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October 26, 2015

Chairman Andre T. Porter
Ohio Power Siting Board
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**Re: Certificate Application Amendment
Biers Run - Circleville 138 kV Transmission Line
Case Number: 15-1291-EL-BTA**

Dear Chairman Porter,

AEP Ohio Transmission Company, Inc. (AEP Ohio Transco) submitted an Application with the Ohio Power Siting Board (OPSB) on June 2, 2014 for the Biers Run-Circleville 138 kilovolt (kV) Transmission Line Project (Project), OPSB Case 13-0430-EL-BTX.

AEP Ohio Transco subsequently made two adjustments to the Certified Route because of additional information obtained from the city of Circleville and property owner concerns. These adjustments were filed in a Supplement to the Application on October 15, 2014.

AEP Ohio Transco is proposing five (5) additional adjustments to the Certificated Route. These adjustments are proposed to accommodate landowner preferences, stay outside road right-of-way, and resolve engineering challenges identified during design. A summary of each adjustment is provided in greater detail in the attached Certificate Application Amendment.

Please contact our office if there are any questions.

Respectfully Submitted,

/s/ Hector Garcia

Hector Garcia
Counsel for AEP Ohio Transmission Company, Inc.

BEFORE THE OHIO POWER SITING BOARD
Certificate Application Amendment for Electric Power, Gas and Natural Gas Transmission
Facilities Biers Run-Circleville 138 kV Transmission Line Project

Introduction and Background

AEP Ohio Transmission Company, Inc. (AEP Ohio Transco) submitted an Application with the Ohio Power Siting Board (OPSB) on June 2, 2014 for the Biers Run-Circleville 138 kilovolt (kV) Transmission Line Project (Project), OPSB Case 13-0430-EL-BTX.

AEP Ohio Transco subsequently made two adjustments to the Certified Route because of additional information obtained from the city of Circleville and property owner concerns. These adjustments were filed in a Supplement to the Application on October 15, 2014.

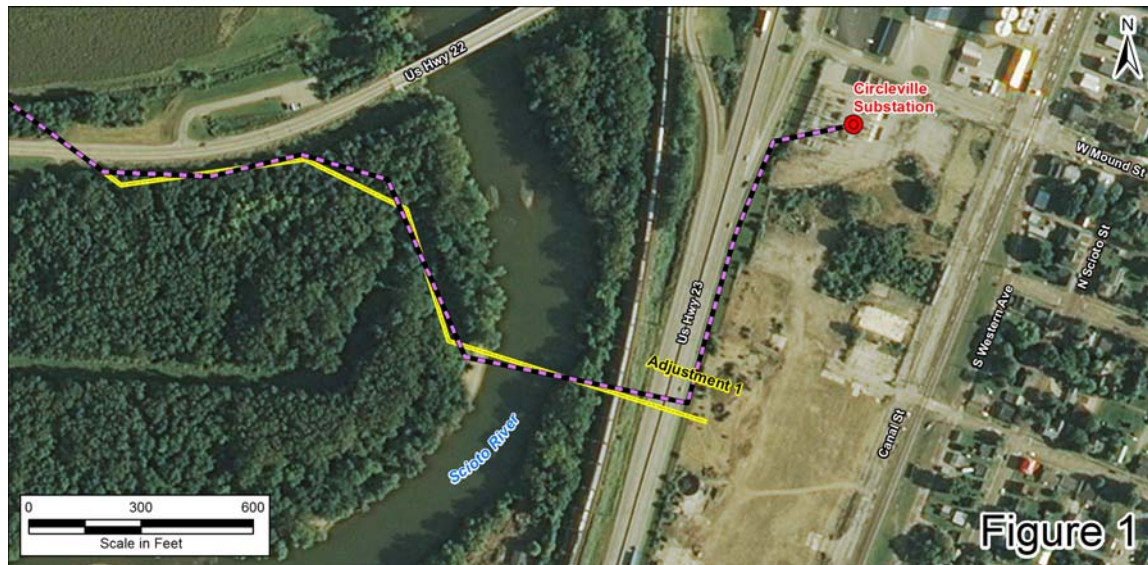
AEP Ohio Transco is proposing five (5) additional adjustments to the Certificated Route. These adjustments are proposed to accommodate landowner preferences, stay outside road right-of-way, and resolve engineering challenges identified during design. A summary of each adjustment is provided below, and the relevant information in the OPSB Application has been updated. Additional wetland delineation fieldwork was conducted where the adjustments were outside the limits of the previous surveys. No additional wetland or stream impacts are anticipated. Cultural resources were revisited by the cultural resources contractor. The changes were considered minor enough that no additional cultural impacts are anticipated.

Summary of Adjustments Included in this Amendment

Adjustment 1: Adjustment 1 is located at the northern terminus of the Certificated Route. The Certificated Route exited the Circleville substation to the west before turning south along the east side of US-23 then east across the Scioto River. The adjusted route begins at the intersection with the existing Scioto Trail-Circleville 138 kV line on the east side of US-23 as shown in Figure 1. The northern terminus of the Project has therefore moved approximately 890 feet southwest of the original location within the Circleville Substation.

An additional section of the Certificated route has been adjusted immediately west of the Scioto River crossing. This adjustment was made at the suggestion of the Wastewater Treatment Plant (WWTP) to overbuild the existing distribution on the WWTP property, rather than paralleling it. This has slightly reduced the amount of clearing required through this section of the line. An additional adjustment was made along the south side of US-22/SR-56 north of the WWTP to keep the poles outside the road right-of-way.

No new property owners are affected by these changes and land use impacts are generally unchanged. Tree clearing is slightly reduced and SRJ001 (an unnamed tributary to the Scioto River) is no longer crossed by the Amended Route.



Adjustment 2: Adjustment 2 is located south of US-22/SR-56 near the intersection of SR-104, as depicted in Figure 2. At this location, the original Certificated Route headed northeast to southwest, offset 50 feet to the east of the property line. The owner of this property requested the line be offset 4 feet to the east to more closely align with property line boundaries which will reduce impacts to farming operations. Therefore, AEP Ohio Transco is proposing to move this section of the line 46 feet to the west from the Certificated Route.

At the southern end of the adjustment described above (about 4,200 feet south of US-22), the Certificated Route turned west and parallels the southern side of a wooded, abandoned railroad grade (Figure 2). AEP Ohio Transco is proposing to parallel the railroad grade on the northern side (190 feet north of the Certificated Centerline) in order to avoid coming close to the dairy farm to the southwest.

Continuing from this location, the Certificated Route heads southwest then west until reaching the east side of SR-104. AEP Ohio Transco is proposing to move the route slightly north (approximately 50 to 80 feet) due to the presence of an existing distribution tap located west of the current 138 kV alignment dead-end. This distribution tap provides electricity to a home located on the west side of SR-104. The 3-phase distribution line that is currently located on the west side of SR-104 will be underbuilt on the new 138 kV alignment on the east side of SR-104 which will require the installation of a tap over SR-104 from the new 138 kV alignment back to the existing distribution alignment. Shifting the 138kV dead-end structure to the north results in the elimination of a distribution pole on the west side of SR-104.

These changes will require an overhang easement and additional easement requirements from one additional landowner. AEP Ohio Transco is in discussions with the landowner. The route adjustment will require about two additional acres of upland forest clearing. Wetland feature WNY001 [a palustrine emergent (PEM) wetland] is now located within the right-of-way, but will not be impacted and there will be slightly less impact to WRG003 (also a PEM wetland).



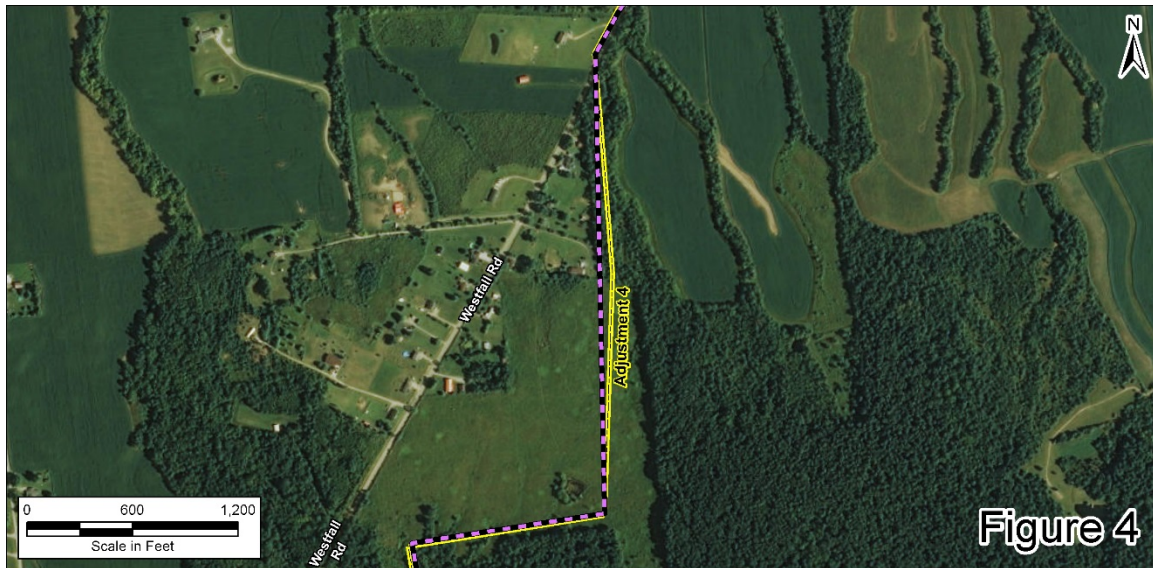
Adjustment 3: AEP Ohio Transco is proposing an adjustment at the crossing of SR-104, approximately 7,700 feet south of the intersection with US-22 (Figure 3). The proposed adjustment moves the line approximately 300 feet south from its original crossing of SR-104. This proposed adjustment is to provide adequate clearance under the existing Gavin-Marysville 765kV transmission line that runs northwest to southeast at this location.

The crossing further to the south will result in additional easement requirements from an additional landowner. AEP Ohio Transco is initiating discussions with the landowner. Changes in land use include one-tenth of an acre of residential land now crossed (as opposed to agricultural land). There were no additional impacts to ecological features due to this proposed adjustment.

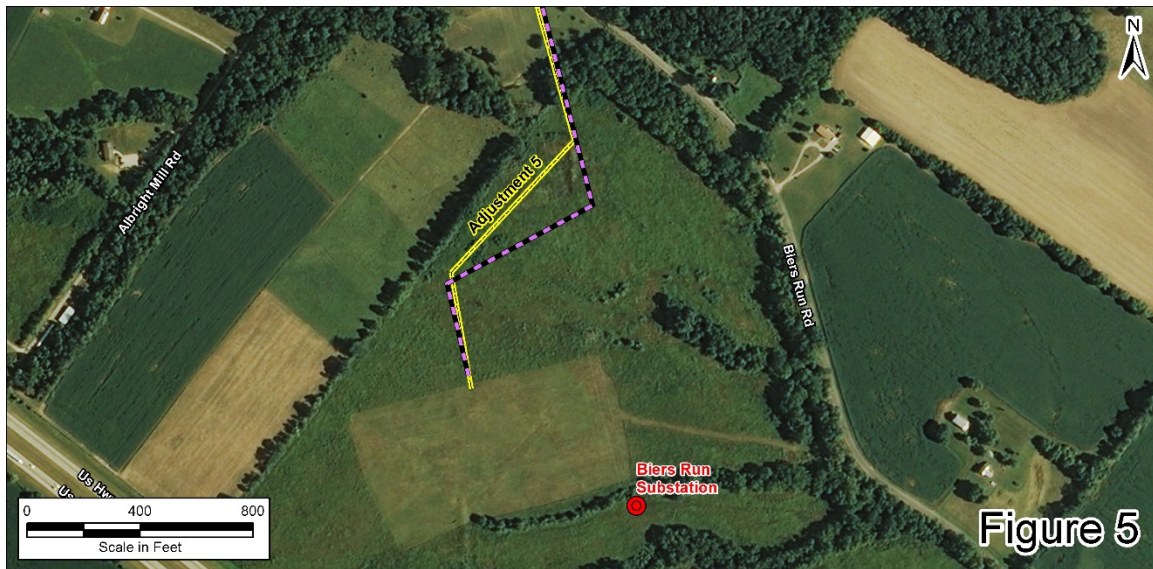


Adjustment 4: AEP Ohio Transco is proposing a fourth adjustment south of the Westfall Road crossing as shown on Figure 3 below. The purpose of this proposed adjustment is to optimize the span length between pole structures and to provide additional distance (and eliminate the need for multiple overhang easements) from multiple residential parcels. The proposed adjustment parallels the Certificated Route centerline approximately 75 feet east of its original placement.

This proposed adjustment results in the impact to one less landowner. There were no significant changes to land use or impacts to ecological resources due to this adjustment.



Adjustment 5: AEP Ohio Transco is proposing a fifth adjustment adjacent to the north of the Biers Run Substation (see Figure 5 below). The proposed adjustment is to accommodate an existing 345kV transmission line just west of the proposed alignment. Moving the transmission line pole 240 feet to the northwest, provides the necessary clearance from the existing utility. There were no changes in property owner, land use or impacts to ecological features due to this adjustment.



A Certificate for the Preferred Route was issued by the OPSB on March 9, 2015. The following text provides only the specific changes to potential impacts that arose from the proposed five route adjustments, which is indicated by underlined text. Subsections not affected by the proposed adjustments and subsections referring to the Alternate Route were removed.

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GLOSSARY

AEP	American Electric Power
AEP Ohio Transco	AEP Ohio Transmission Company, Inc.
APE	Area of Potential Effect
BMP	best management practice
cm	Centimeter
DOW	Division of Wildlife
EMF	electromagnetic field
EPRI	Electric Power Research Institute
FAA	Federal Aviation Administration
GAI	GAI Consultants
HHEI	Headwater Habitat Evaluation Index
IARC	International Agency for Research on Cancer
IEEE	Institute of Electrical and Electronics Engineers
kV	Kilovolts
MSDS	Material Safety Data Sheet
NED	National Elevation Dataset
NERC	North American Electric Reliability Corporation
NIEHS	National Institute of Environmental Health Sciences
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
OHI	Ohio Historic Inventory
Ohio EPA	Ohio Environmental Protection Agency
OHPO	Ohio Historic Preservation Office
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
OSHA	Occupational Safety and Health Administration
PEM	palustrine emergent
PFO	palustrine forested

PHWH	Primary Headwater Habitat
PJM	PJM Interconnection
Project	Biers Run-Circleville 138 kV Transmission Line Project
QHEI	Qualitative Habitat Evaluation Index
ROW	Right-of-way
SWPPP	Storm Water Pollution Prevention Plan
TNW	Traditional navigable water
USACE	United States Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOC	U.S. Department of Commerce
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WHO	World Health Organization

4906-15-01 PROJECT SUMMARY AND FACILITY OVERVIEW**(A) PROJECT SUMMARY AND FACILITY OVERVIEW**

Text provided in the June 2, 2014 filing remains unchanged.

(1) General Purpose of the Facility

Text provided in the June 2, 2014 filing remains unchanged.

(2) Summary Description

Text provided in the June 2, 2014 filing remains unchanged.

(3) Route Selection Process

A Route Selection Study was conducted to identify and evaluate potential routes for the Project. The goal of the Route Selection Study was to identify practicable routes, while avoiding or minimizing effects on sensitive land uses, ecological, and cultural features in the Project vicinity. Potential routes were evaluated, compared, and ranked to aid the selection of a Preferred and an Alternate Route. The Route Selection Study is provided as Appendix 3-1 to this Application.

Sensitive areas identified within the Route Selection Study included known cultural resources such as, Indian mounds and previously recorded archeological sites. These known sites were avoided to the extent practical. A number of ecologically sensitive areas were also identified and avoided to the extent practical including the Elmon Richards Scioto River Conservation Wildlife Area, Circleville Canal Wildlife Area, and the Erie Canal. The resulting 174 routes were both quantitatively and qualitatively assessed based on their impacts and effects on the suite of evaluation criteria.

Three route options were selected based on the quantitative scores and qualitative evaluation, including the option to overbuild existing distribution lines. These options were presented to the public at two public information meetings (the routes were described as Purple East, Purple West, and Green Figure 3-1 in the Site Selection Study). Based on feedback from these meetings, a series of adjustments were made to the routes, and then the siting team met to decide which routes to designate as Preferred and Alternate. AEP Ohio Transco selected the Purple Route as the Preferred Route because of the numeric siting score, extent it paralleled existing ROW and input from public meetings. The Green Route was selected as the Alternate Route. According to OPSB rule 4906-05-04(A)(2)(a)(iii), the Preferred and Alternate Routes may not have more than 20 percent of their ROWs in common. The Preferred Route and Alternate Route have commonality of less than 7 percent.

Preferred Route: The Preferred Route begins approximately 890 feet south of exits the Circleville Station where it joins the existing Scioto Trail-Circleville 138 kV line. ~~to the south for approximately 950 feet before turning~~ The route heads west across US-23 and the Scioto River and paralleling first the south, then the north side of US-22. The Preferred Route crosses back to the south side of US-22 near the intersection of US-22 and Mill Road, and continues for approximately 3,000 feet. At this point, the Preferred Route turns to the southwest through

agricultural fields, and then west, running to the south of Calamus Swamp. The Preferred Route eventually turns south and parallels SR-104 at a point just south of Calamus Swamp. It continues to parallel SR-104 for approximately 1.1 miles before turning southwest and continuing for approximately 1.3 miles. It then parallels Westfall Road for approximately 8.6 miles, with minor deviations to avoid structures, passing through agricultural fields and occasional residential parcels. At this point, the Route turns to the south and runs cross-country, passing over Egypt Pike, Albright Mill Road, and Biers Run Road before terminating at the Proposed Biers Run Station. The final ~~3.8~~ 3.5 miles of the Preferred Route parallels the Don Marquis-Bixby 345 kV line. The total length of the Preferred Route is ~~19.0~~ 18.8 miles.

(4) Principal Environmental and Socioeconomic Considerations

Text provided in the June 2, 2014 filing remains unchanged.

(a) Land Use Impacts

The Project is located in a rural setting, crossing land that consists primarily of agricultural parcels and open land, with scattered residential areas, woodlots, and minimal commercial, industrial, and recreational land uses. Approximately ~~74~~ 73 percent of the Preferred Route and 28 percent of the Alternate Route will consist of paralleling or overbuilding an existing ROW.

One hundred ~~seventy-five~~ fifty-one residences were identified within 1,000 feet of the Preferred Route. Two hundred-seventy residences were identified within 1,000 feet of the Alternate Route. ~~Eleven~~ Eight residences were identified within 100 feet of the Preferred Route. Eight were identified within 100 feet of the Alternate Route. Approximately ~~47~~ 45 percent of the Preferred Route and 68 percent of the Alternate Route cross agricultural fields. The Preferred Route crosses within 100 feet of one recreational area, the Elmon Richards Scioto River Access. The Elmon Richards Scioto River Access has been designated by the State of Ohio as a public wildlife area, and is used by fishermen for boat access to the Scioto River. The Alternate Route crosses the Circleville Canal Wilderness Area, a public fishing water under the jurisdiction of the Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW). The Preferred Route is within 1,000 feet of the Calamus Swamp, a nature preserve owned by the Audubon Society, Columbus Chapter. The Alternate Route is within 1,000 feet of the Elmon Richards Scioto River Access. It is also within 1,000 feet of a golf course located in Ross County.

Six previously recorded archaeological sites were identified within 1,000 feet of the Preferred Route, two of which are within 100 feet. Nineteen previously recorded archaeological sites were identified within 1,000 feet of the Alternate Route, two of which are within 100 feet. ~~Thirty-eight~~ Fourteen Ohio Historic Inventory (OHI) structures were identified within 1,000 feet of the Preferred Route. Forty-six OHI structures were identified within 1,000 feet of the Alternate Route. One of these OHI structures is within 100 feet of ~~both the Preferred and Alternate routes.~~ One National Register of Historic Places (NRHP) structure was identified within 1,000 feet of the Preferred and Alternate routes. ~~The NRHP structure was identified within 100 feet.~~

Cultural resources studies of the Project area were conducted on behalf of AEP Ohio Transco. These included:

- A Phase I Cultural Resources Assessment of the Preferred Route
- A Geomorphological survey of selected portions of the Preferred and Alternate Route
- An Architectural History Survey of the Preferred Route

Based on the data collected, it was determined to be unlikely that the Preferred Route would impact any historic properties and no further archaeological or architectural investigations were recommended.

Based on contacts with local officials, no conflicts with zoning or development issues were identified. With the exception of the small footprints of the poles, no existing land uses will be converted by the Project as proposed.

(b) Economic Impacts

Text provided in the June 2, 2014 filing remains unchanged.

(c) Ecological Impacts

Text provided in the Supplement to the Application filed on October 15, 2014 remains unchanged.

(d) Other Environmental Impacts

Text provided in the June 2, 2014 filing remains unchanged.

(5) Project Schedule Summary

AEP Ohio Transco plans to start construction in the ~~first~~ fourth quarter of 2015, with an estimated in-service date around the ~~first~~ third quarter of ~~2017~~ 2016. Figure 2-2 provides additional details regarding the proposed Project schedule.

(B) INFORMATION FILED IN RESPONSE TO REQUIREMENTS

Text provided in the June 2, 2014 filing remains unchanged.

(C) PREPARATION OF HARD COPY MAPS

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-02 REVIEW OF NEED FOR PROPOSED PROJECT

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-03 SITE AND ROUTE ALTERNATIVES ANALYSES

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-04 TECHNICAL DATA

Text provided in the June 2, 2014 filing remains unchanged.

(A) ALTERNATIVE ROUTES**(1) Geography and Topography**

Maps at 1:24,000-scale, showing the Preferred and Alternate Routes for the Project are included as Figures 4-1A through 4-1E. The ~~two~~ five adjustments made to the Preferred Route are provided on Figure 4-1A, D and E. These maps include a corridor 1,000 feet on each side of the proposed transmission centerlines (referred to as the 2,000-foot corridor). The maps used the following U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles as base maps:

- Williamsport, Ohio (1963)
- Circleville, Ohio (1975)
- Andersonville, Ohio (1982)

The information on the map was updated through review of digital, georeferenced aerial photography, property parcel data from the Pickaway and Ross County Auditors, and field reconnaissance conducted during four survey periods: between November December 2013 to February 2014, October 2014, March 2015 and May to June 2015. The aerial photographs are georeferenced, ortho-corrected color images derived from ESRI ArcGIS Online.

(a) Proposed Transmission Line Alignments

Text provided in the June 2, 2014 filing remains unchanged.

(b) Proposed Station Locations

Text provided in the June 2, 2014 filing remains unchanged.

(c) Major Highway and Railroad Routes

Text provided in the June 2, 2014 filing remains unchanged.

(d) Air Transportation Facilities

Text provided in the June 2, 2014 filing remains unchanged.

(e) Utility Corridors

The proposed Biers Run-Circleville 138 kV transmission line crosses or parallels numerous electric transmission and distribution ROWs. The Preferred Route parallels existing electric transmission or distribution lines in six locations. The Alternate Route parallels existing electric transmission or distribution lines in six locations. Tables 4-1 and 4-2 summarize the existing electric transmission or distribution lines paralleled or overbuilt by the Project. The alignments of existing electric transmission or distribution lines are shown on Figures 4-1A through 4-1E.

TABLE 4-1

Route Segments Paralleling Existing Transmission or Distribution Lines

	Routes	
	Preferred	Alternate
Number of Parallel Sections	2	1
Name of Existing Transmission and Distribution Line and Mileage of Parallel Section(s)	South Central Power Distribution Line (0.47 <u>0.50</u> mile) Don Marquis-Bixby 345 kV Transmission Line (3.59 <u>3.54</u> miles)	Camp Sherman-Circleville 69 kV Distribution Line (0.8 mile)
Total Mileage Paralleled	4.06 <u>4.04</u> miles	0.8 mile

TABLE 4-2

Route Segments Overbuilding Existing Transmission or Distribution Lines

	Routes	
	Preferred	Alternate
Number of Overbuild Sections	4	5
Name of Existing Transmission and Distribution Line and Mileage of Overbuilt Sections	South Central Power Distribution Line (0.25 mile) South Central Power Distribution Line (0.35 <u>0.38</u> mile) South Central Power Distribution Line (1.07 <u>1.06</u> miles) South Central Power Distribution Line (8.25 <u>8.19</u> miles)	Scippo-Circleville 138 kV Line (0.33 mile) South Central Power Distribution Line (0.23 mile) South Central Power Distribution Line (2.83 miles) South Central Power Distribution Line (0.72 mile) Biers Run-Hopetown-Delano 138 kV Transmission Line (0.22 mile)
Total Mileage Overbuilt	9.92 <u>9.89</u> miles	4.33 miles

The total mileage of existing transmission or distribution line paralleled or overbuilt is ~~13.98~~ 13.93 miles, or approximately 74 percent, for the Preferred Route, and 5.13 miles, or approximately 28 percent, for the Alternate Route.

The Preferred Route crosses a private oil/gas production well pipeline at a point immediately west of SR-104 and 1.7 miles south of US-22. The Alternate Route crosses a private oil/gas production well pipeline at a point approximately 700 feet east of SR-104 and 1.4 miles south of US-22 (see Figure 4-1A). Existing aboveground oil tanks content were also identified east of the Preferred Route on the west side of SR-104.

(f) Proposed Permanent Access Roads

Text provided in the June 2, 2014 filing remains unchanged.

(g) Lakes, Ponds, Reservoirs, Streams, Canals, Rivers, and Swamps

A description of the lakes, ponds, reservoirs, streams, canals, rivers, and swamps (i.e. wetlands) located within 1,000 feet of the proposed Preferred and Alternate Routes is provided in Section 4906-15-07(B)(3) of this Application. Maps at 1:24,000-scale showing water bodies in the study area are included as Figures 4-1A through 4-1E. Streams, ponds, and wetlands delineated within 100 feet of the Preferred and Alternate Routes are shown on 1:9,600-scale maps as Figures 7-2A through 7-2J and Figure 7-3A through 7-3I, respectively. The ~~two~~ five adjustments made to the Preferred Route are provided on Figures 7-2A through 7-2C, 7-2H and 7-2J.

(h) Topographic Contours

Text provided in the June 2, 2014 filing remains unchanged.

(i) Soil Associations along the Preferred and Alternate Routes

Text provided in the June 2, 2014 filing remains unchanged.

(j) Population Centers and Legal Boundaries

Text provided in the June 2, 2014 filing remains unchanged.

(2) Slope and Soil Mechanics**(a) Slopes**

Slopes exceeding 12 percent, obtained from the USGS, National Elevation Dataset, are identified as Figures 4-1A through 4-1E. Approximately ~~11~~ 9 percent of the area within 1,000 feet of the Preferred Route occurs where slopes exceed 12 percent. Slopes exceeding 12 percent occur within approximately 20 percent of the area within 1,000 feet of the Alternate Route. The area with the steepest slopes, where elevations range from 600 to 950 feet, occurs on the southern end of the Project, south of the Deer Creek Valley. Table 4-3 shows the soil series that the Preferred Route crosses with greater than 12 percent slopes. Table 4-4 shows the soil series that the Alternate Route crosses with greater than 12 percent slopes.

TABLE 4-3

Soil Series that the Preferred Route Crosses with Greater than 12% Slopes

Soil Series	Slopes	Status
Cana silt loam (CaE2)	20 to 35%	eroded
Casco gravelly loam (CgC)	6 to 12%	
Casco-Kendallville complex (ChD)	12 to 18%	
Casco-Rodman gravelly loams (CkD)	12 to 18%	
Casco-Rodman gravelly loams (CkE)	18 to 35%	
Eldean loam (EeC2 or EIC2)	6 to 12%	eroded
Eldean-Kendallville loams (EpC2)	6 to 12%	eroded
Hennepin-Miamian silt loams (HeF)	25 to 50%	

TABLE 4-3

Soil Series that the Preferred Route Crosses with Greater than 12% Slopes

Soil Series	Slopes	Status
Miamian silt loam (MfC2 or MhC2)	6 to 12%	eroded
Miamian silt loam (MhD2)	12 to 20%	eroded
Miamian silt loam (MhE)	20 to 35%	
Miamian silt loam, bedrock substratum (MmC2)	6 to 12%	eroded
Miamian-Kendallville silt loams (MkC2)	6 to 12%	eroded
Rodman gravelly sandy loam (RoC)	4 to 12%	
Rodman gravelly loam (RdD2)	12 to 20%	eroded
Rodman gravelly loam (RdE2)	20 to 35%	eroded
Thriftton clay loam (ThD3)	12 to 20%	severely eroded

(b) Soil Suitability

Text provided in the June 2, 2014 filing remains unchanged.

(B) LAYOUT AND CONSTRUCTION

Text provided in the June 2, 2014 filing remains unchanged.

(C) TRANSMISSION EQUIPMENT

Text provided in the June 2, 2014 filing remains unchanged.

(D) ENVIRONMENTAL AND AVIATION COMPLIANCE INFORMATION**(1) List and Discussion of Permits Required**

AEP Ohio Transco ~~anticipates submitting~~ a Notice of Intent for coverage under the Ohio Environmental Protection Agency (Ohio EPA) General National Pollutant Discharge Elimination System (NPDES) Permit. Coverage under the U.S. Army Corps of Engineers (USACE) Nationwide Permit 12 for wetland impacts associated with Utility Line Activities ~~may~~ and a Section 10 Permit for the crossing of the Scioto River is also ~~be~~ required.

Local permitting requirements include the Ross County review of the Project SWPPP and Pickaway County Flood Hazard Area Development Permit. ~~It is also anticipated that~~ Multiple highway and railroad crossing permits will also be required.

(2) Description, Quantification, Characterization, Removal and Disposal of Construction Debris

Text provided in the June 2, 2014 filing remains unchanged.

(3) Storm Water and Erosion Controls during Construction and Restoration of Soils, Wetlands, and Streams Disturbed as a Result of Construction of the Facility

Text provided in the June 2, 2014 filing remains unchanged.

(4) Plans for Disposition of Contaminated Soil and Hazardous Materials Generated or Encountered During Construction:

Text provided in the June 2, 2014 filing remains unchanged.

(5) Height of Tallest Anticipated Above Ground Structures and Construction Equipment within the Vicinity of Airports and Landing Strips

Text provided in the June 2, 2014 filing remains unchanged.

(6) Construction during Excessively Dusty or Excessively Muddy Soil Conditions

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-05 FINANCIAL DATA

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-06 SOCIOECONOMIC AND LAND USE IMPACT ANALYSIS

Text provided in the June 2, 2014 filing remains unchanged.

(A) SOCIOECONOMIC CHARACTERISTICS

Text provided in the June 2, 2014 filing remains unchanged.

(B) ROUTE ALIGNMENTS AND LAND USE**(1) Proposed Routing Alignments and Turning Points**

Text provided in the June 2, 2014 filing remains unchanged.

(a) Preferred Route

The Preferred Route (see Figures 4-1A through 4-1E) consists of a single-circuit 138 kV transmission line that begins approximately 890 feet south of exits the Circleville Station where it joins the existing Scioto Trail-Circleville 138 kV line. ~~to the south for approximately 950 feet before turning~~ The Route heads west across US-23 and the Scioto River and paralleling first the south, then the north side of US-22. The Preferred Route crosses back to the south side of US-22 near the intersection of US-22 and Mill Road, and continues for approximately 3,000 feet. At this point, the Preferred Route turns to the southwest through agricultural fields, and then west, running to the south of Calamus Swamp. The Preferred Route eventually turns south and parallels SR-104 at a point just south of Calamus Swamp. It continues to parallel SR-104 for approximately 1.1 miles before turning southwest and continuing for approximately 1.3 miles through agricultural fields, crossing over Sisk Road and Hickory Bend Road. It then parallels Westfall Road for approximately 8.6 miles, with minor deviations to avoid structures, passing through agricultural fields and occasional residential parcels. At this point, the Route turns to the south and runs cross-country, passing over Egypt Pike, Albright Mill Road and Biers Run Road before terminating at the Proposed Biers Run Station. The final ~~3.8~~ 3.5 miles of the Preferred Route parallels the Don Marquis-Bixby 345 kV line. The total length of the Preferred Route is ~~19.0~~ 18.8 miles.

(2) Substations

Text provided in the June 2, 2014 filing remains unchanged.

(3) General Land Use

Text provided in the June 2, 2014 filing remains unchanged.

(a) Residential

Preferred Route: The Preferred Route is located with 1,000 feet of ~~175~~ 151 residences, ~~eleven~~ eight of which are within 100 feet. As shown in Table 6-4, residential areas make up approximately ~~2.0~~ 1.8 percent of the Preferred Route ROW.

(b) Commercial

Text provided in the June 2, 2014 filing remains unchanged.

(c) Industrial

Preferred Route: ~~Three~~ Two industrial areas are located within 1,000 feet of the Preferred Route. A cluster of industrial properties owned by Bialy Properties and Circlegreen LLC was identified north and south of the Circleville Station, just east of US-23. The Preferred Route begins just east of US-23 on ~~crosses over the property owned by Circlegreen LLC.~~ and the Route is within approximately ~~200~~ 550 feet of Bialy Properties. The Circleville Waste Water Treatment facility is located west and north of the Scioto River, on the south side of US-22. The Preferred Route is approximately ~~220~~ 300 feet from the facility.

(d) Cultural

Text provided in the June 2, 2014 filing remains unchanged.

(e) Agricultural

As shown in Table 6-3, approximately ~~47~~ 45 percent of the Preferred Route and 68 percent of the Alternate Route ROW crosses agricultural fields. The majority of agricultural land crossed by the Preferred Route is located in Pickaway County, while agricultural land crossed by the Alternate Route is evenly distributed between Pickaway and Ross counties. A discussion of Agricultural District Land is provided in Section (B)(7).

(f) Recreational

Text provided in the Supplement to the Application filed on October 15, 2014 remains unchanged.

(g) Institutional

Preferred Route: The Preferred Route is within 1,000 feet of ~~three~~ two cemeteries and two historic school sites, no longer being used as schools.

TABLE 6-3

Length and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route		Alternate Route	
	Linear Feet	Percent	Linear Feet	Percent
Agriculture	47,378 <u>44,642</u>	47.3 <u>44.9</u>	66,315	67.8
Industrial	1,119 <u>186</u>	1.1 <u>0.2</u>	2,001	2.0
Old Field	4,047 <u>4,168</u>	4.0 <u>4.2</u>	4,037	4.1
Open Land/Pasture	3,037 <u>2,986</u>	3.0	64	0.1
Recreation	39 <u>42</u>	<0.1	488	0.5
Residential	1,205 <u>1,240</u>	1.2	5,220	5.3
Road Right-of-Way	1,495 <u>1,449</u>	1.5	858	0.9
Utility Right-of-Way	30,294 <u>32,328</u>	30.2 <u>32.5</u>	8,765	9.0

TABLE 6-3

Length and Percent of Land Uses Crossed by Route Alternatives

Land Use	Preferred Route		Alternate Route	
	Linear Feet	Percent	Linear Feet	Percent
Railroad	40	<0.1	52	0.1
Scrub Shrub	517 <u>535</u>	0.5	1,409	1.4
Woodlot	10,486 <u>11,255</u>	10.5 <u>11.3</u>	8,198	8.4
Water	612 <u>496</u>	0.6 <u>0.5</u>	475	0.5
Total	100,269 <u>99,366</u>	100	97,882	100

TABLE 6-4

Acreage and Percent of Land Uses within Route Alternative Rights-of-Way

Land Use	Preferred Route		Alternate Route	
	Acres	Percent	Acres	Percent
Agriculture	117.2 <u>117.3</u>	57.7 <u>51.0</u>	147.6	72.5
Industrial	2.1 <u>0.7</u>	1.0 <u>0.3</u>	3.5	1.7
Old Field	9.5 <u>9.6</u>	4.7 <u>4.2</u>	9.2	4.5
Open Land/Pasture	7.4 <u>7.7</u>	3.7 <u>3.4</u>	0.2	0.1
Quarry	N/A	N/A	0.2	0.1
Recreation	0.1	<0.1	0.6	0.3
Residential	3.4 <u>4.2</u>	1.7 <u>1.8</u>	5.1	2.5
Road Right-of-Way	4.3 <u>25.7</u>	2.1 <u>11.2</u>	2.4	1.2
Utility Right-of-Way	32.2 <u>36.8</u>	15.9 <u>16.0</u>	11.8	5.8
Railroad	0.1	<0.1	0.1	0.1
Scrub Shrub	1.1	0.6 <u>0.5</u>	3.1	1.5
Woodlot	24.2 <u>25.2</u>	11.9 <u>11.0</u>	18.4	9.0
Water	1.4 <u>1.2</u>	0.7 <u>0.5</u>	1.2	0.6
Total	203.0 <u>230.0</u>	100	203.5	100

TABLE 6-5

Summary of Land Use Factors of the Route Alternatives

	Route Alternatives	
	Preferred	Alternate
Length (in miles)	19.0 <u>18.8</u>	18.5
Features within 100 feet of Route Alternatives		
Threatened and Endangered Species	5 ^{a,b}	3
Historic Structures (OHI)	1 <u>0</u>	1
Previously Identified Archaeological Sites	2	2
NWI Wetlands	14 <u>13</u>	11
Residences	11 <u>8</u>	8
Other Sensitive Land Uses ^c	2	4
Features within 1,000 feet of Route Alternatives		
Threatened and Endangered Species	5 ^{a,b}	7 ^{a,b}
Historic Structures (OHI)	38 <u>14</u>	46
National Register of Historic Places	1 <u>0</u>	1
Archaeological Sites	6	19
NWI Wetlands	53 <u>54</u>	60
Residences	175 <u>151</u>	270
Other Sensitive Land Uses ^c	7 <u>6</u>	12

a Tippecanoe Darter counted twice because two different crossing locations.

b Only T&E considered (P, SC species are located within 100 and/or 1,000 feet).

c Other sensitive land uses include airports, parks, state forests, schools, hospitals, churches, and cemeteries.

(4) Transportation Corridors

Text provided in the June 2, 2014 filing remains unchanged.

(5) Existing Utility Corridors

~~Seventy-four~~ Seventy-three percent of the Preferred Route will consist of paralleling or overbuilding an existing ROW. The Alternate Route will parallel or overbuild an existing ROW for 28 percent of its length (see Table 6-6).

The proposed Biers Run-Circleville 138 kV transmission line crosses or parallels/overbuilds numerous electric transmission and distribution ROW. The Preferred Route parallels/overbuilds existing electric transmission or distribution lines in six locations. The Alternate parallels/overbuilds existing electric transmission or distribution lines in six locations. Three

existing transmission lines are located within the study area, and within 1,000 feet of the Preferred and/or Alternate Routes.

- The Don Marquis-Bixby 345 kV line heads south to north through the proposed Biers Run Station site and continues to the north northwest. The Preferred Route parallels the Don Marquis-Bixby line from the point where it crosses Westfall Road to the Biers Run Station. The Alternate Route only comes within 1,000 feet of this line as it enters the Biers Run Station.
- The Gavin-Marysville 765 kV line crosses the study area from southeast to northwest and crosses both the Preferred and Alternate Routes just north of the village of Westfall on SR-104.
- The Scioto Trail-Circleville 138 kV line heads south from the Circleville Station. The Preferred and Alternate Routes briefly double circuit with the Scioto Trail-Circleville line as it heads south from the Circleville Station.

No major natural gas or product pipelines were identified within 1,000 feet of the Preferred or Alternate Routes. Table 4-1 in Section 4 summarizes the existing major electric transmission or distribution lines paralleled by the Project. The Preferred Route crosses a private oil/gas production well pipeline at a point immediately west of SR-104 and 1.7 miles south of US-22. The Alternate Route crosses a private oil/gas production well pipeline at a point approximately 700 feet east of SR-104 and 1.4 miles south of US-22 (Figure 4-1A). Existing tanks of unknown content were also identified east of the Preferred Route on the west side of SR-104. The alignments of existing electric transmission or distribution lines are shown on Figures 4-1A through 4-1E.

TABLE 6-6

Paralleling or Overbuilding Existing ROW

Route Alternatives		
	Preferred	Alternate
Length (miles) paralleling or overbuilding existing ROW	13.98 <u>13.93</u>	5.13
Percent of Length paralleling or overbuilding existing ROW	74 <u>73</u>	28

(6) Noise Sensitive Areas

Noise sensitive areas in the Project Area consist of residences, institutional land uses, and recreational areas. An assessment of noise impact during construction and operation of the transmission line is provided in Section 4906-15-06(G).

Preferred Route: Noise sensitive areas within 1,000 feet of the Preferred Route include ~~175~~ 151 residences, ~~eleven~~ eight of which are within 100 feet, and ~~three~~ two cemeteries.

(7) Agricultural Land (Agricultural District Land)

CH2M contacted the Pickaway and Ross County Auditors to obtain information on Agricultural District land (Few, ~~2014–2015~~, personal communication; Martin, ~~2014–2015~~, personal communication). Based on data received in June 2015, the centerline of the Preferred Route crosses 10 Agricultural District parcels (nine in Pickaway County and one in Ross County). The Preferred Route is within 1,000 feet of 24 Agricultural District Parcels (21 in Pickaway County and three in Ross County). The centerline of the Alternative Route crosses 14 Agricultural District parcels (five in Pickaway County and nine in Ross County). The Alternative Route is within 1,000 feet of 41 Agricultural District Parcels (21 in Pickaway County and 20 in Ross County). CH2M contacted the Pickaway and Ross County Auditors in October 2015 to confirm that the Agricultural District land data remains unchanged. To date, a response has not been received. If information is received that significantly alters the information provided above, the OPSB will be contacted. ~~The data was received from the Pickaway County Auditor on April 24, 2014. The data from the Ross County Auditor was received on April 29, 2014. This provided data~~ fulfills the requirement of OAC 4906-15-06 (B)(7), which states this data must be collected not more than 60 days prior to submittal.

(C) LAND USE IMPACTS OF THE PROPOSED PROJECT**(1) Number of Residential Structures**

Based on review of aerial photography and field reconnaissance, ~~475~~ 151 residences were identified within 1,000 feet of the Preferred Route, and 270 residences were identified within 1,000 feet of the Alternate Route. ~~Eleven~~ Eight residences were identified within 100 feet of the Preferred Route. Eight residences were identified within 100 feet of the Alternate Route. Table 6-7 lists residences within 100 feet of the route alternatives, including parcel numbers for each.

TABLE 6-7

Residential Structures within 100 Feet of the Route Alternatives

Parcel ID	Route
P33-0-001-00-100-01	Alternate
P33-0-001-00-122-00	Alternate
P33-0-001-00-097-00	Alternate
P33-0-001-00-088-00	Alternate
P33-0-001-00-096-01	Alternate
P33-0-001-00-116-01	Alternate
370908016000	Alternate
P33-0-001-00-204-00	Common
P33-0-001-00-203-00	Preferred
P33-0-001-00-057-01	Preferred
P33-0-001-00-186-00	Preferred

TABLE 6-7

Residential Structures within 100 Feet of the Route Alternatives

Parcel ID	Route
P33-0-001-00-162-00	Preferred
090709027000	Preferred
360904041000	Preferred
<u>100705021000</u>	<u>Preferred</u>
360904005000	Preferred
360904009000	Preferred
360912125000	Preferred
090705021000	Preferred

(2) Impact of Construction**(a) Residential**

Text provided in the June 2, 2014 filing remains unchanged.

(b) Commercial

Text provided in the June 2, 2014 filing remains unchanged.

(c) Industrial

Text provided in the June 2, 2014 filing remains unchanged.

(d) Cultural

Cultural resources studies of the Project area were conducted on behalf of AEP Ohio Transco. These included:

- A Phase I Cultural Resources Assessment of the Preferred Route
- A Geomorphological survey of selected portions of the Preferred and Alternate Route
- An Architectural History Survey of the Preferred Route

The finding of each of these studies is briefly summarized below.

Phase I Cultural Resources Assessment

In late 2013 into March of 2014 and October of 2014, Weller & Associates, Inc. (Weller) conducted Phase I archaeological investigations for the Preferred Route. The survey conducted for the Preferred Route used five methods of sampling and testing to identify and evaluate cultural resources. These included shovel test unit excavation, shovel probe excavation, deep shovel testing, surface collection, and visual inspection. Surface collection strategies were used

whenever practical for the Project. Deep shovel testing was conducted in two floodplain locations.

The fieldwork identified 21 previously unrecorded archaeological sites (33RO1219 through 1229 and 33PI1244 through 1253). Based on the data collected, it is considered unlikely the Project will adversely affect any historic properties. Weller's recommendation is that no further archaeological work is necessary and "no historic properties affected" for the Preferred Route (Weller, 2014).

Weller reviewed the route adjustments and concluded they do not have the potential to impact additional cultural or historic resources.

Geomorphological Assessment

GAI Consultants (GAI) conducted a Geomorphological Assessment for the Preferred and Alternate Route from January 13 to 17, 2014. The purpose of the Geomorphological Assessment was to evaluate the valley floor for the potential of deeply buried cultural resources, and to provide a geoarchaeological context for any artifacts recovered from these areas. The field investigation included a reconnaissance of the Preferred and Alternate Routes, followed by 18 hand auger soundings at locations selected during the reconnaissance. (GAI, 2014a)

The Project area occurs on the valley floors of the Scioto River and its larger tributaries. The valley floors consist mostly of historic-age alluvial sediments overlying coarser-textured alluvial/outwash sediments. The historic age alluvial sediments are dark-colored and loamy-textured, and result from agricultural erosion of nearby Mollisol uplands. This environment is not conducive to the formation of buried soils; the sediments are added in small increments at a slow enough rate that the result is over thickened A horizons. Such environments have little to no potential for intact, deeply buried cultural resources (GAI, 2014a).

Quicker episodes of sediment deposition results in the burial of surface soils and the consequential formation of buried A horizons. The only portion of the Project area corridor where this has occurred is along the Alternate Route between the Ohio-Erie Canal towpath and the active railroad near US-23 at Circleville. This area is the active floodplain of the Scioto River. The floodplain still consists of the braided stream deposits of an outwash plain as the valley served as a major drainageway for glaciers during the waning of the Pleistocene. Braided stream deposits are coarse-textured and often hummocky with gravel/cobble bars separated by former channels. The proximity of the floodplain to the Scioto River resulted in the former channels being periodically filled with alluvial sediments during the Holocene and during historic times. The result is an environment where the potential exists for buried soils containing cultural resources (GAI, 2014a).

Architectural History Study

GAI conducted the architectural and historical resource survey to determine if the Project would affect architectural and historical resources that are potentially eligible for the NRHP. The architectural and historical resources survey consisted of five phases:

- Establishment of an Area of Potential Effect (APE)
- Literature and background research
- Field Survey
- Completion of OHI forms and evaluation of select architectural and historical resources
- Assessment of effects/impacts to known and potential historic properties from the proposed Project

GAI identified 114 architectural and historical resources located within the Project APE. Of these resources, 40 were previously recorded on OHI forms, and 74 were newly identified. Of the previously recorded resources, three (PIC-00095-10, PIC-00669-13, and PIC-00670-09) are currently NRHP-listed. The remaining previously recorded resources had not been formally evaluated for NRHP eligibility by the OHPO. GAI recommends that five (PIC-00004-09, PIC-00019-09, PIC-00101-10, PIC-00109-09, and PIC-00115-09) of the previously recorded resources are NRHP-eligible. (GAI, 2014b)

Of the 74 newly identified resources, GAI recommends that four (ROS-00870-01, ROS-00871-01, PIC-00720-13, and PIC-00721-13) are NRHP-eligible. The remaining resources are recommended not NRHP-eligible due to lack of historic integrity and/or significance. This results in a total of three NRHP-listed resources (PIC-00095-10, PIC-00669-13, and PIC-00670-09), nine recommended NRHP-eligible resources (ROS-00870-01, ROS-00871-01, PIC-00004-09, PIC-00019-09, PIC-00101-10, PIC-00109-09, PIC-00115-09, PIC-00720-13, and PIC-00721-13), and 102 recommended NRHP-ineligible resources located within the Project APE. (GAI, 2014b)

GAI completed updated OHI forms for all previously recorded resources located within the Project APE. Of the newly recorded resources, GAI completed OHI forms for 31 resources that retained sufficient historic integrity to warrant NRHP evaluation. This approach for documenting select resources on OHI forms was conducting in consultation with the OHPO. GAI also conducted an evaluation of potential effects introduced by the proposed Project on the 12 identified historic properties by applying the Criteria of Adverse Effect (GAI, 2014b).

Based on these findings, GAI recommends that the Project will have No Adverse Effect on identified historic properties. GAI further recommends that development of the Preferred Route proceed as planned with no additional architectural investigations (GAI, 2014b).

(e) Agricultural

Text provided in the June 2, 2014 filing remains unchanged.

(f) Recreational

Text provided in the June 2, 2014 filing remains unchanged.

(g) Institutional

Text provided in the June 2, 2014 filing remains unchanged.

(3) Impact of Operation and Maintenance

Text provided in the June 2, 2014 filing remains unchanged.

(4) Mitigation Procedures

Text provided in the June 2, 2014 filing remains unchanged.

(D) PUBLIC INTERACTION INFORMATION

Text provided in the June 2, 2014 filing remains unchanged.

(E) HEALTH AND SAFETY

Text provided in the June 2, 2014 filing remains unchanged.

(F) CULTURAL IMPACTS OF THE PROPOSED PROJECT

Text provided in the June 2, 2014 filing remains unchanged.

(G) NOISE

Text provided in the June 2, 2014 filing remains unchanged.

(H) OTHER SIGNIFICANT ISSUES

Text provided in the June 2, 2014 filing remains unchanged.

(I) REFERENCES

Text provided in the June 2, 2014 filing remains unchanged.

4906-15-07 ECOLOGICAL IMPACT ANALYSIS

Text provided in the June 2, 2014 filing remains unchanged.

(A) SUMMARY OF ECOLOGICAL IMPACT STUDIES

An ecological field survey was conducted for the Preferred and Alternate Routes, including the 100-foot wide corridor. The width of the survey corridor was reduced to 65 feet when the Route paralleled a road, to avoid unnecessary disruption to property owners on the other side of the road. The field survey was preceded by review of published mapping, aerial photography, and ecological information 1,000 feet on either side of the Preferred and Alternate Route centerlines. Map sources included USGS 7.5 minute quadrangle topographic maps, USFWS National Wetlands Inventory (NWI) maps, and USDA NRCS soil survey maps.

Published information regarding existing flora and fauna was obtained from the ODNR-DOW Ohio Natural Heritage Program. The ODNR-DOW information indicated nine records of eight federal and/or state threatened or endangered species, or species of special concern, within 1,000 feet of the Preferred and Alternate Routes. More detail is provided in Section 4906-15-07(B)(3)(e). Special status species identified in the general Project vicinity through correspondence and published information from ODNR and the USFWS are provided in Section 4906-15-07(F)(1).

Fieldwork for the Project was conducted as weather and conditions permitted between December 2013 to February 2014, ~~and~~ October 2014, March 2015 and May to June 2015 by CH2M biologists for both the Preferred and Alternate Routes. The results of the fieldwork are presented in the following sections.

(B) ECOLOGICAL FEATURES

Text provided in the June 2, 2014 filing remains unchanged.

(1) Route Alignments

Text provided in the June 2, 2014 filing remains unchanged.

(2) Stations and Compressor Stations

Text provided in the June 2, 2014 filing remains unchanged.

(3) All Areas Currently Not Developed For Agricultural, Residential, Commercial, Industrial, Institutional, or Cultural Purposes, Including**(a) Streams and Drainage Channels**

Streams and drainage channels were assessed during the ecological fieldwork for the Preferred and Alternate Route corridors. Streams with drainage areas greater than one square mile or maximum pool depths greater than 40 centimeters (cm) were assessed using the Ohio EPA Qualitative Habitat Evaluation Index (QHEI). The QHEI method classifies streams based on their drainage area. Streams that drain greater than or equal to 20 square miles are classified as

“larger streams,” while those that drain less than 20 square miles are classified as “headwaters.” QHEI-classified streams then receive a narrative rating based upon their score:

- Less than 30 for both headwaters and larger streams = Very Poor
- Between 30 and 42 for headwaters, and 30 and 44 for larger streams = Poor
- Between 43 and 54 for headwaters, and 45 and 59 for larger streams = Fair
- Between 55 and 69 for headwaters, and 60 and 74 for larger streams = Good
- Greater than or equal to 70 for headwaters, and 75 for larger streams = Excellent

Twenty-five streams were evaluated using the QHEI method. Eleven of these streams were identified along the Preferred Route and 13 were identified along the Alternate Route. One stream requiring a QHEI evaluation was located along the common portion of the Preferred and Alternate Routes. Field personnel completed the QHEI near the proposed centerline of the transmission line crossing.

The Ohio EPA’s Headwater Habitat Evaluation Index (HHEI) is used to evaluate streams with a drainage area less than or equal to one square mile, and maximum pools depths less than or equal to 40 cm. The HHEI is used generally to assess Primary Headwater Habitat (PHWH) streams that typically fall under the classification of first or second-order streams. The HHEI rates a stream based on its physical habitat and uses that information to determine the biological potential of the stream. The physical habitats scored for the HHEI are substrate type, pool depth, and bank full width. Scores for “Class I PHWH Streams” range from 0 to 29.9; scores for “Class II PHWH Streams” range from 30 to 69.9; and scores for “Class III PHWH Streams” range from 70 to 100. A “Modified” qualifier may be added as a prefix to any of these classes if evidence of anthropogenic alterations, such as channelization and bank stabilization, are observed. A higher PHWH class corresponds with a more continuous flow regime. The flow regime determines the physical habitat of the stream, and is therefore indicative of the biological communities it can support. Streams with scores between 30 and 69 may be classified as potential rheocrene habitat, depending on substrate type, watershed size, and stream flow. The PHWH class for these potential rheocrene streams is then identified by evaluating the biology (fish, salamanders, and benthic macroinvertebrates).

Sixty-four streams were evaluated using the HHEI method. ~~Thirty-one~~ Thirty-five of these streams were identified along the Preferred Route and ~~28~~ 29 along the Alternate Route. ~~Only one stream requiring an HHEI evaluation was observed along the common portion of the Preferred and Alternate Routes.~~ The HHEI evaluations were completed at the proposed transmission line crossing points.

Streams identified during field reconnaissance are shown on Figures 7-2A through 7-2J and Figure 7-3A through 7-3I. Detailed information on each delineated stream is included in Table 7-1. Aquatic life use designations within the Scioto River drainage basin obtained from

OAC 3745-1-09 are also provided. The Scioto River, located within the environmental survey corridor, is considered a traditionally navigable water (TNW), and is the TNW connection for all identified waterbodies in the environmental survey corridor.

The Preferred Route centerline crosses ~~37~~ 34 streams. The length of stream located within the Preferred Route survey corridor is approximately ~~9,653~~ 12,040 linear feet. The Alternate Route centerline crosses ~~30~~ 31 streams. The total length of stream located within the survey corridor of the Alternate Route is approximately ~~9,775~~ 9,934 linear feet. The centerline of the common portion of the Preferred and Alternate Routes crosses ~~two~~ one streams, with a total of approximately ~~375~~ 234 feet of stream within the survey corridor.

Approximately ~~4,774~~ 5,960 linear feet of stream are located within the Preferred Route permanent ROW, while approximately 5,027 is located within the Alternate Route permanent ROW. The common portion of the Preferred and Alternate Route ROW crosses approximately ~~202~~ 104 linear feet of stream.

TABLE 7-1

Streams within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (in.)	Form	Score	Ohio EPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Survey Corridor ^a	Length (linear feet) within Construction Corridor ^b
Preferred Route Streams												
SRG001 Scioto River	Preferred	2A	Perennial	200+	180	QHEI	72	Warmwater Habitat	Good	Yes	202 <u>403</u>	101 <u>100</u>
SRG003 UNT Scioto River	Preferred	2A	Intermittent	20	48	QHEI	31	NA	Poor	Yes	206 <u>217</u>	103 <u>104</u>
SRG002 UNT Erie Canal	Preferred	2B	Perennial	12	24	QHEI	38.5	NA	Poor	Yes	227 <u>318</u>	116 <u>106</u>
SRJ008 Lick Run	Common	2C	Perennial	35	24	QHEI	64.5	Warmwater Habitat	Good	Yes	206 <u>229</u>	101
SRJ009 Yellowbud Creek	Preferred	2E	Perennial	60	36	QHEI	56	Warmwater Habitat	Fair	Yes	149	70 <u>100</u>
SRJ010 UNT Wolf Run	Preferred	2E	Perennial	20	>39	QHEI	45	NA	Fair	Yes	143	77 <u>100</u>
SRJ011 Wolf Run	Preferred	2E	Perennial	30	27	QHEI	49	Warmwater Habitat	Fair	Yes	249	144 <u>154</u>
SRJ012 Deer Creek	Preferred	2G	Perennial	200	X	QHEI	57	Exceptional Warmwater Habitat	Fair	Yes	154 <u>167</u>	78 <u>100</u>
SRJ065 Waugh Run	Preferred	2G	Perennial	75	14	QHEI	69	Warmwater Habitat	Good	Yes	228 <u>237</u>	111 <u>103</u>

TABLE 7-1

Streams within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (in.)	Form	Score	Ohio EPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Survey Corridor ^a	Length (linear feet) within Construction Corridor ^b
SRJ015 UNT Waugh Run	Preferred	2H	Perennial	4	6	HHEI	57	NA	Modified Class II PHWH	Yes	160 <u>163</u>	83 <u>112</u>
SRJ014 UNT Waugh Run	Preferred	2H	Perennial	8	12	HHEI	62	NA	Modified Class II PHWH	Yes	167	96 <u>104</u>
SRJ013 UNT Waugh Run	Preferred	2H	Perennial	6	6	HHEI	41	NA	Modified Class II PHWH	Yes	182	182
SRJ064 UNT Waugh Run	Preferred	2H	Perennial	20	4	HHEI	48	NA	Rheocrene Potential	Yes	151 <u>277</u>	71 <u>102</u>
SRJ063 UNT Waugh Run	Preferred	2H	Perennial	10	5	HHEI	58	NA	Class II PHWH	Yes	191 <u>198</u>	63 <u>108</u>
SRJ061 UNT Waugh Run	Preferred	2H	Intermittent	6	2	HHEI	42	NA	Rheocrene Potential	No	551 <u>994</u>	NC <u>257</u>
SRJ062 UNT Waugh Run	Preferred	2H	Intermittent	15	2	HHEI	47	NA	Rheocrene Potential	Yes	324	203 <u>183</u>
SRJ060 UNT Waugh Run	Preferred	2H	Ephemeral	3	2	HHEI	28	NA	Class I PHWH	No <u>Yes</u>	309 <u>398</u>	112 <u>314</u>
SRJ059 UNT Waugh Run	Preferred	2H	Intermittent	8	2	HHEI	46	NA	Class II PHWH	No	143 <u>191</u>	34 <u>57</u>

TABLE 7-1

Streams within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (in.)	Form	Score	Ohio EPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Survey Corridor ^a	Length (linear feet) within Construction Corridor ^b
SRJ058 UNT Waugh Run	Preferred	2H	Ephemeral	10	2	HHEI	30	NA	Class II PHWH	No	80 82	8 27
SRJ057 UNT Waugh Run	Preferred	2H	Ephemeral	4	2	HHEI	33	NA	Class II PHWH	Yes	210 217	116 124
SRJ056 UNT Waugh Run	Preferred	2H	Intermittent	10	2	HHEI	41	NA	Rheocrene Potential	Yes	240	105
SRJ055 UNT Waugh Run	Preferred	2H	Perennial	8	3	HHEI	56	NA	Class III PHWH	Yes	281 293	164
<u>SRH001</u> <u>UNT Waugh Run</u>	<u>Preferred</u>	<u>2H</u>	<u>Ephemeral</u>	<u>5</u>	<u>0.5</u>	<u>HHEI</u>	<u>30</u>	<u>NA</u>	<u>Class II</u> <u>PHWH</u>	<u>Yes</u>	<u>433</u>	<u>218</u>
SRJ034 UNT Waugh Run	Preferred	2H	Intermittent	2	3	HHEI	34	NA	Class II PHWH	Yes	465 472	274 276
<u>SRH002</u> <u>UNT Waugh Run</u>	<u>Preferred</u>	<u>2H</u>	<u>Ephemeral</u>	<u>3</u>	<u>0</u>	<u>HHEI</u>	<u>30</u>	<u>NA</u>	<u>Class II</u> <u>PHWH</u>	<u>No</u>	<u>433</u>	<u>42</u>
SRJ033 UNT Waugh Run	Preferred	2I	Perennial	2	12	HHEI	57	NA	Class II PHWH	Yes	296	143 174
SRJ032 UNT Waugh Run	Preferred	2I	Intermittent	3	2	HHEI	22	NA	Class I PHWH	Yes <u>No</u>	162	162
SRJ031 UNT Waugh Run	Preferred	2I	Ephemeral	3	0	HHEI	19	NA	Class I PHWH	Yes <u>No</u>	116	65 37

TABLE 7-1

Streams within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (in.)	Form	Score	Ohio EPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Survey Corridor ^a	Length (linear feet) within Construction Corridor ^b
SRJ030 UNT Waugh Run	Preferred	2I	Ephemeral	1	0	HHEI	19	NA	Class I PHWH	Yes <u>No</u>	131	80 <u>52</u>
SRJ048 UNT Waugh Run	Preferred	2I	Perennial	8	8	HHEI	66	NA	Class III PHWH	Yes	243 <u>250</u>	110 <u>137</u>
SRJ049 UNT Waugh Run	Preferred	2I	Perennial	15	16	QHEI	57	NA	Good	Yes	503 <u>510</u>	133 <u>284</u>
SRJ050 UNT Waugh Run	Preferred	2I	Perennial	15	1	HHEI	37	NA	Class II PHWH	Yes <u>No</u>	448	279 <u>419</u>
SRJ042 Mad Run	Preferred	2J	Perennial	12	24	QHEI	61.5	Warmwater Habitat	Good	Yes	582 <u>643</u>	329 <u>249</u>
SRJ041 UNT Mad Run	Preferred	2J	Ephemeral	1	0	HHEI	19	NA	Class I PHWH	Yes	227 <u>230</u>	118 <u>119</u>
SRJ040 UNT Mad Run	Preferred	2J	Ephemeral	2	0	HHEI	19	NA	Class I PHWH	Yes	207	118 <u>90</u>
SRJ039 UNT Mad Run	Preferred	2J	Intermittent	3	2	HHEI	25	NA	Class I PHWH	Yes	220 <u>235</u>	102 <u>104</u>
SRJ038 UNT Mad Run	Preferred	2J	Ephemeral	4	0	HHEI	28	NA	Class I PHWH	Yes	249 <u>265</u>	130 <u>125</u>
SRJ037 UNT Mad Run	Preferred	2J	Ephemeral	3	0	HHEI	19	NA	Class I PHWH	Yes <u>No</u>	111	60 <u>29</u>
SRJ036 UNT Mad Run	Preferred	2J	Ephemeral	4	0	HHEI	19	NA	Class I PHWH	Yes	175	124 <u>75</u>

TABLE 7-1

Streams within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Stream ID Waterbody Name	Route	Figure	Flow Regime	Top of Bank Width (feet)	Maximum Pool Depth (in.)	Form	Score	Ohio EPA Aquatic Life Use Designation	PHWH Class (HHEI)/ Narrative Rating (QHEI)	Crossed by Centerline	Length (linear feet) within Survey Corridor ^a	Length (linear feet) within Construction Corridor ^b
SRJ035 UNT Mad Run	Preferred	2J	Ephemeral	2	0	HHEI	19	NA	Class I PHWH	Yes No	141	87 48
SRJ052 UNT Biers Run	Preferred	2J	Ephemeral	4	1	HHEI	15	NA	Class I PHWH	No	89 95	19 60
SRJ051 UNT Biers Run	Preferred	2J	Ephemeral	4	1	HHEI	15	NA	Class I PHWH	Yes	134	82 105
SRJ053 UNT Biers Run	Preferred	2J	Ephemeral	6	1	HHEI	25	NA	Class I PHWH	Yes	156 165	100 108
SRJ054 UNT Biers Run	Preferred	2J	Ephemeral	4	2	HHEI	25	NA	Class I PHWH	Yes	245 255	124 129
<u>SNY001</u> <u>Biers Run</u>	<u>Preferred</u>	<u>2J</u>	<u>Perennial</u>	<u>25</u>	<u>12</u>	<u>QHEI</u>	<u>52.5</u>	<u>WWH</u>	<u>Fair</u>	<u>Yes</u>	<u>295</u>	<u>111</u>
Total	-	-	-	-	-	-	-	-	-	-	9,653 12,040	4,774 5,960
Common Route Streams												
SRJ047 UNT Erie Canal	Common	2C/3C	Perennial	40	8	QHEI	63	NA	Good	Yes	216 234	103 104
Total	-	-	-	-	-	-	-	-	-	-	375 234	202 104

a The width of the survey corridor ranged from 130 to 200 feet wide.

b The construction corridor includes the proposed maintained ROW. The width of the maintained ROW ranges from 80 to 100 feet wide.

(b) Lakes, Ponds, and Reservoirs

No major lakes or reservoirs were observed along the proposed Preferred or Alternate Routes.

Four ponds were identified during the field evaluation for the Preferred Route, totaling ~~0.48~~ 0.82 acre. Five ponds were identified along the Alternate Route totaling 1.17 acres. No ponds were identified along the Common Route.

Ponds within the survey corridors are shown on Figures 7-2A through 7-2J and Figures 7-3A through 7-3I and are summarized in Table 7-2.

Impacts to ponds are not anticipated by the construction, operation, or maintenance of the proposed transmission line. BMPs, including utilization of silt fencing, will be used as appropriate during construction to minimize runoff siltation.

TABLE 7-2

Delineated Ponds within the Preferred Route and Alternate Route Environmental Survey Corridors

Report Name	Route	Figure	Acreage within Survey Corridor	Acreage within Construction Corridor ^{a,c}	Linear Feet Crossed by Centerline ^b
Preferred Route Ponds					
PRG001	Preferred	2B	0.22 <u>0.56</u>	0.02 <u>0</u>	NC
PRJ005	Preferred	2H	0.01 <u>0.01</u>	0	NC
PRJ003	Preferred	2I	0.10	<0.01 <u>0</u>	NC
PRJ004	Preferred	2I	0.15	0.03 <u>0</u>	NC
Total:			0.48 <u>0.82</u>	0.06 <u>0</u>	0

a "0" indicates the pond is not within the construction corridor.

b NC = Not Crossed by proposed centerline.

c All measurements listed as <0.01 were assumed to be 0.01 for calculations.

(c) Marshes, Swamps, and Other Wetlands

Text provided in the June 2, 2014 filing remains unchanged.

(i) Summary of National Wetland Inventory Data

NWI mapped areas are shown on Figures 7-2A through 7-2J and Figures 7-3A through 7-3I. In addition to the nine ponds discussed above, other NWI areas, including freshwater wetlands and riverine areas, were mapped within 1,000 feet of the Preferred and Alternate Routes, including several areas adjacent to mapped streams in the Project vicinity.

TABLE 7-3

NWI Wetlands Within 1,000 feet of the Preferred and Alternate Routes

Wetland Type	NWI Code	NWI Habitat Type ^a	Total Number of Each Habitat Type Preferred/ Alternate
Freshwater Pond	PABGh	Palustrine Aquatic Bed Intermittently Exposed Diked/ Impounded	1 - Alternate
Freshwater Emergent Wetland	PEM1A	Palustrine Emergent Persistent Temporary Flooded	9 – Preferred 12 – Alternate
Freshwater Emergent Wetland	PEM1C	Palustrine Emergent Persistent Seasonally Flooded	8 – Preferred 1 – Alternate
Freshwater Emergent Wetland	PEM1F	Palustrine Emergent Persistent Semipermanently Flooded	1 – Preferred 1- Alternate
Freshwater Emergent Wetland	PEM1Fh	Palustrine Emergent Persistent Semipermanently Flooded Diked/Impounded	1 – Alternate
Freshwater Emergent Wetland	PEM1Fx	Palustrine Emergent Persistent Semipermanently Flooded, Excavated	1 – Preferred
Freshwater Forested/ Shrub Wetland	PFO1A	Palustrine Forested Broad-Leaved Deciduous Temporary Flooded	3 – Preferred 2 – Alternate
Freshwater Forested/ Shrub Wetland	PFO1C	Palustrine Forested Broad-Leaved Deciduous Seasonally Flooded	6 – Preferred 3 – Alternate
Freshwater Pond	PUBF	Palustrine Unconsolidated Bottom Semipermanently Flooded	1 – Alternate
Freshwater Pond	PUBFh	Palustrine Unconsolidated Bottom Semipermanently Flooded Diked/Impounded	1 – Preferred
Freshwater Pond	PUBGh	Palustrine Unconsolidated Bottom Intermittently Exposed Diked/Impounded	47 18 – Preferred 22 – Alternate
Freshwater Pond	PUBGx	Palustrine Unconsolidated Bottom Intermittently Exposed Excavated	3 – Preferred 7 – Alternate
Freshwater Pond	PUBKh	Palustrine Unconsolidated Bottom Artificially Flooded Diked/Impounded	5 – Alternate
Riverine	R2UBH	Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded	3 – Preferred 3 – Alternate
Riverine	R2USAx	Riverine Lower Perennial Unconsolidated Bottom Temporary Flooded Excavated	1 – Preferred 1 – Alternate
Total Number of Preferred Route NWI Wetlands:			53 54
Total Number of Alternate Route NWI Wetlands:			60

a USFWS, 2014a

(ii) Delineated Wetland Data

Thirteen ~~Seventeen~~ wetlands, totaling approximately ~~1.17~~ 2.65 acres, are located within the Preferred Route survey corridor. Seven wetlands, totaling 0.42 acre, are located within the Alternate Route survey corridor. The common portion of the Preferred and Alternate Routes does not cross any wetlands. Maps are provided on Figures 7-2A through 7-2J and Figures 7-3A through 7-3I showing delineated wetlands. Additionally, detailed information on each wetland is provided in Table 7-4.

TABLE 7-4

Wetlands within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Wetland Name	Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Survey Corridor ^b	Acreage within Construction Corridor ^{c,d}
Preferred Route Wetlands								
WRG001	Preferred	2A	PEM	20	1	9 <u>11</u>	0.10 <u>0.12</u>	0.04
WRG002	Preferred	2A	PEM	20	1	22 <u>20</u>	0.20	0.12 <u>0.05</u>
<u>WNY001</u>	<u>Preferred</u>	<u>2B</u>	<u>PEM</u>	<u>16</u>	<u>1</u>	<u>NC</u>	<u>0.03</u>	<u>0.01</u>
<u>WNY002</u>	<u>Preferred</u>	<u>2H</u>	<u>PEM</u>	<u>37</u>	<u>Modified 2</u>	<u>NC</u>	<u>0.03</u>	<u>0</u>
WRG003	Preferred	2B	PEM	32	1 or 2 gray zone	95 <u>42</u>	0.34 <u>0.42</u>	0.21 <u>0.08</u>
WRG005	Preferred	2F	PFO	52.5	2	NC	0.13 <u>0.15</u>	0.02 <u>0</u>
WRG006	Preferred	2F	PFO	53.5	2	NC	0.04 <u>0.06</u>	0
WRJ004	Preferred	2H	PEM	30	1 or 2 gray zone	NC <u>11</u>	0.01	0.01
WRJ003	Preferred	2H	PEM	18	1	NC	0.04	0.02 <u>0.01</u>
WRJ010	Preferred	2H	PEM	35	Modified 2	NC <u>16</u>	0.05	0.03
WRJ009	Preferred	2H	PEM	35	Modified 2	NC <u>18</u>	0.02	0.02
WRJ008	Preferred	2H	PEM/ PSS	45	2	NC	0.05	≤0.01
WRJ007	Preferred	2H	PEM	27	1	NC	0.02	0 <u>≤0.01</u>
WRJ006	Preferred	2I	PEM	37	Modified 2	NC <u>25</u>	0.15	0.08 <u>0.09</u>
WRJ005	Preferred	2I	PEM	23	1	NC <u>3</u>	0.02	≤0.01
<u>WJR002</u>	<u>Preferred</u>	<u>2B</u>	<u>PFO</u>	<u>38</u>	<u>Modified 2</u>	<u>NC</u>	<u>1.1</u>	<u>0</u>
<u>WRG004</u>	<u>Preferred</u>	<u>2F</u>	<u>PEM</u>	<u>27</u>	<u>1</u>	<u>NC</u>	<u>0.18</u>	<u>0</u>
Total	-	-	-	-	-	126 <u>146</u>	1.17 <u>2.65</u>	0.57 <u>0.37</u>

TABLE 7-4

Wetlands within the Preferred and Alternate Route Environmental Survey Corridor and Construction Corridor

Wetland Name	Route	Figure	Cowardin Wetland Type ^a	ORAM Score	ORAM Category	Length Crossed by Centerline (feet)	Acreage within Survey Corridor ^b	Acreage within Construction Corridor ^{c,d}
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a Wetland Type: PEM – palustrine emergent, PSS – palustrine scrub/shrub, PFO – palustrine forested.

b The width of the survey corridor ranged from 130 to 200 feet wide.

c The width of the maintained ROW ranges from 80 to 100 feet wide.

d All measurements listed as <0.01 were assumed to be 0.01 for calculations.

ORAM = Ohio Rapid Assessment Method

(d) Woody and Herbaceous Vegetation Land

Text provided in the June 2, 2014 filing remains unchanged.

(e) Locations of Threatened and Endangered Species

Text provided in the June 2, 2014 filing remains unchanged.

(4) Soil Associations in the Corridor

Text provided in the June 2, 2014 filing remains unchanged.

(C) IMPACTS OF ALTERNATIVE SITES ON STREAMS AND WATERBODIES

Text provided in the June 2, 2014 filing remains unchanged.

(D) WETLANDS IMPACT**(1) Construction Impact**

Preferred Route: During wetland and waterbody delineations, ~~13~~ 17 wetlands were identified along the Preferred Route, totaling ~~1.17~~ 2.65 acres within the survey corridor. The delineated features are shown on Figures 7-2A through 7-2J. Detailed information about each feature can be found in Table 7-4 in Section 4906-15-07(B)(3)(c). ~~Two of the 14 wetlands identified fall outside the construction ROW.~~

~~Three~~ Eight wetlands are crossed by the centerline of the Preferred Route, totaling ~~126~~ 146 linear feet. Impacts to wetlands will be avoided by placing transmission line structures outside wetland boundaries. Where temporary construction access through a wetland cannot be avoided, the crossing will occur during dry conditions or matting will be used to minimize impacts.

- Category 1 wetlands: ~~Five~~ Seven Category 1 wetlands with Ohio Rapid Assessment Method (ORAM) scores ranging from ~~18~~ 16 to 27 were identified within the proposed construction corridor, totaling ~~0.19~~ 0.13 acres. No Category 1 palustrine forested (PFO) wetlands exist within the construction corridor.

- Category 2 wetlands: ~~Eight~~ Ten Category 2 wetlands with ORAM scores ranging from 30 to ~~53.5~~ 53.5 were identified within the proposed construction corridor, totaling ~~0.38~~ 0.24 acres. ~~Of that total, 0.2 acre are~~ No Category 2 PFO wetlands, will be impacted through the clearing of trees during construction. ~~This will result in the wetland being converted to palustrine emergent (PEM).~~
- Category 3 wetlands: No Category 3 wetlands will be crossed; therefore, no construction impacts are anticipated.

Care will be taken at wetlands to avoid or minimize filling and sedimentation during construction. AEP Ohio Transco will avoid to the extent practical placing poles in wetlands. Selective clearing will be required to remove woody vegetation in wetlands that might impede construction, or interfere with operation of the transmission line. Where wooded wetlands occur within the ROW, the trees will be removed.

BMPs such as utilization of silt fences and construction matting will be implemented as required during construction to control sedimentation. Sedimentation potential at wetlands is unlikely due to structure placement, and the fact that construction equipment will only cross wetlands if necessary, and will do so using construction matting.

Disturbance of soils in wetland areas during construction will be minimized. No fill material will be placed in any wetland area along the Preferred Route. Although not anticipated, if it is necessary to place a pole or guy wires within a wetland, they will be accessed using construction matting. No excavation other than the boring of a hole will be performed within the wetland. No fill will be placed in the wetlands. Wetland areas will be clearly staked prior to the commencement of any clearing in order to minimize incidental vehicle impacts. Other than the pole locations discussed, operation of heavy mechanized equipment is not planned within any identified wetland areas, although some construction equipment may need to cross wetland areas. Woody vegetation in wetlands will be hand-cut by chain saws, hydro-axes, or other non-mechanized techniques. When necessary, rubber-wheeled vehicles, or vehicles equipped with go tracks, will be used to remove vegetation debris.

(2) Operation and Maintenance Impact

Text provided in the June 2, 2014 filing remains unchanged.

(3) Mitigation Procedures

Text provided in the June 2, 2014 filing remains unchanged.

(E) VEGETATION IMPACT

(1) Construction Impact

The following descriptions outline the potential vegetative impacts along the proposed Routes during construction. Vegetative communities and land use types within the Project area include agricultural and pasture land, industrial/commercial land, old fields, wetlands, residential land,

existing utility ROW, railroad corridor, scrub-shrub vegetation, and wooded uplands. Habitat descriptions and details on the anticipated impacts due to construction of the proposed Project are provided below and in Table 7-6.

Agricultural and Pasture Fields: Most of the Routes pass through fields cultivated for agricultural purposes or pasture. Evidence of corn, soybeans, and winter wheat were observed in fields throughout the Project area. Cattle, horse, and goat pastures were observed along the Route and were dominated by grasses maintained by grazing.

Commercial/Industrial: Commercial/industrial properties were observed within the construction corridors for the Preferred and Alternate Routes. Commercial/industrial areas include infrastructure and all developed areas that are not residential. Vegetation identified within the commercial/industrial areas of the Routes contained frequently mowed areas of grasses and herbaceous plants.

Old Field/Scrub Shrub: Herbaceous cover exists in successional old field communities. Old field plant communities are at the earliest stages of re-colonization following disturbance. This community type is typically short-lived (less than 10 years), giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. Old field/scrub-shrub areas are located throughout the Project area.

Dominant plant species included:

- Dogwood (*Cornus* spp.)
- Milkweed (*Asclepias syriaca*)
- Goldenrod (*Solidago* sp.)
- Teasel (*Dipsacus fullonum*)
- Autumn olive (*Elaeagnus umbellata*)
- Wingstem (*Verbesina alternifolia*)
- Switchgrass (*Panicum virgatum*)
- Deer tongue (*Dichanthelium clandestinum*)
- Indian grass (*Sorghastrum nutans*)
- Fox tail (*Setaria* sp.)
- Dogbane (*Apocynum cannabinum*)
- Curly dock (*Rumex crispus*)
- Goldenrod (*Solidago* sp.)
- Burdock (*Arctium* sp.)
- Queen Anne's lace (*Daucus carota*)
- Orchardgrass (*Dactylis glomerata*)
- Timothy (*Phleum pratense*)
- Multiflora rose (*Rosa multiflora*)
- Blackberry (*Rubus* spp.)

Wetlands: Wetlands were observed both within and beyond the survey corridor for the Preferred and Alternate Routes. The dominant palustrine emergent vegetation consisted of reed canary grass (*Phalaris arundinacea*), narrow-leaf cattail (*Typha angustifolia*), common rush (*Juncus effusus*), tussock sedge (*Carex stricta*), wingstem, silky dogwood (*Cornus amomum*), goldenrod, and switchgrass. The palustrine forested and scrub-shrub wetlands were dominated by green ash (*Fraxinus pennsylvanica*), red maple (*Acer rubrum*), hackberry (*Celtis occidentalis*), silky dogwood, sycamore (*Platanus occidentalis*).

Residential: Numerous residential properties are located within 1,000 feet of the Preferred Route and Alternate Route. Specifically, ~~175~~ 151 residential properties and 270 residential

properties are located within 1,000 feet of the Preferred Route and Alternate Route, respectively. Eight residential properties are located within 100 feet of the centerline for the Alternate Route and ~~eleven~~ eight residential properties are located within 100 feet of the centerline of the Preferred Route. Vegetation identified on residential property includes maintained areas of grasses and other herbaceous species.

Utility ROW: Several electric transmission ROWs were identified within or adjacent to the proposed Preferred Route and Alternate Route. Vegetation along the existing transmission ROW is currently maintained by mowing and consists of grasses and herbaceous plants. Vegetation that poses a risk to the operation and maintenance of the transmission line is typically removed from the ROW.

Railroad: Railroad ROWs exist within and adjacent to the proposed construction corridors for the Preferred and Alternate Routes. Railroad companies typically routinely clear-cut and/or spray with herbicide vegetation that grows encroaches upon the railroad tracks.

Upland Forest: Upland early successional/second growth forest is present mainly as fencerows and along streams, in addition as forest patches within the Project area. Dominant canopy species included the following:

- Red oak (*Quercus rubra*)
- White oak (*Quercus alba*)
- Shagbark hickory (*Carya ovata*)
- Osage orange (*Maclura pomifera*)
- Elm (*Ulmus* spp.)
- Maple (*Acer* spp.)
- Dogwood
- Sycamore (*Platanus occidentalis*)
- Hackberry (*Celtis occidentalis*)
- Black locust (*Robinia pseudoacacia*)
- Black cherry (*Prunus serotina*)
- Black walnut (*Juglans nigra*)

The understory included species found in the canopy, as well as grape (*Vitis* sp.), bush honeysuckle (*Lonicera maackii*), hawthorn (*Crataegus* sp.), blackberry, and multiflora rose. Herbaceous species consisted of the following:

- Wingstem
- Reed canary grass (*Phalaris arundinacea*)
- Virginia wildrye (*Elymus virginicus*)
- False nettle (*Boehmeria cylindrica*)
- Moneywort (*Lysimachia nummularia*)
- Wild ginger (*Asarum* sp.)
- Sedge (*Carex* sp.)
- Nepalese browntop (*Microstegium vimineum*)
- Orchardgrass
- Poison ivy (*Toxicodendron radicans*)
- Greenbrier (*Smilax* sp.)
- Multiflora rose

The understory of the upland early successional/second growth forest within the Project area ranged from open to moderately dense.

The potential impacts on woody and herbaceous vegetation along the Preferred Route will be limited to maintenance activities along the proposed transmission line ROW and access roads. However, trees adjacent to the proposed transmission line ROW, that are dead, dying, diseased,

leaning, significantly encroaching, or prone to failure may require clearing to allow for safe operation of the transmission line. Vegetative waste (such as tree limbs and trunks) that is generated during the construction phase will be windrowed or chipped and disposed of appropriately depending on landowner requests.

TABLE 7-6

Approximate Vegetation Impacts Along the Construction Corridors

Land Use Type	Length of Route (in feet)	Length of Route (in miles)	Acreage within ROW
Preferred Route			
Agricultural	47,378 <u>44,642</u>	9.0 <u>8.5</u>	117.2 <u>117.3</u>
Industrial/Commercial	1,119 <u>186</u>	0.2 <u><0.1</u>	2.1 <u>0.7</u>
Open Land	7,084 <u>7,154</u>	1.3 <u>1.4</u>	16.9 <u>17.3</u>
Delineated Pond	-	-	0.1
Recreational	39 <u>42</u>	<0.1	0.1
Residential	1,205 <u>1,240</u>	0.2	3.4 <u>4.2</u>
Utility ROW	30,294 <u>32,328</u>	5.7 <u>6.1</u>	32.2 <u>36.8</u>
Road/Railroad ROW	1,535 <u>1,489</u>	0.3	4.4 <u>25.8</u>
Scrub Shrub	517 <u>535</u>	0.1	1.1
Delineated Stream	961 <u>835</u>	0.2	2.0
Upland Forest	10,486 <u>11,255</u>	2.0 <u>2.1</u>	24.2 <u>25.2</u>
Delineated wetland	126 <u>146</u>	<u>≤0.1</u>	0.57 <u>0.37</u>

(2) Operation and Maintenance Impact

Text provided in the June 2, 2014 filing remains unchanged.

(3) Mitigation Procedures

Text provided in the June 2, 2014 filing remains unchanged.

(F) COMMERCIAL, RECREATIONAL, AND THREATENED/ENDANGERED SPECIES IMPACTS

Text provided in the June 2, 2014 filing remains unchanged.

(1) Construction

Text provided in the June 2, 2014 filing remains unchanged.

(2) Operation and Maintenance Impact

Text provided in the Supplement to the Application filed on October 15, 2014 remains unchanged

(3) Mitigation Procedures

Text provided in the June 2, 2014 filing remains unchanged.

(G) SLOPES AND ERODIBLE SOILS

Generally, much of the Preferred and Alternate Routes follow existing electric transmission ROWs and roads. Approximately ~~11~~ 9 percent of the area within 1,000 feet of the Preferred Route occurs where slopes exceed 12 percent. Slopes exceeding 12 percent occur within approximately 20 percent of the area within 1,000 feet of the Alternate Route. The areas with the steepest slopes, where elevations range from 600 to 950 feet, occur at the southern end of the Project, located south of the Deer Creek Valley. These areas, as mapped based on average slope reported in the *Soil Survey Geographic Database for Pickaway County, Ohio*, (USDA NRCS, 2004) and the *Soil Survey Geographic Database for Ross County, Ohio*, (USDA NRCS, 2003), are identified Figures 4-1A through 4-1E.

(1) Construction Impact

Text provided in the June 2, 2014 filing remains unchanged.

(2) Operation and Maintenance Impact

Text provided in the June 2, 2014 filing remains unchanged.

(3) Mitigation Procedures

Text provided in the June 2, 2014 filing remains unchanged.

(H) OTHER ISSUES

Text provided in the June 2, 2014 filing remains unchanged.

(I) REFERENCES

Text provided in the June 2, 2014 filing remains unchanged.

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Ohio Transmission Company