



Legal Department

American Electric Power  
1 Riverside Plaza  
Columbus, OH 43215-2373  
AEP.com

April 3, 2017

Chairman Asim Z. Haque  
Ohio Power Siting Board  
180 East Broad Street  
Columbus, Ohio 43215

**Hector Garcia**  
Senior Counsel –  
Regulatory Services  
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**Re: PUCO Case No. 17-0633-EL-BLN  
In the Matter of the Letter of Notification for the  
Lemaster-Lick 138kV Transmission Line Extension Project**

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification (LON) for the above-captioned project (“Project”) by AEP Ohio Transmission Company, Inc. This filing and notice is in accordance with O.A.C. 4906-6-05

A copy of this filing will also be submitted to the executive director or the executive director’s designee. A copy will be provided to the Board Staff, including an electronic copy.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,

/s/ Hector Garcia

Hector Garcia  
Counsel for AEP Ohio Transmission Company

cc: Jon Pawley, OPSB Staff

# Letter of Notification for Lemaster-Lick 138 kV Transmission Line Relocation Project



PUCO Case No. 17-0633-EL-BLN

Submitted to:  
The Ohio Power Siting Board  
Pursuant to Ohio Administrative Code  
Section 4906-6-05

Submitted by:  
AEP Ohio Transmission Company, Inc.

April 3, 2017

# LETTER OF NOTIFICATION FOR LEMASTER-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT

April 3, 2017

## Letter of Notification Lemaster-Lick 138 kV Transmission Line Relocation Project

**4906-6-05**

AEP Ohio Transmission Company, Inc. (“AEP Ohio Transco”) provides this Letter of Notification (“LON”) to the Ohio Power Siting Board (“OPSB”) in accordance with the requirements of the Ohio Administrative Code Chapter 4906-6-05.

### **4906-6-5(B) General Information**

#### **B(1) Project Description**

**The name of the project and applicant's reference number, names, and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification.**

AEP Ohio Transco has identified the need to relocate a segment of the Lemaster-Lick 138 kV Transmission Line (the “Project”) in York, Dover, and Waterloo Townships, Athens County, Ohio. The Project consists of the removal of approximately 1.7 miles of existing 138 kV transmission line that terminates within AEP Ohio Transco’s Poston Station and construction of approximately 0.5 miles of new 138 kV transmission line that will terminate within AEP Ohio Transco’s proposed Lemaster Station. The LON application for the proposed Lemaster Station was filed with the OPSB separately under PUCO Case No. 16-2314-EL-BLN, and approved by OPSB on March 22, 2017. Figures 1.1, 1.2, and 1.3 in Appendix A show the existing Poston Station location, the general location of the proposed Lemaster Station, and the proposed Lemaster-Lick 138 kV transmission line relocation “Project Area.”

The proposed transmission line removal work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000100, P010010000109, G0100100052400, G0100100052401, and N020020002402). The proposed transmission line construction work for this Project will occur primarily on property owned by AEP Ohio Transco (Parcels P010010000109 and N020020002402), though a small portion will be located on Athens County Port Authority property (Parcel P010010000104). AEP Ohio Transco has secured an option to purchase property from the Athens County Port Authority for this Project (and the Lemaster Station Project). Technical features of this project are discussed in Section B9.

The Project meets the requirements for a LON because it is within the types of projects defined by Item (1)(b) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines*. This item states:

(1) *New construction, extension, or relocation of single or multiple circuit electric*

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*power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*

(b) *Line(s) greater than 0.2 miles in length but not greater than two miles in length.*

## **B(2) Statement of Need**

**If the proposed project is an electric power transmission line or natural gas transmission line, a statement explaining the need for the proposed facility.**

The Lemaster 138kV greenfield station (filed separately under PUCO Case No. 16-2314-EL-BLN) is being developed to replace Poston station, where the station will be retired and removed. Poston station is currently positioned within a floodplain, and is comprised of deteriorated equipment installed in the 1940's and 50's. The equipment of this station poses a safety concern, and no longer complies with AEP safety standards. The drivers for replacement of the equipment are age, dielectric strength breakdown, short circuit strength breakdown, and accessory damage. The site where Poston station currently sits has been subject to flooding in the past, posing a safety concern, as well as increases the difficulty of maintaining and repairing existing structures.

The purpose of this Project is to energize the proposed Lemaster Station and is part of a series of improvements to enhance the reliability of electric service in Athens County and the greater Southern Ohio area. The proposed Project, in combination with the proposed Lemaster Station project, is required to alleviate voltage concerns throughout the Southern Ohio area. The Project will improve the reliability of the transmission network in southeast Ohio and provide adequate voltage on the local 138 kV system under N-1 contingency conditions per the applicable system planning criteria. More information on this project can be found in Table 10 of the Long Term Forecast Report to be submitted to the Public Utilities Commission of Ohio.

## **B(3) Project Location**

**The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.**

Figures 1.2, 1.3, and 1.4 in Appendix A show the location of the Project in relation to other existing AEP Ohio Transco transmission lines, the existing Poston Station, and the proposed Lemaster Station.

## **B(4) Alternatives Considered**

**The applicant shall describe the alternatives considered and reasons why the proposed**

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**location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.**

Replacing all equipment within place in Poston station was considered, but was not considered practical as the station is regularly flooded. In addition, outages are difficult to obtain to replace the equipment considering that the majority of the equipment is in need of replacement. The estimated cost of replacing this equipment in place is \$15,000,000, not including the cost that may potentially arise from further water damage to the station. Constructing Lemaster Station as a greenfield station is seen as a viable and preferable alternative as it ensures the longevity of station equipment in comparison to the possibility of more frequent equipment replacement within Poston Station.

This Project minimizes impacts to the community and the environment, while taking into account the engineering and construction needs of the Project (see Sections B9 and B10 for further discussion of socioeconomic, ecological, construction, and engineering aspects of the project). The proposed Project will occur primarily on property owned by AEP Ohio Transco, though a small portion will be located on Athens County Port Authority property. AEP Ohio Transco has secured an option to purchase property from the Athens County Port Authority for this Project. The Project Area is primarily undeveloped and partially forested. There are no residences within 1,000 feet of the Project Area. Four emergent wetlands and six streams are located in the Project Area. However, proposed transmission line removal and relocation activities are not expected to result in the discharge of fill material in any streams or wetlands, and timber mats will be utilized at wetland and stream locations if equipment crossings are required. Some potentially suitable Indiana bat (*Myotis sodalis*; federally endangered) and northern long-eared bat (*Myotis septentrionalis*; federally threatened) habitat is present within the Project Area. A few potential roost trees for these species were observed but no potential hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area.

## **B(5) Public Information Program**

**The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.**

The proposed Project will be located on property owned by the AEP Ohio Transco and the Athens County Port Authority. Within seven days of filing this LON, AEP Ohio Transco will issue a public notice in a newspaper of general circulation in the Project Area. The notice will comply with all requirements under O.A.C. Section 4906-6-08(A)(1-6). Further, AEP Ohio Transco maintains a website (<http://aeptransmission.com/ohio/>) which provides the public access

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to an electronic copy of this LON and the public notice for this LON. The LON will also be sent to applicable public officials concurrently with submittal to OPSB, and a paper copy of the LON will be provided to the Athens County Public Library.

## **B(6) Construction Schedule**

**The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.**

Construction is planned to start in August 2017. The in-service date (completion date) of the Project is expected to be on or about June 2018.

## **B(7) Area Map**

**The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.**

Figure 1.1 included in Appendix A identifies the location of the Project Area on a USGS quadrangle map. Figure 1.2 in Appendix A is an aerial map of the Project Area. To visit the Project from Columbus, take US 33 southeast to the State Route 682 interchange approximately four miles northeast of Athens, Ohio. Take State Route 682 south for 0.25 miles and then turn right (west) on Poston Road (County Road 110). Follow Poston Road west for approximately 2.75 miles. The Project Area is located on the north and south sides of the road.

## **B(8) Property Agreements**

**The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.**

The proposed transmission line removal work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000100, P010010000109, G0100100052400, G0100100052401, and N020020002402). The proposed transmission line construction work for this Project will occur primarily on property owned by AEP Ohio Transco (Parcels P010010000109 and N020020002402), though a small portion will be located on Athens County Port Authority property (Parcel P010010000104). AEP Ohio Transco has secured an option to purchase property from the Athens County Port Authority for this Project. No other property acquisition or easements are required to construct and operate the Lemaster-Lick 138 kV transmission line.

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## **B(9) Technical Features**

**The applicant shall describe the following information regarding the technical features of the Project:**

### **B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.**

The Project will remove five existing H-frame pole structures, five existing guyed three-pole structures, two existing lattice tower structures, and approximately 1.7 miles of existing 138 kV single circuit transmission line. The existing conductor type is 636 KCM ACSR 26/7 “Grosbeak” and the existing shield wire is 3/8 EHS steel. The Project will include the installation of four new steel pole structures and 0.5 miles of new single-circuit 138 kV transmission line, new 636 KCM ACSR 26/7 “Grosbeak” conductors, along with a 7#8 alumoweld shield wire. All deadends will utilize pier foundations with anchor cages. The design and operating voltage will be 138 kV. Structure design and phasing diagrams are presented under Appendix D.

The proposed Project will occur primarily on property owned by AEP Ohio Transco, though a small portion will be located on Athens County Port Authority property. AEP Ohio Transco has secured an option to purchase property from the Athens County Port Authority for this Project. No other property acquisition or easements are required to construct and operate the Lemaster-Lick 138 kV transmission line.

### **(b) For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line. The discussion shall include:**

#### **(i) Calculated Electric and Magnetic Field Strength Levels**

This section is not applicable. There are no occupied residences or institutions located within 100 feet of the Project.

#### **(ii) A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.**

There are no occupied residences or institutions located within 100 feet of the Project. The transmission line removal and relocation work associated with the Project will primarily occur on existing AEP Ohio Transco property immediately adjacent to AEP Ohio Transco’s existing Poston Station and proposed Lemaster Station. Therefore, no design alternatives were considered.

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## **(c) The estimated capital cost of the project.**

The 2017 capital cost estimate for the proposed Project, comprised of applicable tangible and capital costs, is approximately \$1,250,000.

## **B(10) Social and Economic Impacts**

**The applicant shall describe the social and ecological impacts of the project.**

### **B(10)(a) Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.**

The Project is located within York, Dover, and Waterloo Townships, Athens County, Ohio. Figure 1.3 in Appendix A shows U.S. Department of Agriculture land use categories for the Project Area. According to this map, land uses in the Project Area consist of grassland, barren land, and deciduous forest. Field observations by AEP Ohio Transco's consultant confirmed that the transmission line construction area is comprised primarily of deciduous forest. However, the transmission line removal area is primarily comprised of "old field" habitat, which can be characterized as non-forested grassland that is occasionally disturbed (mowed, grazed, or cleared) and contains a variety of herbaceous species, young shrubs, vines, and tree saplings. Mixed early successional/second growth deciduous forest is present within the line relocation portion of the Project Area. Additionally, four emergent wetlands and six streams are located in the Project Area (see Appendix C).

There are currently no active residences, cemeteries, churches, schools, or other community facilities located within 1,000 feet of the Project Area (as shown on Figures 1.2 and 1.3 in Appendix A). The nearest residences are located along State Route 691, approximately 1,500 feet to the west of the Project Area. A water filtration plant is located adjacent to the transmission line removal portion of the Project area (approximately 1,000 feet northeast of the existing Poston Station).

No wildlife management areas or nature preserve lands are located within 1,000 feet of the Project. However, the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community were reported by the Ohio Department of Natural Resources ("ODNR") Ohio Natural Heritage Program ("ONHP") as occurring within one mile of the Project Area (see Appendix C). The proposed Project will not impact any of these resources.

### **B(10)(b) Agricultural Land Information**

**Provide the acreage and a general description of all agricultural land, and separately all**

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**agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.**

The Project is not located within a registered agricultural district, based on coordination with the Athens County Auditor's Office. Additionally, the Project Area does not contain any active agricultural row crop land (see Figure 1.3 in Appendix A and Figure 3 in Appendix C).

## **B(10)(c) Archaeological and Cultural Resources**

**Provide a description of the applicant's investigation concerning the presence or absence of significant archeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

In February and March of 2017, AEP Ohio Transco's consultant conducted Phase I Cultural Resource Management Investigations for the Lemaster-Lick 138kV Transmission Line Relocation Project in York Township, Athens County, Ohio (see Appendix B). The literature review that was conducted for this Project identified four previous surveys, one archaeological site (33AT1057) and one architectural site in the study area. Zink (2013) conducted a survey for an electric line that briefly intercepts the Project Area. No sites were identified by this survey. One of the previous surveys was for a narrow water line that extended through the central part of the Project Area (Leary and Bergman 2005). They did not identify any cultural resources in this area during their investigations. The Poston Station (ATH0063302) is located within the study area, though this site is not regarded as significant. The northern part of the Project Area was previously investigated (Weller 2016). Weller's 2016 survey was for a tract where the new Lemaster Station is planned. Site 33AT1057 was identified during this survey and is not located near the current Project Area.

The Project will not directly involve any buildings, structures, or archaeological sites. The archaeological field reconnaissance involved subsurface testing and visual inspection and determined that the Project Area has been severely altered and disturbed or steeply sloped. No cultural materials were identified during these investigations. The Project will not involve or impact any significant cultural resources or landmarks and AEP Ohio Transco's consultant recommends no further cultural resource management work.

## **B(10)(d) Local, State, and Federal Agency Correspondence**

**Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.**

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A project-specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared for the Project and a Notice of Intent (NOI) will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000004. Best management practices (BMPs) specified in the SWPPP will be implemented and maintained to minimize erosion and control sediment to protect surface water quality during storm events.

Four emergent wetlands and six streams are located in the Project Area (see Appendix C). Transmission line removal and relocation activities are not expected to result in the discharge of fill material in any of the streams or wetlands, and timber mats will be utilized at wetland and stream locations if equipment crossings are required. No in-stream work will be required. Therefore, the Project is not expected to require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, a Pre-Construction Notification to the U.S. Army Corps of Engineers, or a Section 401 Water Quality Certification from the Ohio Environmental Protection Agency.

The Project Area crosses Federal Emergency Management Agency ("FEMA") 100-year floodplain at several locations along Hanley Run (see Attachment C). AEP Ohio Transco is evaluating the potential need for a floodplain permit for this Project and will coordinate with the Athens County Floodplain Administrator, as necessary. There are no other known local, state or federal requirements that must be met prior to commencement of the Project.

## **B(10)(e) Threatened, Endangered, and Rare Species**

**Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

The United States Fish and Wildlife Service ("USFWS") Midwest Region's *Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species* (available at <https://www.fws.gov/midwest/endangered/lists/pdf/OhioCtyList11Jan2017.pdf>) was reviewed to determine the threatened and endangered species currently known to occur in Athens County. This USFWS publication listed the following threatened or endangered species as occurring in Athens County: Indiana bat (*Myotis sodalis*; federally endangered), northern long-eared bat (*Myotis septentrionalis*; federally threatened), fanshell (*Cyprogenia stegaria*; federally endangered), sheepnose (*Plethobasus cyphus*; federally endangered), pink mucket pearly mussel (*Lampsilis abrupta*; federally endangered), snuffbox (*Epioblasma triquetra*; federally endangered), and American burying beetle (*Nicrophorus americanus*; federally

## LETTER OF NOTIFICATION FOR LEMASTER-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT

April 3, 2017

endangered). Some potentially suitable Indiana bat and northern long-eared bat habitat is present within the Project Area. A few potential roost trees for these species were observed but no potential hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area and no in-water work is expected to occur during Project construction activities. As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The November 28, 2016 response letter from USFWS (see Appendix C) indicated that the proposed Project is within the range of the Indiana bat and northern long-eared bat in Ohio, and within the vicinity of one or more confirmed records of Indiana bats, but if tree clearing occurs between October 1 and March 31, they do not anticipate the Project having any adverse effects to these species or any other federally listed endangered, threatened, proposed, or candidate species. The USFWS letter did not include any comments specific to the other federally listed species.

Several state-listed threatened species, endangered species, and species of concern are listed by the Ohio Department of Natural Resources (<http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/statelisted%20species/athens.pdf>) as occurring, or potentially occurring in Athens County. These state-listed species are addressed in detail in the Ecological Resources Inventory Report included in Appendix C.

Coordination letters were submitted via email to the Ohio Department of Natural Resources (“ODNR”) Division of Wildlife (“DOW”) Ohio Natural Heritage Program (“ONHP”) and the ODNR Office of Real Estate in November 2016, seeking an environmental review of the proposed Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR’s DOW/ONHP was received on November 17, 2016 (see Appendix C).

According to the ODNR - Office of Real Estate, the Project is within the vicinity of records for the Indiana bat and presence of the Indiana bat has been established in the area. If suitable habitat occurs within the Project Area, the ODNR recommends trees be conserved. If suitable habitat occurs within the Project Area and trees must be cut, the ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this Project is not likely to impact this species. The ODNR - Office of Real Estate also indicated that due to the Project location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact federal and state-listed mussel species. The Project is also within the range of the channel darter (*Percina copelandi*), a state threatened fish, and the river darter (*Percina shumardi*), a state threatened fish. The ODNR - Office of Real Estate recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this Project is not likely to impact these or other aquatic species. The Project is also within the range of the timber

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rattlesnake (*Crotalus horridus horridus*), a state endangered species and a federal species of concern, the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species, mud salamander (*Pseudotriton montanus*), a state threatened species, and black bear (*Ursus americanus*), a state endangered species. The ODNR - Office of Real Estate indicated that due to the location, the type of habitat present at the project site, and the type of work proposed, this Project is not likely to impact these species.

According to the DOW/OHNP, three species are known to occur within a one-mile radius of the Project Area, including rough boneset (*Eupatorium pilosum*; status not yet determined), a caddisfly (*Brachycentrus numerosus*; state endangered), and eastern box turtle (*Terrapene carolina*; state species of concern). None of these known locations is within or in the immediate vicinity of the Project Area and no impacts to these species are anticipated (see Appendix C for further information). Potentially suitable habitat for three other state-listed species, black bear (*Ursus americanus*; state endangered), marsh fern moth (*Fagiana littera*; state threatened), and timber rattlesnake (*Crotalus horridus horridus*; state endangered) was observed in the Project Area. However, none of these species is known to occur within a mile of the Project Area, and no impacts to these species are anticipated (see Appendix C for further information).

## **B(10)(f) Areas of Ecological Concern**

**Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.**

The ODNR DOW/OHNP response indicated that they are unaware of any unique geological features or scenic rivers within a mile of the Project Area, but did state that the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community exist within a one-mile radius of the Project. However, none of these known locations occur within or immediately adjacent to the Project Area and no impacts are anticipated (see Appendix C). Correspondence received from the USFWS (see Appendix C) indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project vicinity.

The FEMA Flood Insurance Rate Map was consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number 39009C0095C). Based on this map, the Project Area crosses Federal Emergency Management Agency ("FEMA") 100-year floodplain at several locations along Hanley Run (see Attachment C). AEP Ohio Transco is evaluating the potential need for a floodplain permit for this Project and will

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coordinate with the Athens County Floodplain Administrator, as necessary.

Wetland and stream delineation field surveys were completed within the Project Area by AEP Ohio Transco's consultant in November 2016 and February 2017. The results of the wetland and stream delineations are presented in the Ecological Resources Inventory Report included in Appendix C. Six streams and four emergent wetlands are located in the Project Area (see Appendix C). Transmission line removal and relocation activities are not expected to result in the discharge of fill material in any of the streams or wetlands, and timber mats will be utilized at wetland and stream locations if equipment crossings are required.

## **B(10)(g) Unusual Conditions**

**Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.**

To the best of AEP Ohio Transco's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

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Appendix A Project Maps  
April 3, 2017

## **Appendix A. Project Maps**

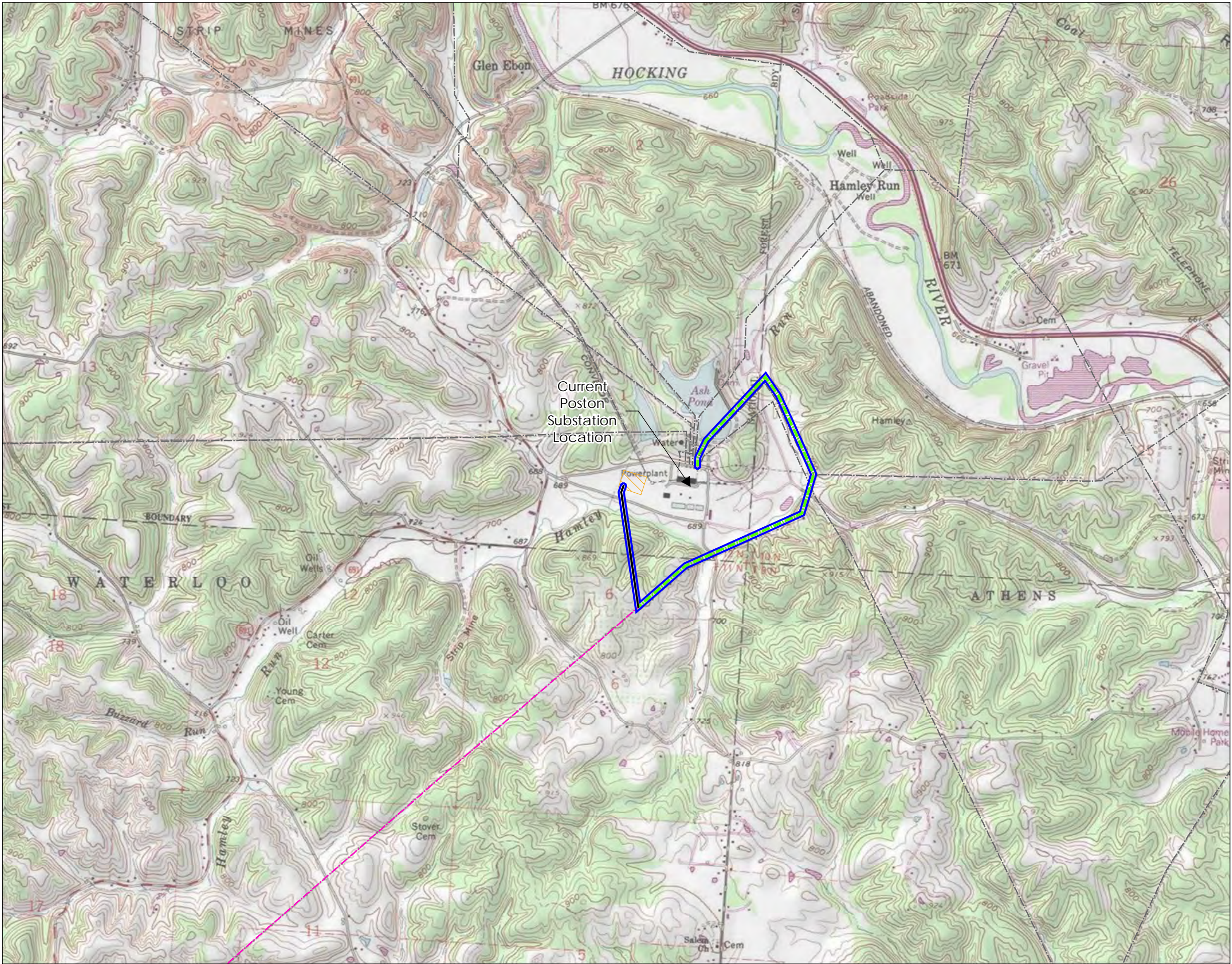


Figure No.  
1.1

Title  
Project Location Map

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Client/Project  
AEP Ohio Transmission Company, Inc.  
Lemaster - Lick 138kV  
Transmission Line Relocation Project

Project Location  
Athens County, Ohio

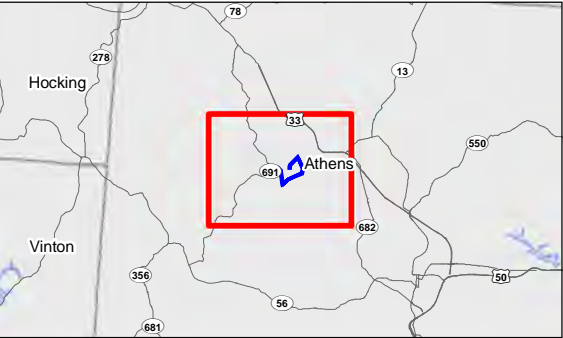
193704783  
Prepared by HDB on 2017-03-03  
Technical Review by CP on 2017-03-06  
Independent Review by JB on 2017-03-13

0 1,000 2,000 Feet  
1:24,000 (At original document size of 11x17)

N

Legend

- Proposed Lemaster - Lick Transmission Line Relocation
- Existing Lemaster - Lick Transmission Line to be Removed
- Existing Lemaster - Lick Transmission Line
- Other Existing Transmission Lines
- Project Area
- Proposed Lemaster Substation



- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
  2. Data Sources Include: Stantec, AEP, NADS
  3. Background: USGS 7.5' Topographic Quadrangles Nelsonville (OH, 1983) and The Plains (OH, 1975)





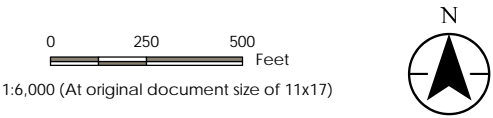
Figure No.  
1.2

Title  
Project Layout Map

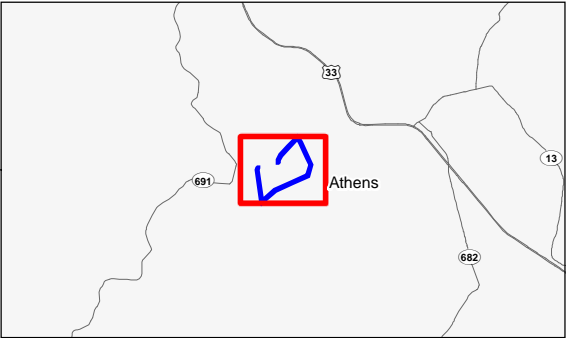
Client/Project  
AEP Ohio Transmission Company, Inc.  
Lemaster - Lick 138kV  
Transmission Line Relocation Project

Project Location  
Athens County, Ohio

193704783  
Prepared by HDB on 2017-03-03  
Technical Review by CP on 2017-03-06  
Independent Review by JB on 2017-03-13



- Legend
- Proposed Lemaster - Lick Transmission Line Relocation
  - Existing Lemaster - Lick Transmission Line to be Removed
  - Existing Lemaster - Lick Transmission Line
  - Other Existing Transmission Lines
  - Project Area
  - Proposed Lemaster Substation



- Notes
- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
  - Data Sources Include: Stantec, AEP, NADS, OGRIP
  - Orthophotography: 2015, NAIP



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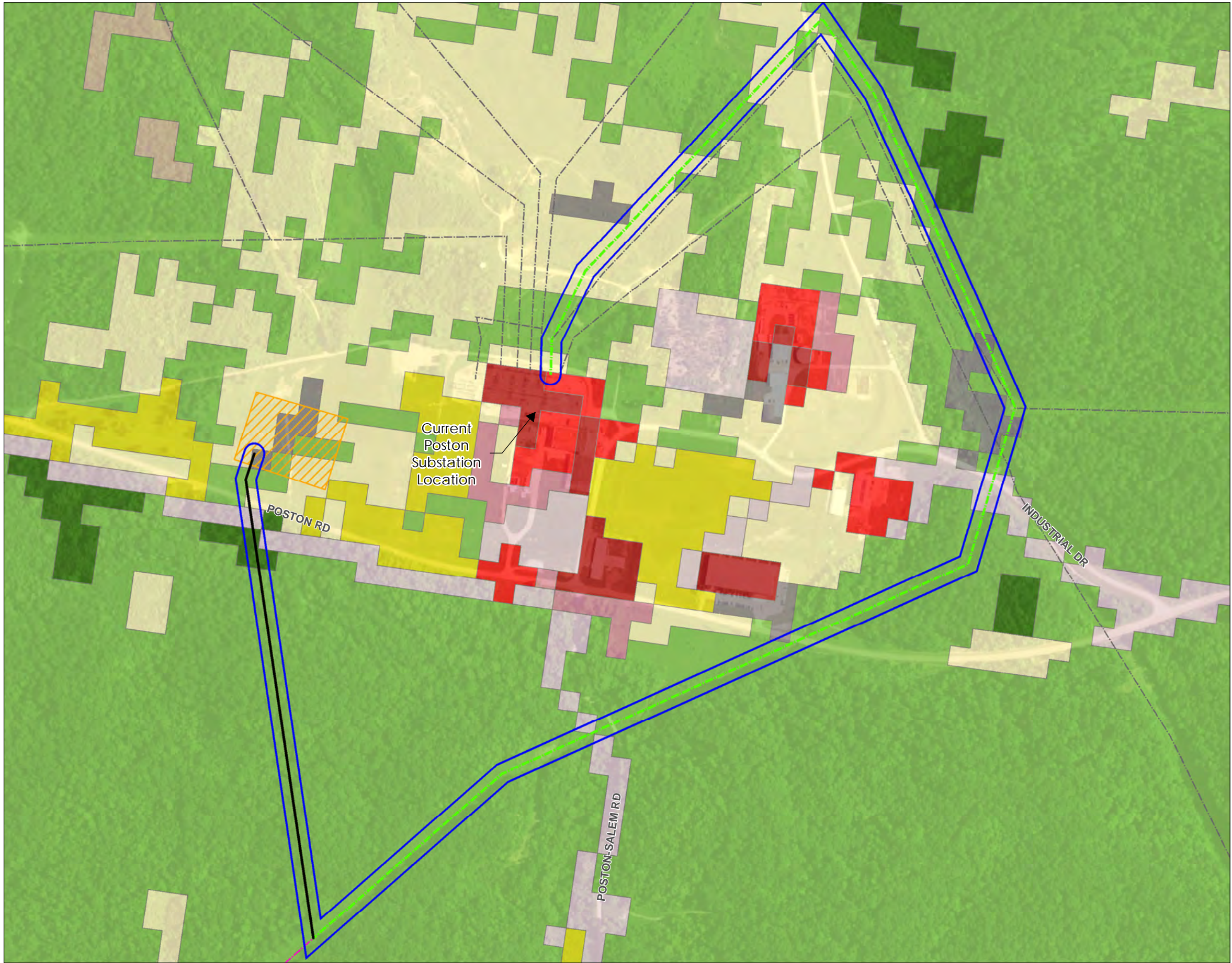


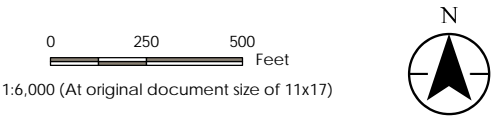
Figure No.  
1.3

Title  
Land Use Map

Client/Project  
AEP Ohio Transmission Company, Inc.  
Lemaster - Lick 138kV  
Transmission Line Relocation Project

Project Location  
Athens County, Ohio

193704783  
Prepared by HDB on 2017-03-03  
Technical Review by CP on 2017-03-06  
Independent Review by JB on 2017-03-13



Legend

Proposed Lemaster - Lick Transmission Line Relocation

Existing Lemaster - Lick Transmission Line to be Removed

Existing Lemaster - Lick Transmission Line

Other Existing Transmission Lines

Project Area

Proposed Lemaster Substation

Residence\*

Cemetery\*

Church\*

School\*

Open Water

Developed, Open Space

Developed, Low Intensity

Developed, Medium Intensity

Developed, High Intensity

Barren Land

Deciduous Forest

Evergreen Forest

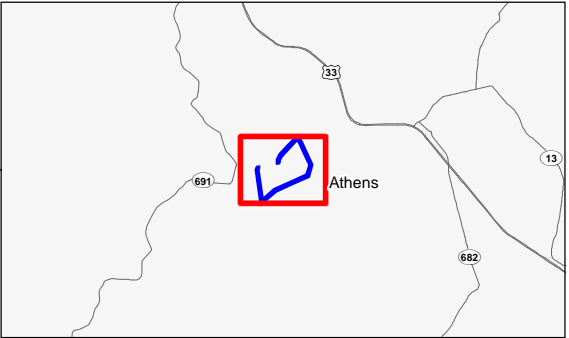
Shrub/Scrub

Grassland/Herbaceous

Pasture/Hay

Cultivated Crops

\*No feature within map extents.



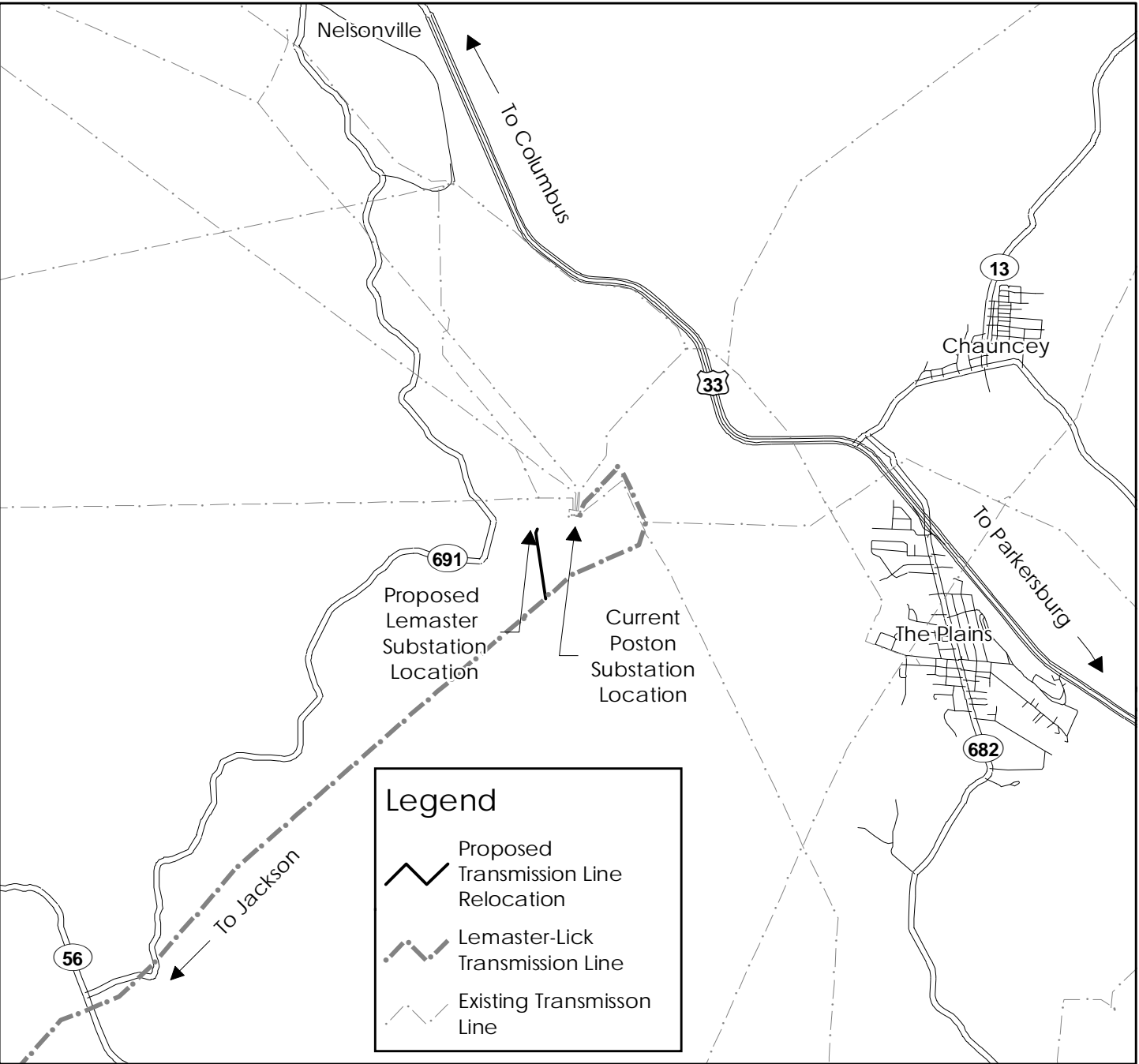
- Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet

2. Data Sources Include: Stantec, AEP, NLCD, NADS, OGRIP

3. Orthophotography: 2015, NAIP



Figure 1.4 - Concept Map



# LETTER OF NOTIFICATION FOR LEMASTE-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT

Appendix B Cultural Resources Survey Report  
April 3, 2017

## **Appendix B. Cultural Resources Survey Report**



**Phase I Cultural Resource Management Investigations for the  
Lemaster-Lick 138kV Transmission Line Relocation Project in York  
Township, Athens County, Ohio**

**Ryan J. Weller**

**March 15, 2017**

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**Phase I Cultural Resource Management Investigations for the  
Lemaster-Lick 138kV Transmission Line Relocation Project  
in York Township, Athens County, Ohio**

By

**Ryan J. Weller**

Submitted By:

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Lead Agency:

**Ohio Power Siting Board**



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**Ryan J. Weller, MA, P.I.**

**March 15, 2017**

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W-2041

## **Abstract**

In February and March of 2017, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the Lemaster-Lick 138kV Transmission Line Relocation Project in York Township, Athens County, Ohio. The lead agency for this project is the Ohio Power Siting Board and the work was conducted on behalf of American Electric Power. The field investigations were considerate of the footprint of the planned construction activity. No buildings or structures older than 50 years are being taken or directly impacted. The field investigations involved visual inspection, subsurface testing, and photographic documentation. This work verified that the project area has largely been severely disturbed and was previously investigated. There were no cultural resources identified during these investigations.

The plans in this area are to construct the Lemaster Station, a new electric substation that will eventually replace the outdated Poston Station. The shift in the location of the new Lemaster Station required rerouting the electric lines that converge in this area, including the Poston-Lick 138kV line. The survey for this corridor involved a 30.5 m (100 ft) wide corridor. This is within and near the Hamley Run Valley, which is comparably broader than the nearby upland drainages. This project area is within an entrenched treed valley in an unglaciated landscape. The area is to the north of Poston Road and northwest of Industrial Drive. A portion of this line crosses over Ash Pond.

The literature review that was conducted for this project identified four previous surveys, one archaeological site (33AT1057) and one architectural site in the study area. Zink (2013) conducted a survey for an electric line that briefly intercepts the project; no sites were identified by this survey. One of the involved surveys was for a narrow water line that extended through the central part of the project area (Leary and Bergman 2005); they did not identify any cultural resources in this area during their investigations. The EM Poston Generating Station (ATH0063302; ca 1949) is located to the east of the project area. This was not regarded as being a significant cultural resource. The northern part of the project area was previously investigated (Weller 2016). Weller's 2016 survey was for a tract where the new Lemaster Station is planned. Site 33AT1057 was identified during this survey and is not located near the current project area.

The planned work will not directly involve any buildings or structures. The archaeological field reconnaissance determined that the majority of the project area has been severely altered and disturbed or steeply sloped. There were no cultural materials identified during these investigations. The project will not involve or impact any significant cultural resources or landmarks; no further cultural resource management work is considered to be necessary.

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## **Introduction**

In February and March of 2017, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the Lemaster-Lick 138kV Transmission Line Relocation Project in York Township, Athens County, Ohio (Figures 1-3). The work was conducted under contract with American Electric Power (AEP). The lead agency for this project is the Ohio Power Siting Board (OPSB) and a report will be submitted to the Ohio History Connection (OHC). The work efforts were designed to evaluate pertinent cultural resources in a manner that is reflective of the National Register of Historic Places (NRHP) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This report summarizes the results of the fieldwork and literature review. The report format and design is similar to that established in *Archaeology Guidelines* (Ohio State Historic Preservation Office [SHPO] 1994).

Alex Thomas conducted the literature review on February 8, 2017. Ryan Weller served as the Principal Investigator and Senior Project Manager. Joshua Engle served as the Project Manager. The field crew included Alex Thomas, Craig Schaefer, and Justin Fryer. Ryan completed the textual portion of this document, Alex and Chad Porter completed the figures.

## **Project Description**

The plans in this area are to construct the Lemaster Station, a new electric substation that will eventually replace the outdated Poston Station. The shift in the location of the new Lemaster Station required rerouting the electric lines that converge in this area, including the former Poston-Lick 138kV line. The survey for this corridor involved a 30.5 m (100 ft) wide corridor. The project's corridor stems from the existing Poston (Lemaster)-Lick corridor northward, into the Hamley Run Valley to where the Lemaster Station is to be constructed. This new route is about 769 m (2,523 ft) long and the removal/abandoned route is about 2,756.3 m (9,053 ft) long.

## **Environmental Setting**

### ***Climate***

Athens County, like all of Ohio, has a continental climate, with hot and humid summers and cold winters. About 102.4 cm (40.3 in) of precipitation falls annually with the majority, about 59 percent, falling between the months of April and September. February is the driest month, while July tends to be the wettest month for the Athens and Hocking County area [United States Department of Agriculture, Soil Conservation Service (USDA, SCS) 1985, 1989].

### ***Physiography, Relief, and Drainage***

This part of Athens County is located within the Muskingum-Pittsburgh Plateau physiographic region of Ohio (Brockman 1998). This region has moderately high relief, dissected plateaus, coal-bearing rocks, and valleys having been affected by Teays-age

deposits (Brockman 1998). The relief within the project area is nearly level as it is within an upland stream valley. Most of Athens County is drained by the Hocking River and its tributaries. The project area is drained by Hamley Run, which is a tributary of the Hocking River.

### ***Geology***

The project area is situated in the Muskingum-Pittsburgh Plateau having an underlying geology that is of the Pennsylvanian era. The Pennsylvanian-age siltstones, shales, sandstone and economically important coals and claystones underlie the project area; Wisconsin-age sand, gravel, and lacustrine silt” (Brockman 1998). The valley area that includes the project was formed from pre-Illinoian lacustrine deposits (Pavey et al. 1999).

### ***Soils***

The project area is small and within the Hamley Run stream valley; this is within the Chagrin-Nolin soil association and the upland terrain to the south of the valley is within the Westmoreland-Guernsey-Upshur association. The upland areas that are south of the stream valley are contained in steeply sloped conditions for the most part. The valley area is comprised of Fitchville soils; which are typically broad terraces that are above the alluvial floodplain (USDA, SCS 2017).

**Table 1. Soils in the project area.**

<b>Soil Symbol</b>	<b>Soil Name</b>	<b>% Slope</b>	<b>Location</b>
FcA	Fitchville silt loam	0-3	Slack water terraces
Cg	Chagrin silt loam	0	Modern floodplains
DtF	Dekalb-Westmoreland complex	40-70	Sloped areas
WdC	Wellston silt loam	8-15	Ridges and side slopes

### ***Flora***

Prehistorically, as well as historically, there has been great floral diversity in Ohio. This diversity is relative to the soils and the terrain that generally includes the till plain, lake plain, terminal glacial margins, and unglaciated plateau (Forsyth 1970). Three major glacial advances, including the Kansan, Illinoian, and Wisconsinan, have affected the landscape of Ohio. The effects of the Wisconsin glaciation are most pronounced and have affected more than half of the state (Pavey et al. 1999).

The least diverse part of Ohio extends in a belt from the northeast below the lake-affected areas through most of western Ohio (Gordon 1966). These areas are part of the late Wisconsin ground moraine and lateral end moraines. It is positioned between the lake plains region and the terminal glacial moraines. This area included broad forested areas of beech maple forests interspersed with mixed oak forests in elevated terrain or where relief is greater (Forsyth 1970; Gordon 1966). Prairie environments such as those in Wyandot and Marion County areas would contain islands of forests, but were mostly expansive open terrain dominated by grasses.

The northwestern Ohio terrain is nearly flat because of ancient glacial lakes and glaciation, which affected the flora. However, the vegetation was more diverse than the till plain to the south and east because of the variety of factors that contributed to its terrain. Forests within the Black Swamp were generally comprised of elm/ash stands; however, dissected areas along drainages and drier, elevated areas from beach deposits would contain mixed forests of oak and hickory (Gordon 1966; 1969). There was little upland floral diversity in the lake plains (Black Swamp region) except for the occasional patches of oak and hickory. Floral variety was most evident in narrow sleeves along larger stream valleys where there is relief.

The most biological diversity in Ohio is contained within the Allegheny Plateau, which encompasses the southeastern two-thirds of the state (Sheaffer and Rose 1998). Because this area is higher and has drier conditions, it is dominated by mixed oak forests. Some locations within the central part of this area contain beech and mixed mesophytic forests. There are large patches of oak and sugar maple forests to the south of the terminal moraine from Richland to Mahoning County (Gordon 1966).

Southwestern Ohio from about Cincinnati to Bellefontaine east to the Scioto River historically contained a very diverse floral landscape. This is an area where moraines from three glacial episodes are prevalent (Pavey et al. 1999). Forests in this area include elm-ash swamp, beech, oak-sugar maple, mixed mesophytic, prairie grasslands, mixed oak, and bottomland hardwoods (Core 1966; Gordon 1966; 1969). These forest types are intermingled with prairies being limited to the northern limits of this area mostly in Clark and Madison Counties.

Generally, beech forests are the most common variety through Ohio and could be found in all regions. Oak and hickory forests dominated the southeastern Ohio terrain and were found with patchy frequency across most of northern Ohio. Areas that were formerly open prairies and grasslands are in glacial areas, but are still patchy. These are in the west central part of the state. Oak and sugar maple forests occur predominantly along the glacial terminal moraine. Elm-ash swamp forests are prevalent in glaciated areas including the northern and western parts of Ohio (Gordon 1966; Pavey et al. 1999).

The project area is located in central Athens County. The valleys in this area are consistent with Beech forestation (Gordon 1966).

### ***Fauna***

The upland forest zone offered a diversity of mammals to the prehistoric diet. This food source consisted of white-tailed deer, black bear, Eastern cottontail rabbit, opossum, a variety of squirrels, as well as other less economically important mammals. Several avian species were a part of the upland prehistoric diet as well (i.e. wild turkey, quail, ruffed grouse, passenger pigeon, etc.). The lowland zone offered significant species as well. Raccoon, beaver, and muskrat were a few of the mammals, while wood duck and wild goose were the economically important birds. Fishes and shellfish were also an integral part of the prehistoric diet. Ohio muskellunge, yellow perch, white crappie, long nose gar, channel catfish, pike, and sturgeon were several of the fish, whereas, the Ohio naiad mollusc, butterfly's shell, long solid, common bullhead, knob

rockshell, and cod shell were the major varieties of shellfish. Reptiles and amphibians, such as several varieties of snakes, frogs, and turtles, were also part of the prehistoric diet (Trautman 1981; Lafferty 1979; Mahr 1949).

## **Cultural Setting**

The first inhabitants of Ohio were probably unable to enter this land until the ice sheets of the Wisconsin glacier melted around 14,000 B.C. Paleoindian sites are considered rare due to the age of the sites and the effects of land altering activities such as erosion. Such sites were mostly used temporarily and thus lack the accumulation of human occupational deposits that would have been created by frequent visitation. Paleoindian artifact assemblages are characteristic of transient hunter-gatherer foraging activity and subsistence patterns. In Ohio, major Paleoindian sites have been documented along large river systems and near flint outcrops in the Unglaciaded Plateau (Cunningham 1973). Otherwise, Paleoindian sites in the glaciaded portions of Ohio are encountered infrequently and are usually represented by isolated finds or open air scatters.

The Paleoindian period is characterized by tool kits and gear utilized in hunting Late Pleistocene megafauna and other herding animals including but not limited to short-faced bear, barren ground caribou, flat-headed peccary, bison, mastodon, giant beaver (Bamforth 1988; Brose 1994; McDonald 1994). Groups have been depicted as being mobile and nomadic (Tankersley 1989); artifacts include projectile points, multi-purpose unifacial tools, burins, gravers, and spokeshaves (Tankersley 1994). The most diagnostic artifacts associated with this period are fluted points that exhibit a groove or channel positioned at the base to facilitate hafting. The projectiles dating from the late Paleoindian period generally lack this trait; however, the lance form of the blade is retained and is often distinctive from the following Early Archaic period (Justice 1987).

The Archaic period has been broken down into three sub-categories, including the Early, Middle, and Late Archaic. During the Early Archaic period (ca. 10,000-8000 B.P.), the environment was becoming increasingly arid as indicated by the canopy (Shane 1987). This period of dryness allowed for the exploitation of areas that were previously inaccessible or undesirable. The Early Archaic period does not diverge greatly from the Paleoindian regarding the type of settlement. Societies still appear to be largely mobile with reliance on herding animals (Fitting 1963). For these reasons, Early Archaic artifacts can be encountered in nearly all settings throughout Ohio. Tool diversity increased at this time including hafted knives that are often re-sharpened by the process of beveling the utilized blade edge and intense basal grinding (Justice 1987). There is a basic transition from lance-shaped points to those with blades that are triangular. Notching becomes a common hafting trait. Another characteristic trait occurring almost exclusively in the Early and Middle Archaic periods is basal bifurcation and large blade serrations. Tool forms begin to vary more and may be a reflection of differential resource exploitation. Finished tools from this period can include bifacial knives, points, drills/perforators, utilized flakes, and scrapers.

The Middle Archaic period (8000-6000 B.P.) is poorly known or understood in archaeological contexts within Ohio. Some (e.g., Justice 1987) regard small bifurcate points as being indicative of this period. Ground stone artifacts become more prevalent

at this time. Other hafted bifaces exhibit large side notches with squared bases, but this same trait can extend back to the Paleoindian period. The climate at this time is much like that of the modern era. Middle Archaic period subsistence tended to be associated with small patch foraging that involved a consistent need for mobility with a shift towards stream valleys (Stafford 1994). Sites encountered from this time period throughout most of Ohio tend to be lithic scatters or isolated finds. The initial appearance of regional traits may be apparent at this time.

The Late Archaic period in Ohio (ca 6000-3000 B.P.) diverges from the previous periods in many ways. Preferred locations within a regional setting appear to have been repeatedly occupied. The more intensive and repeated occupations often resulted in the creation of greater social and material culture complexity. The environment at this time is warmer and drier. Most elevated landforms in northeastern Ohio have yielded Archaic artifacts (Prufer and Long 1986: 7), and the same can be stated for the remainder of Ohio.

Various artifacts are diagnostic of the Late Archaic period. Often, burial goods provide evidence that there was some long-distance movement of materials, while lithic materials used in utilitarian assemblages are often from a local chert outcrop. There is increased variation in projectile point styles that may reflect regionalism. Slate was often used in the production of ornamental artifacts. Ground and polished stone artifacts reached a high level of development. This is evident in such artifacts as grooved axes, celts, bannerstones, and other slate artifacts.

It is during the Terminal Archaic period (ca 3500-2500 B.P.) that extensive and deep burials are encountered. Cultural regionalism within Ohio is evident in the presence of Crab Orchard (southwest), Glacial Kame (northern), and Meadowood (central to Northeastern). Along the Ohio River, intensive occupations have been placed within the Riverton phase. Pottery makes its first appearance during the Terminal Late Archaic.

The Early Woodland period (ca 3000-2100 B.P.) in Ohio is often associated with the Adena culture and the early mound builders (Dragoo 1976). Early and comparably simple geometric earthworks first appear with mounds more spread across the landscape. Pottery at this time is thick and tempered with grit, grog, or limestone; however, it becomes noticeably thinner towards the end of the period. There is increased emphasis on gathered plant resources, including maygrass, chenopodium, sunflower, and squash. Habitation sites have been documented that include structural evidence. Houses that were constructed during this period were circular, having a diameter of up to 18.3 m (Webb and Baby 1963) and often with paired posts (Cramer 1989). Artifacts dating from this period include leaf-shaped blades with parallel to lobate hafting elements, drilled slate pieces, ground stone, thick pottery, and increased use of copper. Early Woodland artifacts can be recovered from every region of Ohio.

The Middle Woodland period (ca 2200-1600 B.P.) is often considered to be equivalent with the Hopewell culture. The largest earthworks in Ohio date from this period. There is dramatic increase in the appearance of exotic materials that appear most often in association with earthworks and burials. Artifacts representative of this period include thinner, grit-tempered pottery, dart-sized projectile points (Lowe Flared, Steuben, Snyders, and Chessier) [Justice 1987], exotic materials (mica, obsidian, and marine shell,

etc.). The points are often thin, bifacially beveled, and have flat cross sections. There seems to have been a marked increase in the population as well as increased levels of social organization. Middle Woodland sites seem to reflect a seasonal exploitation of the environment. There is a notable increase in the amount of Eastern Agricultural Complex plant cultigens, including chenopodium, knotweed, sumpweed, and little barley. This seasonal exploitation may have followed a scheduled resource extraction year in which the populations moved camp several times per year, stopping at known resource extraction loci. Middle Woodland land use appears to center on the regions surrounding earthworks (Dancey 1992; Pacheco 1996); however, there is evidence of repeated occupation away from earthworks (Weller 2005a). Household structures at this time vary with many of them being squares with rounded corners (Weller 2005a). Exotic goods are often attributed to funerary activities associated with mounds and earthworks. Utilitarian items are more frequently encountered outside of funerary/ritual contexts. The artifact most diagnostic of this period is the bladelet, a prismatic and thin razor-like tool, and bladelet cores. Middle Woodland remains are more commonly recovered from central Ohio south and lacking from most areas in the northern and southeastern part of the state.

The Late Woodland period (ca A.D. 400-900) is distinct from the previous period in several ways. There appears to be a population increase and a more noticeable aggregation of groups into formative villages. The villages are often positioned along large streams, on terraces, and were likely seasonally occupied (Cowan 1987). This increased sedentism was due in part to a greater reliance on horticultural garden plots, much more so than in the preceding Middle Woodland period. The early Late Woodland groups were growing a wide variety of crop plants that are collectively referred to as the Eastern Agricultural Complex. These crops included maygrass, sunflower, and domesticated forms of goosefoot and sumpweed. This starch and protein diet was supplemented with wild plants and animals. Circa A.D. 800 to 1000, populations adopted maize agriculture, and around this same time, shell-tempered ceramics appear. Other technological innovations and changes during this period included the bow and arrow and changes in ceramic vessel forms.

The Late Prehistoric period (ca A.D. 1000-1550) is distinctive from former periods. The Cole complex (ca A.D. 1000-1300) has been identified in central and south central Ohio. Sites that have been used to define the Cole complex include the W.S. Cole (33DL11), Ufferman (33DL12), and Decco (33DL28) sites along the Olentangy; the Zencor Village site, located along the Scioto River in southern Franklin County; and the Voss Mound site (33FR52), located along the Big Darby Creek in southwestern Franklin County. It has been suggested that this cultural manifestation developed out of the local Middle Woodland cultures and may have lasted to be contemporaneous with the Late Prehistoric period (Barkes 1982; Baby and Potter 1965; Potter 1966). Cole is a poorly defined cultural complex as its attributes are a piecemeal collection gathered from various sites. Some have suggested that it may be associated with the Fort Ancient period (Pratt and Bush 1981). Artifacts recovered from sites considered as Cole include plain and cordmarked pottery, triangular points, Raccoon Notched points, chipped slate discs, rectangular gorgets, and chipped stone celts. The vessels often have a globular form with highly variable attributes and rim treatment. There have been few structures encountered from this period, but those that have are typically rounded or circular (Pratt and Bush 1981; Weller 2005b).

Monongahela phase sites date to the Late Prehistoric to Contact period in eastern Ohio. Monongahela sites are typically located on high bottomlands near major streams, on saddles between hills, and on hilltops, sometimes a considerable distance from water sources. Most of these sites possessed an oval palisade, which surrounded circular house patterns. Burials of adults are usually flexed and burial goods are typically ornamental. A large variety of stone and bone tools are found associated with Monongahela sites. Monongahela pottery typically is plain or cordmarked with a rounded base and a gradually in-sloping shoulder area. Few Euro-American trade items have been found at Monongahela sites (Drooker 1997).

### ***Protohistoric to Settlement***

By the mid-1600s, French explorers traveled through the Ohio country as trappers, traders, and missionaries. They kept journals about their encounters and details of their travels. These journals are often the only resource historians have regarding the early occupants of seventeenth century Ohio. The earliest village encountered by the explorers in 1652 was a Tionontati village located along the banks of Lake Erie and the Maumee River. Around 1670, it is known that three Shawnee villages were located along the confluence of the Ohio River and the Little Miami River. Because of the Iroquois Wars, which continued from 1641-1701, explorers did not spend much time in the Ohio region, and little else is known about the natives of Ohio during the 1600s. Although the Native American tribes of Ohio may have been affected by the outcome of the Iroquois Wars, no battles occurred in Ohio (Tanner 1987).

French explorers traveled extensively through the Ohio region from 1720-1761. During these expeditions, the locations of many Native American villages were documented. In 1751, a Delaware village known as Maguck existed near present-day Chillicothe. In 1758, a Shawnee town known as 'Lower Shawnee 2' existed at the same location. The French also documented the locations of trading posts and forts, which were typically established along the banks of Lake Erie or the Ohio River (Tanner 1987).

While the French were establishing a claim to the Ohio country, many Native Americans were also entering new claims to the region. The Shawnee were being forced out of Pennsylvania because of English settlement along the eastern coast. The Shawnee created a new headquarters at Shawnee Town, which was located at the mouth of the Scioto River. This headquarters served as a way to pull together many of the tribes which had been dispersed because of the Iroquois Wars (Tanner 1987).

Warfare was bound to break out as the British also began to stake claims in the Ohio region by the mid-1700s. The French and Indian War (1754-1760) affected many Ohio Native Americans; however, no battles were recorded in Ohio (Tanner 1987). Although the French and Indian War ended in 1760, the Native Americans continued to fight against the British explorers. In 1764, Colonel Henry Bouquet led a British troop from Fort Pitt, Pennsylvania to near Zanesville, Ohio.

In 1763, the Seven Years' War fought between France and Britain, also known as the French and Indian War ended with The Treaty of Paris. In this Peace of Paris, the

French ceded their claims in the entire Ohio region to the British. When the American Revolution ended with the Second Treaty of Paris in 1783, the Americans gained the entire Ohio region from the British; however, they designated Ohio as Indian Territory. Native Americans were not to move south of the Ohio River but Americans were encouraged to head west into the newly acquired land to occupy and govern it (Tanner 1987).

By 1783, Native Americans had established fairly distinct boundaries throughout Ohio. The Shawnee tribes generally occupied southwest Ohio, while the Delaware tribes stayed in the eastern half of the state. Wyandot tribes were located in north-central Ohio, and Ottawa tribes were restricted to northeast Ohio. There was also a small band of Mingo tribes in eastern Ohio along the Ohio River, and there was a band of Mississauga tribes in northeastern Ohio along Lake Erie. The Shawnee people had several villages within Ross County along the Scioto River (Tanner 1987). Although warfare between tribes continued, it was not as intense as it had been in previous years. Conflicts were contained because boundaries and provisions had been created by earlier treaties.

In 1795, the Treaty of Greenville was signed as a result of the American forces defeat of the Native American forces at the Battle of Fallen Timbers. This allocated the northern portion of Ohio to the Native Americans, while the southern portion was opened for Euro-American settlement. Although most of the battles which led up to this treaty did not occur in Ohio, the outcome resulted in dramatic fluctuations in the Ohio region. The Greenville Treaty line was established, confining all Ohio Native Americans to northern Ohio, west of the Tuscarawas River (Tanner 1987).

Ohio Native Americans were again involved with the Americans and the British in the War of 1812. Unlike the previous wars, many battles were fought in the Ohio country during the War of 1812. By 1815, peace treaties began to be established between the Americans, British, and Native Americans. The Native Americans lost more and more of their territory in Ohio. By 1830, the Shawnee, Ottawa, Wyandot, and Seneca were the only tribes remaining in Ohio. These tribes were contained on reservations in northwest Ohio. By the middle 1800s, the last of the Ohio Native Americans signed treaties and were removed from the Ohio region.

### *Athens County History*

Athens County along with its neighboring counties was originally part of the Ohio Company's land purchase. This group bought a large tract of the Ohio Territory from the Congress in 1787. The new Federal Government had just recently claimed Ohio from the British, French and Native Americans who had lightly inhabited it and the new American government needed its people to populate the territory so that its claims would stand (Beatty and Stone 1984; Daniel 1997; Howe 1888; Walker 1869).

Athens County's first permanent settlers came in 1797 to what would later become the town of Athens (Daniel 1997). These early immigrants were from New England and settled here for the express purpose of populating the land in order to realize a college in this new western frontier of the Ohio Territory (Beatty and Stone 1984). In 1799, Rufus Putnam and others laid out a town at a place called Middletown where

people had been living a short time. The name changed to Athens after the ancient Greek center of learning because there was to be a college built within its limits; and in 1805 when Athens County became organized, it too adopted this name (Martzolff 1916). Nelsonville was platted in 1818. Athens was intended to have a university, and in 1804 Ohio University was established. Ohio University was the earliest college in Ohio and the first west of the Appalachians (Beatty and Stone 1984; Inter-state Publishing Co. 1883).

Early settlers relied heavily on agriculture for subsistence and found the Hocking River valley to be quite suitable to their needs. The first products of course were the staple grains. This fed not only the farmer but also his sheep, cattle, hogs and horses. The importance of dairy products, particularly butter and cheese, rose by the 1850s (Martzolff 1916). And with the Hocking River to transport goods to the Ohio River and beyond trade of agricultural stuffs became an asset to the local economy. Much of the early development of Athens and Nelsonville, both located on the Hocking River, is related to agriculture and agricultural trade. The completion of the Hocking Canal in 1840 increased this trend. While agriculture was still very important, it began to bow in importance to Athens County's mineral resources in the 1830s and 1840s (Howe 1888; Inter-state Publishing Co. 1883; Walker 1869). However, agriculture remains a significant source of income today and the county's mineral resources are on the decline (Beatty and Stone 1984).

The very first Europeans in the area were the French fur traders. Many of the American settlers also traded skins to supplement their agricultural incomes. In 1815, Lewis Columbia ran the first tannery (Beatty and Stone 1984). Grist and sawmills appeared across the county during the 1800s and 1810s. In 1832, salt mining became important along the Hocking and its tributaries. Salt mining grew in importance up until 1873 when it rapidly declined and eventually disappeared in the 1880s (Beatty and Stone 1984).

By the second half of the nineteenth century, coal mining became the principal industrial pursuit in Athens County. Coal was initially mined in the 1830s to help in the salt making process. However, Hocking Canal allowed easier transportation to the larger national markets, which led to a dramatic increase in mining during the 1840s. Nelsonville became the center for coal mining in the county. As it had with the canal, the coal industry, as well as the coal towns of Nelsonville and Athens grew considerably with the progress of railroad transportation. The Marietta and Cincinnati Railroad came first in 1851 and ran through Athens. The Columbus and Hocking Valley Railroad, built in 1869, connected Nelsonville and Athens to Columbus. The railroad would replace the canal as the primary form of goods transportation, and by 1873, the canal was closed due to flood damage (Beatty and Stone 1984; Martzolff 1916; Walker 1869).

Coal production reached its peak in 1920. However, coal mining declined through the 1930s and strip mining has taken the place of the old deep mines. This was the mining method of choice until the 1960s. Strip mining continues today, but is much less frequent (Beatty and Stone 1984).

Coal was not the only businesses to develop in the county. In 1866, Athens possessed the typical industries and mercantile interests and, of course, the university (Walker 1869). Brick making and ceramic production was considerable between 1870 and 1920. People in the county have drilled for oil and gas as well (Beatty and Stone 1984; Daniel 1997). During the 1950s, increased road construction, particularly the creation of SR 33 and US 50 have made the automobile the dominant form of transportation and increased the ability to move goods to and from the county quickly. Presently retail, light business, and manufacturing are significant sources of income for the county (Beatty and Stone 1984).

### ***York Township History***

York Township was created in 1818 from Dover Township. Prior to 1811 the area had been included in Ames Township. The principle towns are Nelsonville and Buchtel. The township is drained by the Hocking River and is comprised of generally rough terrain.

Nelsonville is one of the larger communities of the area and was laid-out in 1818. It was named after Daniel Nelson, the owner of the land upon which the town was located. The first Euro-American settlers had arrived at the location in 1814 and a mill was constructed in 1815. The first bridge to span the Hocking River was built at Nelsonville in 1827 and a library was built the same year as well. The town was incorporated in 1838. The Hocking Canal reached Nelsonville in 1842 (Martzolff 1916; Walker 1869). Buchtel was laid-out in 1876 and named after John R. Buchtel who built an iron furnace there.

Coal and iron resources have been a major industry throughout the early years of the township. During the Civil War, Confederate cavalry leader, General John Morgan passed through Nelsonville and Buchtel in 1863. In Nelsonville, he burned canal boats and the bridge spanning the Hocking River. He camped his men in a field where Buchtel now lies (Martzolff 1916). Hocking College, founded in 1968 as Tri-County Technical Institute, is located in Nelsonville (Ohio History Connection 2006).

### **Research Design**

The purpose of a Phase I survey is to locate and identify cultural resources that will be affected within the proposed construction limits of this project. Once these resources are identified and sampled, they are evaluated for their eligibility or potential eligibility to the NRHP. These investigations are directed to answer or address the following questions:

- 1) Did the literature review reveal anything that suggests the project corridors had been previously surveyed and what is the relationship of previously recorded properties to the project area?
- 2) Are cultural resources likely to be identified in the project area?

These questions are addressed in a section following the literature review.

## ***Archaeological Field Methods***

There were three methods of sampling and testing used to identify and evaluate cultural resources. These investigations were limited to visual inspection/photographic documentation, shovel test unit excavation, and shovel probing.

*Shovel test unit excavation.* Shovel test units were initially placed at 15-m intervals where surface visibility was lacking. These measure 50 cm on a side and are excavated to 10 cm below the topsoil/subsoil interface. Individual shovel test units are documented regarding their depth, content and color (Munsell). All of the undisturbed soil matrices from shovel test units are screened using .6 cm hardware mesh.

*Shovel probe excavation.* The excavation of shovel probes is reserved for locations where severe disturbance was prevalent, but not obvious on the surface. These will be initially excavated in a manner similar to a shovel test unit and to a depth that was usually to the subsoil or about 20 cm below the ground surface. This will be accomplished to better understand the nature of the disturbance and verify that intact deposits are lacking. These are spaced at no further than 30 m intervals. If intact soils are identified, the shovel probe will be treated as a shovel test unit.

*Visual Inspection.* Severely disturbed locations such as mined landscape and those that were steeply sloped were inspected for cultural remains, rock shelters, utilized chert outcrops, mine adits, etc.

The application of the resulting field survey methods was documented in field notes, field maps, and permit maps.

## ***Curation***

There were no cultural materials identified during these investigations. Notes and maps affiliated with this project will be maintained at Weller & Associates, Inc. files.

## **Literature Review**

The literature review study area is considered to be a 305 m (1,000 ft) area from the project, per OPSB guidelines. In conducting the literature review, the following resources were consulted at SHPO and the State Library of Ohio:

- 1) *An Archeological Atlas of Ohio* (Mills 1914);
- 2) SHPO United States Geological Survey (USGS) 7.5' series topographic maps;
- 3) Ohio Archaeological Inventory (OAI) files;
- 4) Ohio Historic Inventory (OHI) files;
- 5) National Register of Historic Places (NRHP) files;
- 6) SHPO CRM/contract archaeology files; and
- 7) SHPO consensus determination of eligibility files; and

- 8) Athens County atlases, histories, historic USGS 15' series topographic map(s), and current USGS 7.5' series topographic map(s);
- 9) Online Genealogical and Cemetery Resources.

### ***Mills Atlas***

A review of the Atlas (Mills 1914) was conducted. There were no resources situated within, or adjacent to, the Study Area or Project area.

### ***OAI files***

The SHPO topographic maps were inspected and there are no archaeological sites within the study area. There is one site that was recently identified during survey for the new Lemaster Station. This site, 33AT1057, is a nineteenth century historic period component that was recommended for additional work if it could not be avoided (Weller 2016). This site is well to the west of the project area and will not be impacted/affected.

### ***OHI Files***

The OHI files did not indicate any previously recorded OHIs within the project area. There is only one resource located within the study area, the EM Poston Generating Station (Figures 2-3, Table 2). This resource will not be directly affected by the proposed construction/development.

<b>Table 2. Ohio Historic Inventory resources identified in the study area.</b>							
<b>OHI #</b>	<b>Present Name</b>	<b>Other Name</b>	<b>Address</b>	<b>ArchStyle1</b>	<b>HistUse1</b>	<b>Date</b>	<b>In National Forest</b>
ATH0063302	EM Poston Generating Station		RFD2	Vernacular	Energy Facility	1949	N

### ***National Register of Historic Places/Determination of Eligibility Files***

A review of the NRHP files and determinations of eligibility (DOE) files did not indicate any resources within the project area. There are no NRHP sites or DOE resources identified in the study area.

### ***SHPO CRM/contract archaeology files***

A review of this resource file indicated that there were four surveys conducted that involve the study area. Otto (1976) conducted investigations for an electric line corridor that is to the north of Poston Station; there were no sites identified in the vicinity by this survey. Zink (2013) conducted investigations for an electric line corridor that partially intercepts the removal line area; there were no sites identified by this survey. Weller (2016) conducted a survey for the Lemaster Station, which pertains to the northern aspect of the current project area. This survey identified a historic period site, 33AT1057, and Phase II assessment was recommended if it could not be effectively

avoided. This site is to the west of the station and project area; it is not near the project area. Another survey was conducted for a waterline corridor (Leary and Bergman 2005) that extends through the northern part of the project area (Figure 2). There were no pertinent cultural resources identified during this survey relative to the project area.

### ***Atlas & Cartographic Maps***

The historic atlases were reviewed in order to see if past buildings/structures were located in or immediately adjacent to the project area and who might have owned these. The *Atlas of Athens County, Ohio* (Lake 1875) indicates the project area is within Section 1 of York Township; this was on the George Putnam property with no relative buildings near the current area of investigation. The USGS *1903 Athens, Ohio 15 Minute Series (Topographic)* map indicates that the project cuts through upland terrain with a single residence in the vicinity (Figure 4). The USGS *1985 Nelsonville and 1977 The Plains, Ohio 7.5 Minute Series (Topographic)* map indicates that the project area traverses rural upland terrain before entering the Hamley Run Valley in the vicinity of a power plant (Figure 2).

A review of the online OGS/cemetery resources was conducted to determine if there were any cemeteries located near the project. There are no cemeteries identified in the study area.

### ***Evaluation of Research Questions 1 and 2***

Based on the results of the literature review, the first two research questions can be addressed.

- 1) Did the literature review reveal anything that suggests the project corridors had been previously surveyed and what is the relationship of previously recorded properties to the project area?
- 2) Are cultural resources likely to be identified in the project area?

The project area is a narrow, linear corridor that extends from an upland situation and entering the Hamley Run floodplain. The majority of the area has been disturbed or the subject of previous investigations and there are no sites located within it. The terrain in this area is expected to be a combination of steep slope and severe disturbance. Cultural materials are not anticipated from the project.

## **Archaeological Survey Results**

The field investigations for this project were conducted February 8th, 2017 (Figures 5-18). The field reconnaissance work was conducted with good weather conditions and temperatures at about 45 degrees Fahrenheit. At the time of survey, the project conditions involved a grass/weed cover, graded situations, a stream, Poston Road, and sloped deciduous uplands (Figures 5 and 6). The fieldwork for this project involved visual inspection, shovel testing, and photographic documentation. Visual inspection and limited shovel testing noted identified disturbances, but no cultural materials within the

project area. Most of the area has been severely disturbed or it having steeply sloped situations. There were no cultural materials identified during these investigations.

Aspects of this project were the subject of previous investigations (Figure 2). The northern part of the project corridor that is north of Poston Road has been previously investigated. This area was investigated for a water line corridor (Leary and Bergman 2005) and for the Lemaster Station area (Weller 2016). There were no sites identified in the vicinity of the project relative to these surveys. Weller's survey mostly identified severely disturbed conditions, especially in the vicinity of the project and where the Lemaster Station is to be constructed. This survey did identify site 33AT1057 and additional work was recommended if it could not be avoided. This site is not being impacted by the current project or the Lemaster Station; it is well to the west.

There were no cultural materials identified during the shovel testing. On March 13<sup>th</sup>, 2017 field investigations were conducted for the planned line removal corridor (Figures 5-18). This area is located to the north, east, and south of the extant Poston Station and was visually inspected as well as requiring some shovel testing. There were 36 shovel test units and 6 shovel probes excavated in the removal/abandoned line corridor. The testing encountered plowzone-depth topsoil (23 cm or less) throughout the examined locations. Shovel testing was conducted for a small area that is between Hamley Run and Poston Road. There were two shovel test units excavated in this area. The testing encountered dark brown (10YR3/3) topsoil that was highly mottled and had a broken/irregular interface with the subsoil. The topsoil was not deep and appeared to be at least partially altered during the construction of the abutting road and possibly the realignment of the Hamley Run stream channel. The subsoil is dark yellowish brown clay (10YR4/6) loam (Figure 18). The remainder of the removal route corridor was found to be contained in severely disturbed contexts and was partially the subject of previous investigations. The nature of the disturbance is within prior mining and mining-related activity. Shovel probing (n=6) identified severely mottled soils and a lack of topsoil (Figure 17). There were no cultural resources identified in the removal corridor area.

Visual inspection conducted within the project area indicated that much of it was contained in steeply sloped or severely disturbed conditions. The disturbances are the byproduct of this areas past use as mining related activities. Modern topographic maps depict conveyor corridors entering into the area just north of the corridor. Previous testing of these bottomlands failed to identify intact soils from this area. Steeply sloped conditions were encountered in the upland area that is south of Hamley Run. There were no cultural materials identified during these investigations.

### **APE Definition and NRHP Determination**

The APE is a term that must be applied on an individual project basis. The nature of the project or undertaking is considered in determining the APE. This may include areas that are off the property or outside of the actual project's boundaries to account for possible visual impacts. When construction is limited to underground activity, the APE may be contained within the footprint of the project. The APE includes the footprint of the project and a limited area surrounding it. The project area is located in a rural, upland

landscape and within a stream valley and its abutting uplands. The visual APE for the project, is limited as the construction will be within an entrenched valley that has been greatly altered. The nearest construction identified in the study area, is the Poston Generating Station (ATH0063302); which is not regarded as being significant. The project plans are to reroute a small segment of an electric line in an area that is dense with electric company-related activity; this includes the soon-to-be defunct Poston Generating Station.

These investigations did not result in the identification of any cultural materials. The entire area was found to be severely disturbed, previously investigated, sloped, or altered by previous industrial-related activity. This pertains to mining as well as activities affiliated with the nearby electric station. No further work is considered as an appropriate recommendation; there were no cultural resources identified and there are no significant resources in the viewshed/study area.

## **Recommendations**

In February and March of 2017, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the Lemaster-Lick 138kV Transmission Line Relocation Project in York Township, Athens County, Ohio. The project consists of the rerouting of a small electric line segment. The overall project is in the uplands and enters into a stream valley and has a limited viewshed. The testing was limited to visual inspection, minimal subsurface testing, and photographic documentation since much of the project's corridor was found to be severely disturbed, previously surveyed, or steeply sloped. This project is not considered to have any affects to historic properties or landmarks. No further cultural resource management is deemed necessary for this project.

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## Figures

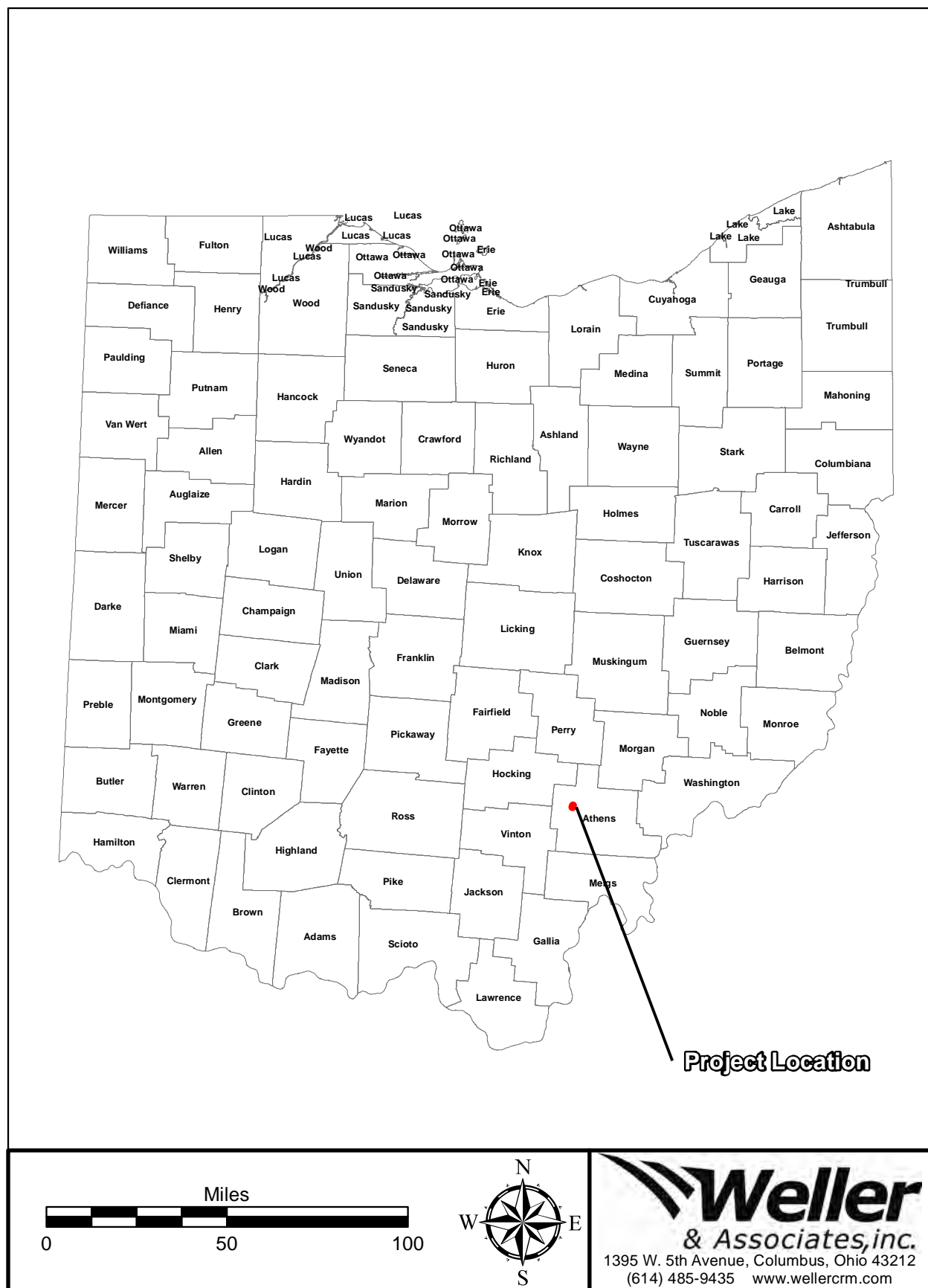
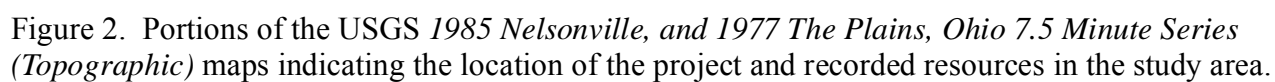


Figure 1. Political map of Ohio showing the approximate location of the project.



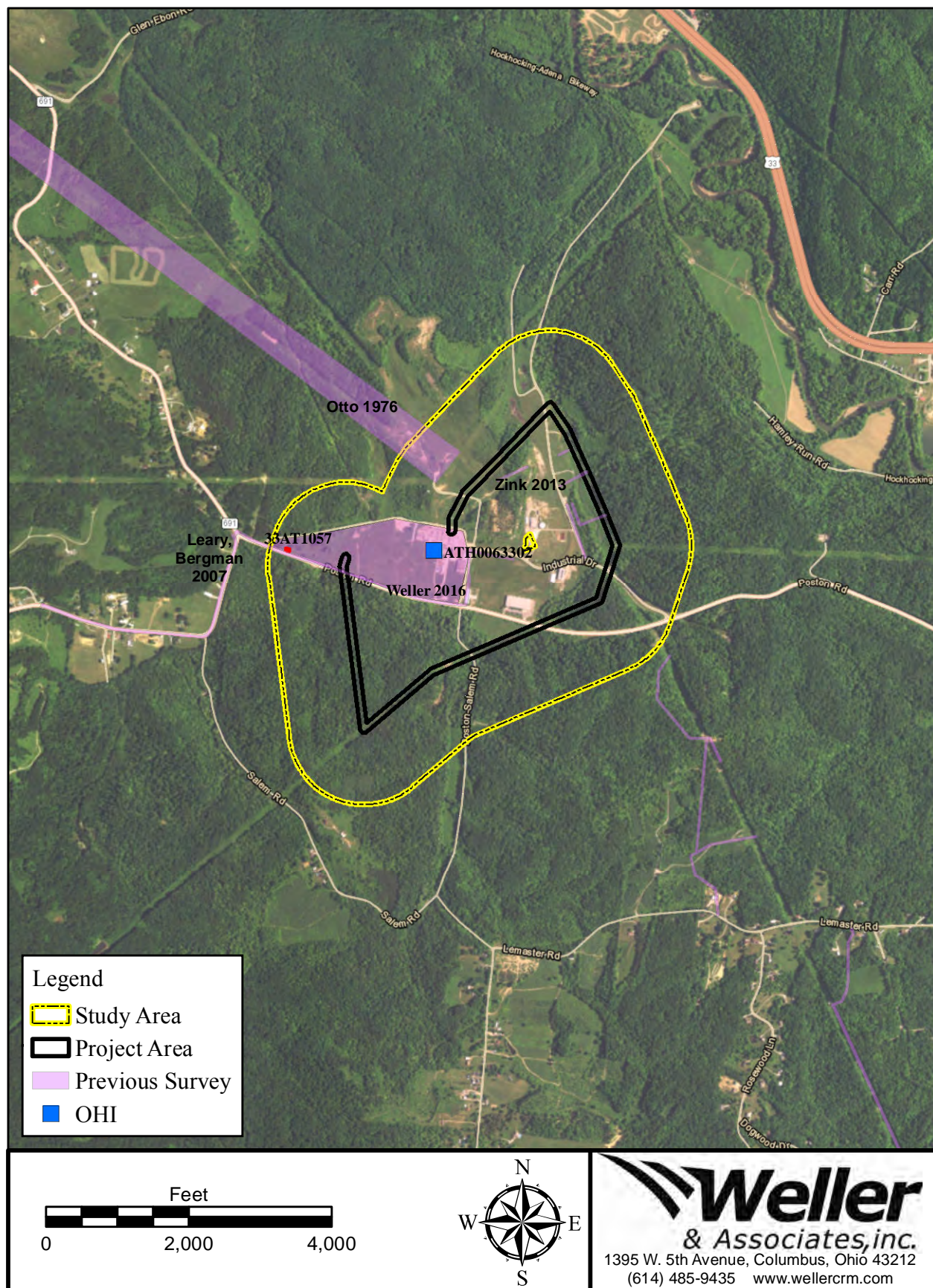


Figure 3. Aerial map indicating the location of the project and recorded resources in the study area.

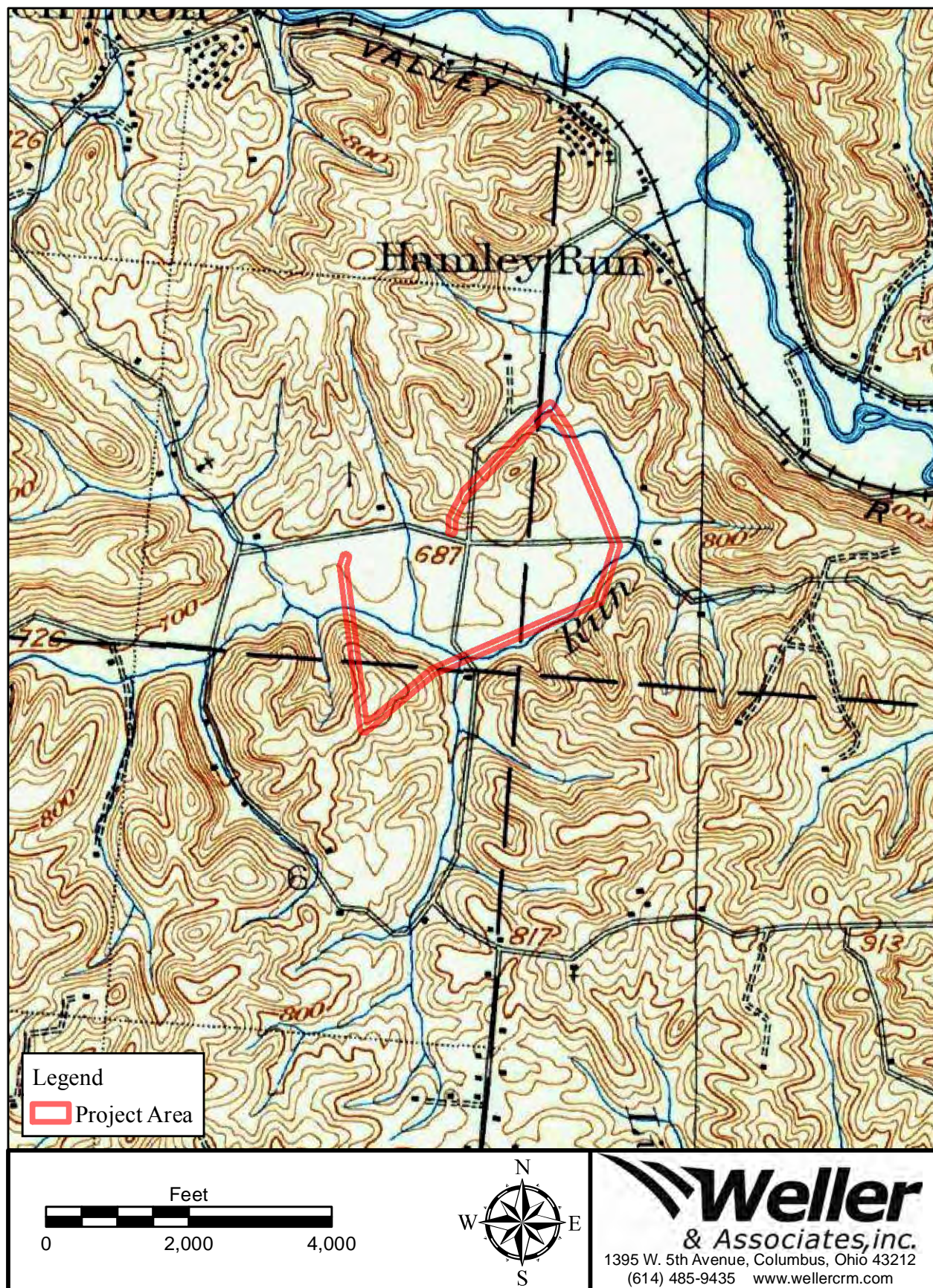


Figure 4. Portion of the USGS 1903 Athens, Ohio 15 Minute Series (Topographic) map indicating the approximate location of the project.

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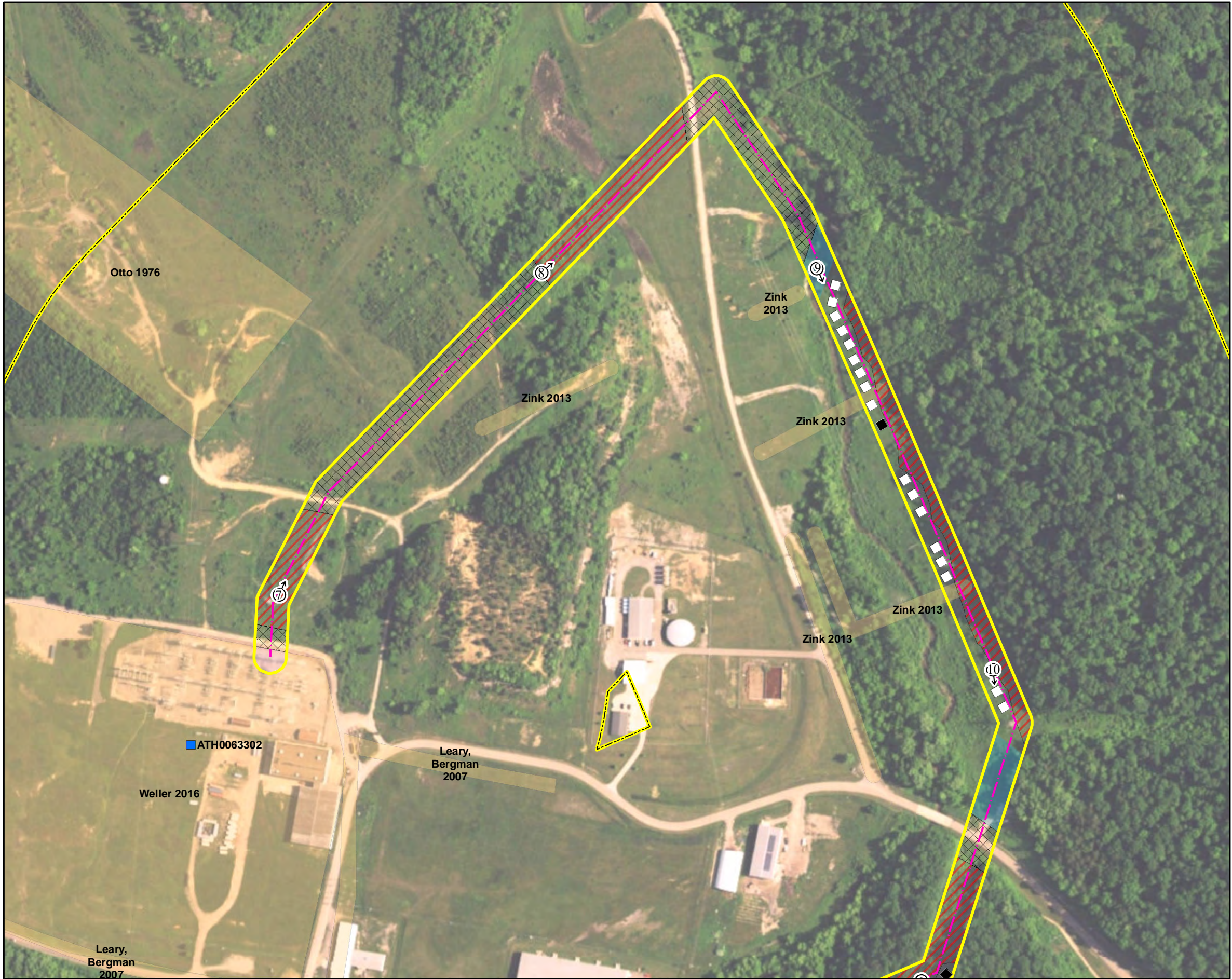


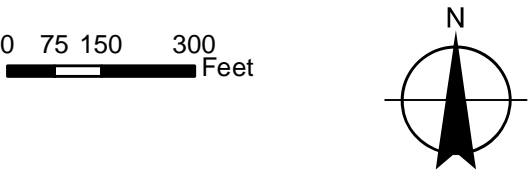
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**5**

Title  
**Fieldwork results and photo orientations.**

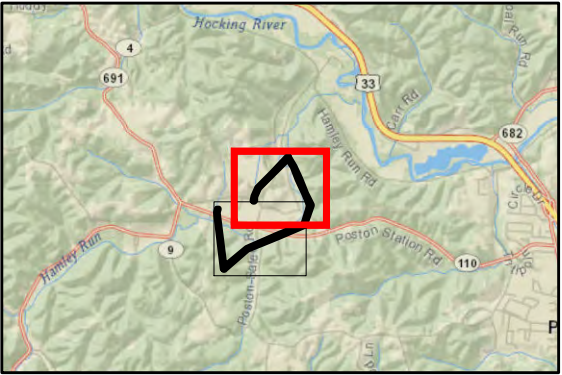
Client/Project  
AEP Ohio Transmission Company, Inc.  
Lemaster-Strouds Run 138kV  
Transmission Line Relocation Project.

Project Location  
Athens County, Ohio

Prepared by AT on 2017-03-15  
Reviewed by CP on 2017-03-15



- Legend**
- |                                  |                           |
|----------------------------------|---------------------------|
| Existing Lemaster-Lick           | Negative Shovel Test Unit |
| Transmission Line to be Removed  | Disturbed Shovel Probe    |
| Study Area                       | Previous Survey           |
| Project Area                     | OAI                       |
| Disturbed (Visually Inspected)   | Photos                    |
| Sloped (Visually Inspected)      |                           |
| Wet                              |                           |
| Previously Surveyed Project Area |                           |



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Figure 7. View of the sloped, and disturbed, areas in the central portion of the project.



Figure 8. View of sloped conditions within the northern portion of the project.



Figure 9. View of the shovel tested areas in the northeastern portion of the project area.



Figure 10. View of the shovel tested area in the eastern portion of the project.



Figure 11. View of the sloped conditions in the eastern portion of the project.



Figure 12. View of the stream within the southern portion of the project.



Figure 13. View of the existing graveled access road within the southern portion of the project.



Figure 14. View of the existing disturbance and sloped conditions within the southern portion of the project.



Figure 15. View of the sloped terrain in the southern portion of the project.



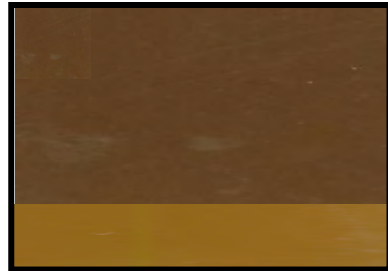
Figure 16. View of the stream bisecting the project.



Figure 17. View of a disturbed shovel probe within the project.

## Schematic of a Test Unit Profile

Chagrin silt loam (Chg1AF)

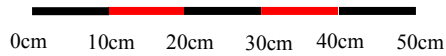


**Ap** 10YR3/3 Dark Brown mottled silty loam



**B** 10YR4/6 Dark Yellowish Brown clay

Scale



**Provenience:** 0S 50E

**Depth to Subsoil:** 24 cm

**Excavator:** JF



Figure 18. A typical shovel test unit excavated within the project.

# **LETTER OF NOTIFICATION FOR LEMASTE-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT**

Appendix C Ecological Resources Inventory Report  
April 3, 2017

## **Appendix C. Ecological Resources Inventory Report**

Lemaster-Lick 138 kV Transmission  
Line Relocation Project, Athens  
County, Ohio

Ecological Resources Inventory  
Report



Prepared for:  
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March 15, 2017

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## 1.0 Introduction

AEP Ohio Transmission Company, Inc. (AEP) is proposing to relocate a portion of the Lemaster-Lick 138 kV electric transmission line in Athens County, Ohio (Figure 1, Appendix A). The Project includes removing approximately 1.68 miles of existing 138 kV transmission line which terminates at AEP's existing Poston Station and constructing approximately 0.46 miles of new 138 kV transmission line which will terminate at AEP's proposed Lemaster Station (Figure 1, Appendix A). The proposed Lemaster Station is a separate AEP project. The Project area (as depicted on Figures 1, 2, and 3 in Appendix A) was surveyed for wetlands, waterbodies, and potential threatened, endangered and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on November 7-8, 2016, and February 10, 2017. The approximate locations of features adjacent to the Project area were also recorded during field surveys. These features are shown on the Figure 2 maps in Appendix A as "approximate" wetlands, streams, open waters, and upland drainage features.

## 2.0 Methods

### 2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil surveys, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0) (USACE 2012). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

### 2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's *Guidance on Ordinary High Water Mark Identification* (Regulatory Guidance Letter, No. 05-05) (USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (USACE 2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI) and/or Qualitative Habitat Evaluation Index (QHEI). The centerline of each waterway was identified and surveyed using a handheld sub-meter accuracy GPS unit and mapped with GIS software. Additionally, the locations of ponds/open water features and upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

## 2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix B – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the proposed Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by these species.

### 3.0 Results

#### 3.1 TERRESTRIAL HABITAT

Stantec completed field surveys within the Project area on November 7-8, 2016, and February 10, 2017, for threatened and endangered species or their habitats. Figure 3 (Appendix A) shows the vegetation communities/habitats and locations of any identified rare, threatened or endangered species habitat observed within the Project area. Representative photographs of the vegetation communities/habitats identified within the Project area are included in Appendix C of this report (photo locations are shown on Figures 2 and 3, Appendix A). Information regarding the vegetation communities/habitats identified within the Project area is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the Lemaster-Lick 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Old Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa). Dominant species include tall fescue ( <i>Schedonorus arundinaceus</i> ), broomsedge bluestem ( <i>Andropogon virginicus</i> ), goldenrod ( <i>Solidago</i> sp.), and aster ( <i>Symphyotrichum</i> sp.).	No	6.12
Mixed Early Successional/ Second Growth Deciduous Forest	Some past disturbance but trending to naturalized. Dominated by sugar maple ( <i>Acer saccharum</i> ), beech ( <i>Fagus grandifolia</i> ), and American elm ( <i>Ulmus americana</i> ).	No	0.82
Industrial	Extreme Disturbance/existing gravel pad. Dominated by dandelion ( <i>Taraxacum officinale</i> ) and white clover ( <i>Trifolium repens</i> ).	No	0.26
Total			7.20

#### 3.2 WETLANDS

Stantec completed field surveys within the Project area on November 7, 2016 and February 10, 2017, for wetlands and waterbodies. Figure 2 (Appendix A) shows the wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination and ORAM data forms are included in

Appendix D. Information regarding the Cowardin classification and ORAM categories of wetlands identified within the Project is provided in Table 2.

Table 2. Summary of Wetland Resources Found within the Lemaster-Lick 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Wetland Name	Figure 2 Photo Location <sup>1</sup>	Isolated?	Wetland Classification <sup>2</sup>	ORAM Score <sup>4</sup>	ORAM Category <sup>4</sup>	Delineated Area (acres) within Project Area
Wetland 1	1	No	PEM <sup>3</sup>	12	1	0.02
Wetland 2	2	No	PEM <sup>3</sup>	24	1	0.13
Wetland 3	7	Yes	PEM <sup>3</sup>	31	2	0.01
Wetland 4	9	No	PEM <sup>3</sup>	37.5	2	0.20
TOTAL						0.36
<sup>1</sup> Figure 2 and Appendix C – Representative Photographs						
<sup>2</sup> Wetland classification is based on Cowardin et al. (1979).						
<sup>3</sup> PEM = Palustrine Emergent Wetland						
<sup>4</sup> ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetlands v. 5.0 (Mack 2001).						

### 3.3 STREAMS

Stantec completed field surveys within the Project area on November 7-8, 2016 and February 10, 2017, for wetlands and waterbodies. Figure 2 (Appendix A) shows the waterbodies (streams and open water features) identified by Stantec within the Project area, as well as the locations of non-jurisdictional upland drainage features identified within the Project area. Representative photographs of the streams, open waters, and upland drainage features identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed QHEI and HHEI data forms for streams identified in the Project area are included in Appendix D. Information regarding the streams identified within the Project area is provided in Table 3.

LEMASTER-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Table 3. Summary of Stream Resources Found within the Lemaster-Lick 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Stream Name	Figure 2 Photo Location <sup>1</sup>	Receiving Waters	Stream Flow Regime <sup>2</sup>	Stream Evaluation Method	Stream Evaluation Score	OHWM Width (feet) <sup>3</sup>	Delineated Length (feet) within Project Area
Stream 1 (Hamley Run)	11	Hocking River	Perennial	QHEI	53	12	140
Stream 2	10	Hamley Run	Ephemeral	HHEI	14	2.5	128
Stream 3 (Hamley Run)	3	Hocking River	Perennial	QHEI	81	12	1598
	8			QHEI	55.5	11	
Stream 4	5	Hamley Run	Intermittent	HHEI	42	3	45
Stream 5	4	Hamley Run	Intermittent	HHEI	62	3.2	103
Stream 6	6	Hamley Run	Intermittent	HHEI	51	2	129
TOTAL							2,143
<sup>1</sup> Figure 2 and Appendix C – Representative Photographs							
<sup>2</sup> Stream classification is based on Federal Register/Vol. 67, No. 10 (USACE 2002).							
<sup>3</sup> OHWM = Ordinary High Water Mark							

3.4 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 4. Summary of Potential Ohio State-Listed Species within the Lemaster-Lick 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Common Name	Scientific Name	State Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Known Within One Mile of Project Area? <sup>3</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Insects								
Regal Fritillary	<i>Speyeria idalia</i>	E	Yes	No	Occurs in tall grass prairie remnants (Butterflies and Moths of North America 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Grizzled Skipper	<i>Pyrgus centaureae wyandot</i>	E	Yes	No	This species is associated with openings in mature oak forests that support stands of Canada cinquefoil. Most of these areas are highly disturbed, and are characterized by fair amounts of exposed soil and rock (ODNR 2016b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
American Burying Beetle	<i>Nicrophorus americanus</i>	E	Yes	No	Current information suggests this species is a habitat generalist, or one that lives in many types of habitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2016b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Caddisfly	<i>Brachycentrus numerosus</i>	E	Yes	Yes	Habitat preference has not been assessed at this time (NatureServe 2016), though caddisflies normally occur in streams, rivers, and ponds.	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Marsh Fern Moth	<i>Fagitana littera</i>	T	Yes	No	This species typically occurs in unforested wetlands such as bogs, shrub swamps, and marshes. This species also occurs along wet powerlines and wet open pinelands (New York Natural Heritage Program 2015).	Yes	Some potentially suitable habitat was observed within the Project area. However, this species is not known to occur within the Project vicinity. Therefore, no impacts are anticipated.	No comments received.
Fishes								
Channel Darter	<i>Etheostoma tippecanoe</i>	T	Yes	No	This fish prefers medium to large streams in the Ohio River drainage system and are found in riffles of moderate current with substrate of gravel or cobble sized rocks (ODNR 2016b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aquatic species.

LEMASTER-LICK 138 KV TRANSMISSION LINE RELOCATION PROJECT, ATHENS COUNTY, OHIO

Common Name	Scientific Name	State Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Known Within One Mile of Project Area? <sup>3</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
River Darter	<i>Percina shumardi</i>	T	Yes	No	Large rivers and lower portions of tributaries; deep chutes and riffles where current is swift and substrates are coarse gravel or rock (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aquatic species.
Amphibians								
Midland Mud Salamander	<i>Pseudotriton montanus diastictus</i>	T	Yes	No	Muddy springs, slow floodplain streams, and swamps along slow streams; backwater ponds and marshes created by beaver activity (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Eastern Spadefoot	<i>Scaphiopus holbrookii</i>	E	Yes	No	Eastern spadefoots occur in areas of sandy, gravelly, or soft, light soils in wooded or unwooded terrain. On land, they range up to at least several hundred meters from breeding sites. When inactive, they remain burrowed in the ground. Eggs and larvae develop in temporary pools formed by heavy rains. Breeding sites include temporary pools and areas flooded by heavy rains (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Eastern Hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>	E	Yes	No	Rocky, clear creeks and rivers, usually where there are large shelter rocks. The species prefers cool waters with temperatures usually lower than 20 degrees Celsius. High amounts of instream cover are needed for shelter/reproduction, including large flat rocks or submerged logs (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Mussels								
Clubshell	<i>Pleurobema clava</i>	E	Yes	No	The clubshell is found in small to medium rivers, but occasionally found in large rivers, especially those having large shoal areas. It is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle and cannot tolerate mud or slackwater conditions (USFWS 1994). Badra and Goforth (2001) found the clubshell in gravel/sand substrate, in runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	No	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Fanshell	<i>Cyprogenia stegaria</i>	E	Yes	No	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.

Common Name	Scientific Name	State Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Known Within One Mile of Project Area? <sup>3</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Pink Mucket	<i>Lampsilis orbiculata</i>	E	Yes	No	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift, but never standing pools of water (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Sheepnose	<i>Plethobasus cyphus</i>	E	Yes	No	Although it does inhabit medium-sized rivers, this mussel generally has been considered a large-river species. It may be associated with riffles and gravel/cobble substrates but usually has been reported from deep water with slight to swift currents and mud, sand, or gravel bottoms. It also appears capable of surviving in reservoirs. Specimens in larger rivers may occur in deep runs (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Black Sandshell	<i>Ligumia recta</i>	T	Yes	No	Typically found in medium-sized to large rivers in locations with strong current and substrates of coarse sand and gravel with cobbles in water depths from several inches to six feet or more (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Threehorn Wartyback	<i>Obliquaria reflexa</i>	T	Yes	No	This species is typical of the large rivers where there is moderately strong current and a stable substrate composed of gravel, sand, and mud (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Fawnsfoot	<i>Truncilla donaciformis</i>	T	Yes	No	This species occurs in both large and medium-sized rivers at normal depths varying from less than three feet up to 15 to 18 feet in big rivers such as the Tennessee. Substrates of either sand or mud are suitable and although it is typically found in moderate current, it can adapt to a lake or embayment environment lacking current (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Mammals								
Indiana Bat	<i>Myotis sodalis</i>	E	Yes	No	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2015b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Yes	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The project is within the vicinity of records for the Indiana bat. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. If suitable habitat occurs within the project area, ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species.
Allegheny Woodrat	<i>Neotoma magister</i>	E	Yes	No	Typical habitat is rocky cliffs and slopes (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.

Common Name	Scientific Name	State Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Known Within One Mile of Project Area? <sup>3</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Black Bear	<i>Ursus americanus</i>	E	Yes	No	Black bears inhabit forests and nearby openings, including forested wetlands. When inactive, they occupy dens under fallen trees, ground-level or above-ground tree cavities or hollow logs, underground cave-like sites, or the ground surface in dense cover (NatureServe 2016)	Yes	Habitat was observed within the Project area, but due to the mobility of this species no impacts are anticipated.	Due to the mobility of this species, the Project is not likely to impact this species.
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	SOC	Yes	No	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Yes	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No comments received.
Reptiles								
Timber Rattlesnake	<i>Crotalus horridus horridus</i>	E	Yes	No	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between ledge and ground, and fallen rock associated or unassociated with cliffs (NatureServe 2016).	Yes	Potential habitat (open areas adjacent to hilly forested areas) was observed within the Project area, but typical habitat was not observed and due to the mobility of this species, no impacts are anticipated.	Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.
Spotted Turtle	<i>Clemmys guttata</i>	T	Yes	No	Spotted turtles inhabit mostly unpolluted, shallow bodies of water with a soft bottom and aquatic vegetation, such as small marshes, marshy pastures, bogs, fens, woodland streams, swamps, small ponds, vernal pools, and lake margins: in some areas they occur in brackish tidal streams (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Eastern Box Turtle	<i>Terrapene carolina</i>	SOC	Yes	Yes	This species prefers forests, fields, and scrub shrub habitats. Eastern box turtles use loose soil, debris, and leaf litter for cover. Areas with loose, loamy soils are preferred for egg laying sites (NatureServe 2016).	Yes	This species typically prefers moist forest and scrub shrub habitat as opposed to open old field habitat observed in the Project area. Forested habitat is present within portions of the Project area. Due to this and the mobility of this species, no impacts are anticipated.	No comments received.

Common Name	Scientific Name	State Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Known Within One Mile of Project Area? <sup>3</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Plants								
Rough Boneset	<i>Eupatorium pilosum</i>	Status Not Determined	Yes	Yes	This species prefers wet meadows and open, swampy woods dominated by native species (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
<sup>1</sup> E=Endangered; T=Threatened; SOC=Species of Concern <sup>2</sup> According to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2016a). <sup>3</sup> According to Ohio Natural Heritage Program (Appendix B).								

Table 5. Summary of Potential Federally-Listed Species within the Lemaster-Lick 138 kV Transmission Line Relocation Project Area, Athens County, Ohio

Common Name	Scientific Name	Federal Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Mammals							
Indiana bat	<i>Myotis sodalis</i>	E	Yes	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas; Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2015b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Yes	No hibernacula were observed within the Project area. However,,potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, USFWS recommends that trees >3 inches dbh be saved wherever possible. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees >3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with USFWS is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommends that removal of any trees >3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable.
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	T	Yes	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Yes	No hibernacula was observed within the Project area. However, suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No specific comments received (other than discussion of suitable habitat).
Birds							
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SOC	Yes	Breeding habitat most commonly includes areas close to (within 4 km) coastal areas, bays, rivers, lakes, reservoirs, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, or seabirds. This species typically nests in large trees or on cliffs (NatureServe 2016).	No	No nests or suitable nesting habitat was observed in the Project area. Therefore, no impacts are anticipated.	No comments received.
Mussels							
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.

Common Name	Scientific Name	Federal Listing <sup>1</sup>	Known to Occur in Athens County? <sup>2</sup>	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Fanshell	<i>Cyprogenia stegaria</i>	E	Yes	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Pink Mucket	<i>Lampsilis orbiculata</i>	E	Yes	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift, but never standing pools of water (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Sheepnose	<i>Plethobasus cyphus</i>	E	Yes	Although it does inhabit medium-sized rivers, this mussel generally has been considered a large-river species. It may be associated with riffles and gravel/cobble substrates but usually has been reported from deep water with slight to swift currents and mud, sand, or gravel bottoms. It also appears capable of surviving in reservoirs. Specimens in larger rivers may occur in deep runs (NatureServe 2016).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Insects							
American Burying Beetle	<i>Nicrophorus americanus</i>	E	Yes	Current information suggests this species is a habitat generalist, or one that lives in many types of habitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2016b).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Reptiles							
Timber Rattlesnake	<i>Crotalus horridus horridus</i>	SOC	Yes	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between a ledge and ground, and fallen rock associated or unassociated with cliffs (NatureServe 2016).	Yes	Potential habitat (open areas adjacent to hilly forested areas) was observed within the Project area, but typical habitat was not observed and due to the mobility of this species, no impacts are anticipated.	No comments received.
<sup>1</sup> E=Endangered; T=Threatened; SOC=Species of Concern <sup>2</sup> According to USFWS (2015a).							

## 4.0 Conclusions and Recommendations

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species or their habitats within the Project area on November 7-8, 2016, and February 10, 2017. During the field surveys, four palustrine emergent wetlands totaling approximately 0.36 acres were identified within the Project area. See Table 2 for more information regarding the wetland classifications and ORAM categories for wetlands identified within the Project area. One ephemeral stream totaling approximately 128 linear feet in length, three intermittent streams totaling approximately 277 linear feet in length and two perennial stream segments totaling approximately 1,738 linear feet in length were delineated within the Project area. See Table 3 for more information regarding the streams identified within the Project area.

The information provided by Stantec regarding wetland and stream boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the fieldwork. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

Three state-listed species are known to occur within a one-mile radius of the Project area according to correspondence received from the ODNR Natural Heritage Program (NHP), including rough boneset, a caddisfly, and eastern box turtle (Appendix B). None of these known locations are within or in the immediate vicinity of the Project area. Some suitable habitat for eastern box turtle is present in the Project area, though this species typically prefers moist forest and scrub shrub habitats. No box turtles were observed in the Project area and due to the mobility of this species and habitat observed in the Project area (open, non-forested), the proposed Project is not expected to impact this species. No habitat for rough boneset or caddisfly occurs in the Project area and no impacts to these species are anticipated. Potential habitat for the state-listed endangered species, black bear, and timber rattlesnake, were also observed in the Project area. However, neither of species is known to occur within a mile of the Project area, and due to their mobility, no impacts to these species are anticipated. The ODNR NHP also responded that they are unaware of any unique geological features or scenic rivers within a mile of the Project area, but did state that the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community exist within a mile of the Project area (Appendix B). However, none of these known locations occur within or immediately adjacent to the Project area and no impacts are anticipated.

According to the ODNR - Office of Real Estate, the project is within the vicinity of records for the Indiana bat and presence of the Indiana bat has been established in the area. If suitable habitat occurs within the project area, ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this Project is not likely to impact this species. No bat hibernacula were observed in the Project area during field surveys. However, potentially suitable summer roosting habitat for Indiana bat (and northern long-eared bat) was

observed in the Project area and tree clearing will be required this project. AEP anticipates clearing the trees between October 1 and March 31.

The ODNR - Office of Real Estate also indicated that due to the Project location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact federally-listed and state-listed mussel species. The project is also within the range of the channel darter, a state threatened fish, and the river darter, a state threatened fish. The ODNR - Office of Real Estate recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this Project is not likely to impact these or other aquatic species. No streams were identified in the Project area during field surveys and therefore no suitable mussel habitat or fish habitat is located in the Project area. The project is also within the range of the timber rattlesnake, a state endangered species and a federal species of concern, the eastern spadefoot toad, a state endangered species, mud salamander, a state threatened species, and black bear, a state endangered species. The ODNR - Office of Real Estate indicated that due to the location, the type of habitat present at the project site, and the type of work proposed, this Project is not likely to impact these species.

A technical assistance letter was submitted to the USFWS for this Project. The USFWS response letter (Appendix B) indicates the proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, USFWS recommends that trees >3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees >3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with USFWS is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommends that removal of any trees >3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. No bat hibernacula were observed in the Project area during field surveys. However, potentially suitable summer roosting habitat for the Indiana bat (and northern long-eared bat) was observed in the Project area and tree clearing will be required this project. AEP anticipates clearing the trees between October 1 and March 31. The USFWS also stated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project area, but recommended that impacts to wetlands and other water resources be avoided or minimized to the maximum extent possible, and that best management practices be utilized to minimize erosion and sedimentation and prevention of non-native, invasive plant establishment.

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## **Appendix A** Figures

### A.1      FIGURE 1 – PROJECT LOCATION MAP

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Summary: Letter of Notification 1 of 4 Parts electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company