project Study Area and a considerable portion of these lands are protected from development through agricultural easements placed on them through county and state agencies. Removal of the development rights of these lands was encouraged to maintain the viability of the farms by eliminating outside pressures to sell land for residential or commercial development. In Pennsylvania, the state easements used by York County for the agricultural preservation allow for utilities. In most cases, the agricultural easement language does not restrict the ability of an electric transmission line to cross these lands because placement of the structures on a preserved property is not considered development as it does not remove the ability of the landowner to use the land under the transmission lines for agricultural purposes. One of the focuses of the siting study was to minimize impacts to farming operations in general by paralleling the edge of fields or through placement of structures at access road locations, where possible. Where possible, the siting process worked to minimize impacts when crossing these properties, but given the density and size of these farms in the Project Study Area, it would not be possible to avoid all agricultural easements.

Information provided by the landowners crossed by the various Study Segments highlighted that using pasture or rangeland would be considered less intrusive on farm operations than crossing over croplands. Pasture and rangeland often consist of landscape elements, such as rock outcrops or steeper slopes, that restrict the land use to cattle or horse grazing and that structure placement in these fields has limited effect on their agricultural use. Croplands involve more comprehensive attention through plowing, planting, and harvesting processes that require direct access to most of the area throughout the growing season. Through the siting process, alignment shifts were made to maximize the use of pasture lands and minimize crossing croplands where feasible and also by utilizing monopole structures with a smaller footprint over lattice. Routing the transmission line along parcel boundaries and fields were feasible, also helped to reduce overall potential impacts. Overall Alternative Route F would encompass the most pasture land and Alternative Route E the least. Review of the cropland data note that all of the routes would cross a considerable number of acres with just over a 20

acre difference between the extremes. Alternative Route D would cross the least acres of cropland, with Alternative Route F being very similar. Alternative Routes E would involve the most croplands.

Numerous orchards are located throughout the Project Area. Typically, orchards can still grow within the transmission line ROW and the structures can be engineered to meet appropriate clearances. Orchard tree species are typically restricted to around 15 feet. As with croplands, the siting process worked to place alignments in areas across an orchard where structures may be located near access roads or along the edge of a section, thereby reducing the potential loss of trees and minimizing the effect of the structures on the orchard operations. Alternative Route F would cross fewer acres of orchards and Alternative Route E would cross the most.



- Substation
- Alternative Routes
- Water/Wetlands
- Developed
- Barren Land
- Forest
- Shrub/Scrub
- Grasslands/ Herbaceous
- Pasture/Hay
- Cultivated Crops
- Road

Data Sources: AEP (2017),  
ESRI (2011),  
NLCD Land Use  
Land Cover (2011)

Coordinate System:  
UTM Zone 18N  
NAD 83

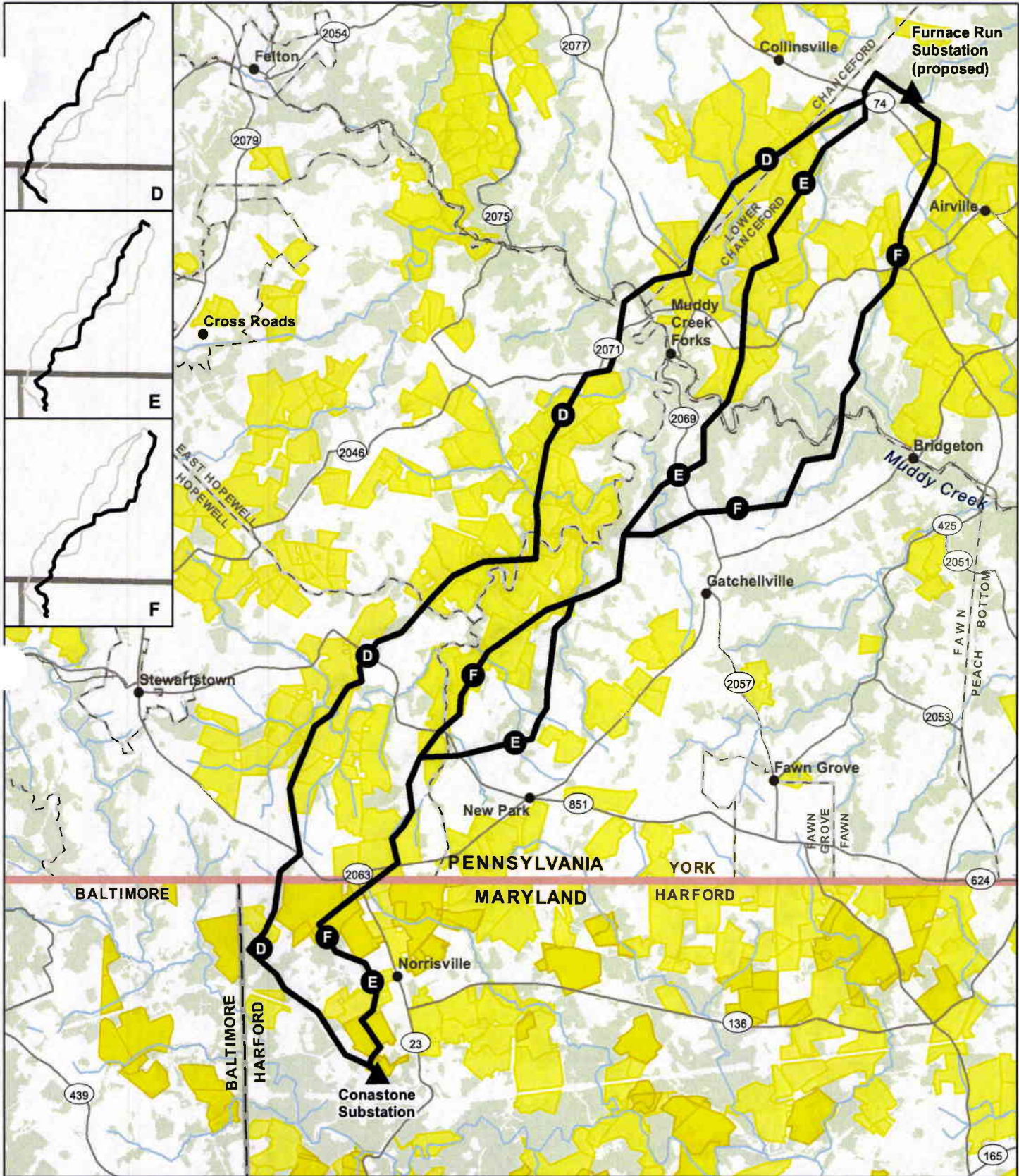
November 02, 2017










**Figure 10  
Land Use**

Independence Energy Connection  
Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line

0 0.5 1 1.5 2  
Miles



-  Substation
-  Alternative Routes
-  Local Agricultural Preservation
-  State Agricultural Preservation
-  Road
-  Stream
-  Forest Cover

Data Sources: AEP (2017),  
 POWERmap (2012),  
 ESRI (2011),  
 NLCD Forest Cover (2011)

Coordinate System:  
 UTM Zone 18N  
 NAD 83

November 14, 2017



**Figure 11**  
**Agricultural Easements**

Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSOURCE.** 230kV Transmission Line

0 0.5 1 1.5 2  
 Miles

## 4.2.2 Recreation and Conservation Lands

### Resource Characteristics

Recreation and Conservation Lands are typically defined as governmental owned or controlled lands that are publically accessible and provide special conservations value and social service. Scenic vistas, wilderness areas, state game lands, and public parks are several examples of these lands. Recreational areas are depicted in **Figure 12**.

### Wilderness Areas

The National Wilderness Preservation System preserves wild lands with the highest level of government protection, and includes National Forests, National Parks, National Wildlife Refuges, and Bureau of Land Management (BLM) lands. The Project Study Area does not contain lands managed by the National Wilderness Preservation System (NWPS) (NWPS 2016).

### *Pennsylvania*

### State Lands

The Pennsylvania Game Commission State Game Land (SGL) Number 083 consists of 788 acres and is located in Chanceford Township near the Susquehanna River. SGL Number 083 is mostly wooded, and game species found at the site include white-tailed deer, rabbits and squirrels (PGC 2014a).

SGL Number 181 consists of 563 acres and is located in Lower Chanceford Township. SGL Number 181 is adjacent to the Susquehanna River and includes game species such as white-tailed deer, turkey, rabbits, pheasants, squirrels, red fox, raccoon, and mink. Opportunities also exist for hiking, bird watching, nature photography, and geocaching (PGC 2017b).

SGL Number 327 consists of 244 acres and is located within the Project Study Area in Fawn Township. SGL Number 327 is bordered on the north by the Muddy Creek and varies in elevation from 330 feet to 620 feet amsl. Game hunted at the site includes white tail deer, turkeys, rabbits, squirrels, red fox, raccoon, and mink. Opportunities also exist for hiking, bird watching, nature photography, and geocaching (PGC 2017c).

There are no State Forests or State Parks within the Project Study Area (PADCNR 2017b; PADCNR 2017c).

There are a number of small local community parks within the Project Study Area. These parks are primarily located near developed areas and serve local communities.

### **Public Trails**

Small community trails exist throughout the Project Study Area and serve the local community's recreation needs.

### ***Maryland***

### **Wildlife Management Areas**

In Maryland, Wildlife Management Areas (WMA) are managed by the Wildlife and Heritage Service (WHS). WMAs are established in order to maintain, enhance, create, and preserve, and protect diverse wildlife populations and their habitat (MDNR 2017e). The Project Study Area is not located within a Wildlife Management Area, Managed Hunting Area, or Cooperative Wildlife Management Area in Harford County, Maryland (MDNR 2017f).

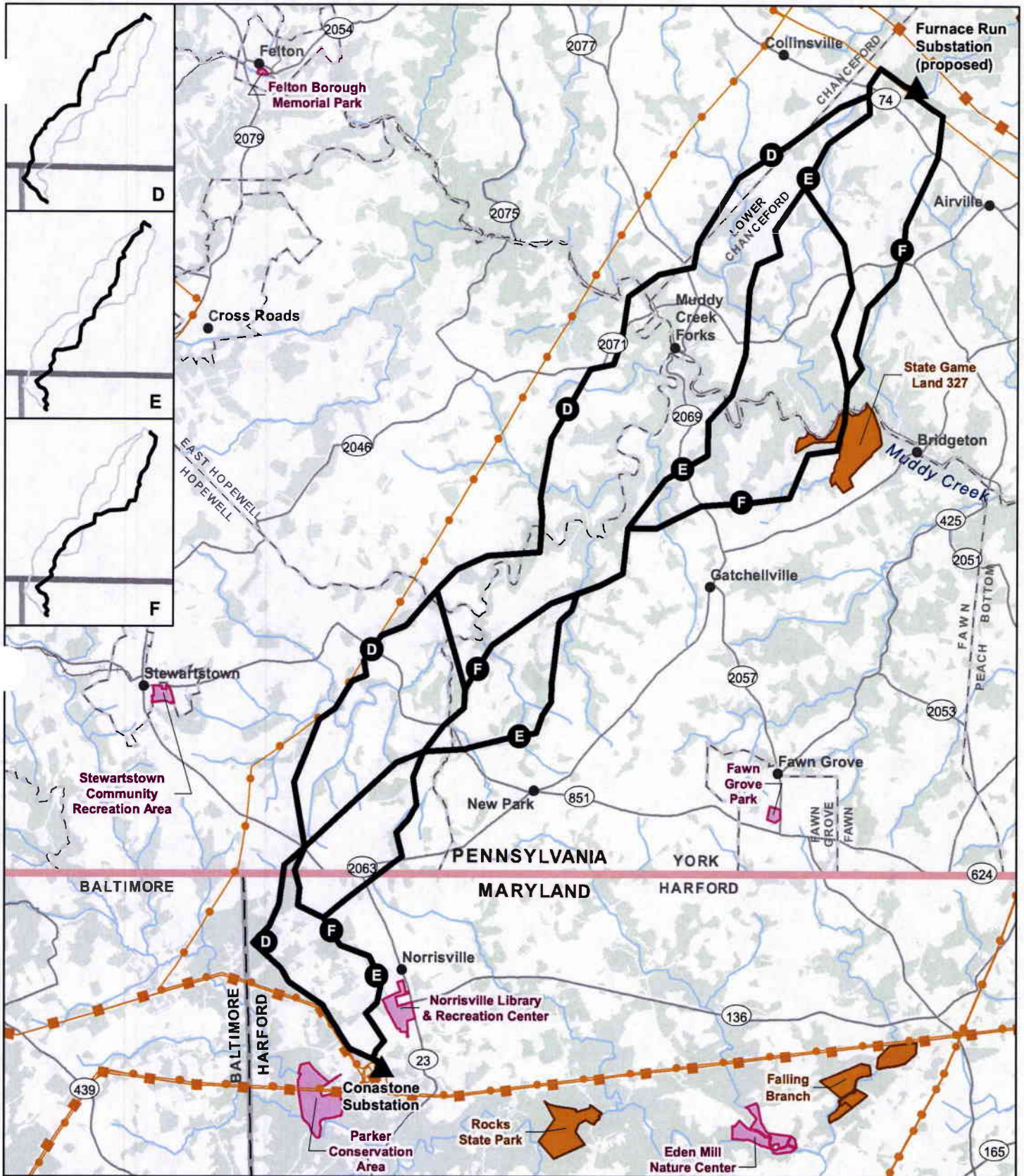
### **State Parks**

In Harford County, Maryland, there are no State Parks within the Project Study Area (Maryland 2017).

### **Alternative Route Comparison**

None of the Alternative Routes will have an impact on any local parks or trail systems. Alternative Route F would pass through State Game Lands 327, which borders the south side of the Muddy Creek valley. Coordination for the potential development of this route would be dependent on approval from the Pennsylvania Game Commission, which manages these lands.





- Substation
- Alternative Routes
- State Game Land
- Local Park
- Existing Transmission Line
  - Below 100kV
  - 115kV - 230kV
  - Greater than 345kV
- Road
- Stream
- Forest Cover

Data Sources: AEP (2017), POWERmap (2012), ESRI (2011), PASDA (2015, 2016), MD GIS Office (2016), Harford Co GIS Office (2014), NLCD Forest Cover (2011)

Coordinate System:  
UTM Zone 18N  
NAD 83

November 14, 2017



**Figure 12**  
**Recreation and Aesthetics**

Independence Energy Connection  
Furnace Run - Conastone  
230kV Transmission Line

**TRANSOURCE.**

0 0.5 1 1.5 2  
Miles

### 4.2.3 Developed Land Use

#### Resource Characteristics

Characteristics of the developed land use were identified, such as urban and developed land, institutions, mineral and subsurface resources, and airports. As detailed in Section 2.3.3 meetings were held with the counties, and in Pennsylvania, the municipalities within the Project Study Area to discuss any potential future development plans. Within the Project Study Area there was little plan for future development based on county and municipal meetings and input. All data compiled from these meetings were considered during the siting process.

#### Urban and Developed Land

Developed areas within the Project Study Area are generally scattered, with higher residence concentrations located around the Borough of Fawn Grove and the Susquehanna Trails development. Areas with smaller concentrations of residentially developed land are centered around small towns, such as Collinsville, Sunnyburn, Gatchellville, and Norrisville. Throughout the Project Study Area, small residential developments create communities that are not centered around a town. There are no large industrial centers located within the Project Study Area. Small commercial areas exist in Fawn Grove and along State Route 74 (YCPC 2011).

#### Institutions

Within the Project Study Area numerous schools, churches, religious facilities, cemeteries, and libraries exist.

- Cemeteries
  - Chanceford Cemetery (PA)
  - Centre Presbyterian Church Cemetery (PA)
- Churches
  - St. James Church (PA)
  - Fawn AME Zion Church (PA)
  - Norrisville United Methodist Church (MD)
- Schools
  - Clearview Elementary School (PA)
  - Fawn Area Elementary School (PA)
  - Kennard-Dale High School (PA)

- Norrisville Elementary School (MD)

### **Mineral and Subsurface Resources**

There are currently no mining areas within the Project Study Area.

### **Airports**

Two small local airports are illustrated on public maps within the Project Study Area. These facilities (Draco and Marsteller airports) are identified near Stewartsville, Pennsylvania. These airports were not verified based on aerial map and field review, and as such were no longer consider to be operational for siting purposes.

### **Alternative Route Comparison**

Developed commercial land within the Project Study Area is focused along several local highways, such as SR 74 near the Furnace Run Substation and SR 24/MD 23 near the Conastone Substation, and occasionally in the scattered villages in between. Residential development is sporadic across the rest of the landscape, with large areas dominated by agricultural fields with few farm houses, some sections of local roads lined with several homes, and the occasional cluster of a subdivision.

The number of parcels crossed and the number of unique landowners are relatively similar for the Alternative Routes despite the variability in their alignments. Overall, Alternative Route D would involve the most parcels and the most landowners. Alternative Routes E and F would involve a few less parcels and therefore fewer landowners.

None of the Alternative Routes would be within 100 feet of a residence. Alternative Routes E and F would have five homes within 250 feet of centerline and Alternative Route D would have six homes within 250 feet. Alternative Route F would have the most homes within 500 feet of centerline, whereas Alternative Route E would have the least.

In regards to other social institutions in the Project Study Area, each of the Alternative Routes would be within at least 1,000 feet of a church or place of worship. Alternative Route D would be located west of Zion Methodist Church located north of Woolen Mill Road, where the route traverses an agricultural field. Alternative Routes E and F would be located west of Norrisville United Methodist where the route parallels an area of woods separating the transmission line from this church. Alternative Route D would be sited west of and in close proximity of a school (Manifold School) with an area of forest present between the transmission line and school. None of the Alternative Routes would be located near a hospital, cemetery, airport, or local park.

#### 4.2.4 Historic and Archeological Resources

As part of the Siting Study, a desktop survey of existing historic structures and archaeological resources within the Project Study Area was conducted by accessing the PHMC’s Bureau of Historic Preservation’s Cultural Resources Geographic Information System (CRGIS) and the MHT’s “Medusa” GIS system and database to review available information on previously recorded historic structures, historic districts, and archaeological sites (PHMC CRGIS 2016, MHT Medusa 2016). The Project Study Area included a one-mile buffer of all of the proposed alignments for above ground resources (historic properties), and a 130-foot wide ROW for archaeological resources. Cultural resources are depicted in **Figure 13** and only include the location of non-sensitive data tied to aboveground resources.

#### *Pennsylvania*

##### Historic Architecture

Five National Register of Historic Places (NRHP)-listed or eligible properties have been identified in the Project Study Area in Pennsylvania, and are listed in **Table 7a** per their National Register (NR) and State Historic Preservation Office (SHPO) status.

**TABLE 7a: NRHP-listed or Eligible Historic Properties in the Project Study Area (PA)**

PHMC KEY#	NRHP REF#	Resource Name	Resource Address/ Location	NR Status/ SHPO Opinion Date	Township	County
<b>LISTED</b>						
086410	86000422	Payne’s Folly	Watters Road	Listed; 03/06/1986	New Park	York
097925	94000397	Muddy Creek Forks Historic District	Junction of Muddy Creek Forks Road and New Park Road	Listed HD; 04/29/1994	E. Hopewell, Fawn, Lower Chanceford	York
<b>ELIGIBLE</b>						
043533		Alloways Property	Intersection of Deer Road and Bald Eagle Road	Eligible; 05/15/1997	Fawn	York
102103		N/A	Off of Salt Lake Circle	Eligible; 01/10/1994	Fawn	York
097471		County Bridge No. 29	Norris Road	Eligible; 09/17/1991	Lower Chanceford	York

Both the Alloways Property (PHMC Key# 043533) and the unnamed property off of Salt Lake Circle (PHMC Key# 102103) were determined to be NRHP-eligible by the PHMC in the 1990’s. Both properties are located in Fawn Township, Pennsylvania, and include structures that

function as dwellings and/or are related to agricultural/subsistence. The unnamed property dates to the nineteenth century, while the Alloways property was built earlier, circa 1783 with additional nineteenth-century components. The PHMC notes in their records that re-evaluation of National Register eligibility may be necessary due to the date of the initial evaluation, and to contact them for guidance.

County Bridge No. 29 is a NRHP-eligible structure located on Norris Road in Lower Chanceford Township. This is a stone arch bridge that was built in 1913 by Francis Geesey. It was documented during the PHMC Historic Sites Survey and documented as eligible in 1991. The PHMC notes in their records that re-evaluation of National Register eligibility may be necessary due to the date of the initial evaluation, and to contact them for guidance.

Payne's Folly (PHMC Key# 086410; NRHP# 86000422) is a remarkably intact, well preserved early Germanic stone residence built circa 1750, located in New Park, Pennsylvania. The NRHP-listed property is an excellent example of an early, rural Germanic house whose value is increased by its rarity in the area, and its survival in nearly intact condition. A strong influence of the Germanic building tradition is in part revealed by the placement of the house at the bottom of a hollow, within easy access to a spring. The western half of the building is built into the hillside, an additionally characteristically German feature.

The NRHP-listed Muddy Creek Forks Historic District (PHMC# 097925; NRHP# 94000397) encompasses a village located at the junction of Muddy Creek Forks Road and New Park Road at the tri-corner meeting of East Hopewell, Fawn, and Long Chanceford Townships. The buildings and structures in the Village were constructed from c. 1800 to c. 1935. Nearly all the buildings are vernacular in shape and overall design, however, most of them display Late Victorian details. Contributing resources to the District include five structures, twelve buildings, and an archaeological site at the former locations of an eighteenth-century mill complex.

### **Archaeology**

No PHMC-identified archaeological sites are located within the 130-foot ROW Archaeological Study Area. Identification and avoidance of specific sites will be coordinated with the PHMC and MHT as part of the permitting process that will be required after the Proposed Route has been approved; however, there are currently no previously identified sites that are within the proposed alternative ROWs.

**Maryland**

**Historic Architecture**

Two National Register of Historic Places (NRHP)-listed or eligible properties have been identified in the Project Study Area in Maryland, and are listed in **Table 7b**. Historic properties are defined as buildings, structures, districts, objects, sites, and linear historic sites aged 50 years or more. Additional identified historic properties which have not been assessed for NRHP eligibility are not included in this report. Once an alignment is chosen, additional research will be done to identify other historic architectural resources within the ROW or which may be affected visually.

<b>TABLE 7b: NRHP-listed or Eligible Historic Properties in the Project Study Area (MD)</b>						
<b>MHT ID#</b>	<b>NRHP REF#</b>	<b>Resource Name</b>	<b>Resource Address/ Location</b>	<b>NR Status/ SHPO Opinion Date</b>	<b>Township</b>	<b>County</b>
<b>LISTED</b>						
HA-448	97000968	Ivory Mills (R. Nicholas Wiley Mill)	Harford Creamery Road	Listed; 8/29/1997	Norrisville	Harford
<b>ELIGIBLE</b>						
HA-1098		Iron Truss Bridge 120	Green Road over Deer Creek	Eligible; 03/16/1993	Norrisville	Harford

The NRHP-listed Ivory Mills complex (R. Nicholas Wiley Mill; MHT# HA-448; NRHP# 97000968) is located in Norrisville, Maryland on the upper stretches of Deer Creek in the hilly, still-rural northwest corner of Harford County. The approximately 14-acre complex consists of six standing nineteenth-century frame buildings and structures (mill, miller's house, barn, corncrib, carriage house, and chicken house), the ruins of a stone springhouse, and the stone abutments of a frame, Federal-era covered bridge. The Ivory Mills complex is significant for its association with the history of the grist mill industry in Harford County and for its association with the Wiley family, leaders of that industry, as well as for being an exceptionally complete and well preserved example of a mill complex typical of the period in the region.

The Iron Truss Bridge 120 (The Green Road Bridge; MHT# HA-1098) is an NRHP-eligible structure located in Norrisville, Maryland that derives its significance from its association with the development of transportation in Harford County and as an intact example of an early metal truss bridge type. The Green Road Bridge is an increasingly rare example of a pin connected, wrought iron bridge. It represents the construction method which preceded riveted steel bridges, and which is relatively rare in Harford County and in the state.

## **Archaeology**

No MHT-identified archaeological sites are located within the 130-foot ROW Archaeological Study Area. Identification and avoidance of specific sites will be coordinated with the MHT as part of the permitting process that will be required after the Proposed Route has been approved; however, there are currently no previously identified sites that are within the ROW of the Alternative Routes.

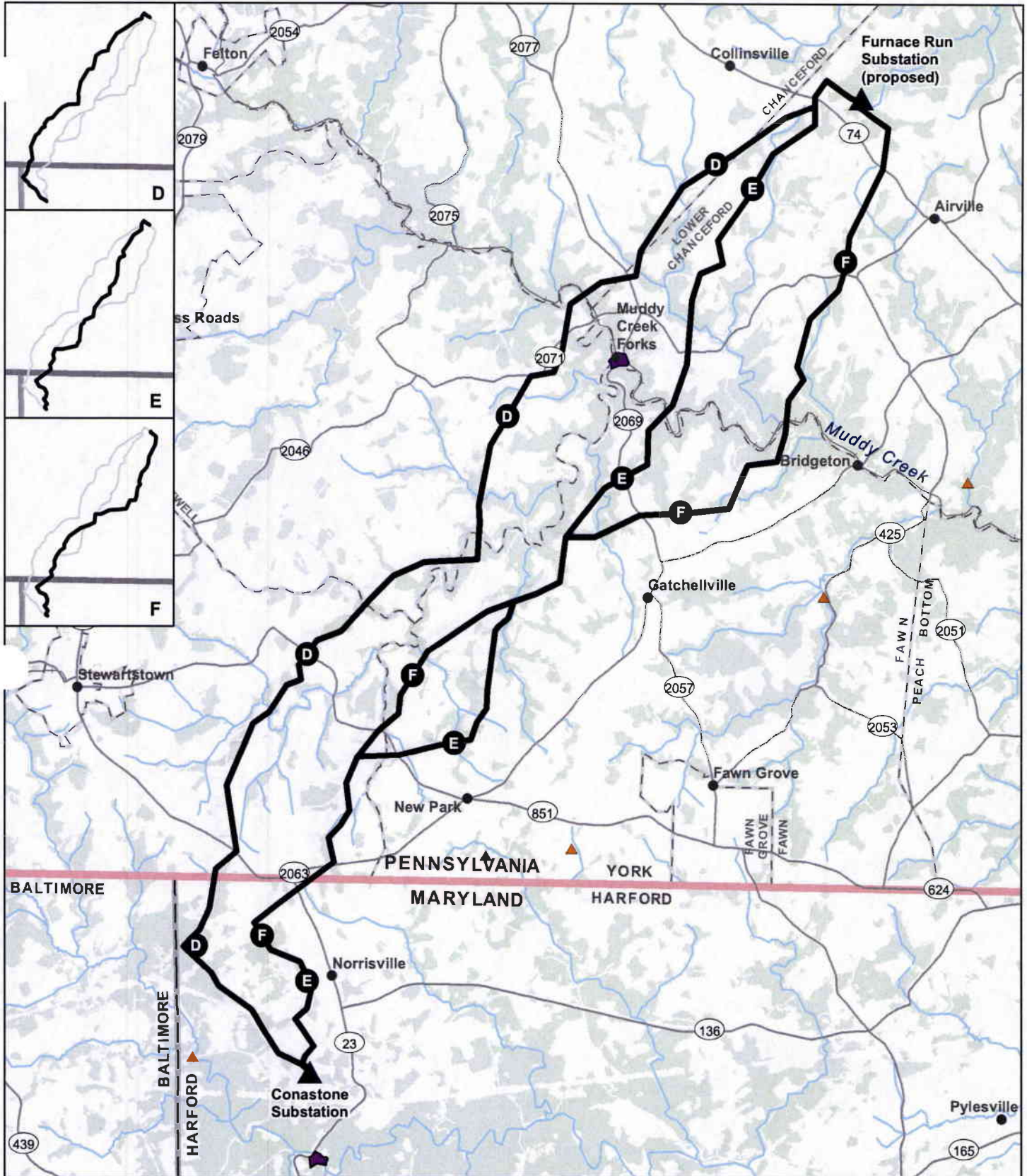
## **General Impacts**

Potential impacts on NRHP-listed and eligible architectural historic properties may be visual, created by the construction of transmission structure and clearcutting of vegetation within the ROW. Visual impacts will vary based on local relief, height of existing vegetation, and any intervening recent development. Additional effort will be needed to map these resources within the Project Study Area and ROW once a proposed alternative is chosen. Any physical impacts on architectural historic properties will be minimized, where practicable, by strategically locating access roads, staging areas, and structure away from the historic resource. Impacts on archaeological sites typically occur during the ground-disturbing activities associated with construction of a structure, e.g., construction of new access roads, clearing of the ROW, establishing equipment staging areas, driving of tired or tracked vehicles, and structure construction. Whenever possible, these impacts on identified sites will be minimized by strategically locating access roads, staging areas, and structure away from any archaeological sites. If any historic architectural resource or archaeological site cannot be physically avoided, then additional consultation will be carried out with either the PHMC or MHT. A Phase I cultural resources study will likely be required by the PHMC and/or the MHT.

## **Alternative Route Comparison**

None of the Alternative Routes would be located within 0.25 mile of an NRHP-listed property or cross a known archaeological site.

The route selected will ultimately be reviewed by both the PHMC and MHT within the requisite area of potential effect (APE) determined for the Project to ascertain the routes potential impacts on historic aboveground and archeological resources.



- ▲ Substation
- Alternative Routes
- Listed Above Ground Resource
- ▲ Eligible Above Ground Resource
- Listed Above Ground Resource - Polygon
- Listed Historical District
- Road
- Stream
- Forest Cover

Data Sources: AEP (2017),  
 ESRI (2011),  
 Transource (2017),  
 NLCD Forest Cover (2011)

Coordinate System:  
 UTM Zone 18N  
 NAD 83

November 30, 2017



**Figure 13**  
**Cultural Resources**

Independence Energy Connection  
 Furnace Run - Conastone  
**TRANSSOURCE.** 230kV Transmission Line

0 0.5 1 1.5 2  
 Miles



#### **4.2.5 Scenic Resources**

##### **Resource Characteristics**

Aesthetics are defined as a mix of landscape visual character, the context in which the landscape is viewed (view/user groups), and the scenic integrity of the landscape. This study reviewed the potential visibility and visual impact of the Alternative Routes through landscape character assessment, field evaluation, and environmental factor tabulations.

Visual character encompasses the patterns of landform (topography), vegetation, land use, and aquatic resources (e.g., lakes, streams, and wetlands). Multiple elements influence visual character, such as natural systems, human interactions, and land use. In natural settings, the visual character attributes are natural elements such as forested mountains or scenic rivers and lakes, whereas rural or pastoral/agricultural settings may include manmade elements such as fences, walls, barns and outbuildings, and occasional residences. In a more developed setting, the visual character may include commercial or industrial buildings, manicured lawns, pavement, and other infrastructure.

The Siting Team observed three distinctive landscapes within the Project Study Area: 1) forested stream valleys, 2) pastoral and farming communities, and 3) small residential communities. Forested stream valleys are mainly observed along Muddy Creek and its tributaries and the pastoral communities are noted surrounding this stream valley. The small residential communities are noted along SR 74 in the northern portion of the Project Study Area and along SR 24/MD 23 (Norrisville Road) in the southern section, as well at scattered intersections in the central portions.

No designated scenic overlooks or vistas are documented in the Project Study Area. A section of Maryland's Mason & Dixon Scenic Byway does extend along MD 23 and MD 136 (Harkins Road), both of which are Maryland scenic roadways, in Norrisville in the southern part of the Project Study Area.

##### **Alternative Route Comparison**

All of the Alternative Routes would span the main roads that crisscross the Project Study Area and traverse across relatively similar agricultural viewsheds. Spanning Muddy Creek may have a visual effect to boaters or fishermen, but all of the routes must span this stream corridor in order to reach the Conastone Substation. None of the Alternative Routes would span the Mason & Dixon Scenic Byway near Norrisville, Maryland. Overall, each Alternative Route would have similar visual effects to the areas' scenic resources.

As it relates to transmission lines and their visual impact to the overall aesthetics of the area, it should be noted that existing transmission lines are present along the western and eastern limits of the Project Study Area in Pennsylvania and Maryland, as well around the Conastone Substation, which includes large 500 kV structures. As such, the addition of the Furnace Run-Conastone 230 kV line would not dramatically alter the character of the landscape in Pennsylvania or Maryland.

**Table 8. Land Use Evaluation Criteria**

Alternative Route	Unit	D	E	F
<b>General</b>				
Length	miles	<b>16.3</b> PA: 13.3 MD: 3.0	<b>15.8</b> PA: 12.7 MD: 3.1	<b>15.9</b> PA: 12.8 MD: 3.1
Number of parcels [1] crossed	count	<b>68</b> PA: 43 MD: 25	<b>66</b> PA: 53 MD: 13	<b>65</b> PA: 52 MD: 13
Landowners within ROW	count	<b>58</b> PA: 37 MD: 21	<b>49</b> PA: 38 MD: 11	<b>49</b> PA: 38 MD: 11
<b>Residential</b>				
Barns, outbuildings, sheds, garages and silos in the ROW (excludes abandoned features)	count	<b>2</b> PA: 2 MD: 0	<b>0</b>	<b>0</b>
Residences/single-family dwellings within ROW	count	<b>0</b>	<b>0</b>	<b>0</b>
Residences/single-family dwellings within 100 feet of centerline	count	<b>0</b>	<b>0</b>	<b>0</b>
Residences/single-family dwellings within 250 feet of centerline	count	<b>6</b> PA: 4 MD: 2	<b>5</b> PA: 2 MD: 3	<b>5</b> PA: 2 MD: 3
Residences/single-family dwellings within 500 feet of centerline	count	<b>36</b> PA: 25 MD: 11	<b>32</b> PA: 19 MD: 13	<b>42</b> PA: 29 MD: 13

Table 8. Land Use Evaluation Criteria				
Alternative Route	Unit	D	E	F
Multi-family dwellings [2] within ROW	count	0	0	0
Multi-family dwellings within 250 feet of centerline	count	0	0	0
Multi-family dwellings within 500 feet of centerline	count	0	0	0
<b>Commercial/Industrial</b>				
Businesses/commercial buildings [3] within the ROW	count	0	0	0
Businesses/commercial buildings within 250 feet of the centerline	count	0	0	0
Businesses/commercial buildings within 500 feet of the centerline	count	0	5 PA: 0 MD: 5	5 PA: 0 MD: 5
Mining areas crossed	count	0	0	0
Quarries crossed	count	0	0	0
Airports within one mile of the centerline	count	0	0	0
<b>Agricultural</b>				
Pasture/rangeland crossed in ROW (based on NLCD data)	acres	28.7 PA: 25.6 MD: 3.1	21.6 PA: 17.6 MD: 4.0	33.1 PA: 29.1 MD: 4.0

**Table 8. Land Use Evaluation Criteria**

Alternative Route	Unit	D	E	F
Cropland crossed in ROW (based on NLCD data)	acres	<b>131.9</b> PA: 114.3 MD: 17.6	<b>159.0</b> PA: 121.9 MD: 37.1	<b>137.0</b> PA: 99.9 MD: 37.1
Tree farms/orchards crossed in ROW	acres	<b>6.0</b> PA: 6.0 MD: 0.0	<b>8.4</b> PA: 5.0 MD: 3.4	<b>4.7</b> PA: 1.3 MD: 3.4
Agricultural easements crossed in ROW	acres	<b>127.9</b> PA: 122.5 MD: 5.4	<b>103.1</b> PA: 66.2 MD: 36.9	<b>113.9</b> PA: 77.0 MD: 36.9
Tree clearing required in the ROW (digitized based on aerial photography)	acres	<b>78.9</b> PA: 55.1 MD: 23.8	<b>57.8</b> PA: 51.7 MD: 6.1	<b>64.8</b> PA: 58.7 MD: 6.1
Length of clearing parallel to existing linear infrastructure	miles	0.4 PA: 0.1 MD: 0.3	<b>0</b>	<b>0.3</b> PA: 0.3 MD: 0.0
<b>Community/Recreational Facilities</b>				
Schools within 1,000 feet of centerline	count	<b>1</b> PA: 1 MD: 0	<b>0</b>	<b>0</b>
Designated places of worship within 1,000 feet of centerline	count	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 0 MD: 1	<b>1</b> PA: 0 MD: 1
Cemeteries within 250 feet of centerline	count	<b>0</b>	<b>0</b>	<b>0</b>
Hospitals, and assisted living facilities within 250 feet of centerline	count	<b>0</b>	<b>0</b>	<b>0</b>
Parks and recreation areas crossed by the ROW	count	<b>0</b>	<b>0</b>	<b>1</b> PA: 1 MD: 0

Table 8. Land Use Evaluation Criteria				
Alternative Route	Unit	D	E	F
Scenic byways crossed	count	0	0	0
<b>Protected Land</b>				
Federal/state land crossed by ROW	acres	0	0	5.4 PA: 5.4 MD: 0.0
Local public lands crossed by ROW	acres	0	0	0
<b>Cultural Resources</b>				
NRHP-listed historic properties within 1/4 mile of the centerline	count	0	0	0
National Landmarks within 1/4 mile of the centerline	count	0	0	0
Listed or Eligible Historic Districts within 1/4 mile of the centerline	count	0	0	0
Known NRHP-eligible historic properties within 1/4 mile of the centerline	count	0	0	0
Identified archaeological sites within ROW	count	0	0	0
Identified archaeological sites within 250 feet of centerline	count	0	0	0

PA: and MD: = State specific breakdown.

[1] The number of parcels crossed refers to the number of individual plots of owned land recorded by each County. The number of landowners within the ROW represent the number of individual landowners, who each may own one or more parcels.

[2] Multi-family dwellings include townhome, condominium, and apartment complexes, and duplexes.

[3] Commercial development includes retail, service, office, restaurants, and lodging establishments.

### **4.3 Constructability**

This section discusses the constructability of a proposed transmission line, as it relates to engineering and construction concerns. Major factors that affect constructability include, but are not limited to, steep topography, condensed ROWs, heavy angles, proximity to existing infrastructure facilities, accessibility, safety and cost. A comparison of the engineering and construction considerations for the Alternative Routes is presented at the end of this section in **Table 9**.

#### **4.3.1 Engineering Design Considerations**

##### **Transmission Right-of-Way**

Assessment of the segment options favors paralleling existing electric lines, or paralleling other infrastructure (i.e., roadways, railways or gas lines) relative to cross-country options. Few options for paralleling infrastructure were identified in the Project Study Area. One paralleling option evaluated during the conceptual phase of the project was the existing Otter Creek-Conastone 230 kV transmission line that borders the western side of the Project Study Area. Evaluation of this corridor noted several constraint areas where residential or other structural development has been built on the edge of the existing transmission line corridor. At these locations, the proposed transmission line would be obligated to divert away from the existing corridor and bypass around the constraint. This would result in the constraint being surrounded by transmission lines. Due to the frequency of these constraints along the Otter Creek-Conastone 230 kV transmission line, it was determined that it would not be practicable to parallel this transmission line. Specific Study Segments were identified that parallel for short distances along this corridor, but these alignments are diverted in places due to the adjacent siting constraints.

A de-energized 69 kV transmission line corridor was also identified as a potential paralleling opportunity. The Yorkana-Face Rock 69 kV transmission line extends west to east near the Furnace Run Substation site. Options to parallel this line were considered and are the basis of the Study Segments extending out either side of the Furnace Run Substation. These Study Segments are relatively short as the desired alignment to the Conastone Substation would be to the south, which requires all of the Alternative Routes to cross over the de-energized line. Engineering determined this crossing is feasible, and it will be a requirement for all of the Alternative Routes considered.

##### **Engineering and Construction Considerations**

Potential engineering and construction challenges are important to consider when siting a transmission line. Heavy angles, steep topography, dense residential or commercial

development, nearby towers or antennas, and airfields, along with narrow ROW alignments are all elements that could ultimately require extensive or non-standard engineering and construction considerations, leading to increases in impacts and overall cost.

A key topographical consideration in the Project Study Area is the crossing over Muddy Creek, which is bordered by steeply sloped banks that drop 200-250 feet to the stream, and are generally 1,500 to 2,000 feet apart. The steep topography and densely forested banks will be a construction challenge, and the long span over the stream valley will be both a construction and an engineering challenge.

Spanning over existing roadways can also be both an engineering and construction challenge due to the proximity of telephone and distribution lines that often parallel these corridors, and the traffic control required for safe construction practices. Engineering review of these existing features is necessary to design the new alignment with required distances between the electrical systems and the roadway infrastructure. Part of the review focuses on the structure placement, which is often preferred close to the road edge to provide crossings at the highest point in the new wire, however, state highway expectations are that these structures are not too close to the roadway to assure safer conditions for vehicles.

Another consideration is the number of sharp angles (greater than 30°) required along the various Alternative Routes. Due to the tensions necessary on the conductor wires, sharp turns typically require stronger supporting structures. This additional strength is typically achieved by using larger/heavier structures, the use of multi-pole structures, or the installation of wires. These options involve additional assessment of the terrain and the transmission line alignments.

A third consideration is the crossing of oil or gas pipelines. Spanning over these features is not typically as complicated as paralleling a pipeline for any considerable length. The only pipeline present in the Study Area would be spanned due to its west to east alignment and would not be paralleled.

A final consideration is the spanning of a railroad. There is only one railroad crossing in the Study Area, and it contains a potentially inactive rail running west to east along and within the valley of Muddy Creek. Ideally, new transmission lines would cross at 90° degree angles to railroads. Designing railroad crossings must take into consideration the width and height of the various rail cars that could use the tracks. The existing railroad present along the Proposed Route is located within a steep stream valley that would be spanned from the adjacent ridge line minimizing the complexity of some of the typical engineering considerations associated with at grade rail crossings.



### Alternative Route Comparison

Review of **Table 9** indicates that each of the Alternative Routes will need to span one railroad (located in the valley of Muddy Creek), one pipeline, the de-energized Yorkana-Face Rock 69 kV transmission line, and span a similar number of state highways and local roads. As these engineering considerations are relatively similar for all of the options, none of the Alternative Routes would be better or worse comparatively.

In terms of angle structures that may be required for each of the options, Alternative Route E would involve the most and Alternative Route D would involve the least. Many of the sharp turns are required to follow specific property lines, minimize the impacts of the route, or to avoid other constraint areas such as additional stream crossings or dense forested areas.

As noted, paralleling existing linear features, such as transmission lines or roadway corridors, is typically viewed as a valid siting option to minimize the cumulative effect of a new right-of-way. Given the constrained environment adjacent to the existing linear corridors, very few options were realized in the Project Study Area. Alternative Route D, which is closest to the existing Manor-Conastone 230 kV Transmission Line, would have the longest alignment paralleling this transmission line, whereas the remaining alternatives would have less parallel less opportunities.

#### 4.3.2 Topography and Geology

The Project Study Area does not contain any areas of karst geology. There are several steep stream valleys in the Muddy Creek watershed that would involve additional engineering assessment to develop a safe crossing alignment.

### Alternative Route Comparison

As noted above, all of the Alternative Routes would be required to span Muddy Creek. Evaluation of the steep sloped areas crossed along the various options notes that Alternative Route D would encounter the most sloped areas, mostly due to the multiple stream crossings involved with this alignment. Alternative Routes E and F would encounter the least steep sloped areas as a result of minimizing the number of stream crossings. In general, many of these areas will be spanned by either of the alignments.

#### 4.3.3 Access Roads

The access road networks that will be required to construct and potentially maintain the proposed alignment are being developed as engineering completes more the transmission line design and as landowner negotiations occur. Most of the access roads will be located within the new ROW corridor to help further minimize the impact of the Project on the surrounding

human/built and environmental landscape. Many of these roads will be temporary in nature as they would extend across agricultural lands or through forested areas and will need to be removed at the end of construction. Stabilized road bases may be left in places that can be used for future access but few new permanent roads will be developed.

Where possible, existing farm or forest roads will be evaluated and used instead of developing new access roads, which could involve grading to provide the desired slopes for the heavy equipment that would be involved in the construction. Landowner coordination to secure the rights to use these existing roads will be required.

### **Alternative Route Comparison**

The overall location of the Alternatives was considered as it relates to the siting of temporary and permanent on and off-ROW access roads and what challenges may be present along each route. Review of the alignments specifically in the Maryland portion of the Project Study Area note that Alternative Route D would extend into the forested areas surrounding several of the Deer Creek tributaries, which would be considerably more difficult to construct access roads due to the topography, level of forest clearing, and need to cross streams. Alternative Routes E and F would extend across more open fields along the higher sections of the watershed, thereby reducing some of the slope concerns, forest clearing, and need to cross as many streams.

Overall, Transource will minimize additional impacts to streams, wetlands, and sensitive habitat areas by siting the access roads outside these features.

**Table 9. Constructability Evaluation Criteria**

Alternative Route	Unit	D	E	F
<b>General</b>				
Length	miles	<b>16.3</b> PA: 13.3 MD: 3.0	<b>15.8</b> PA: 12.7 MD: 3.1	<b>15.9</b> PA: 12.8 MD: 3.1
<b>Transportation Resources</b>				
Interstate highways crossed	count	<b>0</b>	<b>0</b>	<b>0</b>
U.S. highways crossed (combination of state and U.S.)	count	<b>0</b>	<b>0</b>	<b>0</b>
State highways crossed	count	<b>9</b> PA: 9 MD: 0	<b>6</b> PA: 5 MD: 1	<b>6</b> PA: 5 MD: 1
Local roads and streets crossed	count	<b>20</b> PA: 15 MD: 5	<b>23</b> PA: 20 MD: 3	<b>23</b> PA: 20 MD: 3
Railroads crossed	count	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0
<b>Utility Resources</b>				
Oil and gas pipelines crossed	count	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0
Communication towers within 1,000 feet of the centerline	count	<b>0</b>	<b>2</b> PA: 2 MD: 0	<b>0</b>

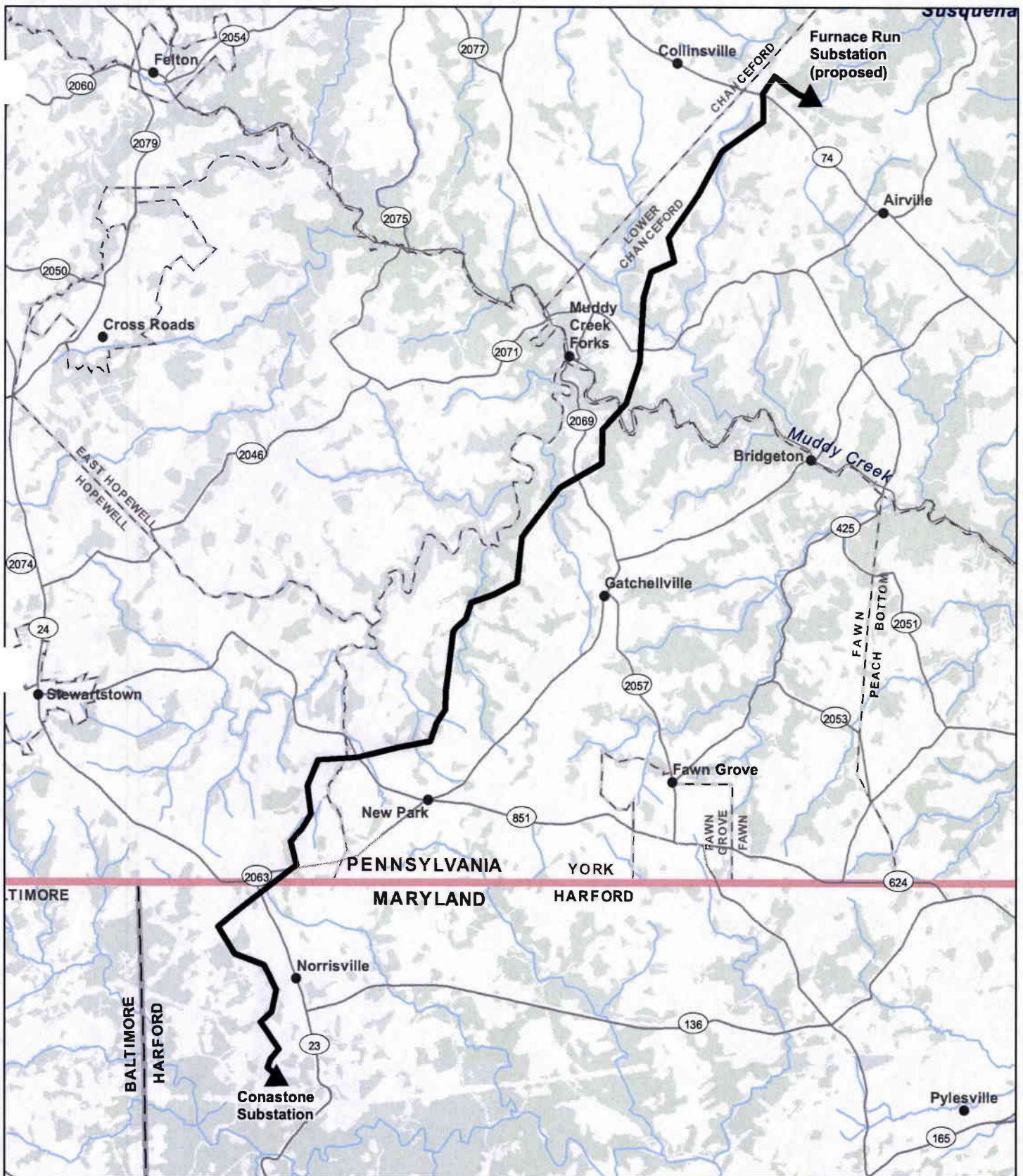
**Table 9. Constructability Evaluation Criteria**

Alternative Route	Unit	D	E	F
Existing 69 kV Transmission Lines Crossed	count	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0	<b>1</b> PA: 1 MD: 0
Existing 115 Kv Transmission Lines Crossed	count	<b>0</b>	<b>0</b>	<b>0</b>
Existing 138 and 230 Kv Transmission Lines Crossed	count	<b>0</b>	<b>0</b>	<b>0</b>
Existing 500 Kv Transmission Lines Crossed	count	<b>0</b>	<b>0</b>	<b>0</b>
<b>Engineering and Construction Considerations</b>				
Steep slopes crossed by ROW (>20%), percent of total length	miles	<b>2.3</b> PA: 1.8 MD: 0.5	<b>1.6</b> PA: 1.5 MD: 0.1	<b>1.6</b> PA: 1.5 MD: 0.1
Heavy angles, greater than 30%	count	<b>9</b> PA: 8 MD: 1	<b>14</b> PA: 10 MD: 4	<b>12</b> PA: 8 MD: 4
<b>Rights-of-Way Rebuild/Parallel</b>				
Existing 69 Kv transmission lines paralleled	miles	<b>0.1</b> PA: 0.1 MD: 0.0	<b>0.1</b> PA: 0.1 MD: 0.0	<b>0.3</b> PA: 0.3 MD: 0.0
Existing 115 kV transmission lines paralleled	miles	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Existing 138 and 230 kV transmission lines paralleled	miles	<b>1.5</b> PA: 0.9 MD: 0.6	<b>0.0</b>	<b>0.0</b>
Existing 500 kV transmission lines paralleled	miles	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

**Table 9. Constructability Evaluation Criteria**

Alternative Route	Unit	D	E	F
Interstate highways, U.S. highways, State highways, and local roads	miles	<b>0.5</b> PA: 0.5 MD: 0.0	<b>0.6</b> PA: 0.6 MD: 0.0	<b>0.6</b> PA: 0.6 MD: 0.0
Railroad	miles	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Total length paralleled	miles	<b>2.1</b> PA: 1.5 MD: 0.6	<b>0.7</b> PA: 0.7 MD: 0.0	<b>0.9</b> PA: 0.9 MD: 0.0
Percent of length paralleled	%	<b>13%</b> PA: 9% MD: 4%	<b>4%</b> PA: 4% MD: 0%	<b>6%</b> PA: 6% MD: 0%

PA: and MD: = State specific breakdown.



- Substation
- Alternative Route E (Proposed Route)
- Stream
- Road
- Forested Area

Data Sources: AEP (2017),  
POWERmap (2012),  
ESRI (2011),  
NLCD Forest Cover (2011)

Coordinate System:  
UTM Zone 18N  
NAD 83

November 14, 2017

Pennsylvania

Maryland

**Figure 14**  
**Proposed Route**

Independence Energy Connection  
Furnace Run - Conastone  
**TRANSOURCE** 230kV Transmission Line

0 0.5 1 1.5 2  
Miles

## 5.0 IDENTIFICATION OF THE PROPOSED ROUTE

The goal in selecting a suitable route for the Project is to minimize impacts on land use and natural and cultural resources while avoiding circuitous routes, extreme costs, and non-standard design requirements. However, in practice, it is not usually possible to minimize all potential impacts. There are often inherent tradeoffs in potential impacts to every siting decision. For example, in heavily forested study areas, the route that avoids the most developed areas will likely have the greatest amount of forest clearing, while the route that has the least impact on vegetation and wildlife habitats often impacts more residences or farm lands. Thus, an underlying goal of a siting study is to reach a reasonable balance between minimizing potential impacts on one resource versus increasing the potential impacts on another.

The following section summarizes the rationale for selection of the Proposed Route, and thus, the route that the Siting Team considered to best minimize the overall impacts of the Project. The rationale presented is derived from the accumulation of the siting decisions made throughout the process, the knowledge and experience of the Siting Team, comments from the public and regulatory agencies, and the comparative analysis of potential impacts presented in Section 4. Based on the data reviewed in this Siting Study, Alternative Route E was determined to be the Proposed Route.

### 5.1 Proposed Route Summary

Alternative Route E has an approximate length of 15.8 miles (approximately 12.7 miles in Pennsylvania and approximately 3.1 miles in Maryland). Being a more direct alignment between the Furnace Run and Conastone Substations, it will cross fewer parcels (66) and impact less landowners (49) compared to the other alternatives. The alignment minimizes impacts to communities within the Project Study Area by crossing undeveloped lands away from these populated areas. As a result the Proposed Route has the fewest residences within 500 feet (32), compared to the other alternatives.

This more direct route will also help minimize impacts to agricultural lands, farming operations, and orchard areas since many of the alignments across these areas were identified during early coordination with the landowners. Key requests during this coordination were to span fields or parallel property lines or access roads where feasible, and to provide specially engineered structures near orchards to allow the orchard trees to remain in production under the ROW.

Environmentally, Alternative Route E would span the fewest streams (13) and have minimal impact on riparian areas. As noted previously, streams and floodplains will be crossed at right angles and spanned with structures typically placed outside these regulated areas. Since

several of the streams crossed will be HQ-designated waterways, the construction of this alignment will involve additional stormwater permitting requirements focused on the preservation of the water quality level. In terms of wetlands, this alignment would cumulatively cross the least wetland area relative to the other alternatives. Similar to streams and floodplains, wetland areas will be spanned to further minimize potential impact.

Alternative Route E has the least amount of tree clearing and reduces the forest fragmentation effects and potential impacts to T&E species that use forest habitats such as T&E bat species. In terms of other potential T&E habitat areas, Alternative Route E would span over one large natural area in Pennsylvania and two SSPRA areas in Maryland. These same habitat areas are spanned by the other alternatives, with little option for avoidance.

From an engineering perspective, Alternative Route E would span the same number of state highways (6) as one alternative and three less than the other alternative and regarding local roads (23) also crossing same as one alternative and three more than the other. Alternative E involves more heavy angles (14). These engineering challenges are slightly offset by the limited steep slopes along the alignment (1.57 miles). The alignment will also not be within 1-mile of an airport or cross near any quarries.

## **Conclusion**

Based on a qualitative and quantitative review of information obtained from GIS data, existing easements, field reconnaissance, agency consultation and public outreach as well as engineering and financial estimates for the Project, the Siting Team recommends Alternative Route E as the Proposed Route, as depicted in **Figure 14**. An overview of the Proposed Route is provided in a detailed aerial map book in Appendix C and Appendix D contains Figure 15 which is an overview of resources within 2 miles of the Proposed Route.

In addition to the advantages listed above, Alternative Route E was selected as this alignment minimizes impacts to land uses brought forward during the public input process and has the least amount of impact to residential homes. Alternative Route E allows for the shortest distance, which in turn lessens the amount of forest clearing, streams crossed, and number of residences within 500 feet. Collectively, the Siting Team believes that the Proposed Route meets the goal of minimizing impacts on land use, and the natural and cultural resources along the route, while avoiding circuitous routes, extreme costs, and non-standard design requirements.



## **5.2 Proposed Route Impacts and Mitigation**

The following is a discussion of the anticipated Project impacts and potential permit and mitigation requirements of the Proposed Route selected for the Furnace Run-Conastone 230 kV Project.

Transource is working diligently with relevant property owners to secure the necessary ROW easement areas along the Proposed Route to minimize the impact on existing and future land use. Efforts were made during the transmission line routing process to minimize impacts on existing and future land uses, as well as avoid sensitive natural resources such as wetlands and streams. Where potential impacts are unavoidable, mitigating factors will be employed.

As part of the permitting process, any required waterway, wetland, or floodplain encroachment permits will be obtained from PADEP, MDE and the USACE prior to construction and Transource will comply with all special conditions placed on the permits. In addition, to address water quality standards within watersheds along the Project corridor, Transource will comply with the regulations of the National Pollutant Discharge Elimination System (NPDES) permit program, obtain the required soil erosion and sedimentation control permits, and follow the specified conditions required for the permit.

### **5.2.1 Land Use**

Siting analyses for the Proposed Route was conducted with acknowledgement of existing and proposed land uses. Some impact on existing and future land use may occur, including clearing of forest areas and reducing potential areas for residential or commercial development. Establishment of ROW easement areas also preclude certain uses such as constructing structures or installing swimming pools within the easement area. Transource is working with property owners to minimize the impact on existing and future land uses.

The Proposed Route will also be designed to minimize conflicts with the existing transportation network and other utilities currently located or proposed along the route. The necessary state Highway Occupancy Permits or equivalent type permits will be acquired by Transource for those respective highway crossings and all other state road access points prior to construction. The permit processes typically includes review of the plans to assure that the transmission structure locations and development are in compliance with current safety regulations regarding height and sight clearances. This permit process will also be used to coordinate the actual crossing of the highway with the conductor wires, which often requires the temporary closure of the highway.

### 5.2.2 Natural Features

Vegetation clearing and maintenance is required to abide by the federal guidelines mandated by NERC to ensure the safe and reliable operation of the line on the Proposed Route. Transource's vegetation management practices will allow for the re-generation of compatible species of low growing trees, shrubs, and grasses where practicable. Herbicides used on the ROW will be EPA-approved and will be applied selectively in accordance with all label instructions. Different herbicides will be used based on the environmental conditions with specific attention to not negatively affect streams and wetlands areas. Application of these herbicides near sensitive resources would be conducted by hand-held spraying; no aerial spraying will be used along the alignment. Determination of the mitigation requirements for forest impacts, as well as for impacts to the other natural resources, will be part of the permit review process.

Wetlands along the Proposed Route will be delineated using PADEP, MDE, and USACE approved methodologies based on the *"Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region"* (USACE 2010). Once the wetlands have been delineated, an engineering review will be conducted to minimize the potential impact to these resources through strategic structure placement that will be oriented to span the wetlands where possible. Impacts to wetlands will be further minimized by identifying access road networks that do not need to cross these features. All required permits for these unavoidable wetland impacts will be obtained from the PADEP, MDE, and the USACE prior to construction. Mitigation in the form of wetland creation, enhancement, or conservation may be required for these wetland impacts.

Streams along the Proposed Route will also be delineated using PADEP, MDE, and USACE approved methodologies. Long-term impacts to these watercourses are expected to be minimal, as they will be spanned by the proposed transmission line, with most crossings oriented to span the feature at a 90° angle to minimize impacts to the adjacent riparian area. Some mitigation efforts may be required as a result of the reduction in riparian buffer along these features. Due to the water quality level in these watersheds, an Individual NPDES permit will be required to mitigate any potential short-term impacts of erosion and sedimentation during construction. As part of the Individual NPDES process, additional and more sophisticated Best Management Practices (BMPs) may be required during construction to maintain the high water quality standards in the watersheds and obtain the NPDES permit.

FEMA and state-identified floodplains are found adjacent to watercourses and identify the areas that routinely flood during heavy rain events. Encroachment within a floodplain area is discouraged by the regulatory agencies due to the potential of the structure to increase the flooding hazard in the local area. Where practicable, transmission structures will be

constructed outside the floodplain areas. Due to the wide valleys associated with many of the waterways along the Proposed Route, many of the floodplains and floodways will be relatively narrow and can be spanned by the transmission line. For those locations where the floodplains are not avoidable, additional analysis of the proposed structures may be required by PADEP and MDE to confirm the activity will not create flooding conditions in the local area. No structures will be located in the floodway of any stream.

### **5.2.3 Threatened and Endangered Species**

During the siting process threatened and endangered species and habitat data were collected from those federal and state agencies that handle this information to understand the location of sensitive resources. Effort has already been made at this initial step to site the proposed route knowing where such resources are located. Coordination with state and federal agencies regarding potential threatened and endangered species will be initiated prior to commencing field surveys to ensure any necessary habitat or species specific survey are completed during the appropriate time of year. Transource is committed to obtain all necessary permits and approvals from the applicable jurisdictional agencies and comply with any conditions or requirements imposed on such permits.

### **5.2.4 Cultural Resources**

During the siting process cultural resources data were collected from both PHMC and MHT to understand the location of sensitive resources. Effort has already been made at this initial step to site the proposed route knowing where such resources are located, and working to avoid NRHP listed sites, and where possible avoiding eligible resources. Cultural resource coordination with the PHMC and MHT is underway and with selection of the proposed route Transource will further coordinate with the PHMC and MHT to determine an area of potential effect (APE) and complete the necessary surveys. Transource is committed to working with the PHMC and MHT to complete any required studies and address any potential impacts and required mitigation activities.

### **5.2.5 Community Features and Conserved Lands**

Community features, which include schools, daycare centers, churches, and cemeteries, were identified and effectively avoided during the route selection process. As such, none of these features are located along the Proposed Route and no impacts to these features are anticipated.

Conserved lands involve areas preserved as private or public open space. No private or public open space areas are located along the Proposed Route.

### 5.2.6 Anticipated Agency Requirements and Permits

In summation of the items reviewed above, several specific threatened and endangered species studies, wetland/stream studies, and archaeological surveys will need to be conducted that provide information on possible avoidance and impact areas along the Proposed Route.

Transource is committed to obtain all necessary permits and approvals from the applicable jurisdictional agencies and comply with any conditions or requirements imposed on such permits.

### 5.2.7 Review of County Comprehensive Plans and Municipal Level Zoning

Public utility features, such as transmission lines and substations are generally exempt from local municipal authority. To further the Commonwealth's goal of making agency actions consistent with sound land use planning by considering the impact of its decision upon local comprehensive plans and zoning ordinances, the Pennsylvania Public Utilities Commission (PUC) adopted a policy on January 11, 2001 that requires the public utility to review comprehensive land use plans and local zoning ordinances to evaluate the impact of proposed projects on these items (See 52 Pa. Code 69.1101, 31 Pa. Bull. 951 [Feb. 17, 2001]). In adherence to PUC regulations, Transource evaluated the proposed Furnace Run-Conastone 230 kV Transmission Line Project's (IEC East Project) consistency with the zoning ordinances and comprehensive plans of York County and associated municipalities through which the Project would pass

#### *Pennsylvania*

The York County Planning Commission (YCPC) was established in 1959 by the York County Board of Commissioners. The primary purpose for founding the Commission was to create a comprehensive plan to guide further growth and development in the County, as well as protect its important natural resources. The *York County Comprehensive Plan (Plan)* was adopted in 1992, but portions of the report have been updated as recently as 2011. It reflects York County's vision for the future and provides the basis for all other land use regulations, such as zoning ordinances and subdivision and land development ordinances. York County has experienced dramatic change over the past few decades that resulted in "sprawl, congestion, overburdened community facilities, and loss of important resources"; the plan aims to direct future growth in a way that will continue to make York County a desirable place to live (YCPC 2011).

The Plan is not intended to regulate and has no official authority, but all planning efforts at the municipal level are meant to be guided by the goals, objectives, and policies outlined within. The Plan listed the following three (3) goals:

1. To protect and preserve important natural resources,
2. To direct growth and development to appropriate locations, and
3. To facilitate coordinated planning at all levels of the government (YCPC 2011).

The Plan summarizes the existing resources in York County for which it has been designed to both manage and protect, while simultaneously promoting future growth and development. York County recognizes that in order to plan development and ensure protection of natural resources and natural areas, the public and developers must know the location and importance of these environmental features. The inventory of existing features within the County, including community facilities, is the basis upon which the Plan was developed.

The Plan is built on the idea of encouraging growth and development, while at the same time discouraging expansive or premature land development activity. York County seeks to conserve and enhance scenic historic and cultural resource areas and identified preservation areas (including agricultural lands, natural resources, parks, and recreation lands) while simultaneously promoting growth and economic development. The Plan contains specific Resource Reports that detail preservation efforts for each of these resources as they relate to development efforts.

The Plan also contains a specific *Land Use Plan* that reflects a desire to channel and contain development within appropriate growth areas, which are areas capable of providing a range of necessary services and infrastructure. York County lends itself to a “naturally-defined” land use plan where physical limitations have, to a large extent, directed and determined the existing land use patterns (YCPC 2011). Similarly, municipal zoning ordinances were based principally on physical limitations and portray a relatively cohesive and logical pattern of land use. The construction of the Project would result in a Utility Corridor, which York County sees as a potential public benefit, potentially resulting in the development of public recreation areas.

Since its adoption in 1992, the Plan has been well received throughout the County at the Municipal level. The Plan supports an improved working partnership between the County government and associated municipalities through the “Municipal Consulting Program” which promotes county/municipal plan consistency. As a result of this initiative, many of the townships within the County have developed or updated municipal zoning ordinances to incorporate the essence of the Plan, which is, “concentrating development within growth areas, coupled with [the] identification and protection of important open space and agricultural resources” (YCPC 2011). As of 2011, all of the Municipalities that will be crossed by the Project in Pennsylvania, including Lower Chanceford, Fawn, Hopewell Townships, all default to the County-wide Comprehensive Planning efforts.

## Township Zoning

Local zoning ordinances have been adopted in all three (3) of the townships that will be crossed by the Project in York County. These ordinances are used to guide future land use in the townships by encouraging development of desirable residential, commercial, agricultural, and industrial areas with appropriate groupings of compatible and related land uses. Ordinances for Fawn Township define the allowances and restrictions associated with the various zoning districts and specifically identify “Public Utility Building” and “Utility,” which include distribution, transmission, or collection systems associated with utilities such as water, gas, and electric, to be special exemptions from local regulations, as long as the required actions are approved by the PUC. Lower Chanceford and Hopewell Townships do not specifically address public utilities in their zoning ordinance documents.

### *Maryland*

Harford County’s first Master Plan was completed in 1969 and established the original vision for growth in the County. The current Plan adopted in 2016, HarfordNEXT, includes the following strategies and incorporates the State’s planning visions (Harford 2016):

1. Innovative development emphasizing sustainability.
2. Green infrastructure planning.
3. Promotion of our historical and cultural resources.
4. Collective impact model to establish health goals across various agencies and organizations.
5. Blue zone community.
6. Holistic transportation planning.

Per the State Legislation Article 66B, “Planning and Zoning” states: “The plan shall be made with the general purpose of guiding and accomplishing the coordinated, adjusted, and harmonious development of the jurisdiction, and its environs which will, in accordance with present and future needs, best promote health, safety, morals, order, convenience, prosperity, and general welfare, as well as efficiency and economy in the process of development; including among other things, adequate provisions for traffic, the promotion of public safety, adequate provision for light and air, conservation of natural resources, the prevention of environmental pollution, the promotion of the healthful and convenient distribution of population, the promotion of good civic design and arrangement, wise and efficient expenditure of public funds, and the adequate provision of public utilities and other public requirements” . .

Per the Harford County Zoning Code development is defined as “The construction, reconstruction, conversion, erection, alteration, relocation, or enlargement of any building or structure; any mining, excavation or landfill; and any land disturbance in preparation for any of the above”. For the purposes of this section, development *does not include* the construction, reconstruction, conversion, erection, alteration, relocation, enlargement, or installation of poles, wires, cables, conduits, transformers, and similar equipment by an electric company regulated by the Maryland Public Service Commission. In addition, per the Zoning Code the minimum yard and area requirements shall not apply to utility distribution lines and facilities regulated by the Maryland Public Service Commission (Harford 2017). The Proposed Route will traverse through land zoned as Agricultural (AG) per the Harford County zoning map. The Zoning Code does provide for exceptions in several districts for utility transmission facilities and this use is indicated within the Agricultural District permitted use chart.

<b>Table 10. Summary of Zoning and Comprehensive Plans within the Project Study Area</b>		
<b>COUNTY/TOWNSHIP</b>	<b>ZONING</b>	<b>COMPREHENSIVE PLAN</b>
York County		York County Comprehensive Plan (2011)
Lower Chanceford Township	Zoning Map (2016) and Ordinances	No Comprehensive Plan
Fawn Township	Zoning Map (2002) and Ordinances	No Comprehensive Plan
Hopewell Township	Zoning Map (2009) and Ordinances	No Comprehensive Plan
Harford County	Zoning Map (2017) and Code	HarfordNEXT, A Master Plan and the Next Generation (2016)

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## Appendix A: GIS Data Sources

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Appendix A: GIS Data Sources		
Siting Criteria	Source	Description
		<b>Land Use</b>
Number of parcels crossed by the ROW	York County GIS Office (2017), Harford County GIS Office (2017)	Count of the number of parcels crossed by the ROW
Number of residences within 500 feet of the route centerline	Digitized from NAIP Aerial Imagery (2015) and field verified from points of public access	Count of the number of residences within the ROW and within 100 feet, 250 feet and 500 feet of potential routes
Number of commercial buildings within 500 feet of the route centerline	Digitized from NAIP Aerial Imagery (2015) and field verified from points of public access	Count of the number of commercial buildings within the ROW and within 100 feet, 250 feet and 500 feet of potential routes
Land use acreage and distance crossed by the ROW and acreage within the 130 foot ROW over centerline	US Geological Survey NLCD 2012 Land Cover (2014) and review of NAIP Aerial Imagery (2015) for forest cover type	The NLCD 2012 (NLCD 2012) compiled by the Multi-Resolution Land Characteristics (MRLC) Consortium includes 15 classes of land cover from Landsat satellite imagery
Acres of conservation easements crossed	National Conservation Easement Database (NCED) (2016)	Private conservation easements crossed by the routes from the NCED which is comprised of voluntarily reported conservation easement information from land trusts and public agencies
Acres of county agricultural easement land crossed	York County GIS Office (2016), Harford County GIS Office (2017)	Protected land that is devoted exclusively to agricultural production or devoted to and qualified for compensation under a federal land retirement or conservation program that is at least 10 acres in size, or produces an average yearly gross income of at least \$2,500 during a 3-year period
Number of archeological resources within the ROW and within 65 feet	CRGIS (last updated December 2016); Medusa (last updated December 2016)	Previously identified archeological resources acquired through Pennsylvania's Cultural Resources Geographic Information System (CRGIS) and Maryland's Medusa System
Number of historic architectural resources within the ROW, within 1 mile	CRGIS (last updated December 2016); Medusa (last updated December 2016)	Previously identified historic architectural resource sites and districts listed or eligible on the NRHP acquired through Pennsylvania's Cultural Resources Geographic Information

Appendix A: GIS Data Sources		
Siting Criteria	Source	Description
		System (CRGIS) and Maryland's Medusa System
Institutional uses (schools, places of worship and cemeteries) within 1000 feet (schools and places of worship) or 250 feet (cemeteries and hospitals) of the route centerline	U.S. Geological Survey's GNIS (2016), York County GIS Office (2016), Harford County GIS Office (2009/2015)	This dataset includes the locations of cemeteries, churches, hospitals, parks, and schools. Features within 1000 feet (schools and places of worship) and 250 feet (cemeteries and hospitals) of potential routes were field verified.
Airfield and heliports within 1 mile of the route centerline	GNIS (2016) and the Federal Aviation Administration (FAA) database (2016) and field verified from points of public access	Distance from airfields and heliports
Natural Environment		
Forest clearing within the ROW	Digitized based on NAIP Aerial Imagery (2015)	Acres of forest within the ROW
Crossing of high quality streams	PADEP Chapter 93 water Quality Standards (2017) MDE Code of Maryland Regulations (COMAR) Sections 26.08.02.02 and 26.08.02.02-1 (2016)	Counts of streams with a designation of high quality or exceptional value
Number of National hydrography dataset (NHD) stream and waterbody crossings within the ROW	USGS (2016)	The NHD is a comprehensive set of digital spatial data prepared by the USGS that contains information about surface water features such as lakes, ponds, streams, rivers, springs and wells
Acres of National Wetland Inventory (NWI) wetland crossings within the ROW	U.S. Fish and Wildlife Service (USFWS) (2009)	The NWI produces information on the characteristics, extent, and status of the Nation's wetlands and deepwater habitats
Acres of 100-year floodplain	U.S. Federal Emergency and	Acres of 100-year floodplain within the ROW

<b>Appendix A: GIS Data Sources</b>		
<b>Siting Criteria</b>	<b>Source</b>	<b>Description</b>
crossing within the ROW	Management Agency (FEMA) York County (2015 – Latest Study Effective Date) Harford County (2016 – Latest LOMR Effective Date)	
Miles of public lands crossed by the route	Pennsylvania Spatial Data Access (PASDA) (2015/2016), Maryland GIS Office (2016), Harford County GIS Office (2014)	Miles of federal, state and local lands crossed by the ROW
Threatened, endangered, rare or sensitive species occurrence within the Project vicinity	Western Pennsylvania Conservancy (2014), PASDA (2015), Maryland DNR (2002/2008/2013)	Known occurrences; locations of potential habitat based on land use
Percent of hydric soils within the ROW	United States Department of Agriculture (USDA-NRCS), Natural Resources Conservation Service Soil Survey Geographic (SSURGO) Database (2015)	Percent of soil associations crossed by the ROW characterized as hydric, predominantly hydric, partially hydric and non-hydric
Percent of prime farmland soils and soils of statewide importance within the ROW	USDA-NRCS SSURGO Database (2015)	Percent of soil associations crossed by the ROW characterized as prime farmland or farmland of statewide importance
<b>Technical</b>		
Route length	Measured in GIS	Length of route in miles
Number and severity of angled structures	Developed in GIS	Anticipated number of angled structures < 3 degrees, 3 to 45 degrees and over 45 degrees based on preliminary design
Number of road crossings	ESRI (Environmental Systems Research Institute) road file (2010)	Count of federal, state and local roadway crossings

Appendix A: GIS Data Sources		
Siting Criteria	Source	Description
Number of pipeline crossings	POWERmap Gas Pipeline (2012)	Number of known pipelines crossed by the transmission ROW
Number of transmission line crossings	POWERmap existing transmission line system (2011)	Number of high voltage (100 kV or greater) transmission lines crossed by the ROW
Distance of steep slopes crossed	Derived from seamless Digital Elevation Models (DEMs) obtained from the U.S. Geologic Survey (2014)	Miles of slope greater than 20 percent crossed by the routes
Length of transmission line parallel	POWERmap existing transmission line system (2011)	Miles of the route parallel to existing high voltage transmission lines
Length of pipeline parallel	POWERmap Gas Pipeline (2012)	Miles of the route parallel to existing pipelines
Length of road parallel	ESRI road file (2010)	Miles of the route parallel to existing roadways



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## Appendix B: Agency Correspondence

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# **PENNSYLVANIA**

## **AGENCY CONSULTATION AND RESPONSES**



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Shawn Garvin, Regional Administrator  
 U.S. Environmental Protection Agency  
 Region 3  
 1650 Arch Street, Mail Code: 3RA00  
 Philadelphia, Pennsylvania 19103-2029

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Garvin,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation for the Project activities occurring Pennsylvania and Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties, and within Pennsylvania those municipalities, that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties and Municipalities</b>		
<b>Pennsylvania</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township
<b>Maryland</b>		
<b>West Route – Washington County</b>		<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Transource will continue to provide updates to the EPA as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with the first name being more prominent.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Lora Lattanzi, Project Leader  
 U.S. Fish & Wildlife Service  
 Pennsylvania Field Office, Northeast Region  
 110 Radnor Rd, Suite 101  
 State College, Pennsylvania 16801

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Ms. Lattanzi,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a Pennsylvania Natural Diversity Inventory (PNDI) request for review. Transource will continue to provide updates to the United States Fish and Wildlife Service (USFWS) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource

## **Brewster, Heather**

---

**From:** Dershem, Bonnie <bonnie\_dershem@fws.gov>  
**Sent:** Tuesday, April 04, 2017 1:10 PM  
**To:** Brewster, Heather  
**Subject:** Transource Project

Heather,

Please conduct a PNDI search for your project and follow the instructions. Follow the link below:  
<https://conservationexplorer.dcnr.pa.gov>

### **Bonnie**

**Bonnie Dershem**  
**Endangered Species Biologist**  
U.S. Fish and Wildlife Service  
**Pennsylvania Field Office**  
**110 Radnor Rd; Suite 101**  
**State College, PA 16801**  
**814-206-7453**





Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Wade Chandler, Chief Pennsylvania Section  
 U.S. Army Corps of Engineers  
 Baltimore District  
 Regulatory Branch  
 1631 South Atherton Street, Suite 102  
 State College, Pennsylvania 16801

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Chandler,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a pre-application meeting request. Transource will continue to provide updates to the United States Army Corps of Engineers (USACE) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933 2600 main

January 31, 2017

Daniel Naylor, Supervisor  
 Pennsylvania Department of Agriculture - Region 6  
 2301 North Cameron Street, Suite G-6  
 Harrisburg, Pennsylvania 17110-0184

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Naylor,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Transource will continue to provide updates to the Pennsylvania Department of Agriculture (PADA) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is written in a cursive style with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Ellen Shultzabarger, Division Chief  
 Pennsylvania Department of Conservation and Natural Resources  
 Conservation Science and Ecological Services Section  
 Rachel Carson State Office Building  
 400 Market Street, 6th Floor  
 Harrisburg, Pennsylvania 17105-8552

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Ms. Shultzabarger,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a Pennsylvania Natural Diversity Inventory (PNDI) request for review. Transource will continue to provide updates to the Pennsylvania Department of Conservation and Natural Resources (PADCNR) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is written in a cursive style with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource

## **Brewster, Heather**

---

**From:** Braund, Jaclyn <c-jbraund@pa.gov>  
**Sent:** Tuesday, February 07, 2017 12:45 PM  
**To:** Brewster, Heather  
**Subject:** Independence Energy Connection Transmission Line Project

Hi Heather,

I have received the Independence Energy Connection Transmission Line Project recently mailed to DCNR. At this time there is no further information I have to give to AECOM for the Project until the PNDI is completed. Please let me know if you need any assistance with the PNDI.

Thanks,

**Jaci Braund** | Ecological Information Specialist  
PA Department of Conservation & Natural Resources  
Bureau of Forestry | Natural Heritage Section  
400 Market Street | Harrisburg, PA 17105  
Phone: 717.214.3813 | Fax: 717.772.0271  
E-mail: [c-jbraund@pa.gov](mailto:c-jbraund@pa.gov)



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Joseph Adams, Regional Director  
 PA Department of Environmental Protection  
 South-central Regional Office  
 909 Elmerton Ave  
 Harrisburg, Pennsylvania 17110-8200

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Adams,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a pre-application meeting request. Transource will continue to provide updates to the Pennsylvania Department of Environmental Protection (PADEP) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.



Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

John Arway, Executive Director  
 Pennsylvania Fish and Boat Commission  
 Natural Diversity Section  
 1601 Elmerton Ave  
 Harrisburg, Pennsylvania 17106

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Arway,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

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<b>West Route – Franklin County</b>		<b>East Route – York County</b>
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Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a Pennsylvania Natural Diversity Inventory (PNDI) request for review. Transource will continue to provide updates to the Pennsylvania Fish and Boat Commission (PAFBC) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Bradley J. Meyers, Director  
 Pennsylvania Game Commission  
 Southcentral Region  
 8627 William Penn Highway  
 Huntingdon, Pennsylvania 16652

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Meyers,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

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<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a Pennsylvania Natural Diversity Inventory (PNDI) request for review. Transource will continue to provide updates to the Pennsylvania Game Commission (PGC) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Heather Brewster", with a long horizontal flourish extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Andrea L. MacDonald  
 Pennsylvania Historical & Museum Commission, Bureau Director  
 400 North Street  
 Commonwealth Keystone Building, 2<sup>nd</sup> Floor  
 Harrisburg, Pennsylvania 17120-0093

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Ms. MacDonald,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those municipalities that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Municipalities</b>		
<b>West Route – Franklin County</b>		<b>East Route – York County</b>
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a Project review request. Transource will continue to provide updates to the Pennsylvania Historic Museum Commission (PHMC) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



# Pennsylvania State Historic Preservation Office

PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

March 6, 2017

Heather Brewster  
AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

ER 2017-0726-042-A

Dear Ms. Brewster:

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

## Archaeological Resources

Both of the proposed focus areas contain a number of previously recorded archaeological sites. Please have an AECOM archaeological professional who has a secure password to archaeological site locations in our Cultural Resources Geographic Information system look at these areas before routes or alternative routes are selected.

## Above Ground Resources

A preliminary review of this project indicates that there may be National Register-eligible historic buildings, structures, districts, and objects in the project area. In order to facilitate the review process, project planners must conduct surveys to identify these resources (both previously identified and newly identified) before final plans are developed. For any new proposed structures/lines and/or those proposed structures that will increase in height above 20' from the existing average, please consult our *Guidelines for Projects with Potential Visual Effects in Pennsylvania (September 2014)* available from the "Forms and Guidance" page on our website: <http://www.phmc.pa.gov/Preservation> for instructions, including delineating an Area of Potential Effects, identifying historic properties, and assessing effects.

Given the size and/or complexity of the above listed project, a reconnaissance survey is necessary to characterize the age, style, and types of resources in the Area of Potential Effect (APE). The reconnaissance survey should also provide the methodology for more detailed (intensive) level survey to assess National Register eligibility of resources in the APE. More guidance on preparation of reconnaissance surveys is found in *Guidelines for Architectural Investigations in Pennsylvania (2014)*, available via our website: <http://www.phmc.pa.gov/Preservation/About/Documents/Architectural-Guidelines.pdf>

To assist you in your identification of known above ground resources, the State Historic Preservation Office (SHPO) maintains records of National Register listed and eligible and



previously identified resources. Information on many of these resources is available on our web based Cultural Resources Geographic Information System (CRGIS) <http://crgis.state.pa.us>. Additional information is available in the survey reports and files of the PHMC-BHP's research room. Please consult the unpublished reports and files to determine what is known in the project area and whether the previous survey information may require an update. In addition, a comparison of historic (available at [pennpilot.psu.edu](http://pennpilot.psu.edu)) and current aerial mapping would be useful for identifying changes to the landscape over time as well as additional resources within the project vicinity that meet the National Register 50-year-age consideration.

For larger or more complex projects, you may also want to consult with the appropriate staff reviewer on the delineation and justification of the boundary of the APE. Their contact information is listed below.

If you have any questions regarding archaeological resources, please contact me at 717-772-0925 or [dmclearn@pa.gov](mailto:dmclearn@pa.gov). If you have questions regarding above ground resources, please contact Cheryl L. Nagle at 717.772.4519 or [chnagle@pa.gov](mailto:chnagle@pa.gov).

Sincerely,

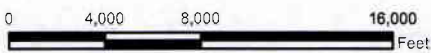


Douglas C. McLearn, Chief  
Division of Archaeology and Protection



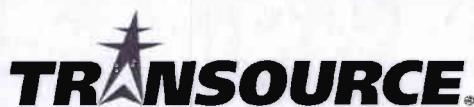
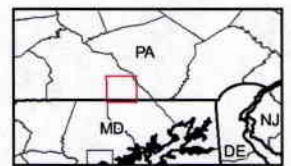
**Legend**

- Existing Transmission Lines
- Project Focal Area
- Municipal Boundary
- County Boundary
- State Boundary



Coordinate System:  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

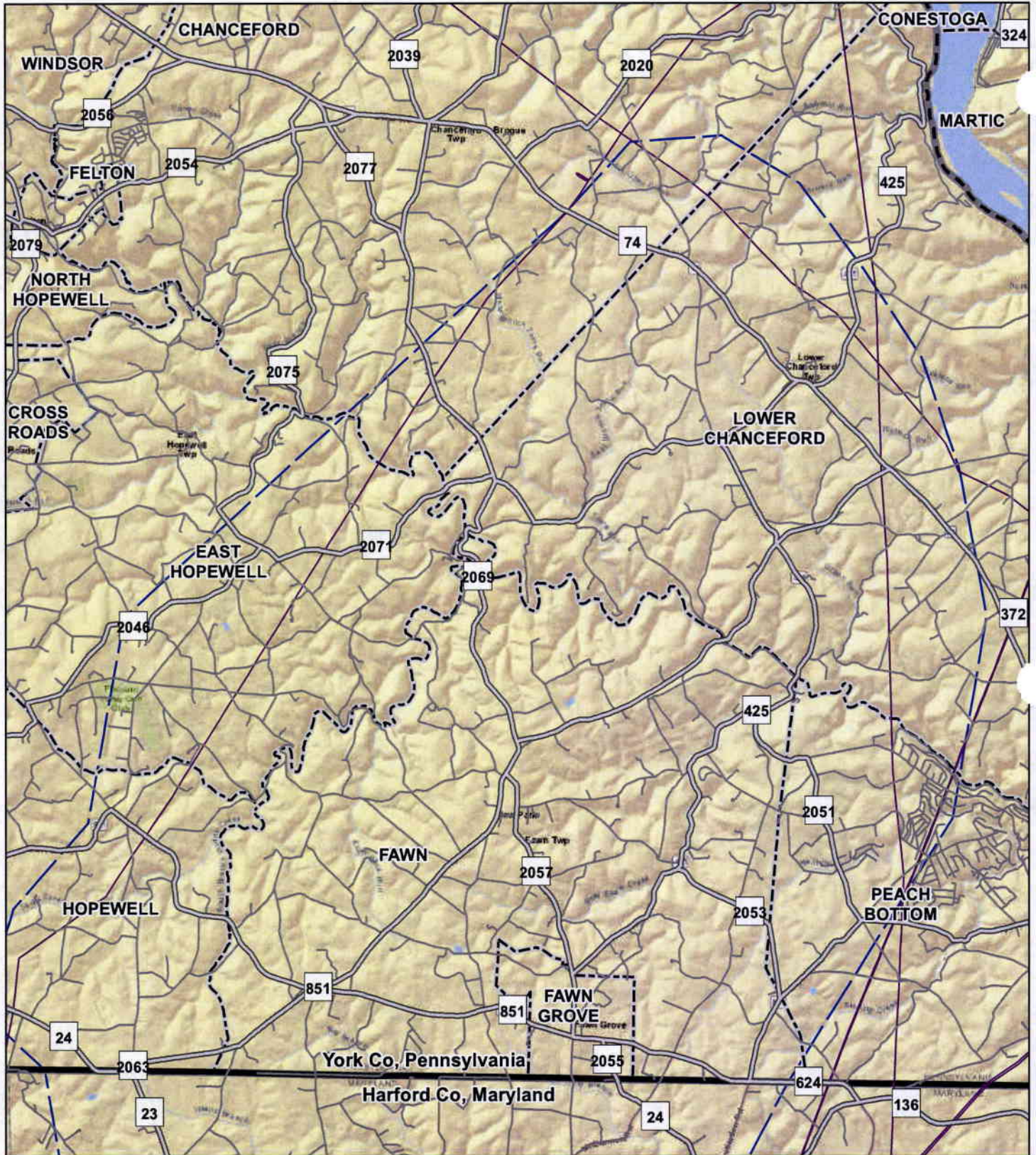
Data Sources:  
 Platts Power Map Transmission Line (2011)  
 USA Topo Maps (ESRI)



Job: 60529006
Prepared by: NB/BSF
Checked by: HB
Date: 1/27/2017

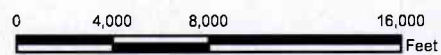
Independence Energy Connection - East  
 Transource, LLC  
 Focal Area - PA

Confidential - Draft Work Product



**Legend**

- Existing Transmission Lines
- Project Focal Area
- Municipal Boundary
- County Boundary
- State Boundary



**Coordinate System:**  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

**Data Sources:**  
 Platts Power Map Transmission Line (2011)  
 USA Topo Maps (ESRI)



Job: 60529006
Prepared by: NB/BSF
Checked by: HB
Date: 1/27/2017

Independence Energy Connection - East  
 Transource, LLC  
 Focal Area - PA  
 Confidential - Draft Work Product



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel: 614.933.2600 main

November 8, 2017

Hathaway Jones, Management Analyst  
United States Department of Agriculture  
Natural Resources Conservation Service  
359 East Park Drive, Suite 2  
Harrisburg, Pennsylvania 17111

**Subject: Transource Pennsylvania, LLC  
Independence Energy Connection Project  
Natural Resources Conservation Service Agricultural Easements  
York and Franklin Counties, Pennsylvania**

Dear Ms. Hathaway,

Transource Pennsylvania, LLC (Transource PA) is proposing to build two new transmission lines and two new substations in Pennsylvania as part of the Independence Energy Connection Project (Project). Transource PA was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border (Transource Maryland, LLC, an affiliate, is responsible for the construction of related facilities in Maryland). Transource PA will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as the East Route and the West Route. The West Route is approximately 29 miles (24 miles in Pennsylvania) and begins at the proposed Rice Substation in Franklin County, Pennsylvania, and extends to the existing Ringgold Substation in Washington County, Maryland. The East Route is approximately 16 miles (13 in Pennsylvania) starting at the proposed Furnace Run Substation in York County, Pennsylvania, and extends to the existing Conastone Substation in Harford County, Maryland. Both transmission lines will require a 130 foot wide right-of-way (ROW) for both installation and operation. At this time, Transource PA has announced proposed routes for this Project after working through the siting process and completing public open houses.

Transource PA is formally requesting the Natural Resources Conservation Service's (NRCS) review of the proposed routes in Pennsylvania as it relates to Stewardship Lands Easements, including those under the Agricultural Conservation Easement Program (ACEP), formerly referred to as the Farm and Ranch Lands Protection Program (FRPP). Per past correspondence with NRCS, Transource PA is providing the following requested information including parcels identified along the ROW of the proposed routes, mapping, shapefiles of the routes, and a summary table of the identified parcels.

Transource PA would like to clarify that at this time the information used to identify the parcel boundaries and landowners is based on public county tax parcel data. Civil survey of property lines and deed title search is pending to finalize this information. With the public announcement of the proposed routes, landowners within the 130 foot ROW, based on county parcel data, and those within close proximity were notified via certified mailing. Until parcel data can be verified using field information, additional parcels within close proximity of the routes have also been included with the provided information. Final collection of field surveyed parcel lines may determine whether these parcels can be avoided.

Enclosed with this request, Transource PA is providing the agricultural easement deeds for those properties along the proposed routes identified as having NRCS easements. Those documents are provided herein for NRCS's information.

We appreciate your review and assistance with this request. Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: Proposed Route Aerial Maps  
Shapefile of Proposed Routes w/Parcel Data  
List of Notified Landowner with Parcel Data  
Agricultural Easement Deeds

cc: Laurie Spears – Transource



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF AGRICULTURE

November 29, 2017

Ms. Laurie Spears  
Transource®  
Senior Siting Specialist  
8500 Smith Mill Road  
New Albany, OH 43054

Dear Ms. Spears:

**RE: The Independent Energy Connection project and potential impacts to farmland.**

It has come to my attention that Transource® is developing the Independence Energy Connection (IEC) project, to include a new overhead electric transmission project. I understand that the project will be built in two segments, East and West, and will include land primarily in Franklin and York counties in Pennsylvania, land that is some of the richest and most productive agricultural land in the world. This is of concern to me as agriculture is a leading economic endeavor in Pennsylvania. The agriculture industry contributes over \$75 billion to our economy statewide. Products grown and processed here provide food for our nation, support jobs and a diverse economy.

In addition, Pennsylvania leads the nation in farmland preservation through the purchase of permanent agricultural conservation easements—and both York and Franklin counties have two of the most robust programs in the state with more than 58,807 acres preserved. In fact, over \$107 million in public funds have been invested in preserving farmland in these two counties alone.

Farm owners have given up the right to use their properties for other uses in support of maintaining a thriving agricultural industry in this region. Many are now questioning how the Independent Energy Connection project will impact their farming operations and why there are no additional protections or considerations for preserved farms. Since farmland is open and cleared it is often viewed as path of least resistance by comparison to other impacted resources. However, it cannot be overstated that farmland is valuable to both the farm owners whose livelihood depends on it and to the taxpayers who have made significant investments in preserving it.

In summary, as Transource® prepares to file with the Public Utility Commission later this year, I urge you to be mindful of agriculture and particularly preserved farms in planning and siting of this project. Please feel free to contact Doug Wolfgang, Director of Farmland Preservation, at (717) 783-3167 if there are questions or you would like further discussion.

Sincerely,

A handwritten signature in blue ink that reads "Russell C. Redding".

Russell C. Redding  
Secretary

## **AGENCY EMAILS**

## **Brewster, Heather**

---

**From:** Jones, Hathaway - NRCS, Harrisburg, PA <Hathaway.Jones@pa.usda.gov>  
**Sent:** Thursday, August 31, 2017 11:43 AM  
**To:** Brewster, Heather  
**Subject:** Easements impacted by transource pipeline map  
**Attachments:** transource.pdf

Heather,  
Attached is the map showing the proposed pipeline and USDA/NRCS easements impacted. We are also showing easements in the proximity/close to the proposed pipeline in case the route changes in future.

Sincerely,

*Hathaway Jones*

Management Analyst  
USDA/NRCS  
359 East Park Drive, Suite 2  
Harrisburg, PA 17111  
717-237-2210

*USDA is an equal opportunity provider, employer, and lender*

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**From:** Dunn, Marcie - NRCS, Harrisburg, PA  
**Sent:** Thursday, August 31, 2017 11:30 AM  
**To:** Jones, Hathaway - NRCS, Harrisburg, PA <[Hathaway.Jones@pa.usda.gov](mailto:Hathaway.Jones@pa.usda.gov)>  
**Subject:** Easements impacted by transource pipeline map

*Marcie Dunn*  
GIS Specialist  
359 East Park Drive, Suite 2  
Harrisburg, PA 17111-2747  
USDA - NRCS  
(717)237-2246

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**MARYLAND**

## **AGENCY CONSULTATION AND RESPONSES**



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel: 614.933.2600 main

January 31, 2017

Shawn Garvin, Regional Administrator  
 U.S. Environmental Protection Agency  
 Region 3  
 1650 Arch Street, Mail Code: 3RA00  
 Philadelphia, Pennsylvania 19103-2029

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. Garvin,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation for the Project activities occurring Pennsylvania and Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties, and within Pennsylvania those municipalities, that fall within the Project focal areas.

Independence Energy Connection West and East Projects Counties and Municipalities		
Pennsylvania		
West Route – Franklin County		East Route – York County
Letterkenny Township	Quincy Township	Chanceford Township
Southampton Township	Mont Alto Borough	East Hopewell Township
Greene Township	Antrim Township	Hopewell Township
Chambersburg Borough	Greencastle Borough	Fawn Township
Hamilton Township	Washington Township	Fawn Grove Borough
Guilford Township	Waynesboro Borough	Peach Bottom Township
Maryland		
West Route – Washington County		East Route – Harford County

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Transource will continue to provide updates to the EPA as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is written in a cursive style with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
 8500 Smith Mill Road  
 New Albany, OH 43054  
 Tel. 614.933.2600 main

January 31, 2017

Joe DaVia, Chief, Maryland Section Northern  
 U.S. Army Corps of Engineers  
 Baltimore District  
 Regulatory Branch  
 10 South Howard Street  
 Baltimore, Maryland 21201-1715

**Subject: Transource, LLC  
 Independence Energy Connection Transmission Line Project**

Dear Mr. DaVia,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a formal pre-application meeting request. Transource will continue to provide updates to the United States Army Corps of Engineers (USACE) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource

## Brewster, Heather

---

**From:** Bole, Donald R CIV USARMY CELRP (US) <Donald.R.Bole@usace.army.mil>  
**Sent:** Wednesday, May 03, 2017 6:12 PM  
**To:** Brewster, Heather  
**Subject:** Independence Energy Connection Transmission Line Project

Ms. Brewster,

We have received your request for potential issues and/or constraints for the siting of transmission lines proposed for the Independence Energy Connection Transmission Line Project, located in Washington and Howard Counties, Maryland. We request that you strongly consider keeping wetland and stream impacts within the MDSPGP-5 thresholds. Generally, this is 2,000 lf of stream impact and 5,000 square feet of wetland impact; however, it depends on the activity type that your project falls under. If you exceed these thresholds, you will have to apply for an individual permit. To reduce stream and wetland impacts, you should consider bridges, steep side slopes, retaining walls and stream relocations opposed to filling/culverting. Also, consider using temporary construction road access bridges to span streams and wetlands. For any permanent roads, use of bridges to span streams and wetlands is preferred.

In addition, when considering alignments, please be aware of any ESA issues or historic/archeological sites. Based on your proposed footprint, part of your project may be within bog turtle habitat. As you are aware, we will need clearance for ESA and Section 106 of NHPA. Significant resources within the footprint of the project may significantly delay issuing a Department of the Army permit.

Also, it appears that part of your proposed project is within Pennsylvania. If you have impacts to jurisdictional streams and/or wetlands within Pennsylvania, you will need to coordinate with the Pennsylvania Section (State College). Wade Chandler is the Section Chief in Pennsylvania and his phone number is 814-235-0573.

If you have any additional questions, please don't hesitate to contact me. We strongly recommend a pre-application meeting with our office. If you want to have a pre-application meeting with our office before you finalize a route, we can be available.

Thanks,

Don

Donald R. Bole  
U.S. Army Corps of Engineers  
10 S. Howard Street  
Baltimore, MD 21201  
(410) 962-6079



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel: 614.933.2600 main

January 31, 2017

Genevieve LaRouche, Field Supervisor  
U.S. Fish & Wildlife Service  
Chesapeake Bay Field Office  
177 Admiral Cochrane Drive  
Annapolis, Maryland 21401

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Ms. LaRouche,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania, and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Franklin and York Counties, Pennsylvania. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a project specific consultation for review. Transource will continue to provide updates to the United States Fish and Wildlife Service (USFWS) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.



Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel: 614.933.2600 main

January 31, 2017

Denise Keehner, Program Manager  
Maryland Department of Natural Resources  
Wildlife Heritage and Environmental Review Unit  
1800 Washington Boulevard  
Baltimore, Maryland 21230

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Ms. Keehner,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

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Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

Independence Energy Connection West and East Projects	
West Route – Washington County	East Route – Harford County

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a formal Environmental Review Request. Transource will continue to provide updates to the Maryland Department of Natural Resources (MDNR) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: ~~Laurie Spears - Transource~~



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel: 614.933 2600 main

January 31, 2017

Louise Lawrence, Program Manager  
Maryland Department of Agriculture  
Office of Resource Conservation  
50 Harry S. Truman Parkway  
Annapolis, Maryland 21401

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Ms. Lawrence,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Transource will continue to provide updates to the Maryland Department of Agriculture (MDA) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel 614 933.2600 main

January 31, 2017

Lynn Buhl, Director  
Maryland Department of the Environment  
Water Management Administration  
Director Office  
1800 Washington Boulevard  
Baltimore, Maryland 21230

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Ms. Buhl,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a pre-application meeting request. Transource will continue to provide updates to the Maryland Department of Environment (MDE) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel: 614.933.2600 main

January 31, 2017

William Leahy, Executive Director  
Maryland Environmental Trust  
100 Community Place, 3<sup>rd</sup> Floor  
Crownsville, Maryland 21030-2023

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Mr. Leahy,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Transource will continue to provide updates to the Maryland Environmental Trust (MET) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.



Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Heather Brewster". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Transource, LLC  
8500 Smith Mill Road  
New Albany, OH 43054  
Tel 614.933.2600 main

January 31, 2017

Natalie Loukianoff, Preservation Officer  
Maryland Historical Trust  
100 Community Place, 3<sup>rd</sup> Floor  
Crownsville, Maryland 21030-2023

**Subject: Transource, LLC  
Independence Energy Connection Transmission Line Project**

Dear Ms. Loukianoff,

Transource Energy, LLC (Transource) is proposing to build two new transmission lines and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project (Project). Transource was awarded the Project by PJM in August of 2016 to address transmission congestion across the Pennsylvania and Maryland border. Transource will be seeking approval to construct the Project from the Pennsylvania Public Utilities Commission and the Maryland Public Service Commission. The Project is in the initial data gathering phase and Transource is seeking input from agencies to help assist in the siting of the new transmission lines.

The Project components include two new 230 kV double circuit overhead transmission lines and two new 500/230 kV substations. The two transmission lines are separated by approximately 50 miles and are designated as either the East Route or West Route. The West route is approximately 23 miles and begins at the proposed Rice Substation in Franklin County, Pennsylvania and extends to the existing Ringgold Substation in Washington County, Maryland. The East route is approximately 13 miles starting at the proposed Furnace Run Substation in York County, Pennsylvania and extends to the existing Conastone Substation in Harford County, Maryland.

Transource has retained AECOM to assist with the transmission line siting and state applications necessary for approval of the proposed Project. At this time, AECOM is requesting consultation specific to the Project activities occurring within Washington and Harford Counties, Maryland. The Project is in the preliminary siting stages and therefore focal areas have been identified for the purposes of this consultation. USGS and road maps depicting the approximate focal areas are included for reference. The table below identifies those counties that fall within the Project focal areas.

<b>Independence Energy Connection West and East Projects Counties</b>	
<b>West Route – Washington County</b>	<b>East Route – Harford County</b>

Transource and AECOM are looking to obtain information from your agency on potential issues and/or constraints within the identified focal areas that would need to be considered during the siting of the transmission lines. Any information that you could provide at this time, would be greatly appreciated. Once a formal route is selected, Transource will submit a formal project review request. Transource will continue to provide updates to the Maryland Historical Trust (MHT) as the Project progresses and more specific routes are identified. We appreciate your assistance as we work through this iterative process and will be looking to schedule a meeting with your agency to further discuss this Project in the coming months.

Please contact me at (610) 832-8819 if you have any questions or require additional information and please provide any response to my attention at the AECOM address provided below.

Yours sincerely,

A handwritten signature in blue ink that reads "Heather Brewster". The signature is written in a cursive style with a long horizontal stroke at the end.

Heather Brewster  
Project Manager  
heather.brewster@aecom.com

AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Enclosures: USGS Based Focal Area Map  
Road Based Focal Area Map

cc: Laurie Spears – Transource



Larry Hogan, Governor  
Boyd Rutherford, Lt. Governor

Wendi W. Peters, Secretary  
Ewing McDowell, Deputy Secretary

July 19, 2017

Ms. Heather Brewster  
AECOM  
625 West Ridge Pike, Suite E-100  
Conshohocken, PA 19428

Re: MHT Pre-Application Review of Proposed Transource Transmission Lines and Substations  
Independence Energy Connection Project – Harford and Washington Counties, Maryland

Dear Ms. Brewster:

Thank you for providing the Maryland Historical Trust (MHT) with preliminary information regarding the above-referenced undertaking. We understand that Transource Energy, LLC is proposing to build two new transmission lines (East Route and West Route) and two new substations in Pennsylvania and Maryland as part of the Independence Energy Connection Project. AECOM is working with Transource to gather preliminary siting information and to evaluate various transmission line route alternatives. As the proposed transmission lines will require a variety of federal and state permits and licenses from agencies such as the U.S. Army Corps of Engineers, the Maryland Department of the Environment, and the Maryland Department of Natural Resources, MHT staff are reviewing your submittal in accordance with Section 106 of the National Historic Preservation Act and the Maryland Historical Trust Act, §§ 5A-325 and 5A-326 of the State Finance and Procurement Article and would like to offer the following preliminary comments and recommendations.

Following our review of the two proposed focal areas identified in the initial project submittal, it is clear that the proposed transmission lines will pass through a number of locales containing inventoried historic properties, historic districts, and archeologically sensitive areas. MHT files indicate that literally dozens of archeological sites (both prehistoric and historic) and over 200 Maryland Inventory of Historic Properties sites are, in fact, located within the two focal areas that are outlined in your submittal. The East Focal Area contains one known archeological site and 66 properties that are included in the Maryland Inventory, while the West Focal Area contains 69 known archeological sites and 136 Maryland Inventory properties – including six that are listed on the National Register of Historic Properties.

Due to the presence of these historic properties, archeological and/or architectural studies may be necessary, depending upon the actual location of proposed route alignments and all potential impact areas. However, given the notably extensive nature of the current study areas, we are unable to provide specific recommendations at this time. We are therefore recommending that Transource and AECOM continue to coordinate with our office and send a cultural resources consultant to the MHT Library to conduct the necessary research and obtain all available information on the historic properties located within the proposed project's Area of Potential Effect. Our library is open to the public on Tuesdays, Wednesdays, and Thursdays by

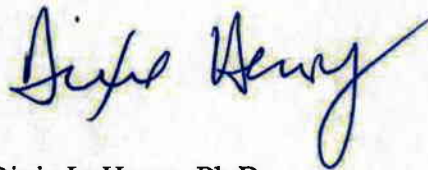
appointment only. To make an appointment, please contact Mary Louise de Sarran at 410-697-9546. Once this research has been completed, please submit the following information to our office for review:

- A detailed description of the proposed undertaking and its potential effects
- Transmission route maps for all alternatives being considered
- A clear delineation of the project's Area of Potential Effect (APE)
- A summary of the existing information on known and potential historic properties that may be affected by the undertaking
- Photographs (print or digital) of all structures that may be affected by the project

Upon our receipt of this information, we will continue our review of the undertaking and determine what architectural, historical, and archeological investigations will be necessary to identify and evaluate historic properties located within the project's APE. We would also recommend that AECOM and Transource contact the representatives from the Heart of the Civil War Heritage Area and involve them in this consultation, as a portion of this Heritage Area may be located within the West Focal Area. Elizabeth Scott Shatto is the Executive Director of the Heart of the Civil War Heritage Area, and she can be contacted at 301-600-4042.

We appreciate your effort to coordinate with our office early in the planning process, and we look forward to working with you to complete the historic preservation requirements for this undertaking. If you have any questions or require additional information, please do not hesitate to contact me at 410-697-9553 or [ie.henry@maryland.gov](mailto:ie.henry@maryland.gov).

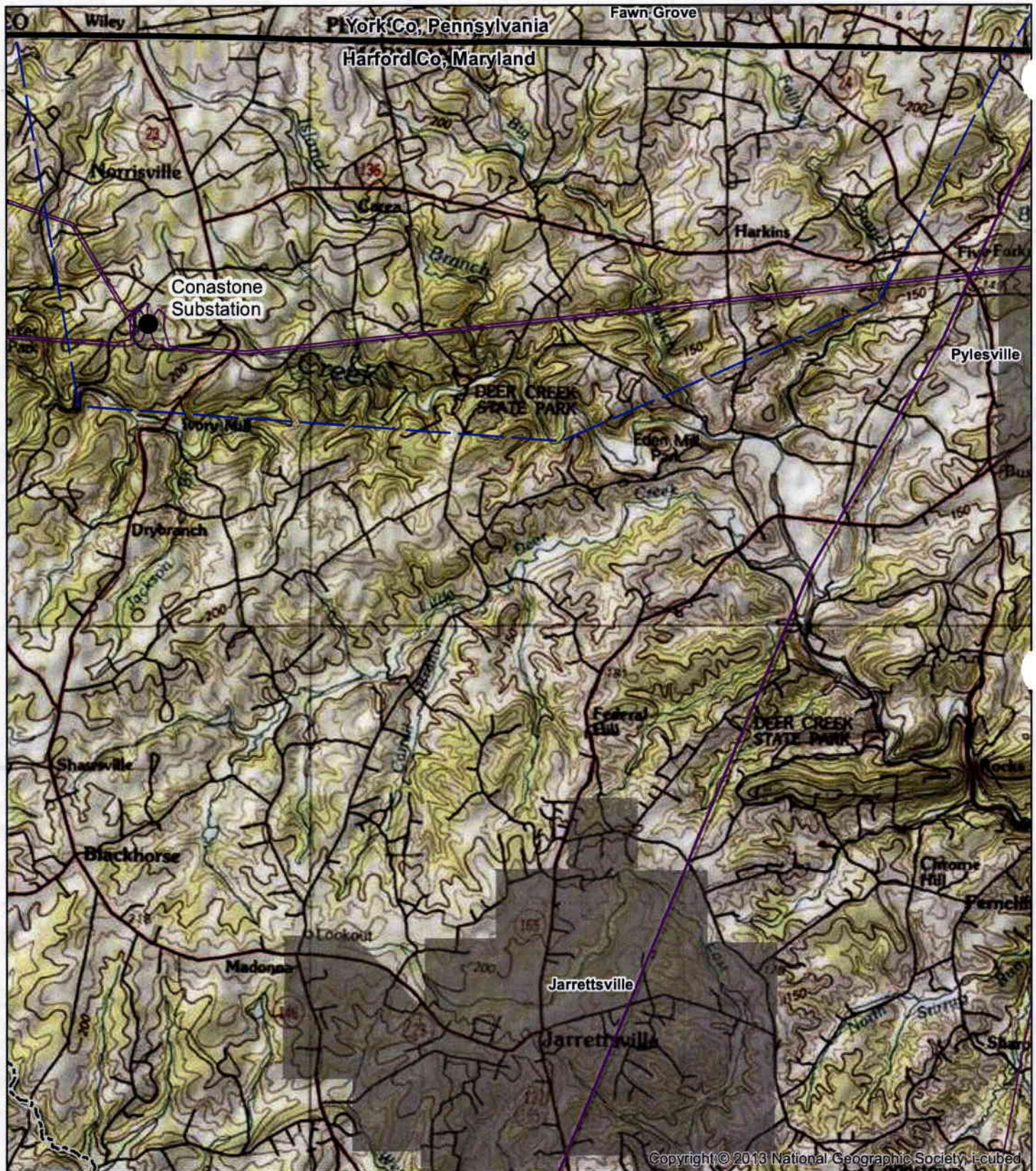
Sincerely,



Dixie L. Henry, Ph.D.  
Preservation Officer  
Maryland Historical Trust

DLH/201700452/201700453

Cc: Joe DaVia (COE)  
Steve Elinsky (COE)  
Maria Teresi (COE)  
Abbie Hopkins (COE)  
Jeff Thompson (MDE)  
Susan Gray (DNR)



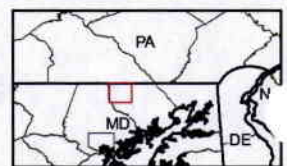
**Legend**

-  Substation
-  Existing Transmission Lines
-  Project Focal Area
-  County Boundary
-  State Boundary



**Coordinate System:**  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

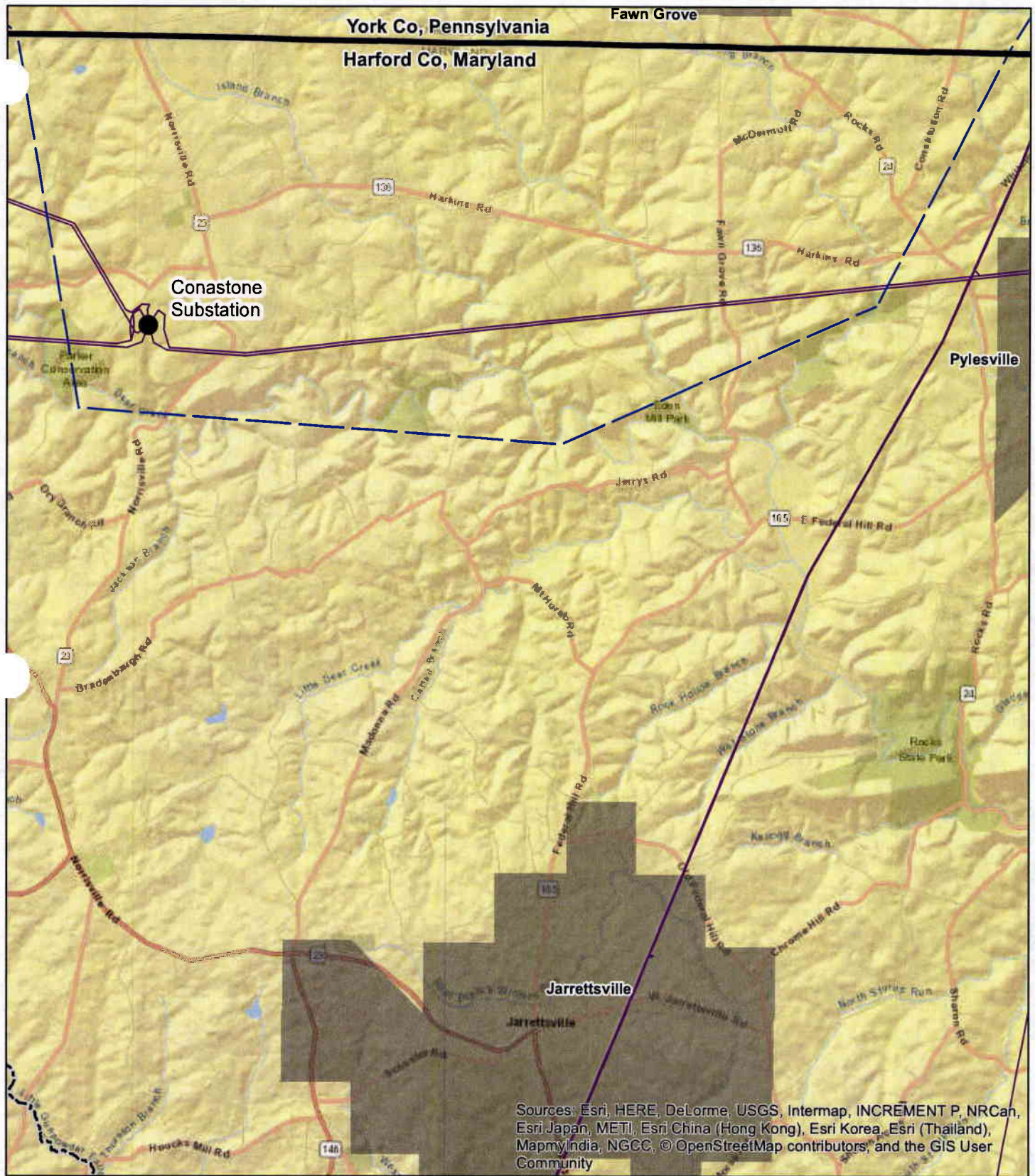
**Data Sources:**  
 Platts Power Map Transmission Line (2011)  
 USA Topo Maps (ESRI)



Job: 60528995  
 Prepared by: NB/BSF  
 Checked by: HB  
 Date: 1/27/2017

Independence Energy Connection - East  
 Transource, LLC  
 Focal Area - MD

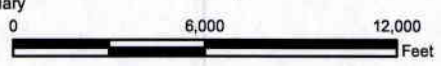
Confidential - Draft Work Product



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

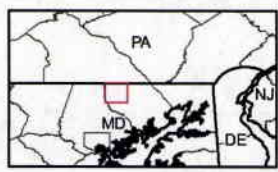
**Legend**

- Substation
- Existing Transmission Lines
- Project Focal Area
- County Boundary
- State Boundary



**Coordinate System:**  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

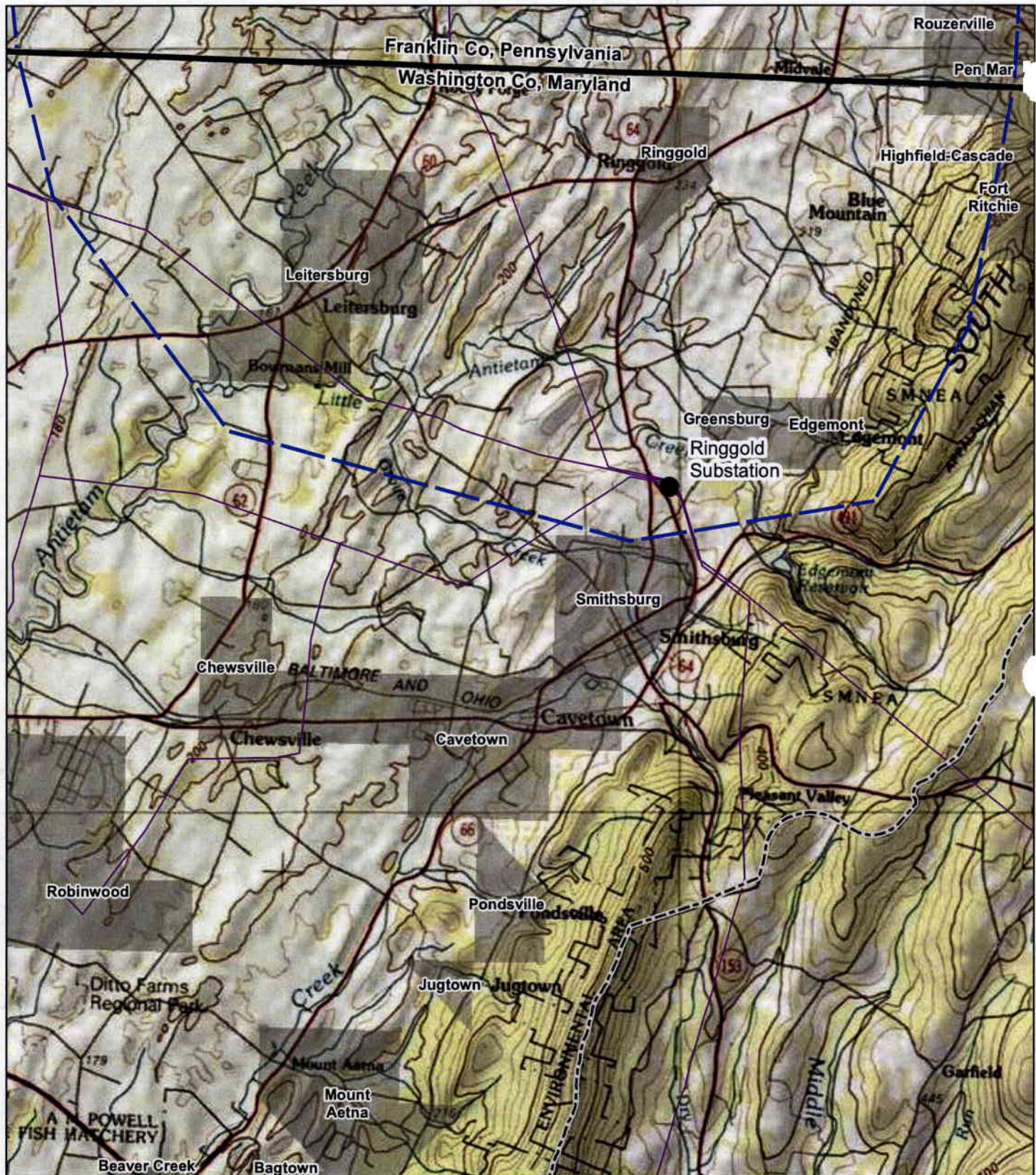
**Data Sources:**  
 Platts Power Map Transmission Line (2011)  
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Job: 60528995
Prepared by: NB/BSF
Checked by: HB
Date: 1/27/2017

Independence Energy Connection - East  
 Transource, LLC  
 Focal Area - MD

Confidential - Draft Work Product



**Legend**

-  Substation
-  County Boundary
-  Existing Transmission Lines
-  State Boundary
-  Project Focal Area



Coordinate System:  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

Data Sources:  
 Platts Power Map Transmission Line (2011)  
 USA Topo Maps (ESRI)

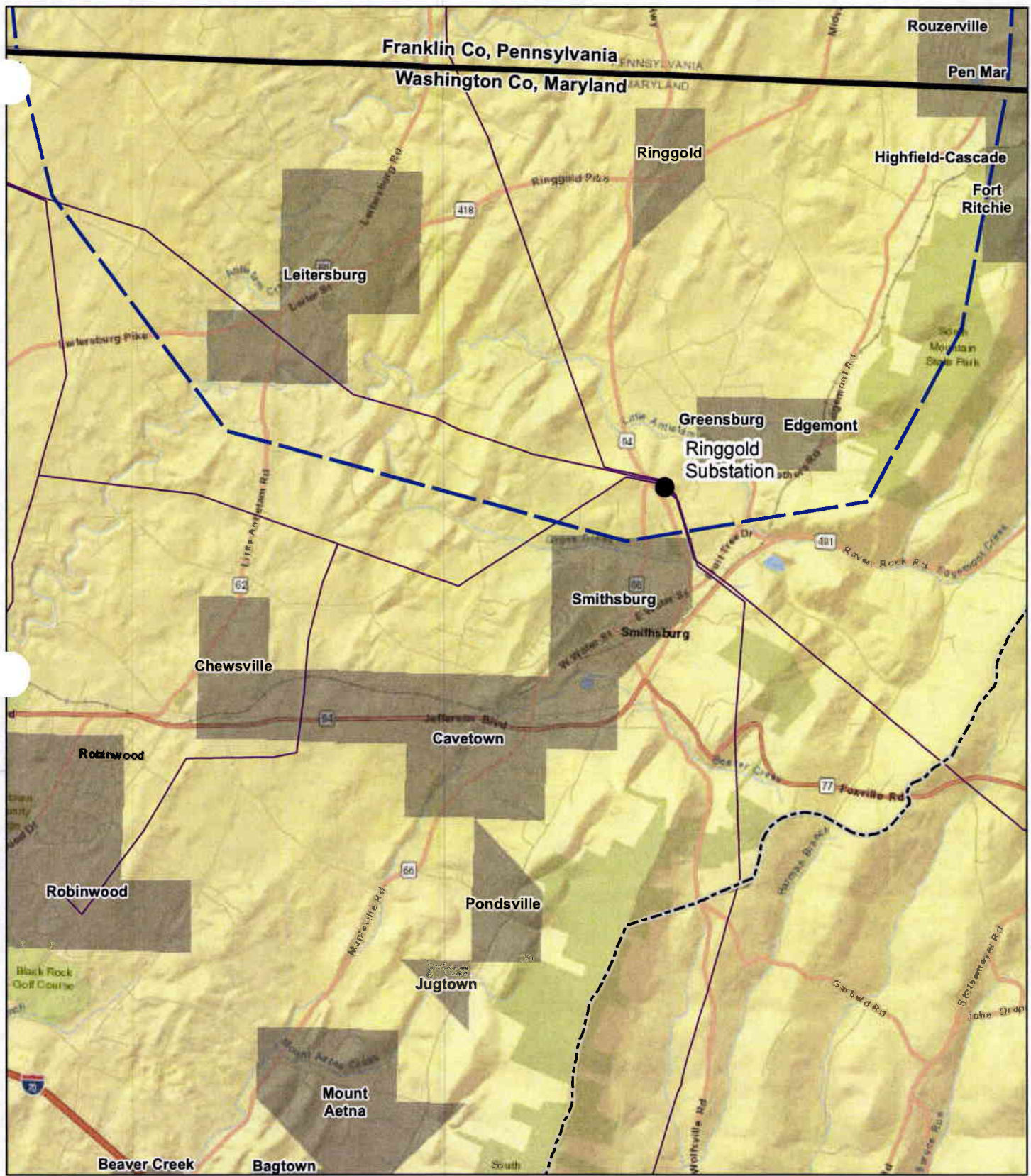


Job: 60528995
Prepared by: NB/BSF
Checked by: HB
Date: 1/30/2017

Independence Energy Connection - West  
 Transource, LLC  
 Focal Area - MD

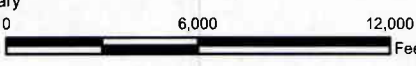
Confidential - Draft Work Product





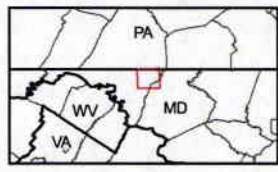
**Legend**

-  Substation
-  Existing Transmission Lines
-  Project Focal Area
-  County Boundary
-  State Boundary



**Coordinate System:**  
 NAD 1983 UTM Zone 18N  
 Projection: Transverse Mercator  
 Linear Unit: Meter

**Data Sources:**  
 Platts Power Map Transmission Line (2011)  
 USA Topo Maps (ESRI)



Job: 60528995
Prepared by: NB/BSF
Checked by: HB
Date: 1/30/2017

**Independence Energy Connection - West**  
 Transource, LLC  
 Focal Area - MD  
 Confidential - Draft Work Product

## **AGENCY EMAILS**

**From:** Frederick Kelley -DNR-  
**To:** [Laurie M Spears](#)  
**Subject:** [EXTERNAL] Re: Transource Project  
**Date:** Thursday, March 02, 2017 1:41:09 PM

---

**This is an EXTERNAL email. STOP. THINK before you CLICK links or OPEN attachments.**

---

Thanks Laurie,

I'll look to attend the March 10th at MDA; it'll be good to get back up to speed on the Transource Project.

I'll also keep tabs on the JE meetings; we usually receive notices of upcoming meeting agendas.

Thanks,  
Fred

On Mon, Feb 27, 2017 at 4:53 PM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:

Fred,

I'm sorry we missed you at our last meeting a few weeks ago. I wanted to give you a heads up that we are meeting with the Maryland Department of Agriculture on March 10 at 9 am at their offices in Annapolis (address below). I believe that some people from DNR may also attend but I haven't received a final headcount. You are more than welcome to attend that meeting with us if you would like.

We are also on the schedule for March 29<sup>th</sup> for the MDE Joint Evaluation Meeting at the Fish and Wildlife office in Annapolis. You are welcome to attend that one as well. There is a chance we may get bumped to a different day due to the schedule but right now we are on for the 29<sup>th</sup>. We should have a better idea of our time slot as it gets closer to the date.

Please let me know if you'll be able to attend any of these meetings or if you have any questions!

Thanks!

MDA Headquarters Address:

50 Harry S Truman Parkway

Annapolis, MD 21401

Laurie Spears

Sr. Siting Specialist

AEP Transmission

8500 Smith Mill Rd

New Albany, OH 43054

Office [\(614\)-933-2625](tel:(614)933-2625)

Cell [\(440\)-561-9202](tel:(440)561-9202)

Audinet 8-290-2625

[lmspears@aep.com](mailto:lmspears@aep.com)



MD Logo.png



[dnr.maryland.gov](http://dnr.maryland.gov)

**Frederick S. Kelley**  
Power Plant Research Program  
Department of Natural Resources  
Tawes Building B-3  
Annapolis, MD 21401  
410-260-8672 (office)  
410-260-8670 (fax)  
[frederick.kelley@maryland.gov](mailto:frederick.kelley@maryland.gov)

Visit us on the web at -  
<http://dnr.maryland.gov/pprp>

[Click here](#) to complete a three question customer experience survey.

**From:** Frederick Kelley -DNR-  
**To:** [Laurie M Spears](#)  
**Subject:** [EXTERNAL] Re: Notification zone  
**Date:** Friday, March 31, 2017 4:03:03 PM

---

This is an EXTERNAL email. STOP. THINK before you CLICK links or OPEN attachments.

---

Hi Laurie,

500 feet sounds fine to us for this first round of notice. Will Transource eventually host any sort of informational website about the project? That might be good for sharing updates about the project as it progresses.

Have a great weekend,  
Fred

On Fri, Mar 31, 2017 at 12:55 PM Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:

Hi Fred,

In follow up to our discussion earlier this week, is 500 feet on either side of centerline (1,000 ft corridor) sufficient from your perspective for the first round of open houses? We are up to 304 parcels on the west side and 359 parcels

on the east side. Let me know your thoughts!

Thank You!

Laurie Spears

Sr. Siting Specialist

AEP Transmission

8500 Smith Mill Rd

New Albany, OH 43054

Office (614)-933-2625

Cell (440)-561-9202

Audinet 8-290-2625

[lmspears@aep.com](mailto:lmspears@aep.com)

**From:** [Laurie M Spears](#)  
**To:** [Frederick Kelley \(frederick.kelley@maryland.gov\)](mailto:frederick.kelley@maryland.gov)  
**Subject:** Transource Data  
**Date:** Tuesday, May 02, 2017 11:38:00 AM

---

Fred,

I received a copy of the executed NDA and we are putting together the GIS files now. We plan to overnight you a CD with all the information and our study segments so you and your team can review. I am hoping to set up another in-person meeting with you before our open houses (June timeframe). Do you think that Thursday, May 18<sup>th</sup> would work for you and your team? I'm thinking a 2 hour meeting would probably be sufficient given the relatively short lengths in Maryland. Let me know your thoughts and if another date works better for your team.

Thank you!

Laurie Spears  
Sr. Siting Specialist  
AEP Transmission  
8500 Smith Mill Rd  
New Albany, OH 43054  
Office (614)-933-2625  
Cell (440)-561-9202  
Audinet 8-290-2625  
[lmspears@aep.com](mailto:lmspears@aep.com)



**BOUNDLESS ENERGY™**

**From:** Frederick Kelley -DNR-  
**To:** [Laurie M Spears](#)  
**Subject:** Re: [EXTERNAL] Re: Transource Data  
**Date:** Monday, May 08, 2017 10:51:44 AM

---

I'll look to get an invite out by the end of the day. Yes, data CD received and already under review by our integrators.

Thanks,  
Fred

On Mon, May 8, 2017 at 8:24 AM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:

That works great for us! Thanks Fred!

Did you receive the shapefiles last week?

Laurie Spears

Sr. Siting Specialist

AEP Transmission

8500 Smith Mill Rd

New Albany, OH 43054

Office [\(614\)-933-2625](tel:6149332625)

Cell [\(440\)-561-9202](tel:4405619202)

Audinet 8-290-2625

[lmspears@aep.com](mailto:lmspears@aep.com)



BOUNDLESS ENERGY™



**From:** Frederick Kelley -DNR- [mailto:[frederick.kelley@maryland.gov](mailto:frederick.kelley@maryland.gov)]  
**Sent:** Friday, May 05, 2017 5:02 PM  
**To:** Laurie M Spears  
**Subject:** Re: [EXTERNAL] Re: Transource Data

I think Monday works best for most folks on PPRPs end. How about 2PM? If so I'll send around an invite and follow up with logistics.

Thanks,

Fred

On Fri, May 5, 2017 at 2:47 PM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:

Hi Fred,

Would Monday the 22<sup>nd</sup> or Tuesday the 23<sup>rd</sup> work for you?

Laurie

**From:** Frederick Kelley -DNR- [mailto:[frederick.kelley@maryland.gov](mailto:frederick.kelley@maryland.gov)]  
**Sent:** Tuesday, May 02, 2017 3:30 PM  
**To:** Laurie M Spears  
**Subject:** [EXTERNAL] Re: Transource Data

This is an EXTERNAL email. STOP. THINK before you CLICK links or OPEN attachments.

Thanks, I'll look forward to receiving it.

18th is in a very busy week for us; how about the following week?

Fred

On Tue, May 2, 2017 at 11:38 AM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:

Fred,

I received a copy of the executed NDA and we are putting together the GIS files now. We plan to overnight you a CD with all the information and our study segments so you and your team can review. I am hoping to set up another in-person meeting with you before our open houses (June timeframe). Do you think that Thursday, May 18<sup>th</sup> would work for you and your team? I'm thinking a 2 hour meeting would probably be sufficient given the relatively short lengths in Maryland. Let me know your thoughts and if another date works better for your team.

Thank you!

Laurie Spears

Sr. Siting Specialist

AEP Transmission

8500 Smith Mill Rd

New Albany, OH 43054

Office [\(614\)-933-2625](tel:6149332625)

Cell [\(440\)-561-9202](tel:4405619202)

Audinet 8-290-2625

[lmspears@aep.com](mailto:lmspears@aep.com)





--

	<p><b>Frederick S. Kelley</b> Power Plant Research Program Department of Natural Resources Tawes Building B-3 Annapolis, MD 21401 <a href="tel:410-260-8672">410-260-8672</a> (office) <a href="tel:410-260-8670">410-260-8670</a> (fax) <a href="mailto:frederick.kelley@maryland.gov">frederick.kelley@maryland.gov</a></p>
 <a href="http://dnr.maryland.gov">dnr.maryland.gov</a>	<p>Visit us on the web at - <a href="http://dnr.maryland.gov/pprp">http://dnr.maryland.gov/pprp</a></p>

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--

	<p><b>Frederick S. Kelley</b> Power Plant Research Program Department of Natural Resources Tawes Building B-3 Annapolis, MD 21401 <a href="tel:410-260-8672">410-260-8672</a> (office) <a href="tel:410-260-8670">410-260-8670</a> (fax) <a href="mailto:frederick.kelley@maryland.gov">frederick.kelley@maryland.gov</a></p>
 <a href="http://dnr.maryland.gov">dnr.maryland.gov</a>	<p>Visit us on the web at - <a href="http://dnr.maryland.gov/pprp">http://dnr.maryland.gov/pprp</a></p>

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Laurie - I have put a hold the downstairs conference room for July 14 at 1.

On Thu, Jun 22, 2017 at 10:10 AM, Carol West -MDA-  
<[carol.west@maryland.gov](mailto:carol.west@maryland.gov)> wrote:

I will work on securing a conference room. Say 1?

On Thu, Jun 22, 2017 at 10:08 AM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)>  
wrote:  
Carol,

The only day we would be able to get out there would be Friday the 14<sup>th</sup>. I agree Bill is important to have at that meeting. If we can reschedule to the 14<sup>th</sup> in the morning, I think that will work just fine.

Thanks!

Laurie Spears  
Sr. Siting Specialist  
AEP Transmission  
8500 Smith Mill Rd  
New Albany, OH 43054  
Office [\(614\)-933-2625](tel:614-933-2625)  
Cell [\(440\)-561-9202](tel:440-561-9202)  
Audinet 8-290-2625  
[lmspears@aep.com](mailto:lmspears@aep.com)



**From:** Carol West -MDA- [mailto:[carol.west@maryland.gov](mailto:carol.west@maryland.gov)]  
**Sent:** Thursday, June 22, 2017 10:01 AM  
**To:** Laurie M Spears  
**Subject:** [EXTERNAL] Re: Transource Independence Energy Connection

This is an EXTERNAL email. STOP. THINK before you CLICK links or OPEN attachments.

Laurie - Bill Amoss, Harford County Program Administrator is on vacation the week of July 4 and is asking if we can reschedule to the following week. I would have no problem with that. He is an important player in this.

I am available on July 11 - 14 at any time.

On Mon, Jun 19, 2017 at 3:09 PM, Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)> wrote:  
Carol,

In follow up to our meeting on March 10, we are hoping to set up a time to meet with you and your team to give you an update on the Independence project. As you may recall, we are proposing to build two new transmission lines in Washington and Harford Counties. We held 6 open houses over the last two weeks in which we presented our study segments to the public to get feedback. We are hoping to give you an update on those open houses and talk about next steps. Would you and your team be available July 6 or 7<sup>th</sup> to have a meeting? I would think an hour and a half would be sufficient. Let us know if a time works for you or if we need to find a different day.

Thanks and we look forward to meeting with you again!

Laurie Spears  
Sr. Siting Specialist  
AEP Transmission  
8500 Smith Mill Rd  
New Albany, OH 43054  
Office [\(614\)-933-2625](tel:(614)933-2625)  
Cell [\(440\)-561-9202](tel:(440)561-9202)  
Audinet 8-290-2625  
[lmspears@aep.com](mailto:lmspears@aep.com)



***Carol S. West***

Executive Director, MALPF  
Maryland Department of Agriculture  
50 Harry S. Truman Parkway, Room 104  
Annapolis, Maryland 21401

Office: [410-841-5860](tel:410-841-5860)  
Fax: [410-841-5730](tel:410-841-5730)  
<http://mda.maryland.gov/malpf>

Visit Our Website at: [www.mda.maryland.gov](http://www.mda.maryland.gov)

**From:** [Laurie M Spears](#)  
**To:** [Frederick Kelley \(frederick.kelley@maryland.gov\)](mailto:frederick.kelley@maryland.gov)  
**Subject:** Transource IEC Project  
**Date:** Monday, June 19, 2017 2:58:00 PM

---

Hi Fred,

Thanks again for stopping by our open houses last week. I think they went really well and we have gotten some great input. One item did come up that I think we should look into a little further and I'm hoping you can help me coordinate. A few landowners around Conastone mentioned they were working with MD DNR and USFWS to preserve bog turtle habitat. I think it's pretty critical to understand what is being proposed and where before we go too much further in siting. Do you think you could help coordinate a meeting or at least point us to the right person so we can set up a call to discuss? If these areas are being put into conservation easements, that would be good to know. Let me know how you want to proceed.

Thanks!

Laurie Spears  
Sr. Siting Specialist  
AEP Transmission  
8500 Smith Mill Rd  
New Albany, OH 43054  
Office (614)-933-2625  
Cell (440)-561-9202  
Audinet 8-290-2625  
[lmspears@aep.com](mailto:lmspears@aep.com)



BOUNDLESS ENERGY™

**From:** Kelly Neff -MDE-  
**To:** [Elinsky, Stephen M CIV USARMY CENAB \(US\)](mailto:Elinsky, Stephen M CIV USARMY CENAB (US))  
**Cc:** [Laurie M Spears](mailto:Laurie M Spears)  
**Subject:** [EXTERNAL] Re: Transource Independence Project (UNCLASSIFIED)  
**Date:** Thursday, July 13, 2017 9:20:53 AM

---

**This is an EXTERNAL email. STOP. THINK before you CLICK links or OPEN attachments.**

---

MDE did a large mitigation site using Nontidal Wetland Compensation Fund money on the Lynn Farm property.

Kelly P. Neff  
Maryland Department of the Environment  
Wetlands and Waterways Program  
Mitigation and Technical Assistance Section, Chief  
1800 Washington Blvd., Suite 430  
Baltimore, MD 21230-1708  
(Phone) 410-537-4018  
(Fax) 410-537-3751  
[Kelly.Neff@Maryland.gov](mailto:Kelly.Neff@Maryland.gov)

On Wed, Jul 12, 2017 at 2:18 PM, Elinsky, Stephen M CIV USARMY CENAB (US) <[Steve.Elinsky@usace.army.mil](mailto:Steve.Elinsky@usace.army.mil)> wrote:

CLASSIFICATION: UNCLASSIFIED

Hi Laurie,

I'm unfamiliar with the site. However, I made a few calls and found out that MDE used the site for restorations and/or enhancements under their fee in lieu program. Kelly Neff from MDE who has been copied knows about the site and can answer your questions.

Thanks,

Steve

Steve Elinsky  
Biologist  
U.S. Army Corps of Engineers - Baltimore District  
Regulatory Branch - Maryland Section Northern  
[410.962.4503](tel:410.962.4503)

-----Original Message-----

From: Laurie M Spears [mailto:[lmspears@aep.com](mailto:lmspears@aep.com)]  
Sent: Wednesday, July 12, 2017 1:05 PM  
To: Elinsky, Stephen M CIV USARMY CENAB (US) <[Steve.Elinsky@usace.army.mil](mailto:Steve.Elinsky@usace.army.mil)>  
Subject: [Non-DoD Source] Transource Independence Project

Hi Steve,

I wanted to follow up with you on a public comment we received at the open house. A landowner in Harford County stated they had an "old" wetland mitigation bank on their property (name is Jeffrey Lynn). Are you aware of any wetland mitigation banks in Harford County that we need to consider? This particular one is close to the MD/PA border. Any additional information that you have would be helpful!

Thanks!

Laurie Spears

Sr. Siting Specialist

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8500 Smith Mill Rd

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[lmspears@aep.com](mailto:lmspears@aep.com) <<mailto:lmspears@aep.com>>

CLASSIFICATION: UNCLASSIFIED

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## **Brewster, Heather**

---

**From:** Carol West -MDA- <carol.west@maryland.gov>  
**Sent:** Wednesday, August 23, 2017 9:52 AM  
**To:** Brewster, Heather  
**Subject:** Re: Transource IEC - Maryland Parcels with Ag Easements  
**Attachments:** Transource IEC MD\_ Agricultural Easements.xlsx

Heather - I was able to partially complete your chart. For the ones that I am not sure of, I reached out to the Harford and Washington County administrators. I have not heard back from the, so I am attaching my partially completed list. Hope this helps. If I get anything back from the administrators, I will forward it to you.

On Thu, Aug 17, 2017 at 3:42 PM, Brewster, Heather <[Heather.Brewster@aecom.com](mailto:Heather.Brewster@aecom.com)> wrote:

Carol,

Just checking in to see how your progress is going assisting us with pulling the preservation deeds for the properties we provided to you. Any update is appreciated and if you have any questions or require anything from us, please just let me now. Thank you in advance.

**Thank you ~Heather Brewster**

**610-832-8819**

---

**From:** Brewster, Heather  
**Sent:** Thursday, August 03, 2017 3:38 PM  
**To:** 'carol.west@maryland.gov'  
**Cc:** Laurie M Spears  
**Subject:** Transource IEC - Maryland Parcels with Ag Easements

Carol,

Per my voicemail yesterday, on behalf of Laurie Spears/ Transource and their Independence Energy Connection Project, I am providing the attached list of parcels containing an Agricultural Easement in Washington and Harford Counties. At the last meeting held with Maryland Dept. of Agriculture, it was indicated you would be able to assist with pulling the easements for these parcels. With those easements in hand we can start identifying any easement language specific to limitations etc..for these parcels. If there is any additional information you would like to assist you in this effort, please just let me know.

**Thank you. ~Heather**

**Heather Brewster**

Associate Vice President

AECOM Environment

☎ [610-832-8819](tel:610-832-8819) (direct line)

✉ [heather.brewster@aecom.com](mailto:heather.brewster@aecom.com)

📱 [215.869.4137](tel:215.869.4137) (mobile)

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***Carol S. West***

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104  
Annapolis, Maryland 21401

Office: [410-841-5860](tel:410-841-5860)  
Fax: [410-841-5730](tel:410-841-5730)

## Brewster, Heather

---

**From:** Davis, Tiffany - NRCS, Annapolis, MD <Tiffany.Davis@md.usda.gov>  
**Sent:** Wednesday, September 06, 2017 11:05 AM  
**To:** Brewster, Heather  
**Cc:** Byam, Jackie - NRCS, Annapolis, MD; Esbensen, Gretchen - NRCS, Annapolis, MD; Jones, Hathaway - NRCS, Harrisburg, PA  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Heather,

The Maryland GIS Specialist has reported both projects are all clear of FRPP in Maryland.

M. Tiffany Davis  
Farm Bill Program Specialist (Easements)  
339 Busch's Frontage Rd, Suite 301  
Annapolis, MD 21409  
Natural Resources Conservation Service  
United States Department of Agriculture  
<http://www.md.nrcs.usda.gov>  
Desk Telephone 443-482-2960  
Cell Telephone 443-477-1227

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---

**From:** Brewster, Heather [mailto:Heather.Brewster@aecom.com]  
**Sent:** Tuesday, September 05, 2017 2:35 PM  
**To:** Davis, Tiffany - NRCS, Annapolis, MD <Tiffany.Davis@md.usda.gov>  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Tiffany,

Reaching out to see if you can be of any assistance with review of the shapefiles I provided last week for Non-Stewardship properties in Washington and Harford Counties. We checked the NRCS webviewer for Stewardship properties and avoided the one in Washington County. If you have any questions let me know and we appreciate any assistance.

**Thank you ~Heather Brewster**  
**610-832-8819**

---

**From:** Brewster, Heather  
**Sent:** Thursday, August 31, 2017 12:00 PM  
**To:** Davis, Tiffany - NRCS, Annapolis, MD  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Tiffany,

We have been working with Hathaway regarding PA NRCS easements. Transource would like NRCS MD to review their current Study Segments for the Independence Energy Connection electric transmission line project. We have researched the NRCS viewer for the Stewardship lands and are aware of those locations. However, we do want to get input for the additional data from 1996-2016 Non-

Stewardship easements. The attached shapefiles provide our Study Segments along with a 1,000 foot buffer that we would appreciate NRCS review on.

Next week we will be in the process of making some final decisions in regards to routing. Any information from NRCS would be greatly appreciated. If you have any questions about the attached information please let me know.

**Thank you ~Heather Brewster**  
**610-832-8819**

---

**From:** Jones, Hathaway - NRCS, Harrisburg, PA [<mailto:Hathaway.Jones@pa.usda.gov>]  
**Sent:** Thursday, August 31, 2017 11:35 AM  
**To:** Brewster, Heather  
**Cc:** Davis, Tiffany - NRCS, Annapolis, MD  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Our review only covers easements in PA. You'll want to talk to Tiffany Davis – cc'd above.

Thanks.

Sincerely,

*Hathaway Jones*

Management Analyst

USDA/NRCS

359 East Park Drive, Suite 2

Harrisburg, PA 17111

717-237-2210

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---

**From:** Brewster, Heather [<mailto:Heather.Brewster@aecom.com>]  
**Sent:** Thursday, August 31, 2017 10:48 AM  
**To:** Jones, Hathaway - NRCS, Harrisburg, PA <[Hathaway.Jones@pa.usda.gov](mailto:Hathaway.Jones@pa.usda.gov)>  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Hathaway,

Does your review only cover PA? If so, who in MD do I touch base with for a similar review?

**Thank you ~Heather Brewster**  
**610-832-8819**

---

**From:** Jones, Hathaway - NRCS, Harrisburg, PA [<mailto:Hathaway.Jones@pa.usda.gov>]  
**Sent:** Thursday, August 31, 2017 8:46 AM  
**To:** Brewster, Heather  
**Cc:** Laurie M Spears  
**Subject:** RE: Transource - PA NRCS - Shapefiles for Review

Heather,

Good morning. The GIS staff has mapped the shape files of the pipeline.

The proposed pipeline intersects 16 federal agricultural land preservation easements.

Sincerely,

*Hathaway Jones*

Management Analyst  
USDA/NRCS  
359 East Park Drive, Suite 2  
Harrisburg, PA 17111  
717-237-2210  
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---

**From:** Brewster, Heather [<mailto:Heather.Brewster@aecom.com>]  
**Sent:** Tuesday, August 29, 2017 11:12 AM  
**To:** Jones, Hathaway - NRCS, Harrisburg, PA <[Hathaway.Jones@pa.usda.gov](mailto:Hathaway.Jones@pa.usda.gov)>  
**Cc:** Laurie M Spears <[lmspears@aep.com](mailto:lmspears@aep.com)>  
**Subject:** Transource - PA NRCS - Shapefiles for Review

Hathaway,

Transource would like to go ahead and provide NRCS their current Study Segment shapefiles for review, without requesting a Non-disclosure. We have researched the viewer at the link below. However, we do want to get input for the additional data from 1996-2016 that you reference below. The attached shapefiles provide our Study Segments along with a 1,000 foot buffer that we would appreciate NRCS review on.

Next week we will be in the process of making some final decisions in regards to routing. Any information from NRCS would be greatly appreciated. If you have any questions about the attached information please let me know.

Thank you ~Heather Brewster  
J-832-8819

---

**From:** Jones, Hathaway - NRCS, Harrisburg, PA [<mailto:Hathaway.Jones@pa.usda.gov>]  
**Sent:** Monday, August 21, 2017 8:06 AM  
**To:** Brewster, Heather  
**Subject:** PA NRCS - Gas pipeline shape files and non-disclosure agreement for FOIA?

Heather,

I received the email below from our FOIA administrator. NRCS would likely not be able to sign a non-disclosure agreement.

You can view NRCS easements on the National Easements Database at this link: <http://nrcs.maps.arcgis.com/apps/webappviewer/index.html?id=60cb4564f7b4461ca9a61fa224c066ba>

You can zoom in to specific locations in Pennsylvania to determine where easements are located.

HOWEVER – this map shows only what NRCS calls ‘stewardship lands’. Therefore the map only includes ag easements acquired between 2006 and 2008. NRCS has many, many ag easements acquired from 1996 – 2016 that are NOT stewardship and that do not show up on the map.

That being said, you will be able to see our wetland easements clearly from the database. These easements are very restrictive and will not allow a ROW installation.

Thanks much.

Sincerely,

*Hathaway Jones*

Management Analyst

USDA/NRCS

359 East Park Drive, Suite 2

Harrisburg, PA 17111

717-237-2210

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---

**From:** Kling, Andrew - NRCS, Harrisburg, PA

**Sent:** Thursday, August 17, 2017 2:25 PM

**To:** Jones, Hathaway - NRCS, Harrisburg, PA <[Hathaway.Jones@pa.usda.gov](mailto:Hathaway.Jones@pa.usda.gov)>; Smith, Shozette - NRCS, Harrisburg, PA <[Shozette.Smith@pa.usda.gov](mailto:Shozette.Smith@pa.usda.gov)>

**Subject:** RE: Gas pipeline shape files and non-disclosure agreement for FOIA?

It is our policy now to direct companies asking for easement locations to go to the national site that shows all of the NRCS easements.

As far as a non-disclosure agreement, I would doubt that we would sign it as we have regulation about what we can and can't disclose, FOIA included.

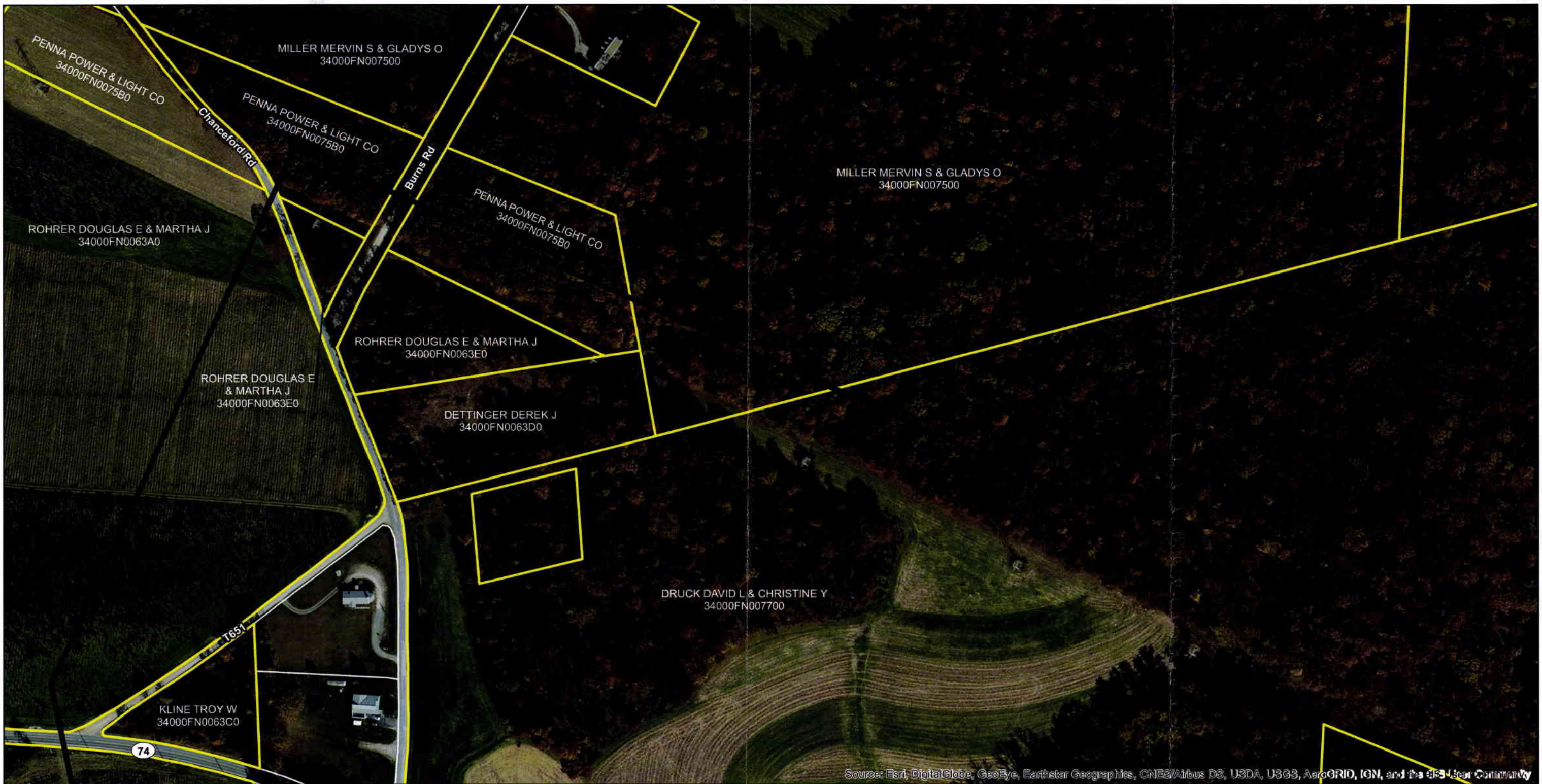
Andy

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## Appendix C: Aerial Mapbook

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter

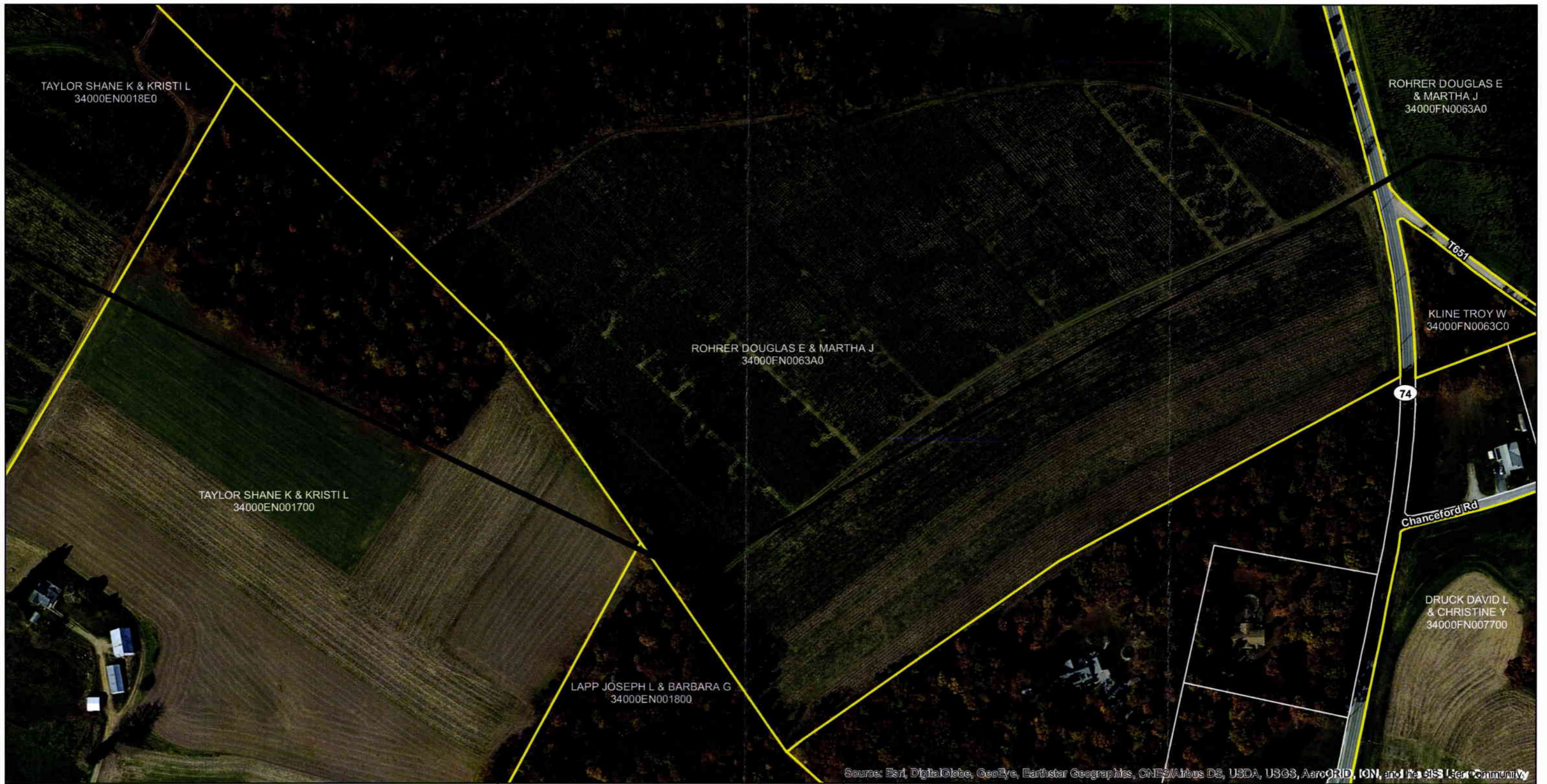


**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 1  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017







Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

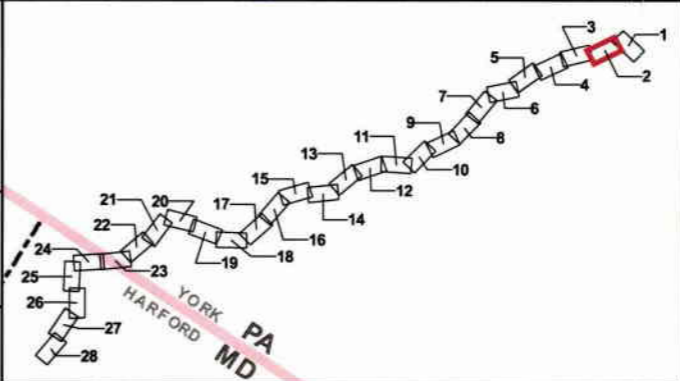
- Proposed Route E
- Notified Parcels
- Parcel Boundary

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 York County (Sept 2017)  
 Harford County (Sept 2017)

0 200 400 Feet

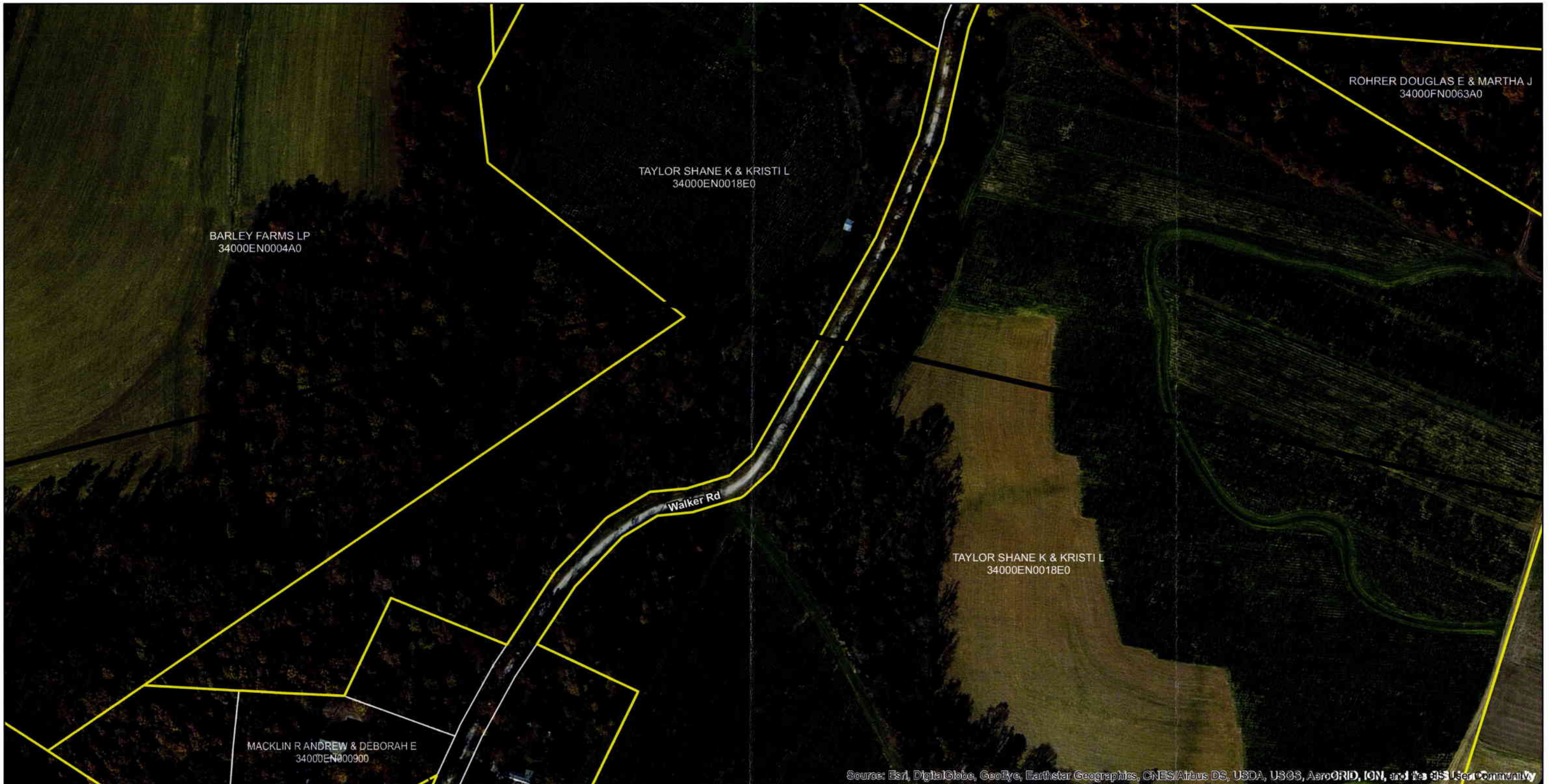
**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 2  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**



**Legend**

- Proposed Route E
- Notified Parcels
- Parcel Boundary

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**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

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 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 3  
 Independence Energy Connection**



Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
- Parcel Boundary

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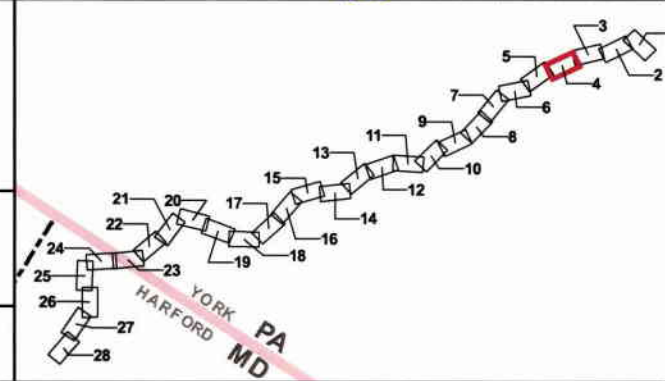
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

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**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 4  
Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

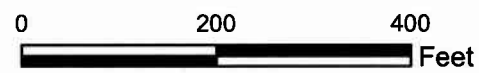
**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

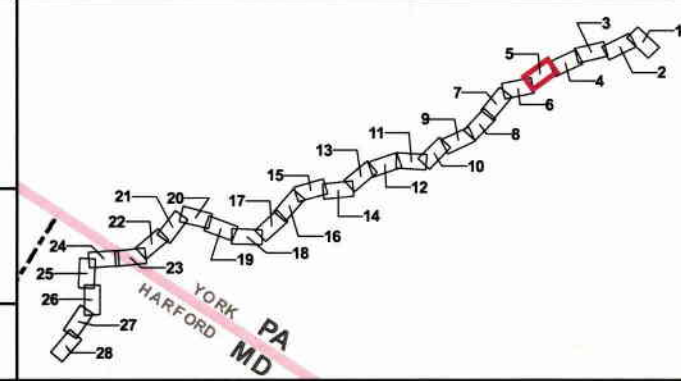
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**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 5  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





**Legend**

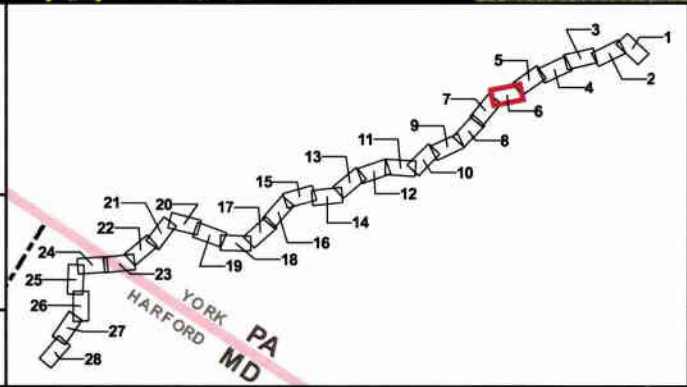
- Proposed Route E
- Notified Parcels
- Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

0      200      400  
 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 6  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**






Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographi

<p><b>Legend</b></p> <p>— Proposed Route E</p> <p>□ Notified Parcels</p> <p>□ Parcel Boundary</p> <p><b>Disclaimer:</b> The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.</p>	<p><b>REFERENCES:</b></p> <p>Aerial Basemap (ESRI) York County (Sept 2017) Harford County (Sept 2017)</p> <p>0 200 400 Feet</p> <p><b>COORDINATE SYSTEM:</b> NAD 1983 UTM Zone 18 North Projection: Transverse Mercator; Units: Meter</p>		<p><b>Furnace Run - Conastone 230 kV Transmission Line Project Aerial Mapbook Map Extent 7 Independence Energy Connection</b></p> <table border="1"> <tr> <td>Prepared By: NAB</td> <td>Checked By: HB</td> </tr> <tr> <td>Job: 60528995/60529006</td> <td>Date: November 27, 2017</td> </tr> </table> <p><b>TRANSOURCE</b></p>	Prepared By: NAB	Checked By: HB	Job: 60528995/60529006	Date: November 27, 2017
Prepared By: NAB	Checked By: HB						
Job: 60528995/60529006	Date: November 27, 2017						



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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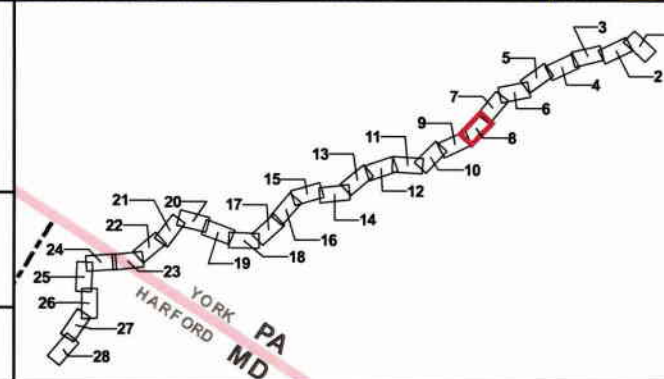
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

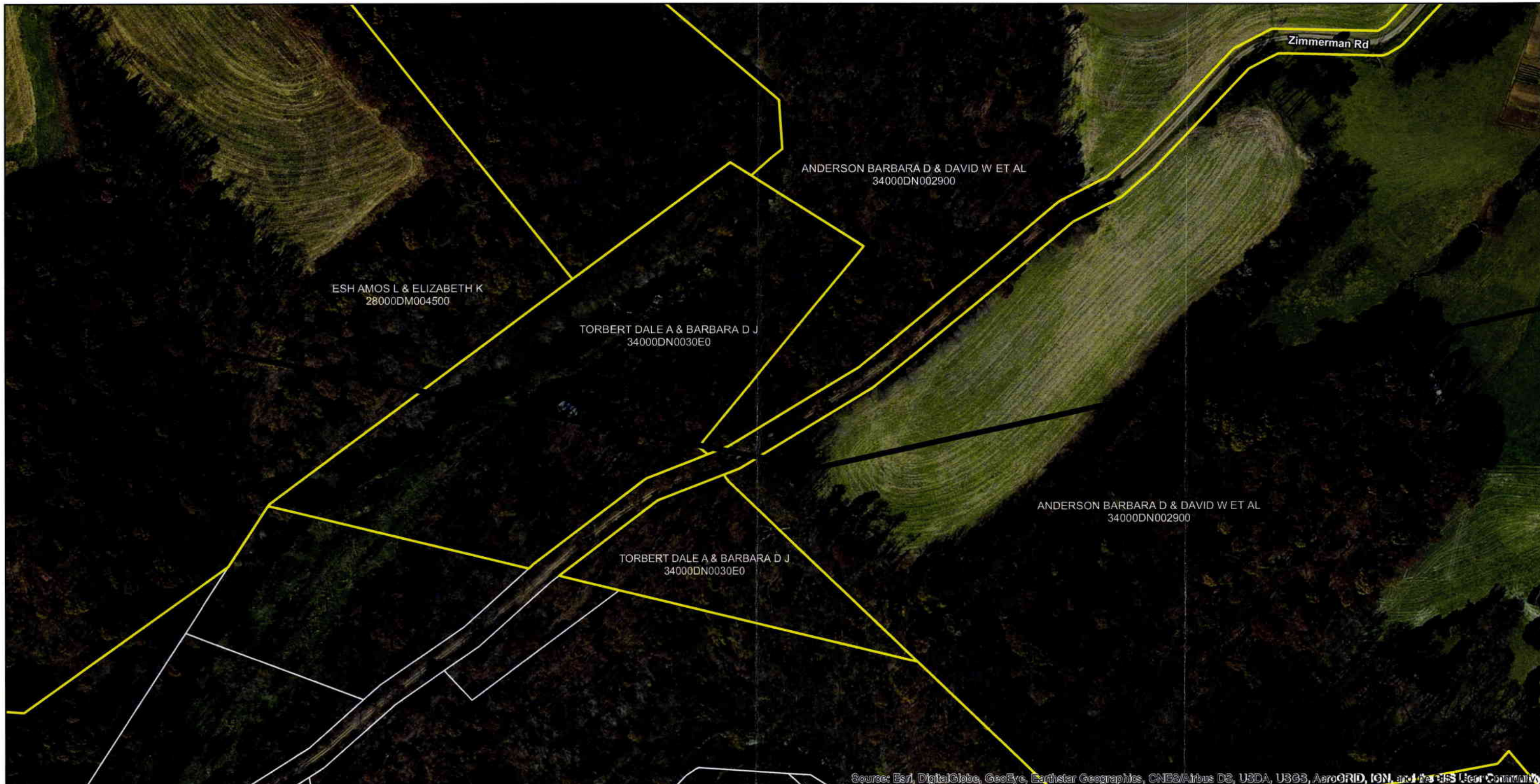
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 8  
Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





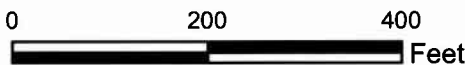
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

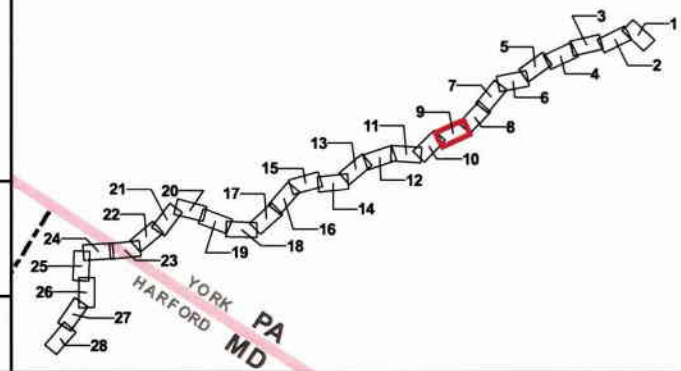
-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)



**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter

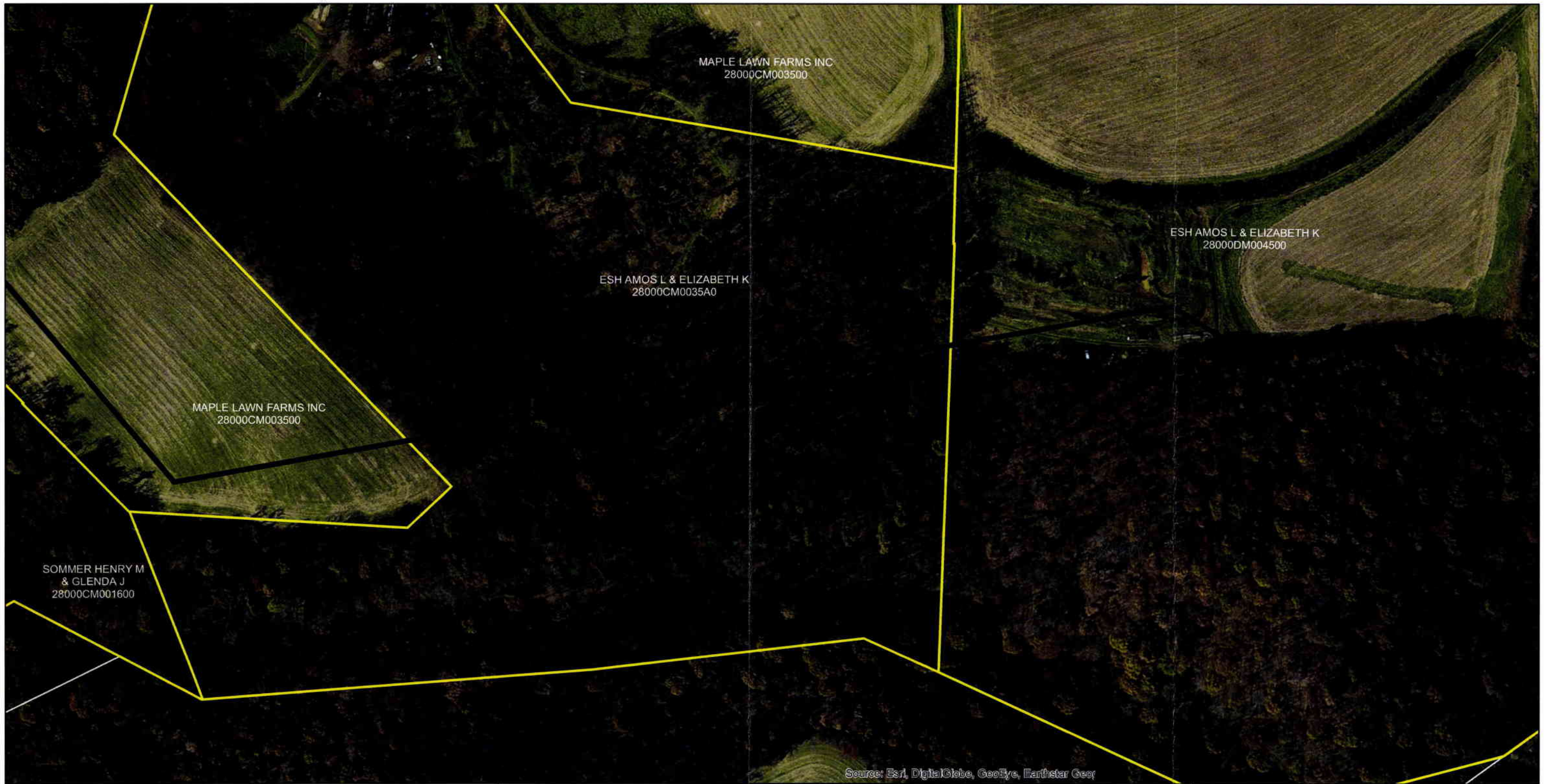


**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 9  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017







**Legend**

- Proposed Route E
- Notified Parcels
- Parcel Boundary

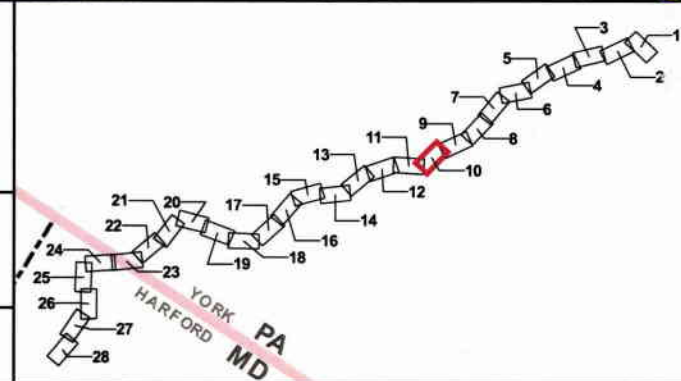
**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)

0      200      400  
 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter






**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 10  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017



**Legend**

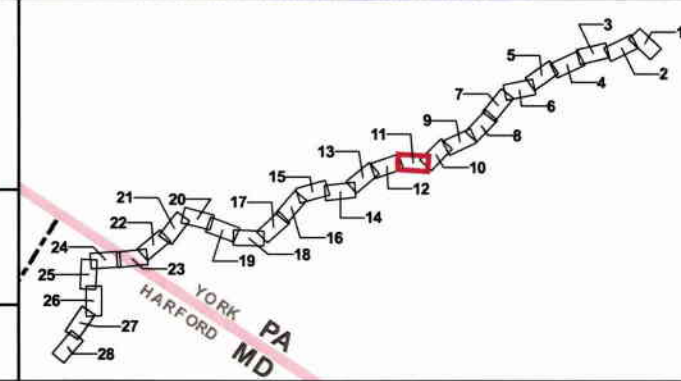
-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
Aerial Basemap (ESRI)  
York County (Sept 2017)  
Harford County (Sept 2017)



**COORDINATE SYSTEM:**  
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 11  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





**Legend**

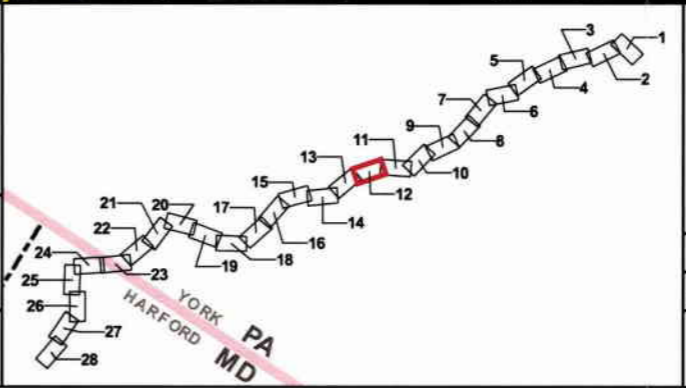
- Proposed Route E
- Notified Parcels
- Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

0      200      400  
 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 12  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**



**Legend**

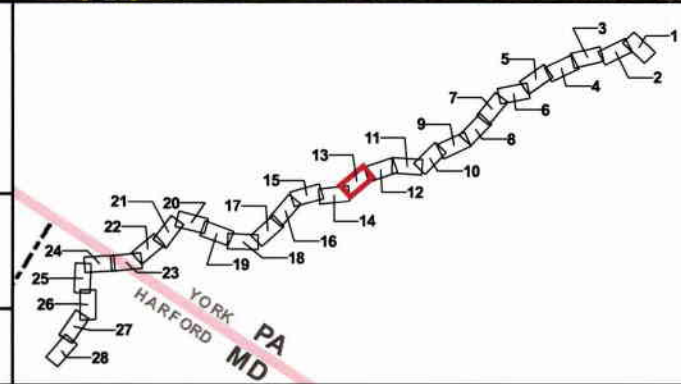
- Proposed Route E
- Notified Parcels
- Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

0      200      400  
 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter






**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 13  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**



**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 14  
Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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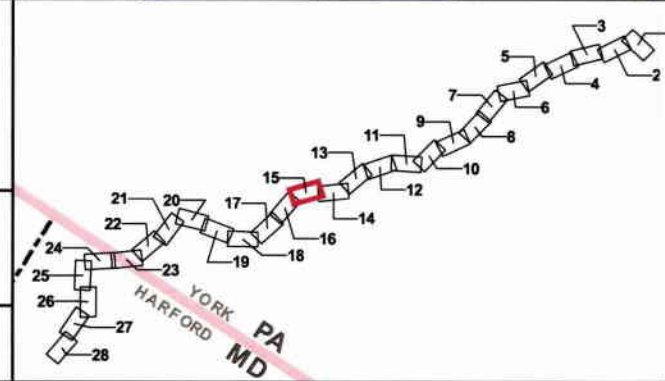
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 15  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017








BURTON FAMILY LIMITED PARTNERSHIP  
28000BM002500

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geograph

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

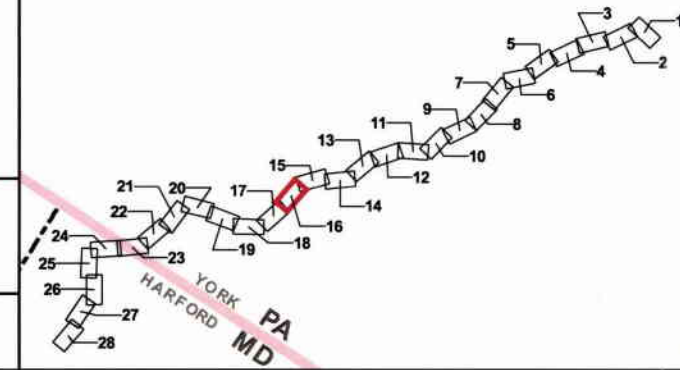
**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**  
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 16  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

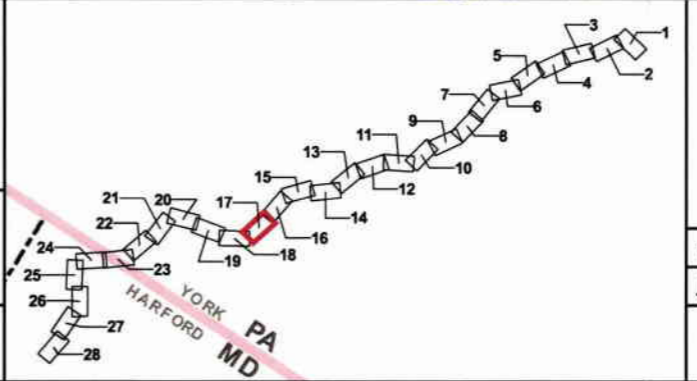
- Proposed Route E
- Notified Parcels
- Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

0 200 400 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 17  
 Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

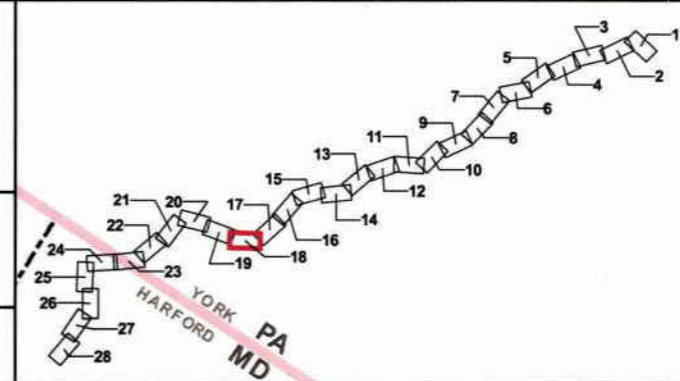
- Proposed Route E
- Notified Parcels
- Parcel Boundary

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**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)

0      200      400  
 Feet

**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 18  
 Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017

**TRANSOURCE**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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**REFERENCES:**

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- Harford County (Sept 2017)



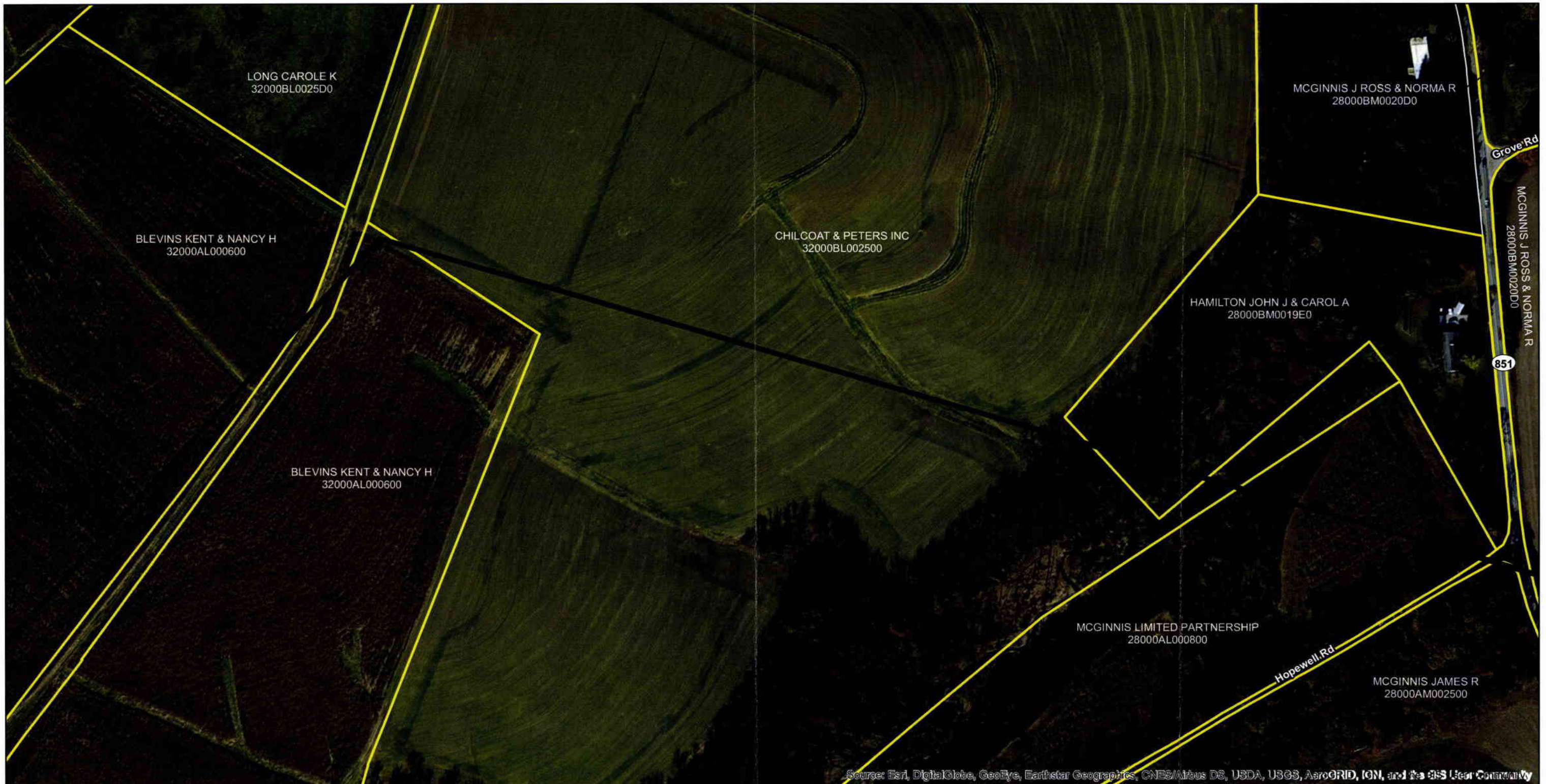
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 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 19  
 Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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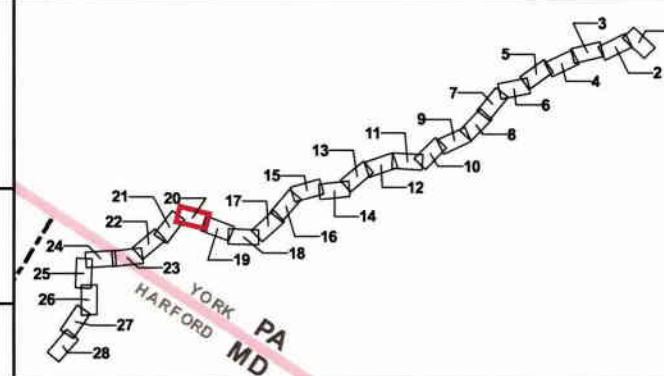
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter






**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 20  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





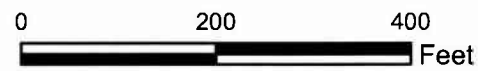
**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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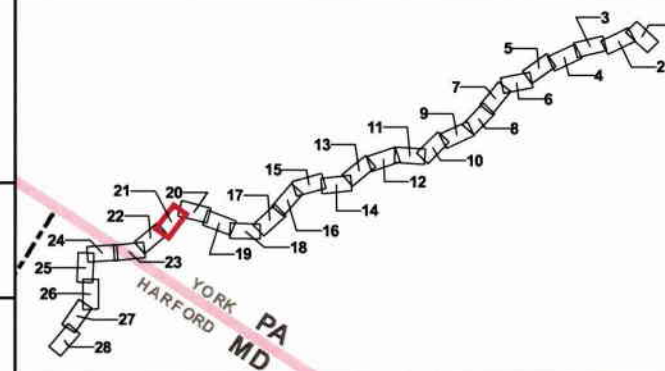
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 21  
Independence Energy Connection**

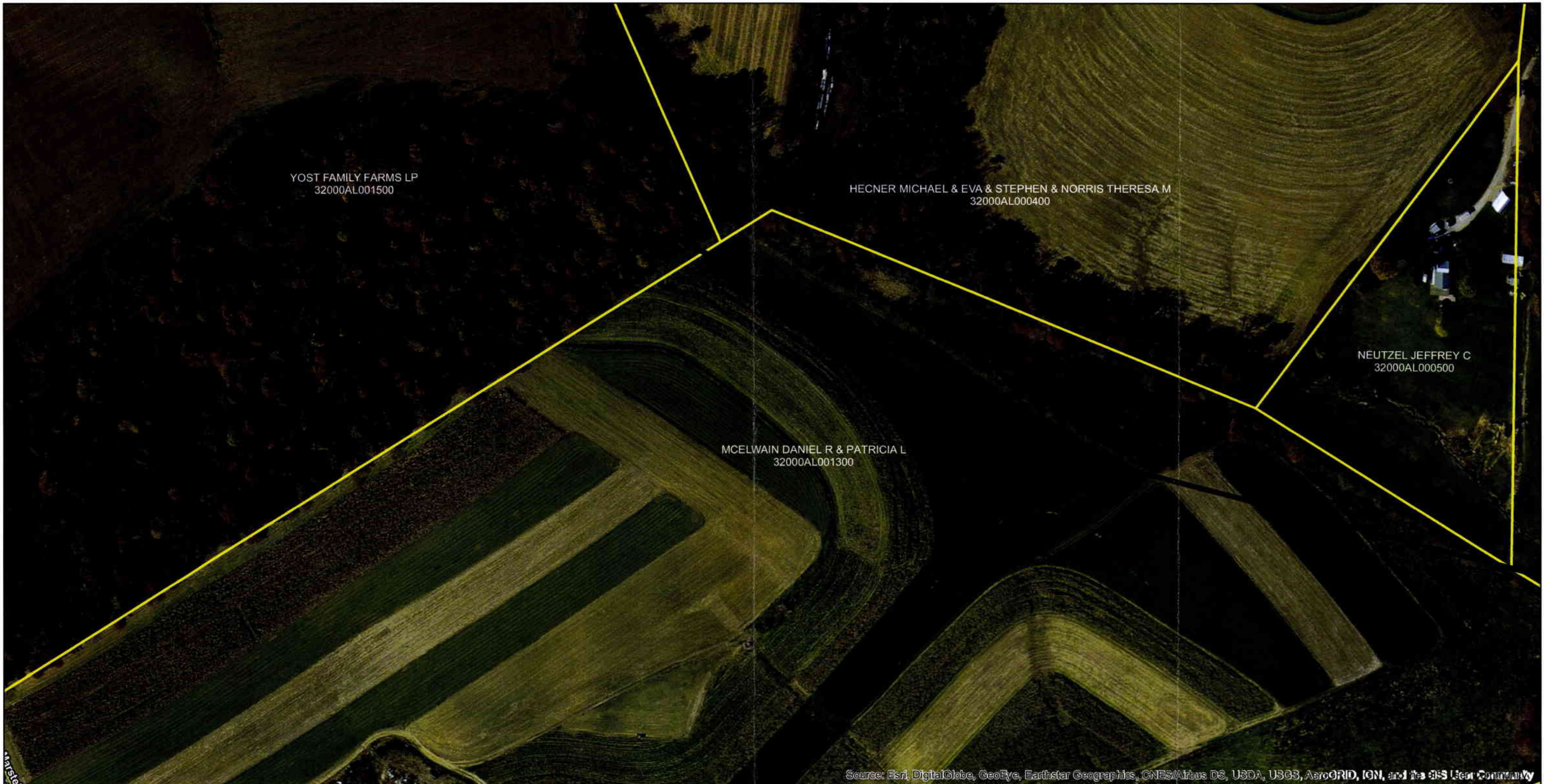
Prepared By: NAB

Checked By: HB

Job: 60528995/60529006

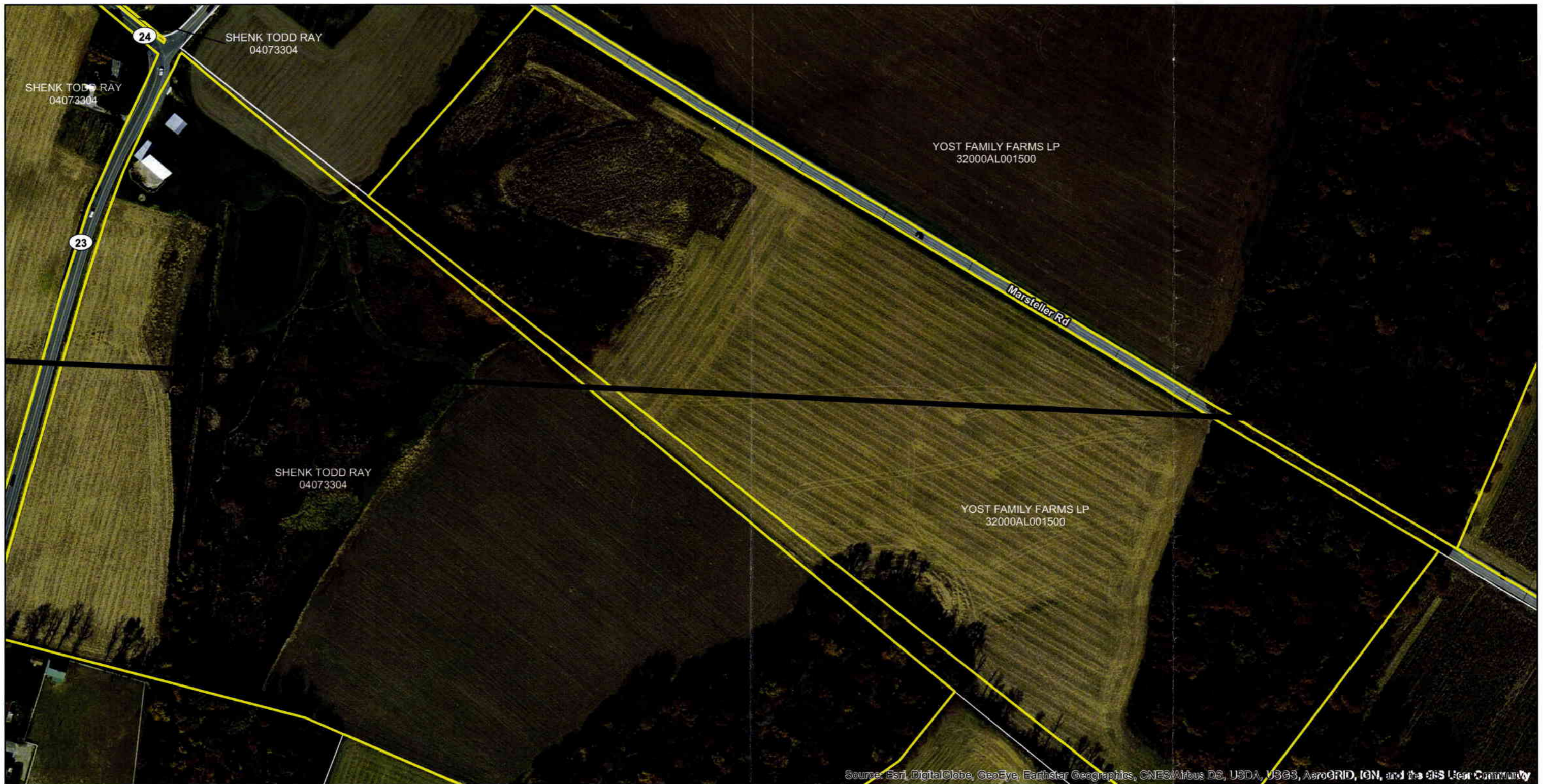
Date: November 27, 2017








Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

<p><b>Legend</b></p> <p>— Proposed Route E</p> <p>□ Notified Parcels</p> <p>□ Parcel Boundary</p> <p><b>Disclaimer:</b> The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.</p>	<p><b>REFERENCES:</b></p> <p>Aerial Basemap (ESRI) York County (Sept 2017) Harford County (Sept 2017)</p> <p>0      200      400 Feet</p> <p><b>COORDINATE SYSTEM:</b> NAD 1983 UTM Zone 18 North Projection: Transverse Mercator; Units: Meter</p>		<p align="center"><b>Furnace Run - Conastone 230 kV Transmission Line Project Aerial Mapbook Map Extent 22 Independence Energy Connection</b></p> <table border="1"> <tr> <td>Prepared By: NAB</td> <td>Checked By: HB</td> </tr> <tr> <td>Job: 60528995/60529006</td> <td>Date: November 27, 2017</td> </tr> </table> <p align="center"><b>TRANSOURCE</b></p>	Prepared By: NAB	Checked By: HB	Job: 60528995/60529006	Date: November 27, 2017
Prepared By: NAB	Checked By: HB						
Job: 60528995/60529006	Date: November 27, 2017						



-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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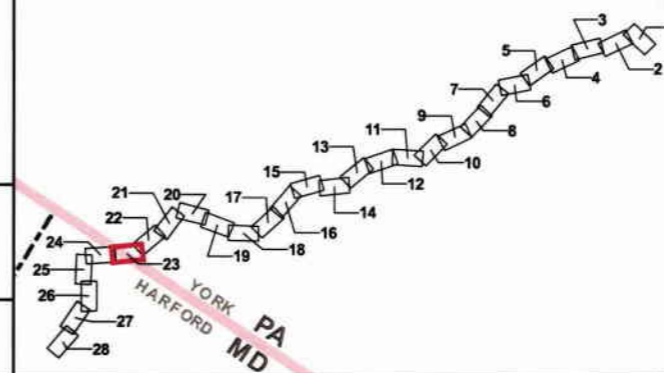
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 23  
Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

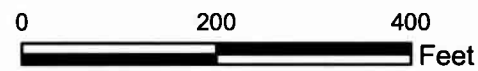
**Legend**

-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

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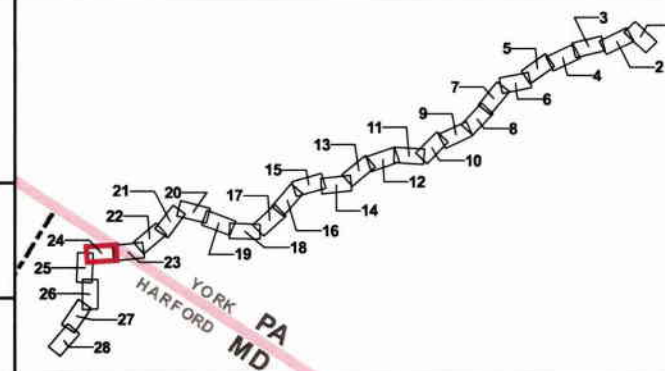
**REFERENCES:**

- Aerial Basemap (ESRI)
- York County (Sept 2017)
- Harford County (Sept 2017)



**COORDINATE SYSTEM:**

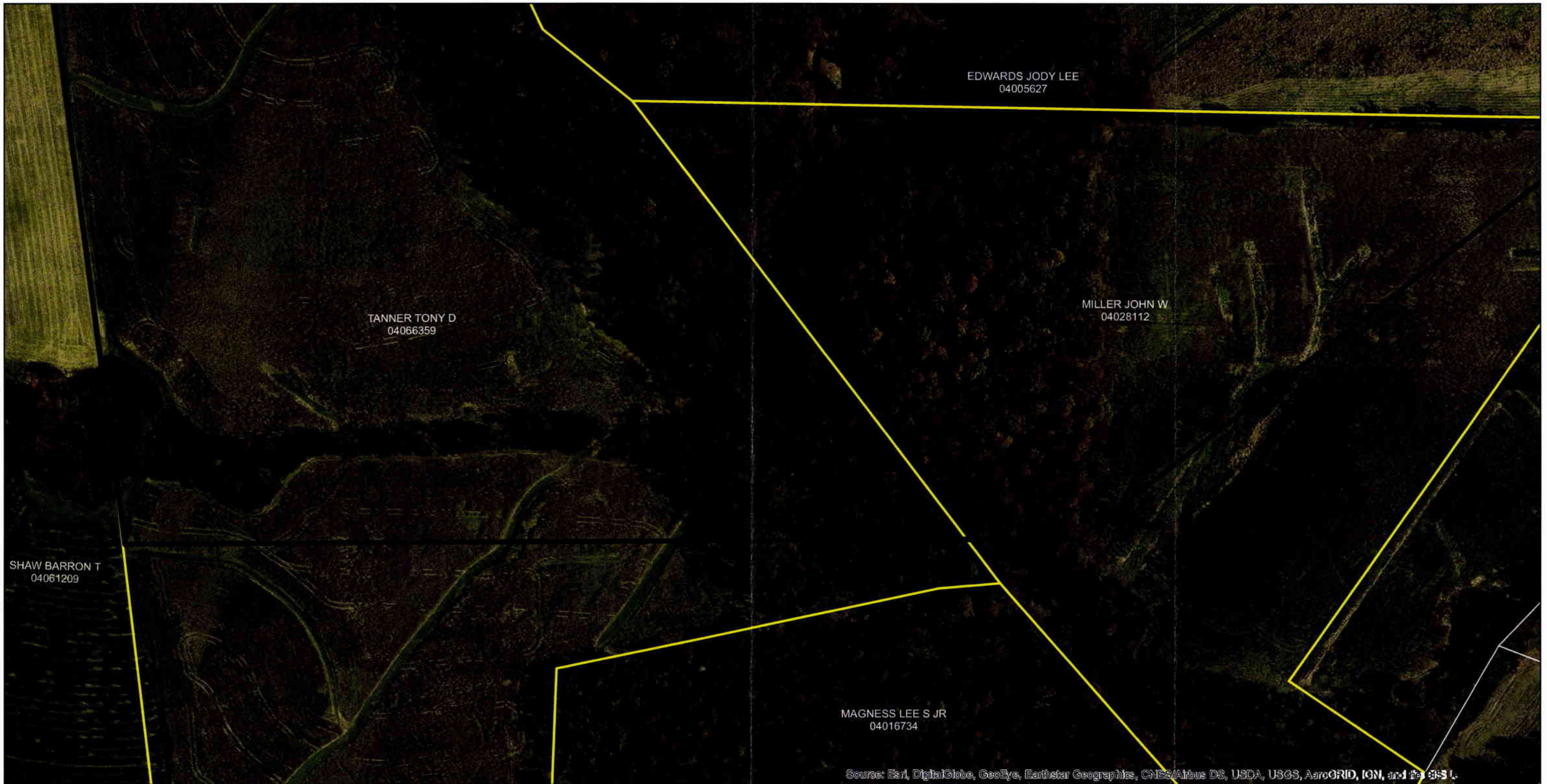
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
Transmission Line Project  
Aerial Mapbook  
Map Extent 24  
Independence Energy Connection**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS I.

<p><b>Legend</b></p> <p> Proposed Route E</p> <p> Notified Parcels</p> <p> Parcel Boundary</p> <p><b>Disclaimer:</b> The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.</p>	<p><b>REFERENCES:</b></p> <p>Aerial Basemap (ESRI) York County (Sept 2017) Harford County (Sept 2017)</p> <p>0      200      400   Feet</p> <p></p> <p><b>COORDINATE SYSTEM:</b> NAD 1983 UTM Zone 18 North Projection: Transverse Mercator; Units: Meter</p>		<p align="center"><b>Furnace Run - Conastone 230 kV Transmission Line Project Aerial Mapbook Map Extent 25 Independence Energy Connection</b></p> <table border="1"> <tr> <td>Prepared By: NAB</td> <td>Checked By: HB</td> </tr> <tr> <td>Job: 60528995/60529006</td> <td>Date: November 27, 2017</td> </tr> </table> <p align="center"><b>TRANSOURCE</b></p>	Prepared By: NAB	Checked By: HB	Job: 60528995/60529006	Date: November 27, 2017
Prepared By: NAB	Checked By: HB						
Job: 60528995/60529006	Date: November 27, 2017						



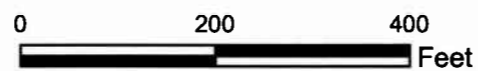


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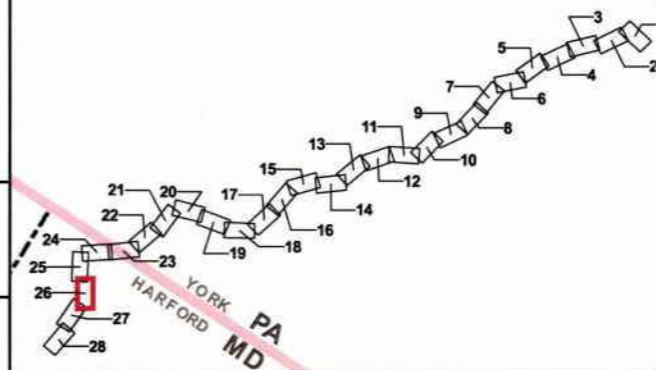
- Proposed Route E
- Notified Parcels
- Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)



**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 26  
 Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

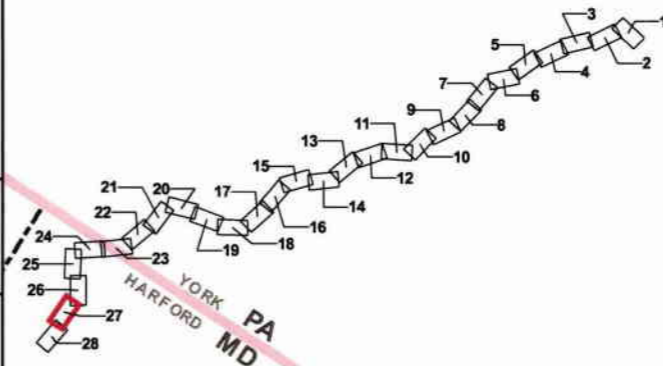
-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)



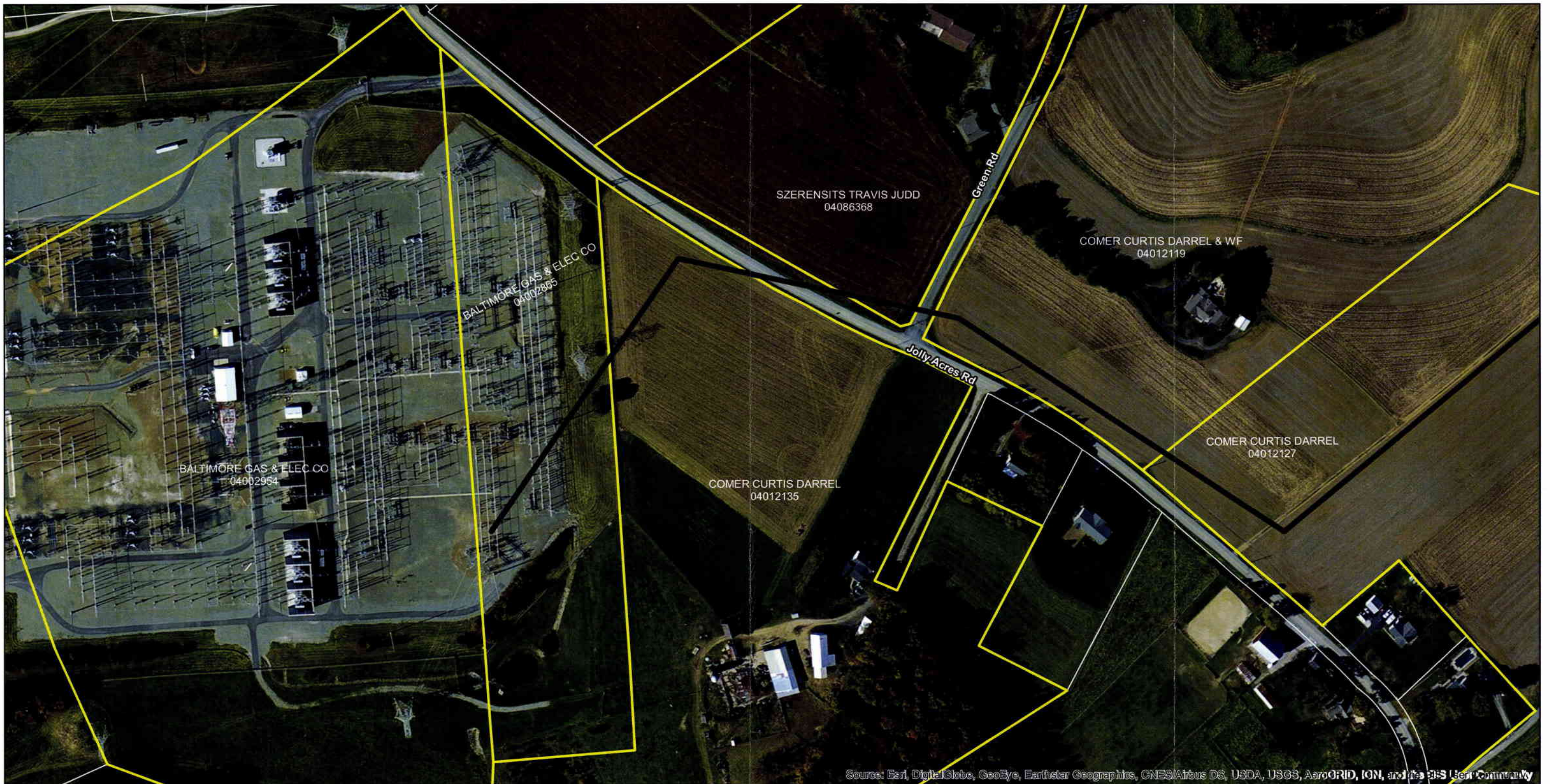
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 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 27  
 Independence Energy Connection**




Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017





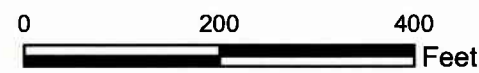
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**Legend**

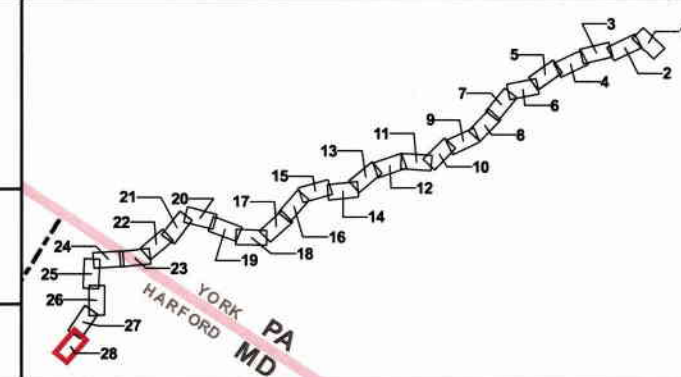
-  Proposed Route E
-  Notified Parcels
-  Parcel Boundary

**Disclaimer:** The images and data on this figure are provided by Transource, LLC for information purposes only and represent only approximate locations and distances since final detailed survey and related field work have not yet been completed. Transource LLC makes no warranty with respect to the accuracy of the images or information reflected on this figure. The property lines shown on this figure are based on tax parcel data obtained from the County and does not constitute legal description of any of the applicable land parcels.

**REFERENCES:**  
 Aerial Basemap (ESRI)  
 York County (Sept 2017)  
 Harford County (Sept 2017)



**COORDINATE SYSTEM:**  
 NAD 1983 UTM Zone 18 North  
 Projection: Transverse Mercator; Units: Meter



**Furnace Run - Conastone 230 kV  
 Transmission Line Project  
 Aerial Mapbook  
 Map Extent 28  
 Independence Energy Connection**

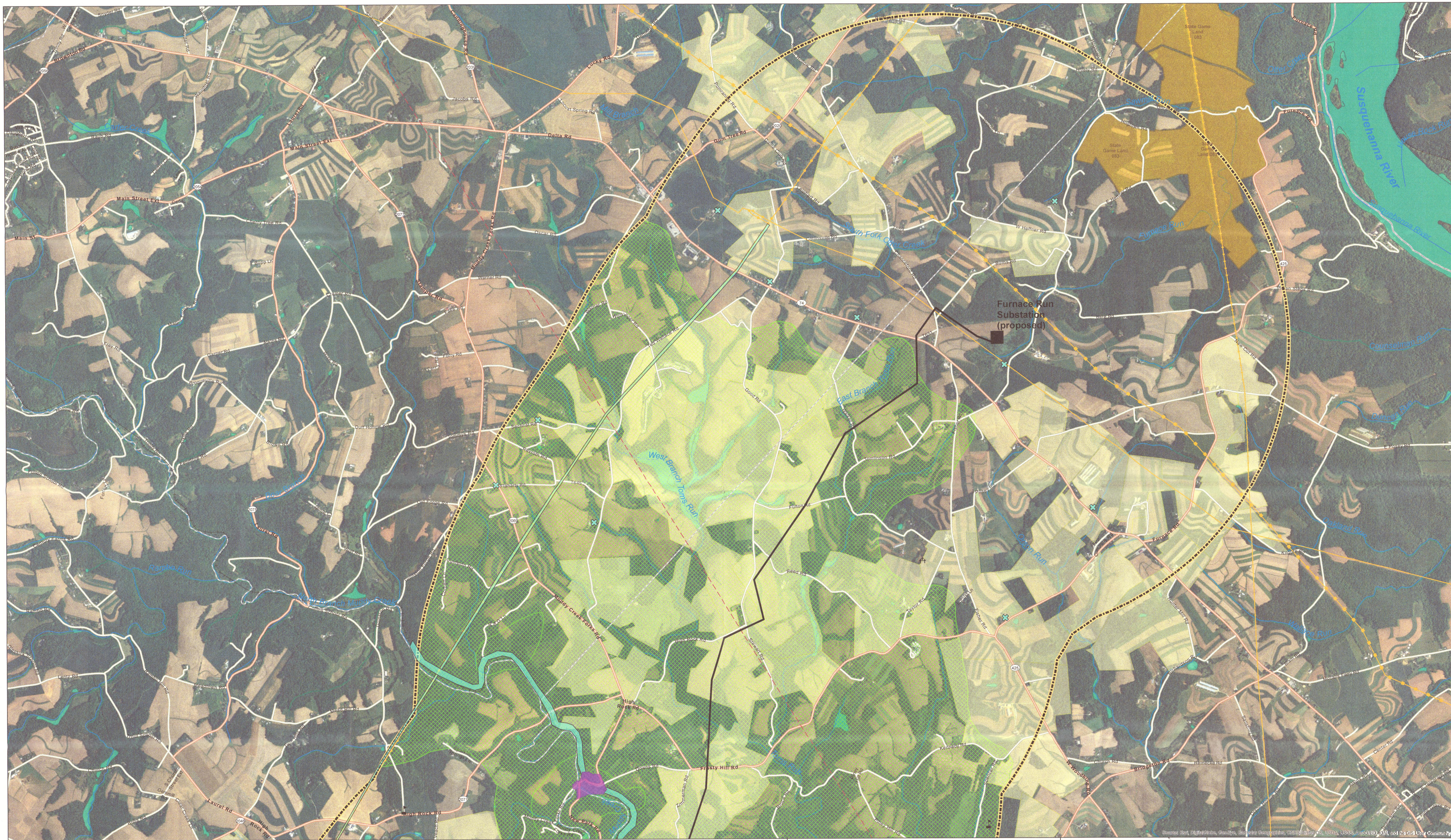
Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: November 27, 2017



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**Appendix D: Proposed Route 2 Mile Overview Drawing (Figure 15)**

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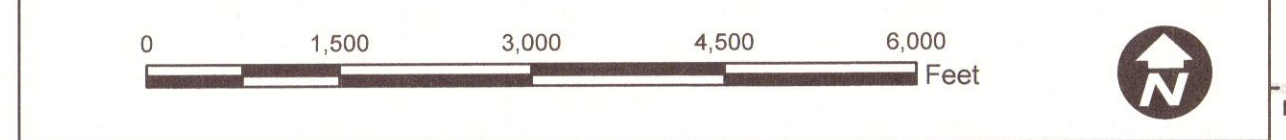


**Legend**

- Airports
- School
- Churches
- Cemeteries
- Proposed Route E
- 2 Mile Buffer
- Existing Electrical Transmission Lines**
- Less than 100 kV
- 115 kV - 230 kV
- Greater than 345 kV
- Gas Pipeline
- Railroad
- Stream
- NRHP Listed Above Ground Resource
- NRHP Eligible Above Ground Resource
- State Identified Above Ground Resource
- NRHP Listed Above Ground Resource - Polygon
- NRHP Eligible Above Ground Resource - Polygon
- State Identified Above Ground Resource - Polygon
- NRHP Listed Historic District
- Local Agricultural Preservation
- State Land
- PA Core Habitat of Biological Diversity Area
- Wetland

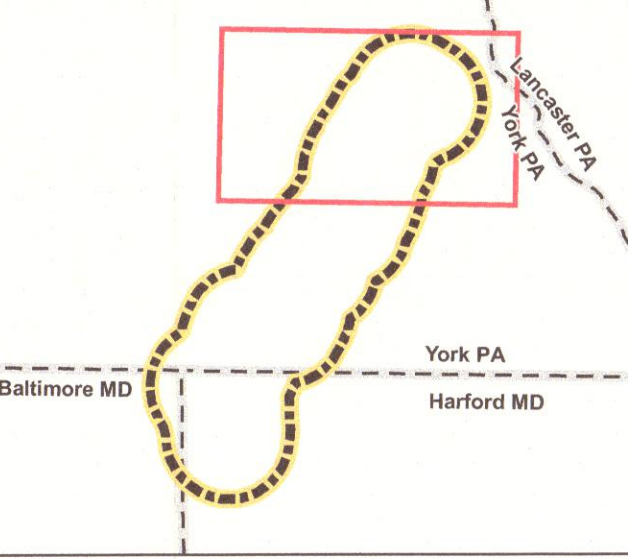
**Disclaimer:** Due to the sensitivity of archeological resources, their location is considered proprietary and is not included in this figure.

**Independence Energy Connection  
Transource, LLC**



**COORDINATE SYSTEM:**  
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter

**REFERENCES:**  
Platts Power Map (2012)  
Aerial Imagery (ESRI)

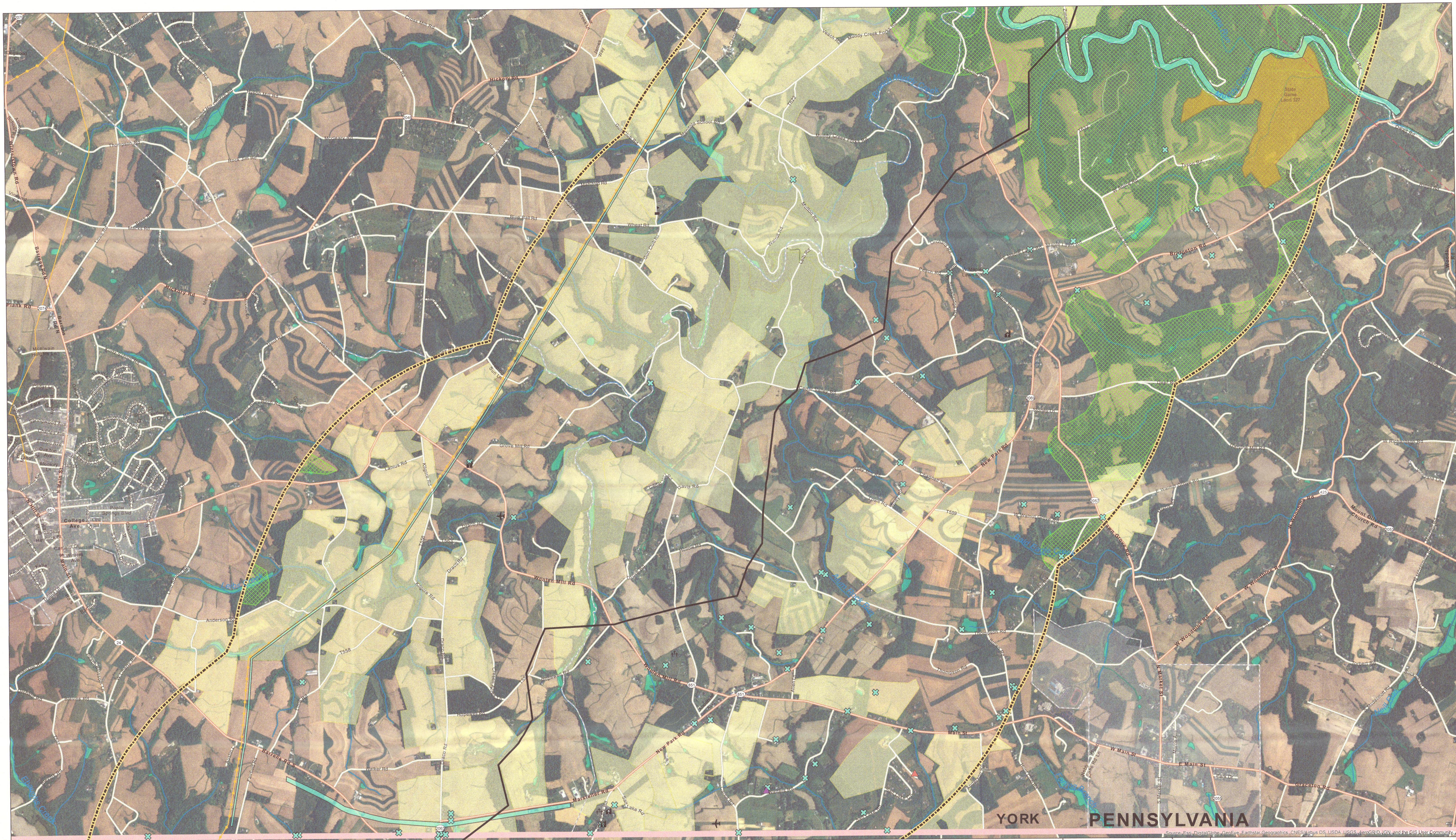


**Figure 15, 1 of 2  
Proposed Route - 2 Mile Overview  
of Sensitive Features - PA**

Prepared By: NAB  
Job: 60528995/60529006

Checked By: HB  
Date: December 06, 2017





**Legend**

- Airports
- School
- Churches
- Cemeteries
- Proposed Route E
- 2 Mile Buffer
- Existing Electrical Transmission Lines**
- Less than 100 kV
- 115 kV - 230 kV
- Greater than 345 kV
- Gas Pipeline
- Railroad
- Stream
- NRHP Listed Above Ground Resource
- NRHP Eligible Above Ground Resource
- State Identified Above Ground Resource
- NRHP Listed Above Ground Resource - Polygon
- NRHP Eligible Above Ground Resource - Polygon
- State Identified Above Ground Resource - Polygon
- NRHP Listed Historic District
- Local Agricultural Preservation
- State Land
- PA Core Habitat of Biological Diversity Area
- Wetland

**Disclaimer:** Due to the sensitivity of archeological resources, their location is considered proprietary and is not included in this figure.

**Independence Energy Connection  
Transource, LLC**



**COORDINATE SYSTEM:**  
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter

**REFERENCES:**  
Platts Power Map (2012)  
Aerial Imagery (ESRI)

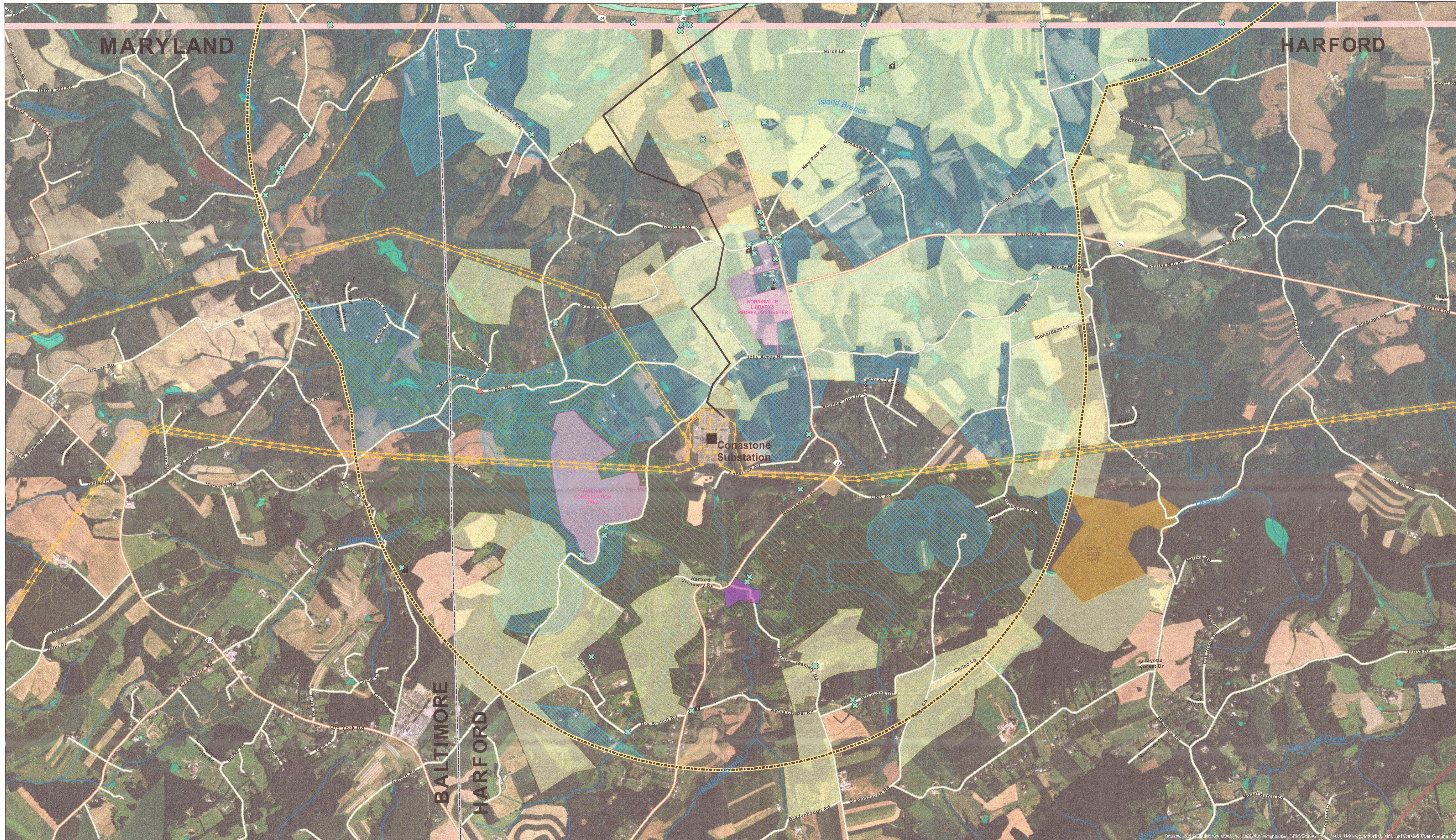


**Figure 15, 2 of 2  
Proposed Route - 2 Mile Overview  
of Sensitive Features - PA**

Prepared By: NAB  
Job: 60528995/60529006

Checked By: HB  
Date: December 06, 2017





**Legend**

✈ Airports	— Gas Pipeline	Local Agricultural Preservation
🏫 School	🚂 Railroad	State Agricultural Preservation
⛪ Churches	🌊 Stream	Maryland Environmental Trust Easements
⚰ Cemeteries	▲ NRHP Listed Above Ground Resource	Maryland Forest Conservation
— Proposed Route E	▲ NRHP Eligible Above Ground Resource	Harford County Rural Legacy Easement
— 2 Mile Buffer	▲ State Identified Above Ground Resource	Local Government Land
— Existing Electrical Transmission Lines	▲ NRHP Listed Above Ground Resource - Polygon	State Land
— Less than 100 kV	▲ NRHP Eligible Above Ground Resource - Polygon	Maryland Green Infrastructure Corridor and Hubs
— 115 kV - 230 kV	▲ State Identified Above Ground Resource - Polygon	MD Sensitive T&E Area
— Greater than 345 kV	▲ NRHP Listed Historic District	Wetland

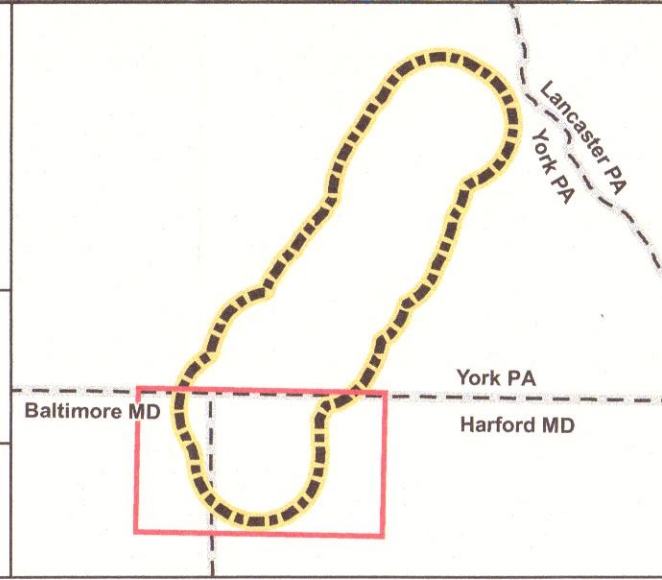
**Disclaimer:** Due to the sensitivity of archeological resources, their location is considered proprietary and is not included in this figure.

**Independence Energy Connection  
Transource, LLC**

0 1,250 2,500 3,750 5,000 Feet

COORDINATE SYSTEM:  
NAD 1983 UTM Zone 18 North  
Projection: Transverse Mercator; Units: Meter

REFERENCES:  
Platts Power Map (2012)  
Aerial Imagery (ESRI)



**Figure 15  
Proposed Route - 2 Mile Overview  
of Sensitive Features - MD**

Prepared By: NAB	Checked By: HB
Job: 60528995/60529006	Date: December 05, 2017

**TRANSOURCE**

**ATTACHMENT 4**

**ENGINEERING DESCRIPTION**



**ATTACHMENT 4  
ENGINEERING DESCRIPTION**

---

**1.0 INTRODUCTION**

As explained in Attachment 2, Transource Pennsylvania, LLC (“Transource PA”) proposes to construct the Pennsylvania portion of the Independence Energy Connection-East Project (“IEC-East Project”) in York County, Pennsylvania. This Attachment provides an engineering description of the transmission line associated with the IEC-East Project.

**2.0 PROPOSED LINE DESIGN**

The IEC-East Project involves the construction of the new Furnace Run-Conastone 230 kV Transmission Line that will extend approximately 15.8 miles, connecting the existing Conastone Substation located near Norrisville, Harford County, Maryland, and the new Furnace Run Substation to be located in York County, Pennsylvania. The Pennsylvania portion of the IEC-East Project is approximately 12.7 miles as further described in Attachment 3.

The new transmission line associated with the IEC-East Project will be designed as a double-circuit 230 kV transmission line. The 230 kV double-circuit design will utilize twelve power conductors, with two conductors being used for each of the six phase positions, and two overhead ground wires. The power conductors will be 795 kcmil<sup>1</sup> 26/7 Aluminum Conductor Steel Supported (“ACSS”) “Drake” conductors in each of the six (6) phase conductor positions. The overhead ground wires will provide lightning protection and in some cases communication between circuit breakers that remove the line from service should a fault on the line be detected.

The Pennsylvania portion of the IEC-East Project will require the install of approximately 71 steel structures with an average height of 135 feet. Approximately 2 to 4 structures may be taller structures (up to approximately 250’ feet) to ensure appropriate clearances for certain structures and other utility facilities. The average span length will be approximately 950 feet.

---

<sup>1</sup> A kcmil is a thousand circular mils. A circular mil is the cross-sectional area of a wire one mil in diameter, where 1 kcmil = 0.5067 mm<sup>2</sup>.

The Pennsylvania portion of the new IEC-East Project will consist of a combination of tubular steel monopole and multi-pole structures, with the occasional steel lattice structure where environmental, engineering, constructability, and land use constraints dictate such application. The tubular steel monopole structures will be used at tangent and light-angle locations. The tubular steel multi-pole structures will be used at medium-angle locations and most of the heavy-angle and deadend locations. The steel lattice structures will be used, if necessary, at heavy-angle and deadend locations where engineering constraints, such as structure and/or foundation size, dictate such application. The foundation systems will be a combination of direct-embedded and drill-shafts.

Diagram 4.1 depicts the typical structures that will be used for the IEC-East Project.

### **3.0 DESIGN CRITERIA AND SAFETY PRACTICES**

The IEC-East Project will be designed according to all National Electrical Safety Code (“NESC”) standards. The NESC is a set of rules to safeguard people during the installation, operation, and maintenance of electric power lines. The NESC contains the basic provisions considered necessary for the safety of employees and the public. Although it is not intended as a design specification, its provisions establish minimum design requirements. Transource PA has developed design specifications and safety rules which meet or surpass all requirements specified by the NESC and the PJM Minimum Design Standards.

The NESC includes loading requirements and clearances for the design, construction, and operation of power lines. The “loads” on conductors and supporting structures are the mechanical forces that develop from the weight of the conductors, the weight of ice on the conductors, plus wind pressure on the conductors and supporting structures. Loading requirements are the loads on the conductors and structures that are anticipated assuming certain ice and wind conditions. Loading requirements contain a combination of strength factors and load factors. These factors account for unknown or unanticipated contingencies in both material variability and structural loading. The clearances and loading requirements contained in the NESC are designed to maintain public safety.

The IEC-East Project will be designed to meet or surpass the NESC clearances and loading requirements. For example, the relative order of grades of construction for conductors and supporting structures is B, C, and N; Grade B being the highest. According to the NESC standards, construction Grades B, C, or N may be used for transmission lines (except at crossings of rail road tracks and limited access highways where Grade B construction is specified). Transource PA will design its transmission lines for the IEC Project as Grade B construction. The use of Grade B design and construction specifies enhancements such as larger-minimum crossarm dimensions and increased safety factors.

In addition to the above considerations, Transource PA utilizes additional loading conditions to account for enhanced structural performance, which results in increased safety performance. A heavy ice loading, including 1 ¼” radial ice is included in the design considerations. The design also accounts for longitudinal loading cases, including both a broken phase condition, and an iced/bare wire condition. The longitudinal cases are used by Transource PA to mitigate the possibility for cascading failures. Use of these additional load cases means Transource PA’s lines are designed to operate safely and reliably during inclement weather even more severe than assumed by the NESC.

Engineering Clearance Design Criteria and Parameters

The transmission lines for the IEC Project are designed with more clearance to the ground and underlying objects than required by the NESC. The following table contains examples of Transource and NESC clearance comparisons for 230kV lines.

**230kV Design Clearance Comparison**

<u>Surface Underneath Conductors</u>	<u>Vertical Clearance to Ground</u>	
	<u>NESC Standard</u>	<u>Transource Min. Design</u>
1. Roads, streets, alleys	22.5'	24.5' <sup>2</sup>
2. Other land traversed by vehicles (such as cultivated field, forest, etc.)	22.5'	24.5'
3. Spaces accessible to pedestrians only	18.5'	20.5' <sup>3</sup>
4. Railroad tracks	30.5'	32.5' <sup>4</sup>

**Steel Structure Safety Considerations**

All steel structures installed on the IEC Project will be labeled with Danger Signs to discourage public tampering. Additionally, the maintenance climbing systems for the tubular structures will be designed to start at a height well out of reach, typically 12' above ground line. Further, the maintenance climbing systems will be a clipped ladder system known as a McGregor Ladders. The structures will be installed with the ladder clips, but the ladders will not be installed unless needed for future maintenance activities. After maintenance activities are complete, the ladders will be removed. These considerations render the structures virtually unclimbable, and further enhance the safe operation of the line.

**Relay Protection Systems**

A relay protection system is used to protect the public safety and welfare as well as associated equipment and the transmission system. Relay protection will be installed for all IEC Project transmission lines to automatically de-energize the line in the unlikely event that the line or supporting structure fails and the line contacts the ground.

---

<sup>2</sup> In areas where line is designed to accommodate oversized vehicles and equipment (greater than 14'), this clearance is increased by the difference between the known vehicle/equipment heights and 14'.

<sup>3</sup> To ensure safe clearance is accounted for in future land use changes, this clearance is not used for new construction. Minimum clearance design clearance to all surfaces is per item 1.

<sup>4</sup> Coordination during railroad permitting processes may require increasing this clearance depending on rail use.

### Periodic Maintenance Program on All Transmission Lines

To ensure continued public safety and integrity of service, a periodic maintenance and inspection program will be implemented for every transmission line. The program will be administered through the use of helicopter patrols, with supplemental foot and structure climbing patrols. A number of helicopter patrols will be performed on all lines annually. During the patrols, the two-man helicopter crew flies parallel, to the left, and above the line so that the observer can look for signs of line damage or deterioration and observe clearances between vegetation and conductors. The observations are included in a report that is forwarded to the appropriate department for corrective action.

Foot and structure climbing patrol programs for a transmission line begin approximately three to five years after the line is energized, unless a helicopter patrol reports a need for earlier action. The frequency of foot patrols varies from once every year to once every several years depending on line type and age.

An assigned foot patroller checks right-of-way conditions, including access roads, bridges, pole washouts, tower footers, vegetation height and clearance to conductors, pole and tower deterioration and, with the use of binoculars, insulators, and condition of hardware. Identified problems are included in a report that is forwarded to the appropriate department for corrective action.

A scheduled line outage is required to perform an overhead patrol because of “hands-on” inspection of hardware. Overhead patrols are conducted on a schedule determined by line age, operating record, and observed general condition. The necessary repairs are also done during the inspection outage.

### IEC Construction Safety

Safety will be of highest importance during all aspects of the IEC Project. The construction specifications prepared for the IEC Project will incorporate AEP experience regarding safety. The IEC Project will be constructed according to well-defined procedures that utilize standard construction practices to perform all work safely and in compliance with Occupational Safety

and Health Administration (“OSHA”) Rules and Regulations, while keeping environmental impact to a minimum. Transource will have dedicated safety personnel on the project, and each contractor will be required to have an adequate safety program in place, monitored by a full-time on-site safety representative.

All work will be done in accordance with NESC, OSHA and any applicable state or federal requirements.

#### **4.0 ELECTRIC AND MAGNETIC FIELD MANAGEMENT**

Transource PA applies its magnetic field policies and practices to new transmission line projects. Transource PA does not believe that the current scientific evidence demonstrates that magnetic fields cause any adverse health effects or pose a health or safety danger to the public. Nevertheless, Transource PA has determined, as a matter of policy, to design its new transmission lines to reduce the potential for exposure to magnetic fields when that can be done at low or no cost and consistent with functional requirements. Transource PA’s electric and magnetic field policies and practices are detailed in Attachment 10.

#### **5.0 RIGHT OF WAY REQUIREMENTS**

Transource PA’s standard right-of-way width for a double circuit 230 kV transmission line is 130 feet, 65 feet either side of the proposed centerline of the transmission line. The right-of-way is determined by the structure type, design tensions, span length, and conductor “blowout” (the distance the wires are moved by a crosswind). The right-of-way for the IEC-East Project is planned to be approximately one hundred and thirty feet (“130’”) but may vary in certain areas in order to accommodate environmental, engineering, and constructability issues, as well as ensure compliance with the NESC clearances.

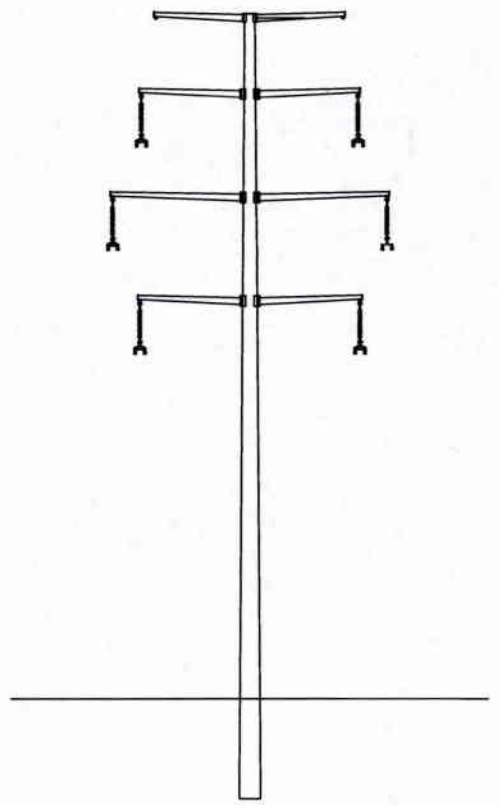
**Diagram 4.1**

**Typical Structures Used for the IEC-East Project**

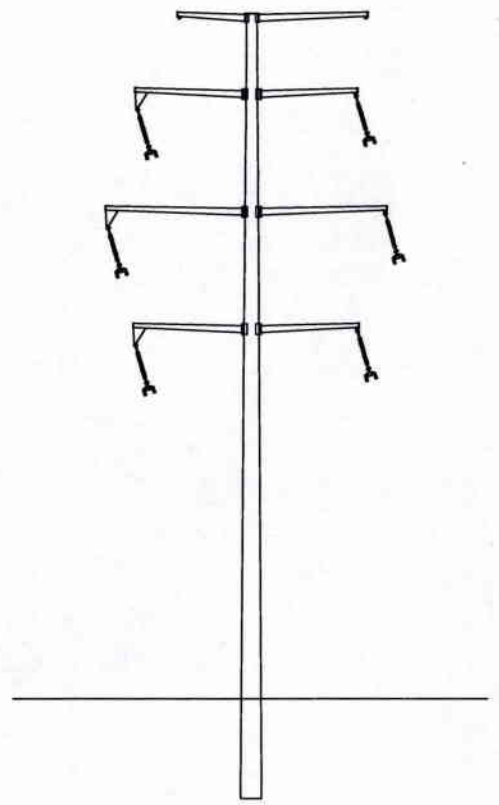
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no. | date | by | ckd | description

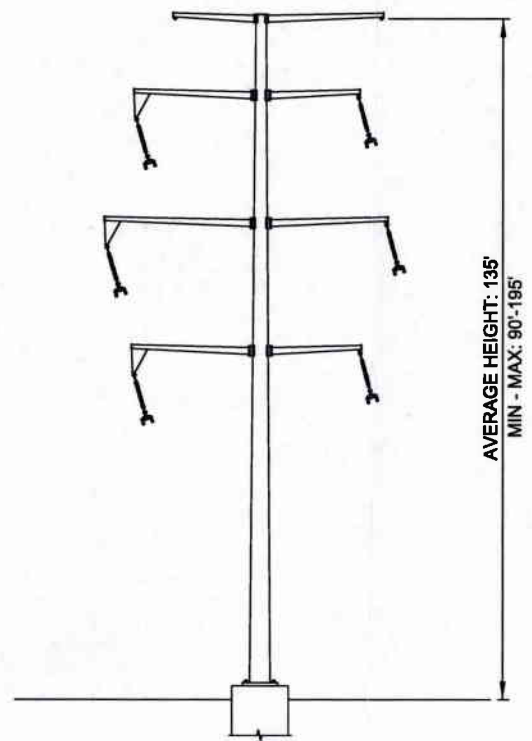
**IEC-East Project  
Attachment 4  
Diagram 4.1**



TANGENT (0°-2°)

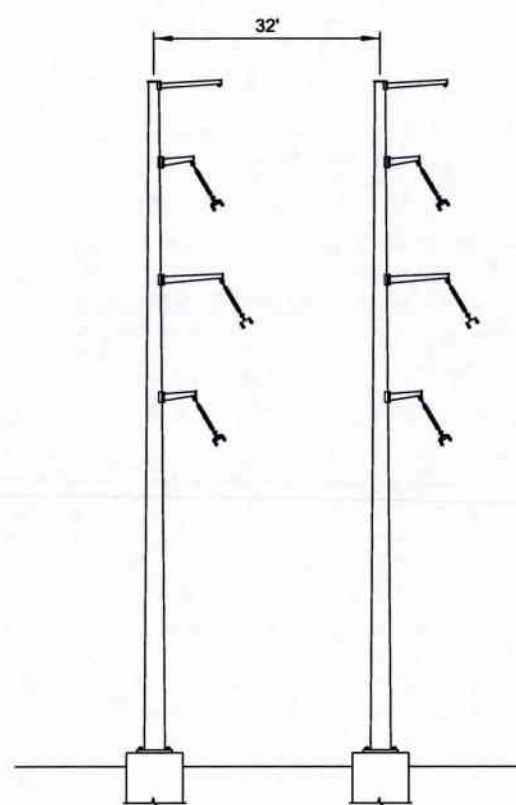


LIGHT ANGLE (2°-6°)

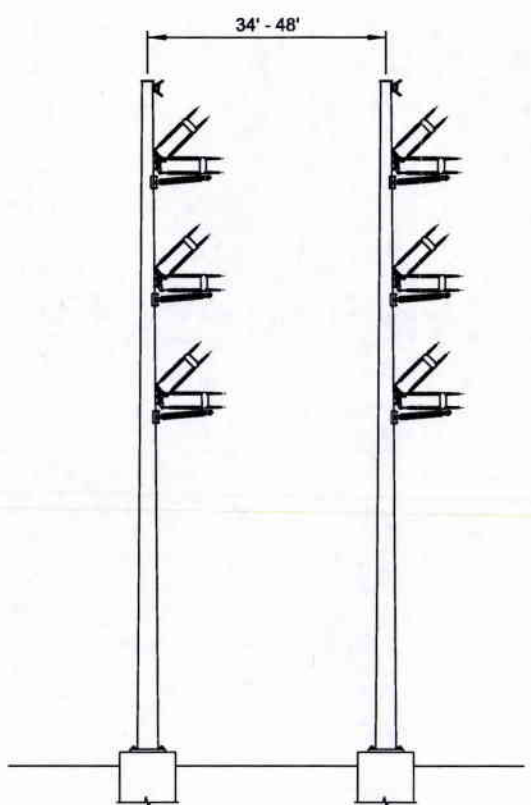


MEDIUM ANGLE (6°-15°)

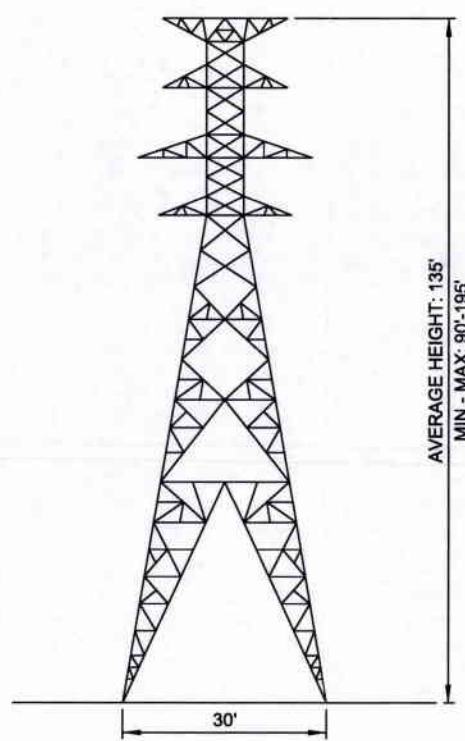
AVERAGE HEIGHT: 135'  
MIN - MAX: 90'-195'



HEAVY ANGLE (15°-30°)



DEADEND (30°-105°)



LATTICE TOWER

AVERAGE HEIGHT: 135'  
MIN - MAX: 90'-195'

Millimeters  
Inches  
Scale - microfilming

A  
B  
C  
D  
E  
F  
G  
H  
I



date	11/10/17	detailed	P.OWSLEY
designed	G.BROWN	checked	J.CLOUSE

INDEPENDENCE ENERGY CONNECTION PROJECT  
STRUCTURE FAMILY



project	92486	client	TRANSOURCE
drawing	STRUCTURE FAMILY	rev.	1
sheet	1 of 1	sheets	
file	A		



**ATTACHMENT 5**

**LIST OF OWNERS OF PROPERTY WITHIN THE RIGHT-OF-WAY**

**ATTACHMENT 5  
 LIST OF OWNERS OF PROPERTY  
 WITHIN THE RIGHT-OF-WAY**

<b>Owner</b>	<b>Mailing Address</b>	<b>Mailing City</b>	<b>Mailing State</b>	<b>Mailing Zip</b>	<b>Parcel County</b>	<b>County Parcel ID</b>	<b>Mapbook Sheet</b>
DAVID L & CHRISTINE Y DRUCK	2243 WOODBINE RD	AIRVILLE	PA	17302-9405	YORK	34000FN007700	1 & 2
MERVIN S & GLADYS O MILLER	95 BURNS RD	BROGUE	PA	17309	YORK	34000FN007500	1
DEREK J DETTINGER	24 CHANCEFORD RD	BROGUE	PA	17309	YORK	34000FN0063D0	1
PENNA POWER & LIGHT CO ATTN REAL ESTATE TAXES GENTW2	2 N 9TH ST	ALLENTOWN	PA	18101-1139	YORK	34000FN0075B0	1
DOUGLAS E & MARTHA J ROHRER	1728 BRIDGE RD	LANCASTER	PA	17602-1804	YORK	34000FN0063E0	1
DOUGLAS E & MARTHA J ROHRER	1728 BRIDGE RD	LANCASTER	PA	17602-1804	YORK	34000FN0063A0	1, 2 & 3
TROY W KLINE	4886 MILL RD	BROGUE	PA	17309-9331	YORK	34000FN0063C0	1 & 2
JOSEPH L & BARBARA G LAPP	142 CONOWINGO RD	QUARRYVILLE	PA	17566-9012	YORK	34000EN001800	2
SHANE K & KRISTI L TAYLOR	118 GORAM RD	BROGUE	PA	17309	YORK	34000EN001700	2 & 3
SHANE K & KRISTI L TAYLOR	118 GORAM RD	BROGUE	PA	17309	YORK	34000EN0018E0	2, 3 & 4
BARLEY FARMS LP	175 CHESTNUT GROVE RD	CONESTOGA	PA	17516-9317	YORK	34000EN0004A0	3 & 4
ANDREW R & DEBORAH E MACKLIN	518 GOOD RD	AIRVILLE	PA	17302-9450	YORK	34000EN000900	3, 4 & 5
RICHARD D & CATHY M GOOD ET AL TWIN GOOD FARMS	68 REED RD	AIRVILLE	PA	17302-9449	YORK	34000EN0004B0	4 & 5
RICHARD D & CATHY M GOOD ET AL TWIN GOOD FARMS	68 REED RD	AIRVILLE	PA	17302-9449	YORK	34000EN000600	4, 5 & 6
ROBERT B & JUDY K BURCHETT ET AL & MAPLE SPRING FARMS PART	175 FROSTY HILL RD	AIRVILLE	PA	17302-9441	YORK	34000EN000200	5 & 6
RANDALL C JR & PEGGY A STEWART	28 STEWART RD	AIRVILLE	PA	17302-9452	YORK	34000EN0002A0	6

**TRANSOURCE PENNSYLVANIA, LLC**  
**ATTACHMENT 5 – LIST OF LANDOWNERS POTENTIALLY WITHIN ROW**

<b>Owner</b>	<b>Mailing Address</b>	<b>Mailing City</b>	<b>Mailing State</b>	<b>Mailing Zip</b>	<b>Parcel County</b>	<b>County Parcel ID</b>	<b>Mapbook Sheet</b>
ROBERT B & JUDY K BURCHETT ET AL & MAPLE SPRING FARMS PART	175 FROSTY HILL RD	AIRVILLE	PA	17302- 9441	YORK	34000DN002600	6 & 7
STEPHEN J & DOLORES E KRICK	699 FROSTY HILL RD	AIRVILLE	PA	17302	YORK	34000DN0026L0	6 & 7
STEPHEN J & DOLORES E KRICK	699 FROSTY HILL RD	AIRVILLE	PA	17302	YORK	34000DN002700	7 & 8
DANIEL E & DIANE M NEFF	586 FROSTY HILL RD	AIRVILLE	PA	17302	YORK	34000DN002500	7 & 8
BARBARA D & DAVID W ANDERSON ET AL ATTN DOWNS ACRES	5 ZIMMERMAN RD	AIRVILLE	PA	17302	YORK	34000DN002900	8 & 9
DALE A & BARBARA D J TORBERT	405 THRONE RD	FAWN GROVE	PA	17321	YORK	34000DN0030E0	9
AMOS L & ELIZABETH K ESH	460A STRASBURG RD	NEW PARK	PA	17562- 9777	YORK	28000DM004500	9 & 10
AMOS L & ELIZABETH K ESH	460A STRASBURG RD	NEW PARK	PA	17562- 9777	YORK	28000CM0035A0	10 & 11
MAPLE LAWN FARMS INC	251 E MAPLE LAWN RD	NEW PARK	PA	17352	YORK	28000CM003500	10 & 11
HENRY M & GLENDA J SOMMER TRUSTEES FOR SOMMER FAMILY TRS	2340 NEW PARK RD	NEW PARK	PA	17352- 9446	YORK	28000CM001600	10 & 11
MAPLE LAWN FARMS INC	251 E MAPLE LAWN RD	NEW PARK	PA	17352	YORK	28000CM001500	10, 11 & 12
RGRG PARTNERS ATTN RICHARD WILSON	1407 THISTLEWOOD LN	STEWARTSTOWN	PA	17363	YORK	28000CM001700	11 & 12
MAPLE LAWN FARMS INC	251 E MAPLE LAWN RD	NEW PARK	PA	17352	YORK	28000CM0024C0	12 & 13
MAPLE LAWN FARMS	251 E MAPLE LAWN RD	NEW PARK	PA	17352	YORK	28000CM002400	11, 12, 13 & 14
GREGORY J & MELANIE A GOSS	289 LEIB RD	NEW PARK	PA	17352- 9395	YORK	28000CM002900	12 & 13
MAPLE LAWN FARMS INC	251 E MAPLE LAWN RD	NEW PARK	PA	17352	YORK	28000CM0024B0	13 & 14
LEONARD M & SANDRA J TRAYNOR	523 ALUM ROCK RD	NEW PARK	PA	17352- 9499	YORK	28000CM0027C0	14
LEONARD M & SANDRA J TRAYNOR	523 ALUM ROCK RD	NEW PARK	PA	17352- 9499	YORK	28000CM002700	13 & 14
LEONARD M & SANDRA J TRAYNOR	523 ALUM ROCK RD	NEW PARK	PA	17352- 9499	YORK	28000CM0027L0	14
LEONARD M & SANDRA J TRAYNOR	523 ALUM ROCK RD	NEW PARK	PA	17352- 9499	YORK	28000CM0027M0	14

TRANSOURCE PENNSYLVANIA, LLC  
ATTACHMENT 5 – LIST OF LANDOWNERS POTENTIALLY WITHIN ROW

Owner	Mailing Address	Mailing City	Mailing State	Mailing Zip	Parcel County	County Parcel ID	Mapbook Sheet
LEONARD M & SANDRA J TRAYNOR	523 ALUM ROCK RD	NEW PARK	PA	17352-9499	YORK	28000CM0027N0	14
THOMAS R JR & APRIL R KRELL	6720 MACBETH WAY	ELDERSBURG	MD	21784	YORK	28000CM0027R0	14
GREGORY J & MELANIE A GOSS	289 LEIB RD	NEW PARK	PA	17352-9395	YORK	28000CM002800	14 & 15
JEFFERSON L SR & LAURA R BRACEY	815 CEDAR VALLEY RD	NEW PARK	PA	17352	YORK	28000CM0028B0	14 & 15
GLENN J BRADLEY	825 CEDAR VALLEY RD	NEW PARK	PA	17352	YORK	28000CM0028C0	15
GREGORY J & MELANIE A GOSS	289 LEIB RD	NEW PARK	PA	17352	YORK	28000CM000900	14 & 15
JONATHAN R HASH & GREGORY J & MELANIE A GOSS	1790 NEW PARK RD	NEW PARK	PA	17352-9468	YORK	28000CM0008E0	15
BURTON FAMILY LIMITED PARTNERSHIP	3731 ABINGDON BEACH RD	ABINGDON	MD	21009	YORK	28000BM002500	15, 16 & 17
GEORGE W JR & MADELYN K TREADWAY	2503 CRESTVIEW DR	FALLSTON	MD	21047	YORK	28000BM000500	17 & 18
DAVID R GROVE	489 DAVIS RD	NEW PARK	PA	17352	YORK	28000BM0016B0	17 & 18
FRANCIS & MARY E BOONE	9 SCARBOROUGH FARE	STEWARTSTOWN	PA	17363-7615	YORK	28000BM0023A0	17 & 18
ROSS J & NORMA R MCGINNIS	PO BOX 253	FAWN GROVE	PA	17321-0253	YORK	28000BM002300	18 & 19
MCGINNIS LIMITED PARTNERSHIP	PO BOX 253	FAWN GROVE	PA	17321	YORK	28000BM002100	19
JAMES R MCGINNIS	290 WOOLEN MILL RD	NEW PARK	PA	17352-9356	YORK	28000AM002500	19 & 20
ROSS J & NORMA R MCGINNIS	PO BOX 2530253	FAWN GROVE	PA	17321	YORK	28000BM0020D0	19 & 20
MCGINNIS LIMITED PARTNERSHIP	PO BOX 253	FAWN GROVE	PA	17321-0253	YORK	28000AL000800	19 & 20
JOHN J & CAROL A HAMILTON	562 WOOLEN MILL RD	STEWARTSTOWN	PA	17363	YORK	28000BM0019E0	19 & 20
CHILCOAT & PETERS INC ATTN WILLIAM & JANE PETERS	2062 DRUID PARK DR	BALTIMORE	MD	21211	YORK	32000BL002500	20
CAROLE K LONG	844 WOOLEN MILL RD	STEWARTSTOWN	PA	17363	YORK	32000BL0025D0	20
KENT & NANCY H BLEVINS	16186 W LIBERTY RD	STEWARTSTOWN	PA	17363	YORK	32000AL000600	20, 21 & 22
JEFFREY C NEUTZEL	166 HOPEWELL RD	NEW PARK	PA	17352-9391	YORK	32000AL000500	21 & 22
MICHAEL & EVA & STEPHEN & NORRIS THERESA M HECNER	639 S STREEPER ST	BALTIMORE	MD	21224-3831	YORK	32000AL000400	21 & 22

**TRANSOURCE PENNSYLVANIA, LLC**  
**ATTACHMENT 5 – LIST OF LANDOWNERS POTENTIALLY WITHIN ROW**

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<b>Owner</b>	<b>Mailing Address</b>	<b>Mailing City</b>	<b>Mailing State</b>	<b>Mailing Zip</b>	<b>Parcel County</b>	<b>County Parcel ID</b>	<b>Mapbook Sheet</b>
DANIEL R & PATRICIA L MCELWAIN C/O GREGORY M & KRISTINA WILT	353 MARSTELLER RD	NEW PARK	PA	17352- 9385	YORK	32000AL001300	21, 22 & 23
YOST FAMILY FARMS LP	16164 LITTLE RD	STEWARTSTOWN	PA	17363- 7615	YORK	32000AL001500	22 & 23

**ATTACHMENT 6**

**AGENCY REQUIREMENTS**

**ATTACHMENT 6  
PRELIMINARY PERMIT MATRIX**

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INDEPENDENCE ENERGY CONNECTION PROJECT  
PRELIMINARY PERMIT MATRIX

Permit Jurisdiction	Project Permit ID #	Status	Name of Permit, Approval, Review, License Type	Office/Agency Issuing Permit/ Approval/ Review	Review, Approval or Permit	Notes (When required)	Application Requirements	Estimated Application Submittal Date	Actual Application Submittal Date	Estimated Permit Issuance Date	Actual Permit Issuance Date
<b>Federal</b>											
Federal	PAFED-01	Not Started	Section 404 of the Clean Water Act (CWA) , Section 10 of the Rivers and Harbors Act PASPGP-4 Associated with Chapter 105 Permits	U.S. Army Corps of Engineers (USACE), Baltimore District (Pennsylvania and Maryland Sections)	Permit	Required for impacting jurisdictional wetlands and/or streams. Not currently known if federal permits will be required. This will depend on final pole locations and access road impacts.  Permitting for non-tidal waters delegated to Pennsylvania. State Programmatic General Permits in place with USACE.	- Pre-construction Notification (PCN) or Joint Permit Application (JPA) - Wetland Delineation - Temporary and Permanent Wetland/Stream Impact Summary - Mitigation Evaluation	8/1/2018	TBD	5/31/2019	TBD
Federal	MDFED-01	Not Started	Section 404 of the CWA , Section 10 of the Rivers and Harbors Act MDSPGP-5 for Maryland		Permit	Required for impacting jurisdictional wetlands and/or streams. Not currently known if federal permits will be required. This will depend on final pole locations and access road impacts.  Permitting for non-tidal waters delegated to Maryland. State Programmatic General Permits in place with USACE.	- PCN or JPA - Wetland Delineation - Temporary and Permanent Wetland/ Stream Impact Summary - Mitigation Evaluation	8/1/2018	TBD	5/31/2019	TBD
Federal	PAFED-02	In Progress	Consultations under Section 7 of the Endangered Species Act PA - Pennsylvania Natural Diversity Inventory (PNDI) Coordination Review	U.S. Fish and Wildlife Service (USFWS), Northeast Region (State College, PA, and Chesapeake Bay, MD field office)	Concurrence	Requires agency consultation if Section 404 permit required or if there is potential to impact federally listed species or their habitat. For PA, required through the PNDI process, USFWS will be contacted to provide information on threatened and endangered (T&E) species that may be within the project area.	- PNDI Results - Habitat Assessment - Species Specific Habitat Report - Potential impacts	Draft: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
Federal	MDFED-02	Not Started	Consultations under Section 7 of the Endangered Species Act MD - Standalone consultation		Concurrence	Requires agency consultation if Section 404 permit required or if there is potential to impact federally listed species or their habitat. Can be completed initially by conducting a USFWS Information for Planning and Conservation (IPaC) review online or via letter to the USFWS Field Office at Chesapeake Bay, MD.	- PNDI Results - Habitat Assessment - Species Specific Habitat Report - Potential impacts	12/1/2017	TBD	10/31/2018	TBD
Federal	FED-01	Not Started	Federal Right-of-Way (ROW) Use/ Occupancy Permits	U.S. Department of Transportation (USDOT), Federal Highway Administration	Permit	For actions that impact Federal highway ROWs.	- Application - Location Figures - Access or Crossing Plans - Insurance and Bond Requirements	TBD	TBD	TBD	TBD
Federal	FED-02	Not Started	FAA Notification (FAA Form 7460-1 )	Federal Aviation Administration (FAA)	Notice of Proposed Construction	Must notify the FAA if structures will exceed 200 feet in height or if the structures are located within the distance to height ratio from the nearest point of the nearest FAA designated airport runway, including temporary use of cranes.	- Structure Heights and Elevations - Structure locations - Completion of Form 7460-1 (for each notice requirement)	4/1/2018	TBD	5/16/2018	TBD
<b>Pennsylvania - State</b>											
State	PASTA-01	In Progress	Certificate of Public Convenience and Necessity (CPCN)	Pennsylvania Public Utility Commission (PAPUC)	Certificate	CPCN is authorized through the PAPUC in keeping with the requirements of 52 Pa. Code 57.72 for the siting and licensing of electric transmission lines.	- Routing Study - PUC Application & Exhibits - Waivers/Exemption requests	12/1/2017	TBD	5/24/2019	TBD
State	PASTA-02	Not Started	PADEP JPA or GPs Wetlands and Water Obstructions (Chapter 105)	PADEP Bureau of Waterways Engineering and Wetlands (Southwest and Southcentral Regional Offices)	Permit	PADEP permits are required for activities in, along, or across watercourses, floodways, or bodies of water (incl. wetlands). At this time, it is hoped that General Permits and waivers may be applicable for this project, to avoid a Joint Permit Application, but this will depend on final pole locations and access road impacts.	- Chp 105 App. or JPA - Wetland Delineation - Temporary and Permanent Wetland/Stream Impact Summary - Mitigation Evaluation	8/1/2018	TBD	5/31/2019	TBD
State	PASTA-03	Not Started	Floodplain Permit (Chapter 106)		Permit	PADEP floodplain permits are required for activities in, along, or across watercourses, floodways, or bodies of water (incl. wetlands).	- Chp 105/106 App. - Permanent/Temp. Floodplain Assessment - Location and Plan figures	8/1/2018	TBD	5/31/2019	TBD
State	PASTA-04	Not Started	NPDES Permit and Post-Construction Stormwater Review (Chapter 102)		Notice/Permit	A permit and Erosion and Sediment (E&S) Control Plan are required when construction activities will include earth disturbances greater than or equal to one acre. An E&S Control Plan and Individual NPDES Permit will be required for the project. The process will require a review by the local County Conservation District (CCD) and approval by PADEP.	- Notice of Intent (NOI)/App. - Stormwater Mgmt Study - Stormwater calculations - E&S Control plan text and detailed figures	2/1/2019	TBD	5/31/2019	TBD
State	PASTA-05	Not Started	Submerged Lands License Agreement (SLLA)		License/ Agreement	Projects that cross over/under a state-designated navigable waterway requires a SLLA with the PA DEP.	- SLLA Form/App. - Location figure - Plan and Profiles Figure	TBD	TBD	TBD	TBD



INDEPENDENCE ENERGY CONNECTION PROJECT  
PRELIMINARY PERMIT MATRIX

Permit Jurisdiction	Project Permit ID #	Status	Name of Permit, Approval, Review, License Type	Office/Agency Issuing Permit/ Approval/ Review	Review, Approval or Permit	Notes (When required)	Application Requirements	Estimated Application Submittal Date	Actual Application Submittal Date	Estimated Permit Issuance Date	Actual Permit Issuance Date
State	PASTA-06	In Progress	Pennsylvania Natural Diversity Inventory (PNDI) Review - Pennsylvania Fish and Boat Commission (PFBC)	Pennsylvania Fish and Boat Commission (PFBC)	Concurrence	As required through the PNDI process, PFBC may need to be contacted to provide information on threatened and endangered (T&E) species that may be within the project area.	- PNDI Results - Habitat Assessment - Species Specific Habitat Report - Potential impacts	Draft: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	PASTA-07	Not Started	Pennsylvania Natural Diversity Inventory (PNDI) Review - Pennsylvania Game Commission (PGC)	Pennsylvania Game Commission (PGC)	Concurrence	As required through the PNDI process, PGC will be contacted to provide information on T&E species that may be within the project area.	- PNDI Results - Habitat Assessment - Species Specific Habitat Report - Potential impacts	Draft: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	PASTA-08	Not Started	Pennsylvania Natural Diversity Inventory (PNDI) Review- Pennsylvania Department of Conservation and Natural Resources (DCNR)	Pennsylvania Department of Conservation and Natural Resources (DCNR)	Concurrence	As required through the PNDI process, DCNR will be contacted to provide information on T&E species that may be within the project area.	- PNDI Results - Habitat Assessment - Species Specific Habitat Report - Potential impacts	Draft: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	PASTA-09	In Progress	Cultural Resources Consultation under Section 106 of the NHPA or State Law PHMC Cultural Resources Consultation	Pennsylvania Historical and Museum Commission (PHMC)	Clearance	A PHMC review of the potential cultural resources in the project area will be required due to the level of earth disturbance and potential for Section 106 NHPA compliance.	- Background review - Field Survey - Background and Field Survey Report - Summary of Historic Properties Affected - Photos and Figures	Initial: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	PASTA-11	Not Started	PennDOT Minimum Use Driveway (MUD) Permits	Pennsylvania Department of Transportation (PennDOT)	Permit	May require coordination with PennDOT for state roadways. Project will likely require MUDs for accessing project area from state roadways.	- Applications (with landowner sig.) - Location Figures - Access Plans - Online Submittal/Reg. Certification	2/1/2019	TBD	5/1/2019	TBD
State	PASTA-12	Not Started	PennDOT Highway Occupancy Permits (HOP) Permits	Pennsylvania Department of Transportation (PennDOT)	Permit	May require coordination with PennDOT for state roadways. Nonlimited access roadways may not require crossing permits.	- Applications - Location Figures - Plan and Profile figures - Online Submittal/Reg. Certification	2/1/2019	TBD	5/1/2019	TBD
Pennsylvania - Local											
Local	PALOC-02	Not Started	NPDES Permit/Chapter 102 E&S Plan	York and Franklin County Conservation District (CCD)	Notice/Permit and Approval	An approved E&S Plan and an Individual NPDES Permit (instead of a General Permit) are required for this project due to high quality or exceptional value waters being crossed by the project.	- Notice of Intent (NOI)/App. - Stormwater Mgmt Study - Stormwater calculations - E&S Control plan text and detailed figures	9/1/2018	TBD	1/31/2019	TBD
Local	PALOC-06	Not Started	Driveway Permit	PA Townships - Substations	Permit	Substations are located in Southampton Twp and Lower Chanceford Twp. Although Transource may be exempt from the local ordinances in these townships, pending exemption approval as part of the PAPUC filings, a driveway permit will likely be required.	- Application - Location Figure - Typical driveway detail	9/1/2018	TBD	10/15/2018	TBD
Local	PALOC-07	Not Started	Notification letter of work. May require E&SC Plan review, Driveway Permits, and maybe road crossing permits.	PA Townships - Transmission Lines	Permits	Transmission lines may still be required to obtain driveway permits, road crossing permits, and may be required to have the township review the E&S Control Plans.	- Application - Location Figure - Typical driveway detail - Plan and Profile Crossing drawings	9/1/2018	TBD	10/15/2018	TBD
Local	PALOC-08	Not Started	Notification letter of work. May require E&SC Plan review, Driveway Permits, and maybe road crossing permits.	Waynesboro Borough	Permits	Transmission lines may still be required to obtain driveway permits, road crossing permits, and may be required to have the township review the E&S Control Plans.	- Application - Location Figure - Typical driveway detail - Plan and Profile Crossing drawings	9/1/2018	TBD	10/15/2018	TBD
Local	PALOC-09	Not Started	RR Crossing Permit/Agreement	Railroad - TBD	Permit or Agreement	Railroad crossings are part of the project. Coordination with the railroad for this permit will be conducted by Transource.	- Application - Location Figure - Plan and Profile Crossing drawings - Insurance and Bond Requirements	TBD	TBD	TBD	TBD

INDEPENDENCE ENERGY CONNECTION PROJECT  
PRELIMINARY PERMIT MATRIX

Permit Jurisdiction	Project Permit ID #	Status	Name of Permit, Approval, Review, License Type	Office/Agency Issuing Permit/ Approval/ Review	Review, Approval or Permit	Notes (When required)	Application Requirements	Estimated Application Submittal Date	Actual Application Submittal Date	Estimated Permit Issuance Date	Actual Permit Issuance Date
<b>Maryland - State</b>											
State	MDSTA-01	In Progress	Certificate of Public Convenience and Necessity (CPCN)	Maryland Power Plant Research Program (PPRP) (Maryland Department of Natural Resources – MD DNR)	Review/ Approval/ Authorization	CPCN must be obtained from the Maryland Public Service Commission (PSC). The Power Plant Siting Act of 1971, augmented by the Electric Utility Industry Restructuring Act of 1999, provides for a consolidated review of CPCN applications in Maryland.	- Routing Study - CPCN Application & Exhibits - Waivers/Exemption requests	12/1/2017	TBD	5/24/2019	TBD
State	MDSTA-02	Not Started	Nontidal Wetlands and Waterways Permit/Water Quality Certification (MDSWGP-5)	Maryland Department of the Environment (MDE)	Permit	Joint Federal (USACE)/State Application for the Alteration of Any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland; a State Water Quality Certification (Section 401) is incorporated into this authorization.  An authorization is required for any activity that alters a nontidal wetland or its 25-foot buffer. The 25-foot buffer is expanded to 100 feet for wetlands of special state concern. Authorization also required for projects in 100-year floodplain. An alternatives analysis may be required; mitigation is required for all authorized impacts.	- State App. or JPA - Wetland Delineation - Temporary and Permanent Wetland/Stream Impact Summary - Mitigation Evaluation	8/1/2018	TBD	5/31/2019	TBD
State	MDSTA-03	Not Started	NPDES General Permit for Stormwater Associated with Construction Activity	MDE	Notice/ Permit	File Notice of Intent (NOI). Must first submit an erosion and sediment control plan to the appropriate approval authority (e.g., the local soil conservation district). Required for soil disturbance of one acre or more. Coverage under this General Permit should be pursued unless MDE advises an individual permit is necessary. (Also, citizens can review the NOI during the public notification period and request that an individual permit be required.)	- Notice of Intent (NOI)/App. - Stormwater Mgmt Study - Stormwater calculations - E&S Control plan text and detailed figures	3/1/2019	TBD	5/2/2019	TBD
State	MDSTA-04	Not Started	Consultation for Cultural Resources - Section 106 of the NHPA or State Law	Maryland Department of Planning, Maryland Historical Trust (MDSHPO)	Clearance	Serves as the SHPO in Maryland. Required for any activity that receives federal funding or approval, or requires a federal permit or license.	- Background review - Field Survey - Background and Field Survey Report - Summary of Historic Properties Affected - Photos and Figures	Initial: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	MDSTA-05	Not Started	Maryland Natural Heritage Program Consultation for State-Listed Species	MD DNR, Wildlife and Heritage Section	Concurrence	Environmental review for rare, threatened and endangered species, unique natural communities, and other significant natural resources.	- Request Letter - Habitat Assessment - Species Specific Habitat Report - Potential impacts	Initial: 12/1/2017 Final: 8/1/2018	TBD	10/31/2018	TBD
State	MDSTA-06	Not Started	Development of a Forest Stand Delineation and Forest Conservation Plan.	MD DNR – Forest Conservation Act	Review/ Approval	Must be reviewed and approved prior to Soil Erosion and Sedimentation Plan development.	- Request Letter/Agreement - Forest Impact Summary - Forest Mitigation Plan	Draft: 6/1/2017 Final: 9/1/2018	TBD	10/31/2018	TBD
State	MDSTA-07	Not Started	Highway Occupancy Permits (HOP)	Maryland State Highway Administration (MSHA)	Permit	Coordination with the MSHA will be required for access, lane closure, utility, and other permits needed that may impact Maryland roadways. Most public roadways in Maryland are either State or County owned/maintained.	- Applications - Location Figures - Plan and Profile figures	11/1/2019	TBD	1/31/2019	TBD
State	MDSTA-08	Not Started	Highway Access Permits (HAP)	MSHA	Permit	Coordination with the MSHA will be required for access off of a state highway.	- Applications - Location Figures - Access Plans	2/1/2019	TBD	5/1/2019	TBD
<b>Maryland - Local</b>											
Local	MDLOC-01	Not Started	Erosion/Sediment Control and Stormwater Management Plan Approval	Washington County Soil Conservation Districts (SCD)	Review/ Approval	Plans must meet state soil erosion and sediment control standards and specifications.	- SWP3/E&S Control plan text and figures	11/1/2018	TBD	2/28/2019	TBD
Local	MDLOC-02	Not Started	Erosion/Sediment Control and Stormwater Management Plan Approval	Harford County SCD	Review/ Approval	Plans must meet state soil erosion and sediment control standards and specifications.	- SWP3/E&S Control plan text and figures	11/1/2018	TBD	2/28/2019	TBD
Local	MDLOC-03	Not Started	License or Notice	Railroad - TBD	Permit or Agreement	Railroad crossings may be part of the project. Coordination with the railroad for this permit will be conducted by Transource.	- Application - Location Figure - Plan and Profile Crossing drawings - Insurance and Bond Requirements	TBD	TBD	TBD	TBD

**ATTACHMENT 7**

**LIST OF GOVERNMENTAL AGENCIES, MUNICIPALITIES AND  
OTHER PUBLIC ENTITIES RECEIVING THE APPLICATION**

**ATTACHMENT 7**  
**LIST OF GOVERNMENTAL AGENCIES, MUNICIPALITIES AND OTHER PUBLIC**  
**ENTITIES RECEIVING THE APPLICATION**

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**RECIPIENTS OF FULL SITING APPLICATION**

**State Agencies**

Pennsylvania Department of Environmental Protection  
P.O. Box 2063  
Market Street State Office Building  
Harrisburg, PA 17105-2063  
Attn: Office of Field Operations

Office of Consumer Advocate  
555 Walnut Street  
5th Floor, Forum Place  
Harrisburg, PA 17101-1925

Bureau of Investigation and Enforcement  
Pennsylvania Public Utility Commission  
P.O. Box 3265  
Commonwealth Keystone Building  
400 North Street  
Harrisburg, PA 17105-3265

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

**County Agencies**

York County Planning Office  
28 East Market Street  
York, PA 17401  
Contact: Roy Livergood, Senior Planner; Wade Gobrecht, Assistant Director; Kurt Leitholf,  
Chief, Municipal Planning Division

**Municipalities**

Lower Chanceford Township  
4120 Delta Rd.  
Airville, PA 17302  
Contact: Sue Wiley, Zoning Officer

Fawn Township  
245 Alum Rock Rd  
P.O. Box 229  
New Park, PA 17352  
Contact: Robert Birely, Supervisor; Randy Lowe, Roadmaster

Hopewell Township  
3336 Bridgeview Rd  
Stewartstown, PA 17363  
Contact: Keith Hunnings, Code Enforcement Officer

**Public Utilities**

Pennsylvania Power & Light Company  
Attn Real Estate Taxes GENTW2  
2 N 9TH Street  
Allentown, PA 18101-1139

Texas Eastern Transmission, L.P.  
5400 Westheimer Court  
Houston, TX 77056-5310

**NOTICE OF FILING RECIPIENTS**

**Federal Agencies**

U.S. Army Corps of Engineers  
Baltimore District-(Pennsylvania Section)  
Regulatory Branch  
1631 South Atherton Street  
Suite 102  
State College, PA 16801  
Contact: Wade Chandler, Chief Pennsylvania Section

US Fish and Wildlife Service  
PA Field Office Northeast Region  
110 Radnor Rd, Suite 101  
State College, PA 16801  
Contact: Lora Lattanzi, Project Leader

U.S. Environmental Protection Agency – Region 3  
1650 Arch Street  
Mail Code: 3RA00  
Philadelphia, PA 19103  
Contact: Shawn Garvin, Regional Administrator

**State Agencies**

Pennsylvania Department of Transportation  
Keystone Building  
400 North St., Fifth Floor  
Harrisburg PA 17120  
Contact: Leslie S. Richards, Secretary of Transportation

Pennsylvania Department of Conservation and Natural Resources  
400 Market Street, 6<sup>th</sup> floor  
Rachel Carson State Office Building  
Harrisburg, PA 17105  
Contact: Ellen Shultzabarger, Division Chief

Pennsylvania Department of Environmental Protection  
Southcentral Regional Office  
909 Elmerton Ave.  
Harrisburg, PA 17110  
Contact: Joseph Adams, Regional Director

Pennsylvania Fish and Boat Commission  
1601 Elmerton Ave.  
Harrisburg, PA 17106  
Contact: John Arway, Executive Director

Pennsylvania Game Commission  
8627 William Penn Highway  
Southcentral Region  
Huntingdon, PA 16652  
Contact: Bradley J. Meyers, Director

Pennsylvania Department of Agriculture  
2301 North Cameron Street  
Suite G-6  
Harrisburg, PA 17110  
Contact: Daniel Naylor, Supervisor; Douglas M. Wolfgang, Director

Pennsylvania Historical & Museum Commission  
400 North Street, 2<sup>nd</sup> floor  
Commonwealth Keystone Building  
Harrisburg, PA 17120  
Contact: Andrea L. MacDonald

**Property Owners**

See list in Attachment 5.

**ATTACHMENT 8**

**LIST OF GOVERNMENTAL AGENCIES, MUNICIPALITIES AND  
OTHER PUBLIC ENTITIES CONTACTED**



**ATTACHMENT 8**  
**LIST OF GOVERNMENTAL AGENCIES, MUNICIPALITIES AND OTHER PUBLIC**  
**ENTITIES CONTACTED**

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**Federal Agencies**

U.S. Army Corps of Engineers  
Baltimore District-(Pennsylvania Section)  
Regulatory Branch  
1631 South Atherton Street  
Suite 102  
State College, PA 16801  
Contact: Wade Chandlers, Chief PA Section

US Fish and Wildlife Service  
PA Field Office Northeast Region  
110 Radnor Rd  
Suite 101  
State College, PA 16801  
Contact: Lora Lattanzi, Project Leader

U.S. Environmental Protection Agency – Region 3  
1650 Arch Street  
Mail Code: 3RA00  
Philadelphia, PA 19103  
Contact: Shawn Garvin, Regional Administrator

U.S. Department of Agriculture  
National Resource Conservation Service  
359 East Park Drive, Suite 2  
Harrisburg, PA 17111  
Contact: Hathaway Jones, Management Analyst

**State Agencies**

Pennsylvania Department of Conservation and Natural Resources  
400 Market Street, 6<sup>th</sup> floor  
Rachel Carson State Office Building  
Harrisburg, PA 17105  
Contact: Ellen Shultzabarger, Division Chief

Pennsylvania Department of Environmental Protection  
Southcentral Regional Office  
909 Elmerton Ave.  
Harrisburg, PA 17110

Contact: Joseph Adams, Regional Director  
Pennsylvania Fish and Boat Commission  
1601 Elmerton Ave.  
Harrisburg, PA 17106  
Contact: John Arway, Executive Director

Pennsylvania Game Commission  
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Southcentral Region  
Huntingdon, PA 16652  
Contact: Bradley J. Meyers, Director

Pennsylvania Department of Agriculture  
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Suite G-6  
Harrisburg, PA 17110  
Contact: Daniel Naylor, Supervisor; Douglas M. Wolfgang, Director

Pennsylvania Historical & Museum Commission  
400 North Street, 2<sup>nd</sup> floor  
Commonwealth Keystone Building  
Harrisburg, PA 17120  
Contact: Andrea L. MacDonald

### **County/Municipal Agencies**

York County Planning Office  
28 East Market Street  
York, PA 17401  
Contact: Felicia Dell, County Planning Director

Lower Chanceford Township  
4120 Delta Rd.  
Airville, PA 17302  
Contact: Sue Wiley, Zoning Officer

Fawn Township  
245 Alum Rock Rd  
P.O. Box 229  
New Park, PA 17352  
Contact: Robert Birely, Supervisor; Randy Lowe, Roadmaster

Hopewell Township  
3336 Bridgeview Rd  
Stewartstown, PA 17363  
Contact: Keith Hunnings, Code Enforcement Officer

### **Elected Officials**

Senator Richard Alloway via Chad Reichard, Chief of Staff  
33<sup>rd</sup> District  
Harrisburg Office  
172 Main Capitol  
Harrisburg, PA 17120

State Representative Paul Schemel  
90<sup>th</sup> District  
Room 121B, East Wing  
PO Box 202090  
Harrisburg PA 17120-2090

State Representative Stan Saylor via Chad Weaver, Chief of Staff  
94<sup>th</sup> District  
Capitol Office  
245 Main Capitol Building  
Harrisburg, PA 17120

State Representative Robert Kaufmann  
89<sup>th</sup> District  
Rm 312 Main Capitol  
PO Box 202089  
Harrisburg, PA 17120-2089

State Senator Scott Wagner via Jon Hopcraft, Chief of Staff  
28<sup>th</sup> District  
Senate Box 203028  
Harrisburg, PA 17120

State Representative Kristin Phillips-Hill  
93<sup>rd</sup> District  
Room 123B, East Wing  
PO Box 202093  
Harrisburg PA 17120-2093

U.S. Rep. Scott Perry via Rob Reilly, Deputy Chief of Staff  
4<sup>th</sup> District  
2209 East Market Street  
York, PA 17402

U.S. Rep. Bill Shuster via Nancy Bull, Constituent Services  
9<sup>th</sup> District  
100 Lincoln Way East, Suite B  
Chambersburg, PA 17201

**ATTACHMENT 9**

**LIST OF PUBLIC LOCATIONS WHERE APPLICATION CAN BE  
VIEWED BY THE PUBLIC**

**ATTACHMENT 9**  
**LIST OF LOCATIONS APPLICATION CAN BE VIEWED BY THE PUBLIC**

---

Collinsville Community Library

2632 Delta Road

Broque, Pennsylvania 17309

Mason Dixon Public Library

250 Bailey Drive

Stewartstown, Pennsylvania 17363

**ATTACHMENT 10**

**ELECTRIC AND MAGNETIC FIELDS POLICY AND PRACTICES  
OF TRANSOURCE PA, LLC**

**ATTACHMENT 10**  
**ELECTRIC AND MAGNETIC FIELDS POLICY AND PRACTICES**

---

Electric and Magnetic Fields Policy and Practices  
of Transource Pennsylvania and Transource Maryland

Introduction

Electric and magnetic fields (EMF) are everywhere. Virtually all human beings in industrialized countries are exposed to them most of the time. Electric and magnetic fields are produced by household wiring and appliances, cell phones, and by all other electric equipment.

One of the many sources of electric and magnetic fields are the electric lines needed to power today's modern society. In order to meet their customers' needs by providing service that is reliable, economical, and as safe as possible, Transource Pennsylvania and Transource Maryland foster communication with customers and employees regarding EMF, keep well-informed about worldwide scientific studies and developments related to EMF, and participate in EMF research through their relationship with American Electric Power and Great Plains Energy affiliates, and their membership and engagement in industry associations.

Measures for Mitigating EMF Impacts

Transource Pennsylvania and Transource Maryland employ a variety of standards and practices to mitigate the EMF impact of their transmission facilities, and to address public concerns about EMF produced by power lines. These practices can be classified into three general categories – informational, technical and line siting – all reflecting the principles of precautionary measures and prudent avoidance, which are applied when the associated costs are low or negligible.

*a. Informational*

The informational practices include communicating with customers, employees, and the general public regarding EMF, following closely the EMF scientific developments, and participating in and sponsoring EMF research. In this regard, Transource Pennsylvania and



Transource Maryland (through their affiliate American Electric Power Service Corporation) are members of the Electric Power Research Institute (EPRI), a non-profit organization that, among other activities and areas of research, sponsors studies to enhance the understanding of EMF health effects, as well as methods to mitigate the EMF impact of electric transmission facilities.

These informational practices focus on enhancing public understanding about EMF. For example, and depending on specific circumstances, public information about EMF may highlight the fact that EMF exist not only near electric utility lines but also around electrical wiring in homes and electric appliances, sometimes with considerably greater personal exposures. Furthermore, they explain that electric and magnetic fields decrease, at certain points dramatically, the greater the distance between the source and the point where the field's strength is measured (commonly in kilovolts per meter (kV/m) for electric fields and gauss, or milligauss (mG), for magnetic fields). A greater understanding of the fact that in typical transmission lines both electric and magnetic field levels drop sharply from the centerline to the edge of the right-of-way (ROW), and continue to drop with distance, is helpful and reassuring information for customers, the general public, and employees, as is knowledge that a specific line's field levels are well within the limits specified in industry standards, such as The Institute of Electrical and Electronics Engineers (IEEE) Standard C95.6<sup>TM</sup>-2002 (R2007), which sets the safety levels with respect to human exposure to electromagnetic fields.

Finally, the companies conduct EMF measurements on a case-by-case basis, free of charge, upon request from property owners who are directly-affected by existing facilities, and have concerns about the EMF health effects or impact on medical devices.

*b. Technical*

Transource Pennsylvania and Transource Maryland EMF mitigation practices in the technical category are based on the companies' engagement in EMF scientific developments and research, as well as their compliance with applicable industry standards such as IEEE Std C95.6 and the National Electrical Safety Code (NESC) Rule 232C.

The companies' line design practices take into consideration their facilities' electric and magnetic fields, and their compliance with these standards. In situations where further mitigation measures are determined to be appropriate based on a case-by-case review and evaluation, practical means for reducing ground-level EMF exposures or concerns regarding such exposures include direct communication and educational meetings, field measurements, using particular conductor configurations and/or phase arrangements (such as a compact and/or delta configuration of line conductors, or arranging the phases of a double-circuit line to achieve most EMF cancellation), increasing conductor ground clearances beyond those based on industry standards, and reducing electric fields by employing various screening techniques, depending on the particular circumstances.

c. Line Siting

In siting new lines, the route selection process considers proximity to residences, schools, daycares, hospitals, and other community facilities. Consideration of these features in the route development and selection process ultimately supports the identification of a route that has the least overall impact on land use in the area. At the same time, consideration of the proximity of the line to these features also inherently reduces potential EMF exposure.

In summary, the companies strive to employ precautionary measures to achieve the prudent avoidance of electromagnetic fields effect, employing, where appropriate or as necessary, mitigation practices with low or negligible additional costs.

**ATTACHMENT 11**

**VEGETATION MANAGEMENT**

**ATTACHMENT 11  
VEGETATION MANAGEMENT**

---

Transource Pennsylvania, LLC (“Transource PA) will implement and adhere to the American Electric Power’s (“AEP”) Transmission Vegetation Management Program (TVMP) as described in AEP Document # TVDM-001. A copy of the AEP Document # TVDM-001 is provided as Appendix 11.1.

The factors that dictate when each method is utilized are provided on pages 14-15 of Appendix 11.1 (TVMD-001 III. FAC-003-4 Requirements C. Requirement 3 (Maintenance Strategy).

Vegetation management practices near aquatic and other sensitive locations are provided on pages 18-19 of Appendix 11.1 (TVMD-010 VI. Transmission E. Transmission Forestry Construction Guidelines 3).

The Notice procedures for vegetation management activities are provided in Appendix 11.1 on pages 8 (TVMD-010 III. Contractor Guidelines G. Public Relations) and pages 17-18 (TVMD-010 VI. Transmission E. Transmission Forestry Construction Guidelines).

Transource PA is responsible for the safe operation and maintenance of its facilities and, therefore, is directly responsible for the management and maintenance of tall growing vegetation that could potentially effect the safe and reliable operation of its transmission lines.

Commercial orchard operations are one potential exception to this policy wherein Transource PA will partner with the commercial orchard owner to share vegetation management and maintenance responsibilities of the right-of-way and any vegetation that could potentially interfere with the safe operation of the line. Such exceptions are considered only for existing orchards wherein specific design modifications to the line can be made prior to construction, and, an agreement can be made with the orchard owner to maintain any orchard trees within the right-of-way to an agreed upon height for the duration of the active operation of the orchard.

**APPENDIX 11.1**

**American Electric Power's Transmission Vegetation Management Program**

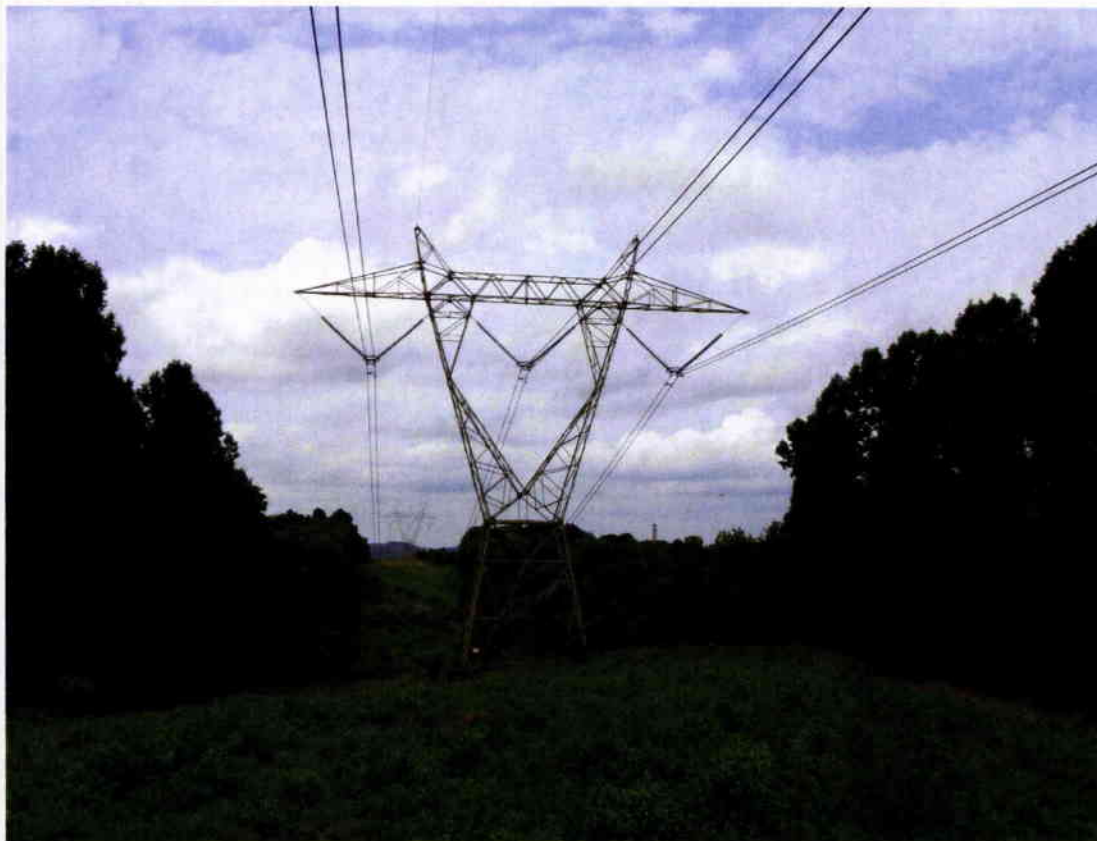
# Transmission Vegetation Management Program (TVMP)

## Document # TVMD-001 Revision 16

Transmission Vegetation Management Document

Effective July 31, 2017

Supersedes TVMD-001 Rev. 15



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### Transmission Vegetation Management Program (TVMP)



Responsible Engineer:  
Lynn Hayward

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Rev. 16

TVMD-001

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## Review Cycle

Version	Description	Review Cycle	Retention Period	Review Date
1	Reviewed with Changes to Ver. 0.	Annual	3 Yrs	01/16/2006
2	Reviewed with Changes to Ver. 1 and 2.	Annual	3 Yrs	03/12/2007
5	Reviewed with Changes to Ver. 3, 4, and 5.	Annual	3 Yrs	05/06/2008
8	Reviewed with Changes to Ver. 6.	Annual	5 Yrs	05/26/2009
9	Reviewed with Changes to Ver. 8.	Annual	5 Yrs	07/27/2010
10	Reviewed with Changes to Ver. 9.	Annual	5 Yrs	07/21/2011
11	Reviewed with Changes to Ver. 10.	Annual	5 Yrs	07/12/2012
12	Reviewed with Changes to Ver. 11.	Annual	5 Yrs	07/15/2013
13	Reviewed with Changes to Ver. 12.	Annual	5 Yrs	07/18/2014
14	Reviewed with Changes to Ver. 13	Annual	5 Yrs	07/17/2015
15	Reviewed with Changes to Ver. 14	Annual	5 Yrs	07/8/2016
16	Reviewed with Changes to Ver. 15	Annual	5 Yrs	07/21/2017

## Revision History

Version	Description	Prepared By	Reviewed By	Approved By	Effective Date
1	Added Appendixes A and B.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	01/16/2006
2	Added Appendix C.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	10/02/2006
3	Added Revision History.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	03/12/2007
3	Revised Appendix C from Version 2. Clarified video text associated with aerial patrols, page 8.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	03/22/2007
4	Revised Maintenance Clearances in Table I, page 11. Removed Appendix A from Revision 0 and inserted a new Appendix A. Removed Appendix B from Revision 0 and renamed Appendix C from Revision 0 to Appendix B.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	11/09/2007
5	Revised Maintenance Clearances text page 10. Revised Appendix B.	H.R. Jones, Principal Engineer	-	J. E. Schechter, Mgr., Trans. Line Asset Engineering	05/06/2008



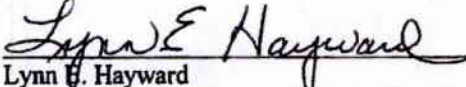
Version	Description	Prepared By	Reviewed By	Approved By	Effective Date
6	Added third level of review/approval. Added Internal Mailing list. Added Standard mapped to TVMP. Revised Contents and page numbers. Revised Maintenance Clearances, pages 13 and 14. Revised Imminent Threat, pages 10 and 11. Revised Appendix A. Added new Appendix C. Added new Appendix D. Added hyperlinks.	S .J. Reaves, Forestry Program Coordinator I	J. E. Schechter, Mgr., Trans. Line Asset Engineering	D. R. Boezio, Dir., Trans. Asset Engineering	06/15/2009
8	Revised Version History. Revised Personnel Qualifications, Appendix D. Included References on Contents Page. Revised Subject Matter Experts (SMEs).	S .J. Reaves, Forestry Program Coordinator I	J. E. Schechter, Mgr., Trans. Line Asset Engineering	D. R. Boezio, Dir., Transmission Asset Engineering	07/31/2009
9	Revised Reviewer and Approval List. Revised TVMP Internal Mailing List. Changed Landowner and Community Relations section to Land Owner Relationships and Environmental Sustainability. Revised Subject Matter Experts (SMEs). Revised Personnel Directly Involved.	D.K. Killingsworth, Engineer I	J. E. Momme, Dir., Trans. Line Projects Engineering	D. J. Recker, Managing Dir., Trans. Projects Engineering	07/30/2010
10	Reformatted Document to match Transmission Forum Model TVMP.	D.K. Killingsworth, Engineer I	J. E. Momme, Dir. Trans. Line Projects Engineering	D. J. Recker, Managing Dir. Trans. Projects Engineering	7/30/2011

<b>Version</b>	<b>Description</b>	<b>Prepared By</b>	<b>Reviewed By</b>	<b>Approved By</b>	<b>Effective Date</b>
11	Revised Reviewer and Approval List. Revised TVMP Internal Mailing List. Changed Land Owner Relationships and Environmental Sustainability to Land Owner Relationships and revised. Revised Subject Matter Experts (SMEs). Revised Personnel Directly Involved. Removed Appendix C. Revised Personnel Qualifications. Revised New Construction Clearing. Added Document Team.	K. B. Patton, Utility Forester II	J. E. Momme, Dir., Trans. Line Projects Engineering	D. J. Recker, Managing Dir., Trans. Projects Engineering	7/31/2012
12	Revised Document Team. Revised Subject Matter Experts (SMEs). Revised Appendix A Imminent Threat Communication and Procedures. Revised Appendix B Imminent Threat Communication. Revised Appendix C TVMP Internal Mailing List. Revised Forestry Patrol Procedures. Revised Imminent Threat Report Form.	K. B. Patton, System Forestry Coordinator	J. E. Momme, Dir., Trans. Line Projects Engineering	D. J. Recker, Managing Dir., Trans. Projects Engineering	7/30/2013

<b>Version</b>	<b>Description</b>	<b>Prepared By</b>	<b>Reviewed By</b>	<b>Approved By</b>	<b>Effective Date</b>
13	Revised Document Team. Revised Signature page. Updated References. Revised entire document to align with changes to NERC Standard FAC-003-3. Revised Personnel Directly Involved. Moved Right-of-Way Clearance Guidelines to Appendix A. Updated Appendix C: Subject Matter Experts. Revised Appendix D TVMP Internal Mailing List.	Lynn Hayward Lead Engineer	J. E. Momme, Dir., Trans. Line Projects Engineering	J. E. Momme, Dir., Trans. Line Projects Engineering	7/31/2014
14	Revised Document Team. Updated References. Removed Imminent Threat Procedure. Updated MVCD distances.	Lynn Hayward Senior Engineer	J. E. Momme, Dir., Trans. Line Projects Engineering	J. E. Momme, Dir., Trans. Line Projects Engineering	7/31/2015
15	Revised Document Team. Updated MVCD distances per new FAC-003-4 Standard. Minor wording changes. Updated Distribution List.	Lynn Hayward Senior Engineer	J. E. Momme, Dir., Trans. Line Projects Engineering	J. E. Momme, Dir., Trans. Line Projects Engineering	7/31/2016
16	Updated Document Team. Minor wording changes. Updated Distribution List.	Lynn Hayward Senior Engineer	J. E. Momme, Dir., Trans. Line Projects Engineering	J. E. Momme, Dir., Trans. Line Projects Engineering	7/31/2017

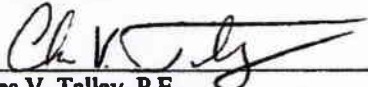
## Signatures

### Prepared By


  
Lynn E. Hayward  
Senior Engineer, Transmission Line Engineering

07-21-2017  
Date

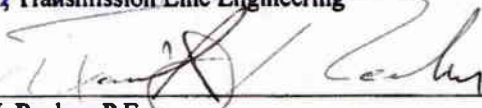
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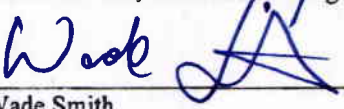
07/21/2017  
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Date

  
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Vice President, Transmission Engineering & Project Services


7/25/17  
Date

  
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Rick Mowbray, Supervisor, Region Forestry, Transmission Forestry  
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Mark L. Boucher, Utility Forester, Transmission Forestry  
Travis S. Klinebriel, Utility Forester, Transmission Forestry  
Charles V. Talley, Manager, System Forestry Operations

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# I. Referenced Specifications

Title	Date	Revision	Pages
<i>AEP Forestry Goals, Procedures &amp; Guidelines for Distribution and Transmission Line Clearance Operations,</i>	2016	4	1-26
American Electric Power (AEP). <i>Transmission Right of Way Clearing and Maintenance: A Balanced Approach to Vegetation Management.</i> American Electric Power, Columbus, OH 43215.	2008		
American National Standard Institute. <i>for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices (Pruning).</i> Tree Care Industry Association, Inc. Londonderry, NH 03053.	2014	A300 (Part 1)-2008 (R2014)	1-13
American National Standard Institute. <i>for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices Part 7 – Integrated Vegetation Management a. Electric Utility Rights-of-way.</i> Tree Care Industry Association, Inc. Londonderry, NH 03053.	2012	A300 (Part 7)-2012	1-15
American National Standard Institute. <i>American National Standards for Arboriculture Operations – Safety Requirements.</i> International Society of Arboriculture (ISA). Champaign, IL 61826.	2012	Z133.1-2012	1-71
TVMD-003 <i>AEP Vegetation Inspection and Patrol Practices</i>	2015	0	4-8
TVMD-009 <i>AEP Imminent Threat Communication and Procedures</i>	2017	2	5-8
TVMD-011 <i>AEP Guideline Accounting for Maximum Conductor and Sag Blowout for Vegetation Management</i>	2017	1	4-23
TVMD-014 <i>AEP Risk Assessment &amp; Procedures</i>	2017		

## II. The Transmission Vegetation Management Program (TVMP)

### A. Scope

The American Electric Power (AEP) Transmission Vegetation Management Program (TVMP) has been developed and implemented to ensure compliance with the North American Electric Reliability Corporation (NERC) reliability standard FAC-003-4. This program is intended to maintain a reliable electric transmission system by using a defense-in-depth strategy to manage vegetation located on transmission rights-of-way (ROW) and minimize encroachments from vegetation located adjacent to the ROW, thus preventing the risk of those vegetation-related outages that could lead to Cascading.

This program applies to AEP's transmission and generation facilities as defined in FAC-003-4. Facilities referred to as NERC-applicable are:

- Transmission lines operated at 200 kV and above ( $\geq 200\text{kV}$ );
- Other lower-voltage transmission or generation lines that have been designated as an Interconnection Reliability Operating Limit (IROL);
- Each overhead transmission line identified above, located outside the fenced area of the switchyard, station or substation, and any portion of the span of the transmission line that is crossing the substation fence;
- Overhead generation lines that extend greater than one mile beyond the fenced area of the generating station switchyard to the point of interconnection with a transmission facility or that do not have a clear line of sight, and are operated at 200 kV and above ( $\geq 200\text{kV}$ ).

AEP's Transmission Forestry Operations group manages and executes the program for vegetation along approximately 8,700 miles of NERC-applicable transmission rights-of-way in portions of eleven states. This is accomplished through the implementation and oversight of a comprehensive, systematic, vegetation management program.


### B. Vegetation Management Objectives

The TVMP is an integral part of providing for the safe, reliable operation of the AEP transmission system. The key measure of success is zero reportable vegetation-related outages on NERC-applicable facilities.

For NERC-applicable facilities, AEP's intent is to clear the right-of-way to the maximum appropriate width by removing all woody-stemmed vegetation within the right-of-way<sup>1</sup> and potential hazard trees.

AEP conducts inspections, aerial and targeted ground inspections, and develops annual vegetation management work plans to ensure the program objective is achieved in the most efficient, environmentally sound, and economical manner practical.

<sup>1</sup>Upon completion of vegetation maintenance.

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AEP strives to manage its rights-of-way in accordance with its Environmental, Safety and Health (ES&H) Philosophy: “No aspect of operations is more important than the health and safety of people. Our customer’s needs are met in harmony with environmental protection.”

Additional considerations include:

- Minimizing adverse environmental impacts.
- Complying with laws and regulations.
- Achieving cost efficiency.
- Maintaining a positive relationship with landowners and the public.

## C. Definitions

**Cascading:** “The uncontrolled successive loss of System Elements triggered by an incident at any location. Cascading results in widespread electric service interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies.”<sup>2</sup>

**Hazard trees:** Trees that are structurally unsound and could strike a target (such as electric facilities) when they fail.<sup>3</sup>

**Interconnection Reliability Operating Limit (IROL):** “A system Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.”<sup>2</sup>

**Inspector:** Individual assigned with the responsibility of evaluating clearances in the Transmission Right-of-Way and minimizing encroachments into the ROW from vegetation located adjacent to the ROW.


**Minimum Vegetation Clearance Distance (MVCD):** “The calculated minimum distance stated in feet (meters) to prevent flash-over between conductors and vegetation, for various altitudes and operating voltages.”<sup>2</sup>

**Remediation:** The evaluation of a point of interest, and if necessary, taking action to resolve the identified vegetative issues.

**Right-of-Way (ROW):** “The corridor of land under a transmission line(s) needed to operate the line(s). The width of the corridor is established by engineering or construction standards as documented in either construction documents, pre-2007 vegetation maintenance records, or by the blowout standard in effect when the line was built. The ROW width in no case exceeds the applicable Transmission Owner’s or applicable Generator Owner’s legal rights but may be less based on the aforementioned criteria.”<sup>2</sup>

<sup>2</sup>North American Electric Reliability Corporation, *Glossary of Terms Used in NERC Reliability Standards* (Atlanta, GA: North American Electric Reliability Corporation, 2017), accessed June 23, 2017, [http://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary\\_of\\_Terms.pdf](http://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf).

<sup>3</sup>American National Standard Institute, “Part 7 – Integrated Vegetation Management,” “a. Electric Utility Rights-of-way” in *for Tree Care Operations - Tree, Shrub, and Other Woody Plant Management - Standard Practices*, (Londonderry, NH: 2006), 58.

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**Sustained Outage:** “The de-energized condition of a transmission line resulting from a fault or disturbance following an unsuccessful automatic reclosing sequence and/or unsuccessful manual reclosing procedure.”<sup>2</sup>

**Vegetation Inspection:** “The systematic examination of vegetation conditions on a Right-of-Way and those vegetation conditions under the applicable Transmission Owner’s or applicable Generator Owner’s control that are likely to pose a hazard to the line(s) prior to the next planned maintenance or inspection. This may be combined with a general line inspection”<sup>4</sup>

**WECC Transfer Path:** The transmission paths monitored by the WECC (Western Electric Coordinating Council) regional Reliability coordinators.<sup>4</sup> Note: AEP does not operate in the WECC region.

### III. FAC-003-4 Requirements


#### A. Requirement 1 (Applicable Lines That are an Element of an IROL or Major WECC Transfer Path)

AEP maintains records of sustained outages from all causes. All outages determined to be caused by vegetation are investigated by appointed AEP employees, and information is obtained specific to the line designation, voltage, date and time of the disturbance, species, location relative to the line, NERC outage category, and duration of the outage if it was sustained. Sustained transmission line outages that are determined to have been caused by vegetation are reported to the Regional Entities or their designees. The supporting document AEP utilizes to identify vegetation outage information is a periodic report generated from an internal AEP system. The report lists vegetation-related outages by Regional Entities. The report lists the names of circuits where outages occurred; operated voltages; the date, time, and duration of the outage; and a description of the cause of the outage.

AEP conducts bi-annual vegetation inspections of all applicable facilities. During this inspection AEP inspects the vegetation-to-conductor clearances and identifies vegetation on and along transmission ROWs that could pose a reliability risk to the facility. Aerial patrols, except where the FAA or other ordinance prohibits flight, cover substantial portions of the transmission system to identify areas where remediation may be needed to prevent vegetation from interfering with circuit operation. Ground patrols are used to supplement aerial patrols and where aerial patrols are restricted.

A confirmed encroachment into the MVCD as identified in NERC Standard FAC-003-4 Minimum Vegetation Clearance Distances (MVCD) Table 2, Page 18, observed in real time during the inspection, is reported to the transmission forestry manager. Appropriate data and photographs are taken and submitted to the manager. These events are reported to the Regional Entity in accordance with NERC policy.

<sup>4</sup>North American Electric Reliability Corporation, Glossary of Terms Used in NERC Reliability Standards (Atlanta, GA: North American Electric Reliability Corporation, 2017), accessed June 23, 2017, [http://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary\\_of\\_Terms.pdf](http://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf).

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## B. Requirement 2 (Applicable Lines That are Not an Element of an IROL or Major WECC Transfer Path)

AEP maintains records of sustained outages from all causes. All outages determined to be caused by vegetation are investigated by appointed AEP employees, and information is obtained specific to the line designation, voltage, date and time of the disturbance, species, location relative to the line, NERC outage category, and duration of the outage if it was sustained. Sustained transmission line outages that are determined to have been caused by vegetation are reported to the Regional Entities or their designees. The supporting document AEP utilizes to identify vegetation outage information is a periodic report generated from an internal AEP system. The report lists vegetation-related outages by Regional Entities. The report lists the names of circuits where outages occurred; operated voltages; the date, time, and duration of the outage; and a description of the cause of the outage.

AEP conducts bi-annual vegetation inspections of all applicable facilities. During this inspection AEP inspects the vegetation-to-conductor clearances and identifies vegetation on and along transmission ROWs that could pose a reliability risk to the facility. Aerial patrols, except where the FAA or other ordinance prohibits flight, cover substantial portions of the transmission system to identify areas where remediation may be needed to prevent vegetation from interfering with circuit operation. Ground patrols are used to supplement aerial patrols and where aerial patrols are restricted.

A confirmed encroachment into the MVCD as identified in NERC Standard FAC-003-4 Minimum Vegetation Clearance Distances (MVCD) Table 2, Page 18, observed in real time during the inspection, is reported to the transmission forestry manager. Appropriate data and photographs are taken and submitted to the manager. These events are reported to the Regional Entity in accordance with NERC policy.


## C. Requirement 3 (Maintenance Strategy)

For NERC-applicable facilities, AEP's fundamental strategy is to clear the right-of-way to the maximum appropriate width by removing all woody-stemmed vegetation within the right-of-way<sup>5</sup> and potential hazard trees.

AEP considers conductor location and movement, the MVCD, and vegetation growth between maintenance activities when developing its maintenance plan. Maintenance does not occur on a rigid "cycle" basis; rather, the maintenance technique and schedule are driven by the condition of the vegetation observed during bi-annual inspections. Vegetation-to-conductor distances are based on completed work meeting or exceeding the minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and qualified line-clearance arborist trainees (Columns A and C in Table 3: Transmission Line Clearance Guidelines in Appendix A on page 20).

AEP Transmission Forestry's goal is to convert the vegetative cover types on its transmission rights-of-way to low growing grass-forbs-herb covers that inhibit the germination, establishment, and growth of most incompatible vegetative species.

<sup>5</sup>Upon completion of vegetation maintenance.

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The AEP transmission vegetation management program emphasizes tree removal to promote long-term vegetation control and to minimize future maintenance expenditures. Additionally, AEP foresters and contractor personnel inspect for hazard trees during scheduled maintenance. Hazard trees are addressed on a case-by-case basis by the responsible forester.

Manual clearing is employed where the terrain is too steep or rough for mechanized equipment, where the vegetation is too tall for herbicide applications and aerial application is not possible, or where the immediate removal of vegetation is necessary. Contract employees use chainsaws or brush saws to selectively remove vegetation from the rights-of-way.

Mechanical clearing may be employed where terrain and access allow and where the vegetation is not too large for mechanical equipment to handle, where the vegetation is too tall for herbicide applications, where aerial application is not possible, or where the immediate removal of vegetation is necessary.

When tree removal or clearing is not practical or feasible, tree pruning may be employed. Fast-growing trees, where removal permission is not obtained, are pruned to yield greater clearance distances than slower-growing varieties. AEP Transmission Forestry may employ tree growth regulators (TGRs) to reduce the frequency and amount that trees must be pruned.

Mechanical pruning operations employ a variety of boom-mounted saws on vehicles capable of traversing the rights-of-way. Access, terrain, and tree heights influence the type of equipment used. When applicable, rights-of-way may be maintained with an aerial saw. These rights-of-way possess one or more of the following characteristics: steep, mountainous terrain; limited access; or prohibitive costs to prune by conventional means.

Manual and mechanical clearing without follow-up herbicide applications does not control the root systems of incompatible vegetation and could increase the future maintenance requirements in the areas where it is employed. Aerial, high-volume foliar, low-volume foliar, ultra-low-volume foliar, cut stubble, stump, basal, and granular applications may be employed. United States EPA-registered herbicides are applied by licensed pesticide application businesses contracted by AEP.

## **D. Requirement 4 (Vegetation Condition That is Likely to Cause a Fault at any Moment)**

A vegetation condition that is likely to cause a fault at any moment is considered an imminent threat to the reliable operation of a NERC- or an IROL-applicable facility. An imminent threat must be mitigated within 24 hours of confirmation. This condition may be characterized by either vegetation or hazard trees that are approaching or threatening to approach the Minimum Vegetation Conductor Distance. For locations found during patrols, routine work, or other observations, where a potential imminent threat condition is confirmed by transmission forestry, an immediate notification<sup>6</sup> to the local dispatching authority is required. This will allow for mitigating actions, such as removal of the vegetation, temporary reduction in circuit rating, or switching the circuit out of service, until the imminent threat is relieved.

Refer to TVMD-009 *Imminent Threat Communication and Procedures*.

## **E. Requirement 5 (Vegetation Constraint May Lead to an Encroachment Into the MVCD)**


Restrictions on scheduled work may include refusals by property owners to access or perform work, orders to stop work by local authorities, restrictions by federal and/or state agencies, or legal injunctions. The maintenance strategy in section III.C defines the expected extent of clearing. If the clearance specifications cannot be achieved at the time of scheduled maintenance, AEP shall implement corrective action. This corrective action may include more-frequent maintenance or more-frequent inspections to monitor the risk to the system and is documented in AEP's restriction log.

AEP has implemented procedures for achieving sufficient clearances in those locations on its rights-of-way where AEP is restricted from attaining the clearance listed in Column C of Table 3: Transmission Line Clearance Guidelines to prevent encroachment into the MVCD. This is described in AEP's Right-of-Way Clearance Guidelines; see "Appendix A: Right-of-Way Clearance Guidelines," which starts on page 19.

During bi-annual patrols, AEP monitors locations where these clearances cannot be achieved and determines if more-frequent maintenance is required in order to assure the safe, reliable operation of the circuit.

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<sup>6</sup>NOPR RM-12-4-000, page 50, #85 (10/18/2012)—NERC explains that the obligation to notify without intentional delay generally "can be understood to include an immediate (within 1 hour of observation) communication notwithstanding a safety issue to personnel, other immediate priority maintenance functions to ensure reliability or system stability, or communication equipment failures that precludes immediate communication."

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## F. Requirement 6 (Annual Inspections)

### 1. Vegetation Inspections and Patrols

Aerial patrols are conducted to identify areas of the transmission system where remediation may be needed to prevent vegetation from interfering with circuit operation except where the FAA or other ordinance prohibits flight. Ground patrols are used to supplement aerial patrols and where aerial patrols are restricted. Aerial and ground patrol inspections aid in the development of the vegetation maintenance work plan.

### 2. Forestry Patrol Procedures

#### a. Patrol of the AEP Transmission System

AEP shall perform bi-annual inspections on 100% of all transmission facilities subject to FAC-003-4. Patrols provide Transmission Foresters a view of right-of-way conditions and the effectiveness of the vegetation management program.

#### b. Patrol Schedule

Patrol schedules are summarized in the table below.

**Table 1: Patrol Schedule**

	<b>Fall Patrol</b>	<b>Spring Patrol</b>
Patrol	<ul style="list-style-type: none"><li>Aug 15–Nov 15.</li></ul>	<ul style="list-style-type: none"><li>By May 21.</li><li>In areas at higher elevation or with later vegetation emergence, this date may be extended to June 4.</li></ul>
Remediation	<ul style="list-style-type: none"><li>A1 Condition: addressed within 24 hours of confirmation.</li><li>P1 Condition: complete by March 1 of the following year.</li></ul>	<ul style="list-style-type: none"><li>A1 Condition: addressed within 24 hours of confirmation.</li><li>P1 Condition: complete by May 30. In areas at higher elevation or with later vegetation emergence, this date may be extended to June 14.</li></ul>

### 3. Exceptions


Aerial patrols may be interrupted by force majeure, such as severe storms or floods. If patrols are interrupted, the time extension to complete the inspection shall not exceed the duration of the time AEP was prevented from performing the vegetation inspection.

## G. Requirement 7 (Annual Work Plan)

AEP shall complete 100% of its annual vegetation work plan miles on NERC-applicable facilities to ensure no vegetation encroachments occur within the MVCD. Modifications to the work plan in response to changing conditions or to findings from vegetation inspections may be made (provided they do not allow encroachment of vegetation into the MVCD) and must be documented. The work plan starts on January 1 and ends on December 31.

AEP has a process for documenting the vegetation management activities to ensure the following:

- Scheduled work is properly identified and listed in the work plan.
- Adjustments to the work plan are properly noted and recorded. This plan may be modified for the following reasons:
  - Change in expected growth rate/environmental factors
  - Circumstances that are beyond the control of an applicable Transmission Owner or applicable Generator Owner
  - Rescheduling work between growing seasons
  - Crew or contractor availability/mutual assistance agreements
  - Identified, unanticipated high-priority work
  - Weather conditions/accessibility
  - Permitting delays
  - Land ownership changes/change in land use by the landowner
  - Emerging technologies
- Timesheets and maintenance methods employed are noted for each type of work on each project listed in the work plan.
- Work quality inspections are performed, and work completed meets company specifications.

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# Appendix A: Right-of-Way Clearance Guidelines

When performing maintenance, the objective for locations on spans with less than 100' vertical clearance at maximum sag from conductor to ground is removal of all woody-stemmed vegetation to the appropriate width<sup>7</sup>, leaving the cleared area of the right-of-way populated with grasses and herbaceous growth. Under certain circumstances (unique topographic and/or environmentally sensitive conditions), AEP may allow compatible, low-growing species to remain in the right-of-way. In maintained areas (mowed yards, lawns, and public areas), trees deemed compatible with safe operation of the line may remain, although AEP strongly discourages this practice. Compatible species will be limited to those that grow no more than 15' tall. Actively maintained trees that could be considered a crop such as in nurseries or orchards will be maintained in accordance with the clearance table guidelines specified in Table 2: Clearance Table Guidelines below. Table 3: Transmission Line Clearance Guidelines on page 20 shows Transmission Line Clearance Guidelines.

**Table 2: Clearance Table Guidelines**

<b>Right-of-Way with No Restrictions</b>	<b>Right-of-Way With Restrictions</b>
<b>&lt; 100' Vertical Clearance Between Conductors at Maximum Sag and Ground</b>	<b>&lt; 100' Vertical Clearance Between Conductors at Maximum Sag and Ground</b>
<ol style="list-style-type: none"> <li>1. Remove all woody stemmed vegetation.</li> <li>2. Do not allow vegetation closer than column E, Table 3.</li> <li>3. Trigger distance to schedule maintenance per column D, Table 3.</li> </ol>	<ol style="list-style-type: none"> <li>1. Trim or remove vegetation to meet column C, Table 3.</li> <li>2. Do not allow vegetation closer than column E, Table 3.</li> <li>3. Trigger distance to schedule maintenance per column D, Table 3.</li> </ol>
<b>&gt; 100' Vertical Clearance Between Conductors at Maximum Sag and Ground</b>	<b>&gt; 100' Vertical Clearance Between Conductors at Maximum Sag and Ground</b>
<ol style="list-style-type: none"> <li>1. Trim or remove vegetation to meet column B, Table 3.</li> <li>2. Do not allow vegetation closer than column E, Table 3.</li> <li>3. Trigger distance to schedule maintenance per column D, Table 3.</li> </ol>	<ol style="list-style-type: none"> <li>1. Trim or remove vegetation to meet column C, Table 3.</li> <li>2. Do not allow vegetation closer than column E, Table 3.</li> <li>3. Trigger distance to schedule maintenance per column D, Table 3.</li> </ol>

<sup>7</sup>Upon completion of vegetation maintenance.



**Table 3: Transmission Line Clearance Guidelines<sup>8</sup>**

Column A	Column B	Column C	Column D	Column E	MVCD <sup>9</sup>
Nominal Voltage (kV phase to phase)	AEP Clearance (no restrictions) Desired Clearance Between Conductor and Vegetation	AEP Clearance (with restrictions) Desired Clearance between Conductor & Vegetation	ANSI <sup>10</sup> Clearance between Conductor & Vegetation	AEP Clearance between Conductor & Vegetation	Over Sea Level up to 5,000 ft.
765kV	45'	35'00"	27'04"	14'00"	12'05"
500kV	45'	26'08"	19'00"	10'00"	7'07"
345kV	30'	20'05"	13'02"	7'06"	4'08"
230kV	30'	16'05"	7'11"	5'02"	4'05"
161kV <sup>11</sup>	25'	14'00"	6'00"	3'05"	3'00"
138kV <sup>11</sup>	25'	13'02"	5'02"	2'11"	2'06"
115kV <sup>11</sup>	25'	12'04"	4'06"	2'06"	2'01"
88kV <sup>11</sup>	25'	12'04"	4'06"	2'06"	1'08"
69kV <sup>11</sup>	25'	10'09"	4'02"	2'06"	1'02"

<sup>8</sup>Conductor at maximum sag and movement.

<sup>9</sup>The distances in this Table are the minimums required by FAC-003-4 Industry Advisory Minimum Vegetation Clearance Distances (MVCD) May 14, 2015 to prevent Flash-over; however, prudent vegetation maintenance practices dictate that substantially greater distances will be achieved at time of vegetation maintenance.

<sup>10</sup>ANSI Z133-2012.

<sup>11</sup>Such lines are applicable to this standard only if Planning Coordinator has determined such per FAC-014.

## Appendix B: Subject Matter Experts


FAC-003-4 Requirement	Description	Preparer	SME	Reviewer
R1.-M1.	Manage vegetation to prevent encroachment into MVCD for IROL lines	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	J.E. Momme Director, Trans. Line Engineering 614-993-2046 <a href="mailto:jemomme@aep.com">jemomme@aep.com</a>
R2.-M2.	Manage vegetation to prevent encroachment into MVCD for non- IROL lines	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	
R3.-M3.	Documented maintenance strategies	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	E. K. Engdahl, Staff Engineer 614-933-933-2429 <a href="mailto:ekengdahl@aep.com">ekengdahl@aep.com</a>	
		Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	Kevin Irvine Engineer 614-552-2281 <a href="mailto:kcirvine@aep.com">kcirvine@aep.com</a>  Barrett Thomas Supervisor Planning & Engineering 918-599-2386 <a href="mailto:bathomas@aep.com">bathomas@aep.com</a>  John Booze Engineer 540-562-7061 <a href="mailto:jrbooze@aep.com">jrbooze@aep.com</a>	
R4.-M4.	Notify the control center holding switching authority of a confirmed vegetation condition	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	

<b>FAC-003-4 Requirement</b>	<b>Description</b>	<b>Preparer</b>	<b>SME</b>	<b>Reviewer</b>
R5.-M5.	Constrained from performing vegetation work	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	
R6.-M6.	Complete inspections on 100% of applicable transmission lines	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	
R7.-M7.	Complete 100% of annual plan	Kevin Patton Business Analyst Principal 614-716-1231 <a href="mailto:kbpatton@aep.com">kbpatton@aep.com</a>	Lynn Hayward Senior Engineer 614-933-2429 <a href="mailto:lehayward@aep.com">lehayward@aep.com</a>	

## Appendix C: TVMP Internal Mailing List

Role definitions: A—Accountable; C—Consult; I—Informed; R—Responsible; S—Support

Name/E-mail Group	Department	Title	Role
Smith, Allan Wade	Transmission Grid Development	SVP Grid Development	A
Smith, Scott N	Trans Controls & Field Services	SVP Trans Fld Srvc & Controls	A
Moore, Scott P	Trans Eng & Proj Svcs	VP Trans Eng & Proj Svcs	A
Kirkpatrick, Thomas L	Customer and Distr Services	VP Cust Svcs, Mktg & Dist Svcs	A
Fox, Kip M	Electric Transmission Texas	Mng. Dir. Elec. Trans TX	A
Recker, Daniel J	Transmission Engineering	Mng Dir Trans Engrg	A
Momme, Jeffrey E	Transmission Line Engineering	Dir. Trans. Line Projects Engineering	A
Johnson, Paul B	Transmission Operations	Mng. Dir. Transmission Ops	A
Fecho, Thomas R	GET Eng Elec Interct Plng	Mgr-Gen & Elec Intrcnctn Plngg	C
Parrish, T. David	Trans Line Standards	Mgr. Trans. Line Design Standards	C
Wagner, Robert C	Transmission Field Services	VP Trans Field Services	I
TRELCOMP	Transmission Reliability Compliance	Group Mailing List	I
Schaffer, Thomas O	Trans Line Engrg Right-of-Way	Mgr Trans Right of Way	I
Curiel III, Nicolas	Trans Line Engrg Right-of-Way	Supv Trans Right of Way	I
Bergeret, Rene J	Trans Line Engrg Right-of-Way	Supv Trans Right of Way	I
Huddleston, Mary A	Trans Line Engrg Right-of-Way	Supv Trans Right of Way	I
Unternaer, Brenda L	Trans Line Engrg Right-of-Way	Supv Trans Right of Way	I
Smith, Matthew J	Trans Line Engrg Right-of-Way	Supv Trans Right of Way	I
Nguyen, Thuy P	Trans Tech Svcs Wrk Plan	Mgr. Trans Work Planning	I
Rappach, James A	Generation NERC Compliance	Mgr-Regional Eng Svcs	I
Fuller, Terry A	GET Eng Elec Interct Plng	Principal Engineer	I
Daniels, David	Generation NERC Compliance	Principal Engineer	I
Carlson, John P	ESH Management Systems	Mgr ESH Mngmnt System	I
Liebrecht, John J	Trans Tech Svcs Wrk Plan Line	Supv Planning & Engineering	I

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Role definitions: A—Accountable; C—Consult; I—Informed; R—Responsible; S—Support

<b>Name/E-mail Group</b>	<b>Department</b>	<b>Title</b>	<b>Role</b>
Ordner, Lance	Trans Tech Svcs Wrk Plan Line	Senior Engineer	I
Cotant, Ronald D	Trans Tech Svcs Wrk Plan Line	Senior Engineer	I
Robinson, Kip	Trans Tech Svcs Wrk Plan Line	Senior Engineer	I
Martin, Amanda	Trans Tech Svcs Wrk Plan Line	Engineering Technologist	I
Linkous II, Charles N.	Trans Tech Svcs Wrk Plan Line	Senior Engineering Technologist	I
York, Leo	Electric Transmission Texas	Mgr Transmission Bus Dev	I
Macias, Michael M	Electric Transmission Texas	ETT Technical Project Lead Sr	I
Siefker, Matthew L	Electric Transmission Texas	ETT Technical Project Lead Sr	I
Garrett, James G	Trans Reliability Compliance	Trans Relblty Complc Spec	R
Shepard, Darren A.	Distribution Services	Dir Distribution Svcs Suppt	A
Talley, Charles V	System Forestry	Mgr. Forestry Operations	R
T Forestry	Trans. Foresters and Forestry Management	Group Mailing List	R
Ball, David R	Transmission Dispatch	Dir. Transmission Dispatching	R
Rodriguez, Linda L	Trans Dispatch Corpus Christi	Mgr. Transmission Dispatching	R
Milford, David L	Trans Dispatch Shreveport	Mgr. Transmission Dispatching	R
Moses, Clinton D	Trans Dispatch Columbus	Mgr. Transmission Dispatching	R
Guill, Darrell E	Trans Dispatch Roanoke	Mgr. Transmission Dispatching	R
Wagner, Billy W	Roanoke Dist Dispatch	Mgr. Distribution Dispatching	R
Knight, Randall L	AEP Ohio Distr Dispatch	Mgr. Distribution Dispatching	R
Sturtz, Robert D	Ft Wayne Distrib Dispatch	Mgr. Distribution Dispatching	R
Apple, Dwayne L	PSO Distribution Dispatch	Mgr. Distribution Dispatching	R
Lyles, James S	SWEPCO Distrib Dispatch	Mgr. Distribution Dispatching	R
Dunlap IV, Bailey H	Texas Distrib Dispatch	Mgr. Distribution Dispatching	R
Dunlap IV, Hauge	C Christi Distrib Dispatch	Mgr. Distribution Dispatching	R
Blankenship, Stephen D	Kentucky Distribution Dispatch	Distribution Dispatch Supv.	R
Patton, Kevin B	System Forestry	Principal Business Analyst	R

Role definitions: A—Accountable; C—Consult; I—Informed; R—Responsible; S—Support

<b>Name/E-mail Group</b>	<b>Department</b>	<b>Title</b>	<b>Role</b>
Hughes, Joey	System Forestry	Business Analyst	R
Engdahl, Eric K	Trans Line Engrg Design Standards	Staff Engineer	R
Irvine, Kevin C	Trans Line Eng Ohio	Engineer	R
Thomas, Barret A	Transmission Line Engrg	Supv Planning & Engineering	R
Whitaker, Robert	Transmission Line Engrg	Senior Engineer	R
Booze, John R	Transmission Line Engrg	Engineer	R
Hayward, Lynn E	Transmission Line Engrg	Senior Engineer	R
Krause, Stan A	Trans Line Engrg ERCOT	Mgr. Trans. Line Engineering	S
Overduyn, Rebecca, M	Trans Line Engrg SPP	Mgr. Trans. Line Engineering	S
Hannah, Eddie D	Trans Line Engrg I&M	Mgr. Trans. Line Engineering	S
Grawe, Rob	Trans Line Eng Ohio	Mgr. Trans. Line Engineering	S
Bledsoe, James K	Trans Line Eng APCO	Mgr. Trans. Line Engineering	S
TLPE All	Transmission Line Project Engineering	Group Mailing List	S
TCI PM ALL	Transmission Project Mgt. & Control	Group Mailing List	S
McAuley, Rosalyn N	Transmission Operations Engineering	Mgr. Operations Engineering	S
Sauriol, Dennis R	Transmission Real Time Operations	Dir Trans Ops. Reliability	S
Robinson, Shawn	Transmission Field Services	Mng. Dir. Transmission West	S
Pugh, Archie D	Transmission Field Services	Mng. Dir. Transmission East	S
Boezio, Daniel R	Transmission Field Services	Dir Trans Region Tech Support	S
Cook, James K	Trans Field Construction East	Dir Trans Region Construction	S
Avanessian, Paul D	Trans Field Construction West	Dir TFS Construction	S
Workman, Mark A	Trans Construction Mgmt	Mng Dir Trans Constr Mgmt	S
Colvin, Kenneth A	Trans Const Mgmt – Gah PJM Ohio	Mgr – Trans Construction	S
Galyean, Rue F	Trans Const Mgmt – Tulsa ERCOT	Mgr – Trans Construction	S
Emberger, Joseph H	Trans Const Mgmt – Gah PJM AP	Mgr – Trans Construction	S
Ball, Nathan M	Trans Const Mgmt – Tulsa SPP	Mgr – Trans Construction	S
Heck, Jeffrey A	Trans Const Mgmt – Gah PJM IM	Mgr – Trans Construction	S

Role definitions: A—Accountable; C—Consult; I—Informed; R—Responsible; S—Support

<b>Name/E-mail Group</b>	<b>Department</b>	<b>Title</b>	<b>Role</b>
Bocaneregra, Rene	Trans Const Mgmt – Gah PJM AP	Mgr – Trans Construction	S
Deskins, Terry	Trans Construction Mgmt	Mgr – Trans Constr Outage Coord	S

**ATTACHMENT 12**

**AGENCY COORDINATION**



**ATTACHMENT 12  
AGENCY COORDINATION**

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In January of 2017, Transource PA initiated coordination with agencies, municipalities, and elected officials. Initial consultation letters were mailed to state and federal agencies listed in Appendix 12.1. These letters introduced Transource PA, the Independence Energy Connection Project, and requested data related to the agencies specific jurisdiction. In addition to the initial letters, follow up meetings or correspondence is also listed Appendix 12.1. Copies of the initial agency consultation letters and responses are provided in Attachment 3 Siting Study, Appendix B.

**APPENDIX 12.1**

**List of Agency Coordination**

Independence Energy Connection Project  
Attachment 12  
Agency Coordination

DATE/TIME	COMMUNICATION TYPE	STATE	COUNTY	MUNICIPALITY / OFFICE	CONTACT	TRANSOURCE ATTENDEES	CONSULTANT ATTENDEES	STATE / COUNTY / LOCAL ATTENDEES
January 12, 2017	Meeting	Maryland	State	PPRP	Susan Gray	Peggy Simmons, Laurie Spears, Tim Gaul	Barry Baker (AECOM)	Susan Gray, Fred Kellex, Shawn Seaman, Steve Talson
January 31, 2017	Letter	Maryland	Federal	USACE - Baltimore District MD Northern Section	Joe DaVia - Chief	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	Federal	USACE - Baltimore District	Wade Chandler - Chief	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	Federal	USFWS - Cheasepeake Field Office	Genevieve LaRouche	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	Federal	USFWS - Pennsylvania Field Office	Lora Lattanzi	N/A	N/A	N/A
January 31, 2017	Letter	Both	Federal	EPA Region 3	Shawn Garvin - Regional Administrator	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Department of Environmental Protection	Joseph Adams - Regional Director	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Fish and Boat Commission	John Arway - Executive Director	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Game Commission	Bradely Meyers - Director	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Department of Conservation and Natural Resources	Ellen Schultzbarger - Division Chief	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Historical & Museum Commission	Andra MacDonald - Bureau Director	N/A	N/A	N/A
January 31, 2017	Letter	Pennsylvania	State	PA Department of Agriculture	Doug Wolfgang - Supervisor	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	State	Maryland Department of the Environment	Lynn Buhl - Director	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	State	Maryland Department of Natural Resources	Denise Keehner - Program Manager	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	State	Maryland Historical Trust	Natalie Loukianoff - Preservation Officer	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	State	Maryland Environmental Trust	William Leahy - Executive Director	N/A	N/A	N/A
January 31, 2017	Letter	Maryland	State	Maryland Department of Agriculture	Louise Lawrence - Program Manager	N/A	N/A	N/A
February 6, 2017	Meeting	Maryland	Harford	State Senate	J.B. Jennings, Senator	Todd Burns	Rick Abbruzzese, Mary Urban	Senator J.B. Jennings
February 6, 2017	Meeting	Maryland	Harford	Harford County	Barry Glassman, County Executive	Todd Burns	Rick Abbruzzese, Mary Urban	Barry Glassman, County Executive Chad Shrodes, County Administrator
February 6, 2017	Meeting	Maryland	Harford	Harford County	Chad Shrodes, County Councilman	Todd Burns & Laurie Spears	Mary Urban (KOFA)	
February 6, 2017	Meeting	Maryland	Washington	State Senator	Senator Andrew Serafini	Todd Burns	Rick Abbruzzese, Mary Urban	Senator Andrew Serafini
February 7, 2017	Meeting	Pennsylvania	Franklin	State Senator	Sen. Richard Alloway	Todd Burns & Laurie Spears	Steve Kratz, Dennis Walsh, Margaret Durkin	Sen. Richard Alloway
February 7, 2017	Meeting	Pennsylvania	Franklin	State Representative	Rep. Paul Schemel	Todd Burns & Laurie Spears	Steve Kratz, Dennis Walsh, Margaret Durkin	Rep. Paul Schemel
February 7, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding

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DATE/TIME	COMMUNICATION TYPE	STATE	COUNTY	MUNICIPALITY / OFFICE	CONTACT	TRANSOURCE ATTENDEES	CONSULTANT ATTENDEES	STATE / COUNTY / LOCAL ATTENDEES
February 8, 2017	Meeting	Pennsylvania	York	Lower Chanceford Township	Sue Wiley, Zoning Officer	Todd Burns & Laurie Spears	Chris Getman	Sue Wiley
February 8, 2017	Meeting	Pennsylvania	York	Chanceford Township	Kent Heffner	Spears	Chris Getman	Kent Heffner
February 8, 2017	Meeting	Pennsylvania	Franklin	Southampton Township	Maria Misner	Spears	Chris Getman	Maria Misner, Paul Witter
February 8, 2017	Meeting	Pennsylvania	Franklin	Greene Township		Spears	Chris Getman	
February 9, 2017	Conference Call	Pennsylvania	Franklin	State Representative	Rep. Rob Kaufmann	Todd Burns & Laurie Spears	Steve Kratz, Dennis Walsh, Margaret Durkin	Rep. Rob Kaufmann
February 9, 2017	Conference Call	Pennsylvania	York	State Senator	Jason High, Chief of Staff	Todd Burns & Laurie Spears	Walsh, Margaret Durkin	Jason High, Chief of Staff for State Senator Scott Wagner
February 9, 2017	Conference Call	Pennsylvania	York	State Representative	Chad Weaver, Chief of Staff	Todd Burns & Laurie Spears	Steve Kratz, Dennis Walsh, Margaret Durkin	Chad Weaver, Chief of Staff for State Representative Stan Saylor
January 12, 2017	Meeting	Maryland	State	PPRP	Susan Gray	Peggy Simmons, Laurie Spears, Tim Gaul	Barry Baker (AECOM)	Susan Gray, Fred Kellex, Shawn Seaman, Steve Talson
February 13, 2017	Conference Call	Pennsylvania	Franklin	Franklin County Planning Office	Phil Tarquino, County Planning Director	Todd Burns & Laurie Spears	Steve Kratz	Phil Tarquino
February 15, 2017	Conference Call	Pennsylvania	York	York County Planning Office	Felicia Dell, County Planning Director	Todd Burns & Laurie Spears	Chris Getman	Felicia Dell
March 2, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding MDE Joint Evaluation Meeting.
March 8, 2017	Meeting	Maryland	Washington	Washington County	Rob Slocum, Director of Engineering & Construction Management	Laurie Spears	Mary Urban, Barry Baker & Dave Yezuita (AECOM)	Rob Slocum
March 8, 2017	Meeting	Pennsylvania	Franklin	Franklin County Planning Office	Phil Tarquino, County Planning Director	Laurie Spears	Baker & Dave Yezuita (AECOM)	Phil Tarquino, Rochelle Barvinchack, Elizabeth Grant
March 9, 2017	Meeting	Pennsylvania	York	York County Planning Office	Felicia Dell, County Planning Director	Laurie Spears	Baker & Dave Yezuita (AECOM)	Roy Livergood, Kurt Leitholf, Joe Heffner, Wade Gobrecht
March 9, 2017	Meeting	Maryland	Harford	Harford County	Bradley Killian, Director of Planning & Zoning	Laurie Spears	Mary Urban, Barry Baker & Dave Yezuita (AECOM)	Brad Killian, Director of Harford County Planning and Zoning Shane Grimm, Chief, Long Range Planning Bill Amoss, Harford County Agricultural Land Preservation Maury Thackston, GIS Technician, Mapping and Data Services
March 10, 2017	Meeting	Maryland	State	Department of Agriculture	Carrol West	Laurie Spears & Tim Gaul	Barry Baker (AECOM)	
March 29, 2017	Meeting	Maryland	Federal/State	MDE Joint Evaluation Meeting	Jonathan Stewart	Peggy Simmons, Laurie Spears & Tim Gaul	Mary Urban, Barry Baker & Dave Yezuita	See sign-in sheet over 17 people in attendance from agencies
March 31, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding open house landowner notification distance.
April 5, 2017	Meeting	Pennsylvania	Franklin	Rep. Paul Schemel	Rep. Schemel	N/A	Margaret Durkin (BRAVO)	Rep. Schemel
April 10, 2017	Meeting	Pennsylvania	State	PA Department of Agriculture	Doug Wolfgang, Farmland Preservation, Bureau Director	Laurie Spears	Barry Baker & Dave Yezuita(AECOM)	Doug Wolfgang

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DATE/TIME	COMMUNICATION TYPE	STATE	COUNTY	MUNICIPALITY / OFFICE	CONTACT	TRANSOURCE ATTENDEES	CONSULTANT ATTENDEES	STATE / COUNTY / LOCAL ATTENDEES
April 11, 2017	Meeting	Pennsylvania	Franklin	Franklin County Planning Office	Phil Tarquino, County Planning Director	Laurie Spears	Chris Getman, Abby Foster, Barry Baker (AECOM)	Phil Tarquino, Rochelle Barvinchack, Elizabeth Grant
April 11, 2017	Meeting	Pennsylvania	York	York County Planning Office	Felicia Dell, County Planning Director	Laurie Spears	Steve Kratz, Abby Foster, Barry Baker (AECOM)	Roy Livergood, Kurt Leitholf, Joe Heffner, Felicia Dell
April 19, 2017	Meeting	Pennsylvania	York	State Representative	Rep. Kristin Phillips-Hill		Dennis Walsh, Margaret Durkin, Abby Foster (Bravo)	Rep. Kristin Phillips-Hill
May 2, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding May meeting coordination.
May 4, 2017	Meeting	Pennsylvania	Franklin	Southampton Township	Maria Misner, Township Planner	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Maria Misner (planner), Township Supervisor, Zoning Officer
May 4, 2017	Meeting	Pennsylvania	Franklin	Hamilton Township & Chambersburg Borough	Deb Hollenshead, Secretary/Treasurer and Ron Pezon, Chambersburg Electric Superintendent, Jamia Wright, Chambersburg secretary	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Deb Hollenshead, Secretary/Treasurer; Randall Negley, Supervisor; Mike Kessinger, Supervisor; Ron Pezon, Chambersburg Electric Superintendent; Jeff Heverley, Chambersburg Electric Assistant; Bill Rudy
May 4, 2017	Meeting	Pennsylvania	Franklin	Guilford Township	Wayne Statler	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Wayne Statler, Zoning and Don Clapper, Supervisor
May 4, 2017	Meeting	Pennsylvania	Franklin	Greene Township	Gina	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Todd Burns, Chairman; Sean Corwell, Supervisor; Dan Bachman, Zoning Officer; Greg Lambert, Township Engineer; Travis Brookens, Vice-Chair
May 4, 2017	Meeting	Pennsylvania	Franklin	Antrim Township	Silvia House	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Sylvia House, Zoning Officer/Code Enforcement; Fred Young, Supervisor
May 4, 2017	Meeting	Pennsylvania	Franklin	Quincy Township	Kerry Brumbaugh, Supervisor, Bob Gunder, Supervisor and Travis Schooley	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Kerry Brumbaugh, Supervisor, Travis Schooley
May 4, 2017	Meeting	Pennsylvania	Franklin	Washington Township	Michael Christopher, Township Manager	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Michael Christopher, Township Manager; Jeff Geesamen, Assistant Township Manager
May 5, 2017	Meeting	Pennsylvania	York	Hopewell & East Hopewell Township & South Penn Code Consultants Office	Keith Hunnings, Code Enforcement Officer	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Keith Hunnings, Code Enforcement Officer (Potentially others from Hopewell/E Hopewell township)
May 5, 2017	Meeting	Pennsylvania	York	Fawn Township	Amy	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Robert Birley, Supervisor and Randy Lowe, Roadmaster
May 5, 2017	Meeting	Pennsylvania	York	Chanceford Township	Tanya	Laurie Spears, Todd Burns	Abby Foster, Barry Baker (AECOM)	Kent Heffner, C Supervisor and Roadmaster, Sue Wiley, Dave Glenn, LC Supervisor; Allen Taylor; LC Supervisor; Gus Parlet, LC Supervisor
May 16, 2017	Meeting	Pennsylvania	Franklin	Federal - Letterkenny	Damian Bess		Barry Baker & Heather Brewster (AECOM)	Bill Tarman - DPW Deputy, Bill Boehmer - Energy Manager, Douglas Warnock - Chief Environmental Management Division, Damian Bess - DPW Director, Scott Yeager - DPW Planning Engineering, Kelly Barnes - DPW Planning Engineering, Walt Findley - DPW Planning Engineering, Jim Coccagna - Chief, Engineering and Planning Division
May 17, 2017	Email Correspondence	Pennsylvania	Franklin	Federal - Letterkenny	Damian Bess		Heather Brewster (AECOM)	

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May 22, 2017	Meeting	Maryland	State	PPRP	Don Strebels	Laurie Spears & Tim Gaul	Barry Baker (AECOM)	Don Strebels, Ginny Rogers, Fred Kelly, Connie Faustini, Susan Gray, Kevin (?),
June 19, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding information tied to bog turtles in the area of Conastone Substation.
June 22, 2017	Meeting	Maryland	Harford	Jarrettsville Norrisville Community Advisory Board		Laurie Spears	Barry Baker, Mary Urban	Kristin Kirkwood, Executive Director of Harford Land Trust and a member from the Farm Bureau
June 22, 2017	Email Correspondence	Maryland	State	PPRP	Fred Kelly	Laurie Spears	N/A	Email regarding coordination of July meeting.
July 6, 2017	Email Correspondence	Pennsylvania	Franklin	PA DCNR - Bureau of Forestry	Roy Brubaker		Heather Brewster (AECOM)	
July 13, 2017	Email Correspondence	Maryland	State	MDE	Kelly Neff	Laurie Spears	N/A	Email requesting information about wetland mitigation site in project area.
July 14, 2017	Meeting	Maryland	State	Department of Agriculture	Carol West	Laurie Spears	Barry Baker (AECOM)	
July 18, 2017	Meeting	Maryland	Washington	County Commissioners			Rick Abburzese	County Commissioners
July 25, 2017	Meeting	Maryland	State	PPRP	Don Strebels Fred Kelley	Laurie Spears Rachel Anderson	Dave Yezuita (AECOM) Rob Everard (BurnsMac)	Don Strebels, Ginny Rogers, Fred Kelly, Lori Byrne
July 6, 2017	Email Correspondence	Pennsylvania	Franklin	PA DCNR - Bureau of Forestry	Jodi Gribik		Heather Brewster (AECOM)	
July 26, 2017	Meeting	Maryland	Federal/State	MDE Joint Evaluation Meeting	Jonathan Stewart	Laurie Spears Rachel Anderson	Dave Yezuita (AECOM) Rob Everard (BurnsMac)	Amanda Sigillito, Jonathan Stewart, April Field, Andy May, David Walbeck, Lou Parnes, Denise Kechner, Greg Golden, Don Strebels, Dixie Henry, Joseph DaVia, Steve Elinsky, Trevor Clark, Tamene Dilnesahr
August 8, 2017	Meeting at open house	Pennsylvania	Franklin	Franklin County Planning Commission, Franklin	Katie Hess	Laurie Spears, Barry Baker	Abby Foster (Bravo)	Katie Hess, Elizabeth Grant, Janet Pollard
August 9, 2017	Meeting	Pennsylvania	York	Planning Commission	Felicia Dell, County Planning Director	Laurie Spears, Todd Burns, Rachel	Barry Baker (AECOM) Abby Foster (Bravo)	Felicia Dell, Wade Grobrecht, Roy Livergood. Commssioners: Kevin Clark, Cheryl Rascoe, Eric Bortner, Thomas Earp, Matthew Chronister, Brian Brenneman, Sean Kenny, Mary Coble, Walter Kuhl
August 16, 2017	Call	Pennsylvania	Franklin	Quincy Township	Kerry Brumbaugh and Travis Schooley		Abby Foster (Bravo)	Travis Schooley and Kerry Brumbaugh
August 17, 2017	Meeting	Pennsylvania	Franklin	State Representative Kauffman			Abby Foster (Bravo)	Rep. Kauffman
August 17, 2017	Meeting	Pennsylvania	Franklin	Congressman Shuster	Nancy Bull, Deputy District Director		Abby Foster (Bravo)	Rep. Rob Kaufmann
August 17, 2017	Meeting	Pennsylvania	Franklin	Franklin County Chamber of Commerce	Doug Harmon, Membership Director		Abby Foster (Bravo)	Nancy Bull, Deputy District Director
August 17, 2017	Call	Pennsylvania	York	Antrim Township	Brad Antrim		Abby Foster (Bravo)	Brad Graham, Township Administrator
August 21, 2017	Call	Pennsylvania	York	York County Planning Office	Roy Livergood		Abby Foster (Bravo)	Roy Livergood
August 23, 2017	Email Correspondence	Maryland	Washington Harford	Maryland Dept of Agriculture	Carol West		Heather Brewster (AECOM)	
August 30, 2017	Call	Pennsylvania	Franklin	State Senator Eichelberger	Kathleen Gunnell, Legislative Aide		Abby Foster (Bravo)	Kathleen Gunnell, Legislative Aide
August 31, 2017	Call	Pennsylvania	York	State Senator Wagner	Leisa Miller, Constituent Relations		Abby Foster (Bravo)	Leisa Miller, Constituent Relations
August 31, 2017	Email Correspondence	Pennsylvania	Franklin York	USDA NRCS - PA	Hathaway Jones		Heather Brewster (AECOM)	

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DATE/TIME	COMMUNICATION TYPE	STATE	COUNTY	MUNICIPALITY / OFFICE	CONTACT	TRANSOURCE ATTENDEES	CONSULTANT ATTENDEES	STATE / COUNTY / LOCAL ATTENDEES
September 6, 2017	Email Correspondence	Maryland	Harford Washington	USDA NRCS - MD	Tiffany Davis		Heather Brewster (AECOM)	
Septmeber 7, 2017	Call	Pennsylvania	Franklin	State Senator Alloway	Stacy Gregson, Field Representative		Abby Foster (Bravo)	Stacy Gregson, Field Representative
September 11, 2017	Meeting	Pennsylvania	York	State Representative Phillips-Hill	Rep. Phillips-Hill		Abby Foster, Dennis Walsh, Margaret Durkin (Bravo)	State Representative Phillips-Hill
September 14, 2017	Call	Pennsylvania	York	Fawn Township	Bob Birley		Abby Foster (Bravo)	Bob Birley
September 20, 2017	Meeting	Pennsylvania	York	State Representative Saylor	Chad Weaver, Chief of Staff and Jeffrey Clukey, Budget Analyst		Abby Foster, Dennis Walsh, Margaret Durkin (Bravo)	Chad Weaver, Chief of Staff and Jeffrey Clukey, Budget Analyst
September 20, 2017	Call	Pennsylvania	Franklin	Franklin County Planning Commission	Phil Tarquino, County Planning Director		Abby Foster (Bravo)	Phil Tarquino
September 20, 2017	Meeting	Pennsylvania	Franklin	State Representative Alloway	Chad Reichard		Abby Foster (Bravo)	Chad Reichard
September 20, 2017	Meeting	Pennsylvania	State	PADCNR Bureau of Forestry - Michaux State Forest	Chris Plank	Laurie Spears	Barry Baker (AECOM) Heather Brewster (AECOM)	Chris Plank, Dave Mong, Roy Brubaker, Rebecca Bowen
September 20, 2017	Email Correspondence	Pennsylvania	Frankliin	PADCNR Bureau of Forestry - Michaux State Forest	Chris Plank		Heather Brewster (AECOM)	
September 21, 2017	Open House	Maryland	Washington	Delegate Wivell			Abby Foster (Bravo)	Delegate Wivell (FE Open House)
September 25, 2017	Meeting	Pennsylvania	Franklin	State Reprasetative Paul Schemel	Representative Schemel		Abby Foster, Dennis Walsh, Margaret Durkin (Bravo)	
September 25, 2017	Call	Pennsylvania	Pennsylvania	US Senator Casey	Brooke Souder, Constituent Services		Abby Foster (Bravo)	Brooke Souder
Septemeber 28, 2017	Call	Maryland	State	Senator Jennings/Delegate Szeliga		N/A	Rick Abbruzzese (KOFA) Mary Urban (KOFA)	
September 29, 2017	Meeting	Maryland	State	PPRP	Don Strebel Fred Kelley	Laurie Spears	Barry Baker (AECOM) Dave Yezuita (AECOM)	Don Strebel, Ginny Rogers, Fred Kelly, Lori Byrne
October 17, 2017	Call	Pennsylvania	Franklin	Senator Alloway	Jeremy Shoemaker		Abby Foster (Bravo)	Jeremy Shoemaker, COS
October 24, 2017	Meeting Field Reivew of East Proposed Route	Maryland	State	PPRP	Don Strebel Fred Kelley		Barry Baker (AECOM) Dave Yezuita (AECOM) Rob Everard (BurnsMac)	
November 1, 2017	Letter	Pennsylvania	State	Congress of the United States - House of Representative	Congressman Scott Perry	N/A	N/A	Letter from Congressman Perry regarding the Project.
November 8, 2017	Letter	Pennsylvania	State	USDA NRCS	Hathaway Jones	N/A	N/A	Consultation request for review of West and East proposed routes related to agriculture easements.
November 29, 2017	Letter	Pennsylvania	State	PA Dept Agricultural	Russell Redding	N/A	N/A	Letter from PA Dept Agri regarding the Project and potential impacts to farmland.

**ATTACHMENT 13**

**PUBLIC NOTICE REQUIREMENTS**



**ATTACHMENT 13**  
**PUBLIC NOTICE REQUIREMENTS**

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Pursuant to Subchapters G and I of the Commission regulations, 52 Pa. Code §§ 57.71-57.77, 57.91-57.93, and the Commission’s Interim Siting Guidelines, 52 Pa. Code §§ 69.3101-69.3107, Transource Pennsylvania, LLC has provided packets of information to fully notify landowners who will be subject to the rights-of-way and easements for the proposed Project. These packets of information include the following:

- A Cover Letter from Transource Pennsylvania, LLC.
- Notification to Contact the Commission or Office of Consumer Advocate for Improper Land Agent Practice required by 52 Pa. Code § 69.3102(a)(2).
- Notification of Right-of-Way Maintenance Practices required by 52 Pa. Code § 57.91
- A Disclosure of Eminent Domain Power of Electric Utilities required by 52 Pa. Code § 57.91
- Transource Pennsylvania, LLC Internal Practices for Dealing with the Public on Power Line Project required by 52 Pa. Code § 69.3102
- A Request for Survey Permission.

Appendix 13.1 is a representative information packet that was sent to all landowners that will be subject to the rights-of-way and easements for the Project. In addition, copies of the Application and supporting Attachments or Notice of Filing are being served in accordance with the provisions of Section 57.74 of the Commission’s regulations, 52 Pa. Code 57.74.

**APPENDIX 13.1**

**Information Packet Sent to All Owners of Land within Right-of-Way**



October 12, 2017

<<Name>>

<<Address 1>>

<<Address 2>>

Re: Pennsylvania Public Utility Commission Required 15-day Landowner Notice

Dear Landowner,

You are receiving this letter because records indicate you own property along an overhead electric transmission line route being proposed for the Independence Energy Connection Project (IEC).

The project will include two new overhead double-circuit 230 kilovolt (kV) electric transmission lines totaling approximately 45 miles located in Pennsylvania and Maryland. The lines are identified as Independence Energy Connection – West (also known as the Rice-Ringgold 230 kV transmission line) located in Franklin County and Independence Energy Connection – East (also known as the Furnace Run-Conastone 230 kV transmission line) located in York County.

The project developer, Transource Pennsylvania, LLC (Transource PA), is currently seeking public utility status in your state. The Pennsylvania Public Utility Commission (PAPUC) requires public utilities to notify you about plans to acquire an easement on your property for location of, or for access to, a proposed transmission line. The project is part of PJM Interconnection's \$320 million market-efficiency upgrade. PJM identified the electrical problem and is the regional transmission organization responsible for managing the high-voltage electric grid for 13 states, including Pennsylvania and Maryland.

The PAPUC's regulations require a 15-day landowner notification prior to the start of the right-of-way acquisition process. In the coming weeks, a right-of-way agent from Western Land Services, representing Transource PA, will be contacting you about acquiring an approximately 130-foot wide easement needed for the safe construction, operation and maintenance of the transmission line.

Since you are a landowner along a proposed line route, please review the enclosed required notices with information about Land Agent Practices, Right-of-Way Maintenance Practices, and Eminent Domain Power. I'm also enclosing a copy of the company's Internal Practices for Dealing with the Public on Power Line Projects.

In order for Transource PA to design these transmission lines, various surveys and tests need to be performed. As such, Transource PA is requesting permission to access your property for purposes of completing the surveys and tests needed. Please review, complete and sign the attached Access Permit – Survey Permission form, and return in the enclosed self-addressed envelope.

If you have any questions, don't hesitate to call or email me.

Sincerely,

Patrick Murphy, SR/WA, Land Acquisition Manager

Email: [landownerinfo@transourceenergyprojects.com](mailto:landownerinfo@transourceenergyprojects.com)

Phone: 717-402-1199 (local) & 844-233-1545 (toll free)

Mailing Address: PO box 463, Chambersburg, PA 17201

Web site: [transourceenergyprojects.com/IndependenceEnergyConnection](http://transourceenergyprojects.com/IndependenceEnergyConnection)

**NOTICE**  
**LAND AGENT PRACTICES**

Transource Pennsylvania, LLC (“Transource PA”) is presently planning to construct two new overhead double-circuit 230 kV interstate transmission lines, the Rice-Ringgold 230 kV Transmission Line and the Furnace Run-Conastone 230 kV Transmission Line, as part of the Independence Energy Connection Project. Upon receipt of all necessary approvals, the new Rice-Ringgold 230 kV Transmission Line will be sited to extend approximately 29 miles, connecting the existing Ringgold Substation located near Smithsburg, Washington County, Maryland, and the new Rice Substation to be located in Franklin County, Pennsylvania. Upon receipt of all necessary approvals, the new Furnace Run-Conastone 230 kV Transmission Line will be sited to extend approximately 16 miles, connecting the existing Conastone Substation located near Norrisville, Hartford County, Maryland, and the new Furnace Run Substation to be located in York County, Pennsylvania. Since the route for one of the two new transmission lines could affect your property, a representative from Transource PA will contact you in the near future to discuss Transource PA’s plans as they may affect your property.

The Pennsylvania Public Utility Commission requires that Transource PA provide you the following contact information for concerns regarding the practices of the land agents acting on behalf of Transource PA in connection with the proposed construction of the transmission lines.

Pennsylvania Public Utility Commission  
Bureau of Consumer Services  
400 North Street  
Harrisburg PA 17105  
1-800-692-7380

Tanya J. McCloskey  
Pennsylvania Consumer Advocate  
Pennsylvania Office of Consumer Advocate  
555 Walnut Street  
5th Floor Forum Place  
Harrisburg, PA 17101-1923  
Phone: 717-783-5048 or toll free 800-684-6560 (PA only)  
Fax: 717-783-7152  
Email: [consumer@paoca.org](mailto:consumer@paoca.org)

**NOTICE**  
**RIGHT OF WAY MAINTENANCE PRACTICES**

The Pennsylvania Public Utility Commission requires that Transource Pennsylvania, LLC (“Transource PA”) give you the following information on the RIGHT OF WAY MAINTENANCE PRACTICES for the two new overhead double-circuit 230 kV interstate transmission lines to be constructed in Franklin and York Counties, Pennsylvania as part of the Independence Energy Connection Project:

The methods currently used by Transource PA are set forth in (*American Electric Power’s Transmission Vegetation Management Program (TVMP) TVMD-001*), which will be made available to you for your inspection upon request. If you wish further information concerning right-of-way maintenance methods, you may contact the person named in the cover letter. 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 Transource PA has constructed an electric transmission line on a right-of-way across your land, it 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. Transource PA or its contractors may remove and control tall-growing trees and brush by several methods: handcutting of trees, limbs, and brush; mechanical cutting with chain saws or motorized cutting machines; and application of herbicides, either from the ground or from a helicopter. Transource PA must confine its maintenance activities to the approved right-of-way across your 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 Transource PA 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 Transource PA before you sign the right-of-way agreement.

Transource PA has the responsibility to maintain its rights-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 Transource PA for your land, since a right-of-way agreement is a legal contract between the landowner and Transource PA. It is important for you to also understand that the maintenance methods used by Transource PA 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 Transource PA 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 Transource PA, its contractors, or in the local Court of Common Pleas at your own expense. The Pennsylvania Public Utility Commission cannot award damages for violations of the right-of-way agreement.

**NOTICE**  
**EMINENT DOMAIN POWER**

The Pennsylvania Public Utility Commission requires that Transource Pennsylvania, LLC ("Transource PA") give you the following information:

Transource PA is presently planning to construct two new overhead double-circuit 230 kV interstate transmission lines, the Rice-Ringgold 230 kV Transmission Line and the Furnace Run-Conastone 230 kV Transmission Line, as part of the Independence Energy Connection Project. Upon receipt of all necessary approvals, the new Rice-Ringgold 230 kV Transmission Line will be sited to extend approximately 29 miles, connecting the existing Ringgold Substation located near Smithsburg, Washington County, Maryland, and the new Rice Substation to be located in Franklin County, Pennsylvania. Upon receipt of all necessary approvals, the new Furnace Run-Conastone 230 kV Transmission Line will be sited to extend approximately 16 miles, connecting the existing Conastone Substation located near Norrisville, Hartford County, Maryland, and the new Furnace Run Substation to be located in York County, Pennsylvania.

Since a field survey and detailed engineering has not been completed, the physical dimensions of the proposed new transmission lines and the type and height of supporting structures to be used cannot be precisely determined at this time. However, based on past experience, it is expected that the structures will normally be approximately 135 feet in height. There may be isolated physical conditions that would require either higher or lower structures than those mentioned. At this time, we do not know the number of structures to be placed on any properties. Transource PA's current 230 kV standard right-of-way width is 130 feet.

Since the route for one of the two transmission lines presently under consideration could affect your property, a representative of Transource PA will contact you in the near future to discuss Transource PA'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 Transource PA 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 AN OFFER MADE BY TRANSOURCE PA FOR YOUR PROPERTY?***

No. You may refuse to accept it. However, the Transource PA will have 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 Transource PA is unable to negotiate an agreement to buy a 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 TRANSOURCE PA CONDEMN YOUR HOUSE?***

No. The Transource cannot condemn your house or a reasonable "curtilage" around your house. Generally, curtilage includes the land or buildings within 300 feet of your house which are used for your domestic purposes. However, the 300-foot limit does not automatically extend beyond the homeowner's property line.

***DO YOU HAVE A RIGHT TO A PUBLIC HEARING IF TRANSOURCE PA SEEKS TO CONDEMN YOUR PROPERTY?***

Yes. If Transource PA seeks to have your property condemned, it 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 a 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 Transource PA's application for a certificate finding the condemnation in the public interest, then Transource PA may proceed before the local Court of Common Pleas to condemn your land. If the Commission denies Transource PA's application, it 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 Transource PA'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 Transource PA as to the amount of damages you are to be paid.





## **Internal Practices for Dealing with the Public on Power Line Projects**

Our success is built on our commitment to respecting the people and the environment in which we operate.

- Proactive and early engagement with potential route landowners and stakeholders
- Transparent proceedings throughout the project timeline
- Being available and providing various platforms for open dialogue with the community
- Maintaining a positive working relationship with all regulatory and environmental entities for guideline adherence throughout the planning and development phases

By respecting the people and the environment in which we operate, Transource PA is committed to listening to the communities and working with the landowners before finalizing project routes. With the combined experience of more than a century of responsible infrastructure development, Transource uses construction methods and practices to strike a balance between meeting energy needs and minimizing disturbance to communities and the environment.

All communications and interactions with property owners and occupants of property by all right-of-way agents and subcontractor employees representing Transource PA in the negotiation of right-of-way and the performance of surveying, environmental assessments and other activities for the Project must be based in factual information, made in good faith and adhere to the following standards:

- Do not make false or misleading statements. If you do not know the answer to a question, do not guess. Tell the property owner that you will investigate the question and provide a timely answer.
- Follow-up in a timely manner on all commitments to provide additional information.
- Do not misrepresent any fact.
- Do not send written communications (to a landowner or to Project personnel) suggesting an agreement has been reached if it has not.

All communications and interactions with property owners and occupants of property must be respectful and reflect fair dealing practices, including:

- Transource PA representatives, contractors, and agents promptly must identify themselves by showing their employment photo I.D. badge and have it displayed at all times while working on the project.
- Transource PA representatives, contractors, and agents contacting a property owner by telephone, promptly identify themselves as representing Transource.
- Do not engage in behavior that may be considered harassing, coercive, manipulative, intimidating or causing undue pressure.
- 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 the Land Acquisition Manager, do not contact the property owner again regarding negotiations or requests for permission.



- When asked to leave property, promptly leave and do not return unless specifically authorized by the Land Acquisition Manager.
- Obtain written permission from the property owner and tenants to enter property for purposes of surveying or conducting environmental assessments or other activities. Clearly explain to the property owner the scope of 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.
- Do not represent that a relative, neighbor and/or friend supports or opposes the Project, even if it's true.
- 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.
- Do not argue with property owners about the merits of the Project.
- Do not suggest that an offer is "take it or leave it."
- Do not threaten to call law enforcement officers or obtain court orders.
- Do not threaten the use of eminent domain.
- 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.
- Do not give the property owner any legal advice. Instead advise that they contact an attorney about any legal matters or questions.
- If threatened, promptly and politely leave the property and report the issue to the Land Acquisition Manager.

All communications and interactions with property owners and occupants of property must respect the privacy of property owners and other persons.

- Do not discuss your negotiations or interactions with other property owners or other persons.
- Do not ask relatives, neighbors and/or friends to influence the property owner or any other person.
- Avoid discussions of personal matters about the property owner, others and yourself.

Transource PA operates with the highest standards of reliability, safety and federal and state compliance. We work with regional transmission organizations, like PJM, state regulators, local officials and agencies, property owners, customers and communities to ensure a mutually respectful and beneficial outcome. We are proud of our work and we are committed to being a partner and respecting this community as if it were our own home town and neighbors. Our mission, simply stated, is bringing comfort to our customers, supporting business and commerce, and building strong communities.

